SERVICE Creatio customer center edition

User guide

ACCELERATE

Contents

ACCELERATE

Introduction

Service Creatio, customer center edition can be used to handle a wide range of tasks. These tasks can be grouped into a number of functional blocks.

360° customer view

Contact management

Account management

Omnichannel communications

Case management

Self-service portal

Communication panel

Landing and web forms

Services

Service catalog management

Contact centre

Agent workplace

Supervisor workplace

Knowledge management

Customization

System designer

Marketplace

Easy integrations

Business process automation

Business process management

Case management

Single database of service recipients

With the help of the **Accounts** and **Contacts** sections enable you to maintain a centralized customer database. The application can be integrated with social networks, enabling you to populate the contact database with information. The features include locating and merging duplicates, grouping and filtering and advanced dashboards tools.

- The [Accounts] section
- The [Contacts] section

Single point of contact

The corporate social network of the company is designed for the internal discussion and posting news. Service Creatio, customer center edition also provides convenient means for maintaining your work schedule and planning future appointments and tasks. The **Activities** and **Feed** sections are designed specifically for handling such tasks.

- The [Activities] section
- The [Feed] section

Managing service catalog

The **Services** section is designed as a single catalog of services provided by the service team. Here, you can assign the team, and specify the response and resolution time for handling cases related to the service. The history stored together with the calculated information summary represent the complete view of the quality of services provided.

- The [Services] section

Managing cases

Register all service requests, incidents, claims and complaints from customers in the **Cases** section. Here, you can schedule response and resolution time for each case, monitor the processing, and store any feedback from service recipients. The system allows you to manage communication within a case by sending email notifications and customer satisfaction requests.

You can use customized analytics for estimating the efficiency of the service team and identifying bottlenecks in the process.

- The [Cases] section

Self-service portal

In Service Creatio, customer center edition, users can register cases on the **self-service portal** without any need to contact the service team by phone or email. This reduces the workload of the service team and increases case processing efficiency. Furthermore, customers can track the resolution progress of the case, chat with the service team, and search for a solution in the knowledge base.

- Portal

Managing knowledge

Knowledge base is the source for information about case resolution. Here, you can store answers to the most frequently asked questions, excerpts from documents, company regulations and other useful information. The articles can be supplemented with files or links to web sources, consolidated in groups, and commented on.

- The [Knowledge base] section

System designer

Service Creatio, customer center edition has all necessary tools for creating and configuring the application. All configuration tools are available in the system designer.

Create and edit sections, set up section and page properties using the section wizard. Use the detail wizard to add new details or edit existing ones in the sections. Set up appearance by uploading your corporate logos, change the color of the section panel, set up workplaces for different types of users. Use data import to quickly populate the database with initial information. Generate company organization structure, add users, set up functional roles and access permissions. Set up analytical reports and dashboards in the [Dashboards] views and the [Dashboards] section. Use the mobile application wizard to set up the mobile app of your custom configuration. Advanced settings area of the system designer provides access to development tools.

- System designer
- Section Wizard
- Detail wizard

- Workplaces setup
- Excel data import
- Managing users
- Mobile application wizard

Marketplace

Accelerate time-to-strategy execution with out-of-the box processes, templates and apps easily downloaded and installed from the Creatio marketplace. Extend the functionality of the Creatio platform with numerous applications, ranging from extensions to full-fledged products. Automate processes with ready to use business-processes and templates. Order services from certified Creatio partners.

- marketplace.creatio.com

Synchronization and integration

Employ a built-in utility for data import from Excel to quickly import or export your account and contact data, list of users, product catalogue, documents and invoices, etc.

Enjoy seamless integration with Microsoft Exchange to simplify the processes of synchronizing email, contacts, and tasks. You can adjust synchronization frequency (daily, hourly or more frequent) and always have all the relevant data at hand.

Make and receive calls directly from the Creatio system. Integration with virtual or standard IP PBX systems, support of SIP-numbers of any provider, possibility to connect an unlimited number of external lines enables making all necessary calls directly from the system.

Synchronize emails, calendar and contacts with your Google account. Two-way integration allows you not to switch between applications to send email or manage your calendar.

Keep the entire history of electronic communications with the client in Sales Creatio, regardless of the mail provider. Send and receive email without leaving the application.

- Excel data import
- Integration with email services by the IMAP/SMTP protocol
- Integration with the MS Exchange service
- Integration with Google services
- LDAP integration and user authentication in Creatio
- Phone integration

Business process management

Use the built-in business process modeling systems to automate your processes of any complexity.

Built-in **Process designer** lets you create complex business process in BPMN notation.

Built-in **Case designer** is a powerful tool for creating and configuring unstructured processes – "cases". You can easily adapt best-practice cases to your specifics in marketing, sales, service, and any other area, or design your own unique cases that fit your company needs.

The **Process log** section will provide tools for business process monitoring and analysis. You can view each process instance as a diagram, check which process steps have completed and stop any business process.

- Business process setup guide

Getting started

Before getting started with Creatio, perform these simple steps to set up your application for best performance.

You can configure any setting using the system designer. The functionality of the system designer is explained in this video tutorial.

CONTENTS

User interface setup

We recommend you start by setting up your company logo and color scheme.

Upload your company logo to the application. This logo is displayed on the login page and at the top right corner of the application window. You can also change the color of the side panel.

Detailed information about setting up the company logo and the side panel scheme is provided in the following articles:

- Logo customization
- Color customization

Initial data entry

Information in Creatio is arranged in sections with each section containing certain types of information. For example, the [Contacts] section contains records of employees and customers, while the [Cases] section is used to register and process incidents and requests.

Each section contains a list of individual records. Each record can be edited on a separate page that contains fields, tabs and details.

To start working with Creatio, add records to the following system sections:

1. The [Contacts] section — add a list of employees and clients who will use the self-service portal. In the future these contacts will be used to register Creatio users and portal users.
2. The [Accounts] section — add your company in Creatio.

You can create your customer base manually or by data import

Detailed information can be found in the following:

- The [Contacts] section
- The [Accounts] section

Creating and licensing users

To grant your employees access to Creatio, create a system user for each employee and set up their user records. Users in Creatio are created through contacts in the [Contacts] section. In addition, you can create users manually or by synchronizing with LDAP.

After you have added users, set up the organizational roles of your company in Creatio: create records for branches, departments and divisions. Then, set up the functional roles to reflect the job titles of your company's employees. Assign the organizational and functional roles to users to facilitate setting up access rights.

After setting up the users, grant them licenses so that the employees can log in to the application.

For detailed information about creating, configuring and licensing users, please refer to the following video tutorials and articles:

- Creating and licensing users
- Managing organizational structure and functional roles
- LDAP integration and user authentication in Creatio
- Portal
- Add a regular employee user
- Functional roles
- Organizational roles

Access rights

To grant data access to company employees in Creatio, set up access rights to use system objects: sections, lookups and details. You can configure access for individual records and fields.

You can also manage access to records based on the employee roles within the administrative structure of the company or the position held. You can grant individual access rights

and manage the access rights to system operations. For example, you can define the employees who will or will not have permission to create users, export data, edit lookup values and perform other operations.

For detailed information about setting up access rights, please watch this video tutorial:

- Setting up permissions

User interface

You can configure each workspace, your list of sections and all subordinate items, such as pages, tabs, details and fields to match your company's requirements. You can also set up how data is displayed within in the list and on the page.

For detailed information about setting up the user interface in Creatio, please watch these video tutorials:

- Section wizard
- Detail wizard
- List setup

Lookups and system settings

Many fields in Creatio can be populated with values from pre-configured lists which are called lookups. For example, when you specify a contact type you can select one of the following values: “Employee”, “Contact person” or “Customer”. The lists of such values are stored in lookups. Before you start working with the system, you can change the contents of the lookups to match your company's requirements.

For cases to be automatically registered in Creatio, go to the "List of mailboxes for case registration" lookup and enable the customer service email account.

You can use the system settings to additionally customize Creatio. For example, you can set up the base currency, configure LDAP synchronization parameters and enter default values for automatic field population when creating records. Most of the system settings in Creatio contain pre-configured values. You can set custom values for certain settings.

To be able to send email messages about the change of case status and registration of incidents, activate the following system settings:

a. [Auto-start the "Send an email message to a contact about changing case status” process].

b. [Auto-start the “Register incident by incoming email” process].

c. [Customer support service Email] Set the email account specified in the system profile.

NOTE

If different accounts are specified in the profile and the “customer support service Email” system setting, emails and cases will not be sent automatically.

For detailed information about lookups and system settings, please refer to this video tutorial or the corresponding documentation:

- Managing system settings and lookups
- Automatic emailing setup
- The [Lookups] section
- The [System settings] section

Data import and recommendations on how to populate the sections

In Creatio, you can quickly import your customer data and other information by importing data from Excel files.

We recommend you to import data after you set up the permissions in the system, because default permissions are granted after a user is created. Records created before permissions are set up will be administered without permissions.

We also recommend you to follow a fixed sequence of steps while populating the system sections.

1. The [Contacts] section
2. The [Accounts] section

3. The [Service contracts] section

For detailed information about how to import data from Excel, please refer to this video tutorial or the corresponding documentation:

- Excel data import
- Excel data import
- The [Service agreements] section

Email setup

You can send and receive emails directly from Creatio

with email integration and synchronization. The system enables you to integrate with email providers using IMAP/SMTP protocols.

- Integration with email services by the IMAP/SMTP protocol
- Automatic emailing setup
- Shared email account setup
- Integration with email services by the IMAP/SMTP protocol
- Integration with the MS Exchange service

Self-service portal setup

Self-service portal is designed for clients to self-register cases and find answers to the most frequently asked questions.

The Creatio cloud portal setup is performed by a Creatio technical support agent.

The on-site applications portal setup is performed by your company's technical specialist.

For detailed information about setting up the self-service portal, please watch this video tutorial:

- Getting started with Creatio portal

dashboards setup

Use the dashboards section to display analytical data in Creatio to evaluate key performance indicators. The dashboards are displayed in the [Dashboards] view of each system section, and in the [Dashboards] section.

Using the dashboards you can display data as charts, graphs, metrics and gauges and generate lists of records. You can easily customize the dashboards in Creatio.

For detailed information about setting up dashboards in Creatio, watch this video tutorial:

- Dashboards setup

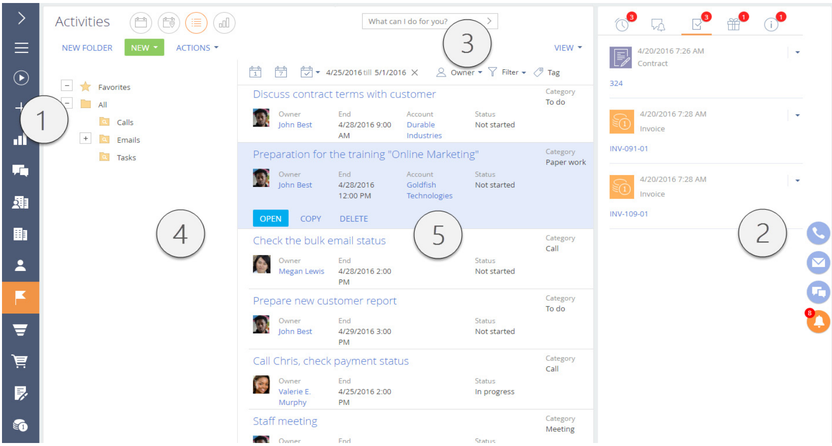
Creatio core functions

CONTENTS

Creatio interface

The Creatio interface (Fig. 1) consists of the side panel, notification panel, command line, folders and filtering area and the content of the page that is displayed at the moment.

Fig. 1 Creatio interface



The side panel (1)

The side panel (or the "section panel") is located in the left part of the screen and is used to navigate through the workplaces and sections. Also, the side panel contains buttons for quick access to the basic system operations.

The side panel buttons

 – the "Home" button contains a list of additional commands:

- [Main menu] – opens the home page. The home page contains the list of all sections of the application, and the links to the system designer and the user profile pages.
- [Run process] – opens the process start window.

  NOTE

  Detailed descriptions of the business process automation is available in the Creatio business process documentation.

- [Collapse section panel]/[Expand section panel] – manage the status of the side panel.
- [Workplace] – the list of available workplaces. When you change a workplace, the list of available sections in the side panel will change too. You can edit the list of workplaces and sections. Read more >>>
- [User profile] – opens the user profile page. Read more >>>
- [Exit] – ends the current session. This command opens the login page.

 – opens the process start window. If no process has been set up for this button, clicking it opens a window containing the list of all business processes available in Creatio. If there is at least one process set up for this button, clicking it opens a menu containing additional commands:

- [Run process] – the list of main business processes available.
- [Another process] – opens a window with the list of all business processes available in Creatio.

NOTE

You can set up the process start button in the [Process library]. Detailed descriptions of the [Process library] can be found in the Creatio business process documentation.

– opens the "quick add" menu. Select the needed command from the menu to open a new record page in the corresponding section.

NOTE

The menu structure can be set up using the [Quick add menu setup] lookup.

, – collapses/expands the side panel. The collapsed panel displays action buttons and the icons of the current workplace sections. The expanded panel displays action buttons, section names and the current workplace name.

Selecting a workplace

Navigation between the user workplaces is done using the menu on the side panel. You can select the workspace in the main menu of collapsed (Fig. 2) or expanded (Fig. 3) side panel.

Fig. 2 Selecting the workplace in the collapsed side panel

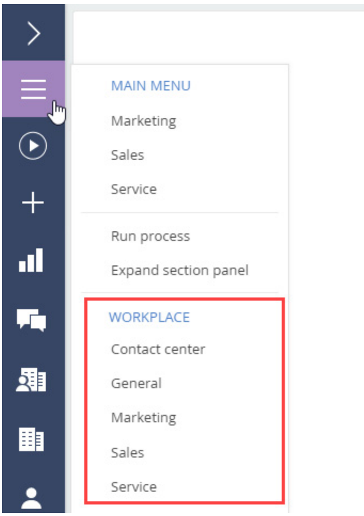
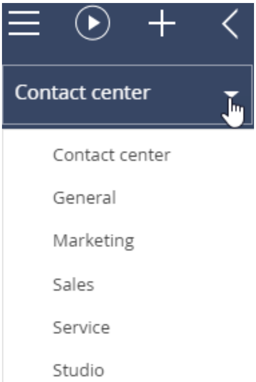


Fig. 3 Selecting the workplace in the expanded side panel



The communication panel (2)

The communication panel is located on the right side of the screen and is used for working with email, making and receiving calls. It is also used for quick access to system notifications for the current user and to the message feeds from other users. Read more >>>

The command line (3)

The command line is used to search for records, add new ones, as well as to perform other actions by entering text commands. Read more >>>

Folder and filter area (4)

The area is used to extend the settings of data filters, as well as to work with the folders of the sections.

The working area (5)

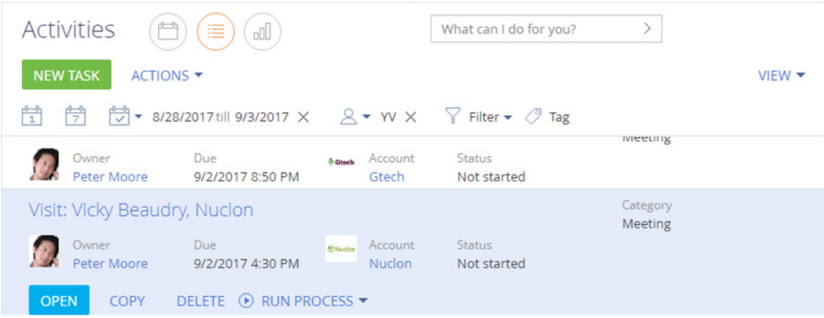
Depending on the section and the selected view, the working area displays the list of section records (for example, the contact list in the **Contacts** section), the record page, the analytics tools of the current section, as well as special pages, for example, the **calendar** in the **Activities** section.

A toolbar (Fig. 4) that enables you to open, copy or delete a record is displayed when you select th record in a list. You can launch a process for the selected record by clicking the [Run process] button.

NOTE

The [Run process] button is enabled only if the start of the business process for a section record is configured. Read more >>>

Fig. 4 List record toolbar



SEE ALSO

- The command line
- The communication panel
- Phone integration
- Filters
- Folders
- System designer

VIDEO TUTORIALS

- Creatio interface overview

Record lists

Data in the system sections as well as on some page details (for example, on the **Activities** detail of the account page) is displayed as a list. A **list** contains records, and each record contains a field group.

In this view, the emails and web addresses are displayed as links. Clicking a web address opens a window containing the specified web page. Clicking an email address opens a window where you can create a new message using the default mail client.

Some other values in the system are also displayed as links to allow quick switching between the records. For example, the value in [Owner] field of the **Activities** section is displayed as link to allow you to switch from the activities list to the activity's owner page.

NOTE

Data displayed in the list can be exported to Excel for future processing. Read more >>>
Use data import in Creatio to add large numbers of records. Read more >>>

List Views

There are two basic views a section can be displayed in.

The list view (Fig. 5) displays records in the form of a simple table. Every object field has a corresponding column.

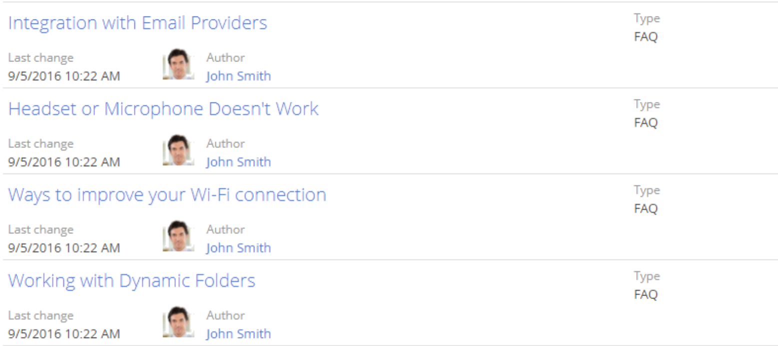
Fig. 5 List view

Name	Author	Type
Customer Satisfaction Survey	John Best	FAQ
Transforming a New Client into Regular Customer	John Best	FAQ
Manage Access Rights	John Best	FAQ
Measures if Competitors are Dumping	John Best	FAQ
Conducting Telephone Conversations	John Best	Rules and regulations
Business Presentation	John Best	Advertising materials
Acquiring New Customers	John Best	Rules and regulations
Command Line Shortcuts	John Best	FAQ

In the tile view (Fig. 6), fields can be displayed in several rows for each record.

ACCELERATE

Fig. 6 Tile view

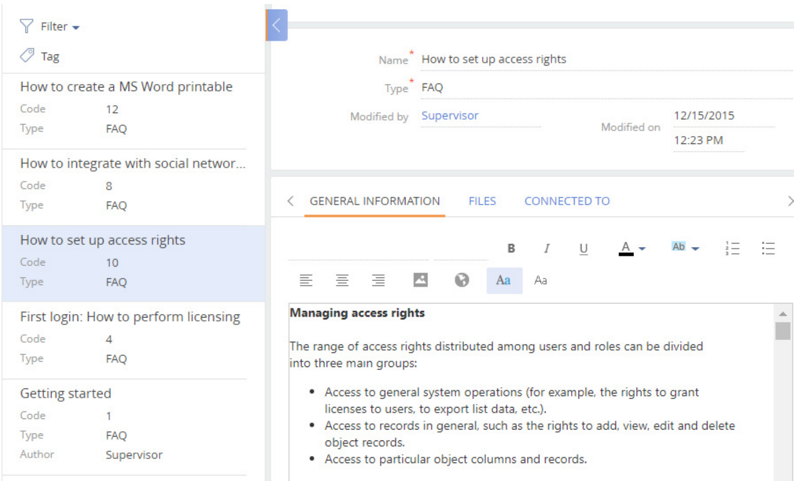


You can choose between the list view and the tile view while setting up the list.

Vertical list

When a record page opens the list is displayed in the additional vertical view (Fig. 7). In this view, the list data is displayed in a column. Each field of the record corresponds to a certain line in the vertical view. When you toggle between records in the vertical view, the right side of the page displays the detailed information about the selected record.

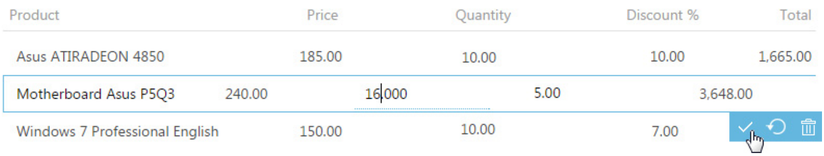
Fig. 7 Vertical view



Editable list

In Creatio you can edit records directly in the list without opening the corresponding pages. The editable list (Fig. 8) is used for fast and frequently changing objects, for example, records on the [Products] detail in the [Documents] section.

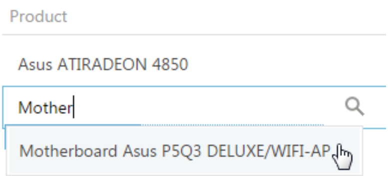
Fig. 8 The editable list



Adding a record

1. Create a new record on the detail. An additional string will appear in the editable list.
2. Click the area where the needed field is, and enter the value (Fig. 9).

Fig. 9 Filling in the field



NOTE

An editable field is underlined by a dotted line.

3. To fill in the next field of the record, press the [Tab] key or click the area where the needed field is. You can also press the [Space] key to check or uncheck checkboxes.
4. When all needed fields are filled in, save the record using the [Ctrl]+[Enter] key combination or by clicking the button.

NOTE

If all requested fields of the record are filled in, the record will be saved automatically after clicking outside of the string area.

Canceling changes

To correct a mistake made when editing a record, cancel the changes by pressing the [Esc] key or by clicking the button. As a result, all unsaved changes will be canceled.

When adding a new record, click the button ([Esc] key) to delete the record.

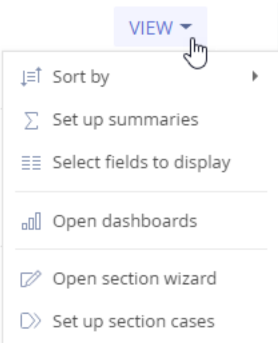
Deleting records

To delete a record, use the button. When deleting a previously saved record, the system will display an additional confirmation message. If the record is not saved yet, the notification about the deletion option will not be displayed.

List setup

You can customize the appearance of a list, its field group and the data sorting parameters. You can also bring up the summary information for displayed records. To set up lists, use the [View] menu (Fig. 10).

Fig. 10 The list setup menu



Menu commands:

- [Sort by] — sorts the list records by the selected column data.
- [Set up summaries] — displays the number of records, amount, average, maximum or minimum value by the data in the selected columns;
- [Select fields to display] – sets up the list of displayed columns, changes their order and appearance.

CONTENTS

- Sorting records in a list
- Setting up summaries by columns
- Setting up columns

SEE ALSO

- Filters
- Folders
- List FAQ
- Exporting list data to Excel
- Excel data import

VIDEO TUTORIALS

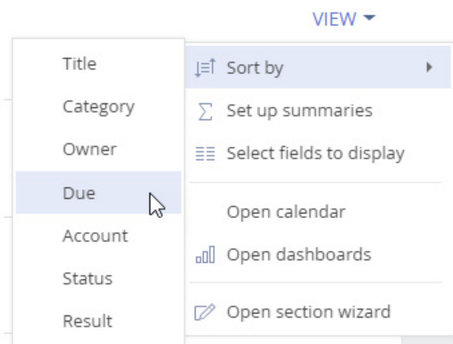
- Creatio interface overview

Sorting records in a list

For convenience, the section records can be sorted by the values in the selected column in ascending or descending order.

To sort records, select the [Sort by] command in the [View] menu. The columns displayed on the section page are listed in the menu. The sorting order (ascending or descending) is indicated next to the name of the column by which sorting is done. For example, all records of the **Activities** section can be sorted by the values in the [Due] column in descending order (Fig. 11).

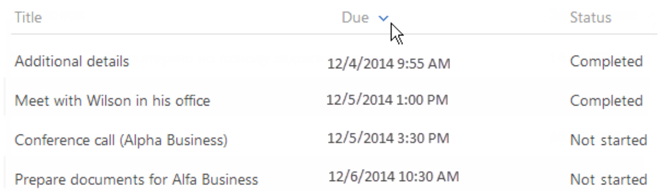
Fig. 11 Data sorting



To sort records by column, select the [Sort by] command in the [View] menu. Then select the needed column. Selecting the column repeatedly changes the sort order. To display the needed column in the menu, set up the section list.

In the list view you can quickly sort records by clicking the column caption (Fig. 12).

Fig. 12 Quick data sorting in the list view



NOTE

Creatio automatically saves sorting parameters for each user individually. To return to the default sorting parameters, click the [Restore default settings] button in the user profile. In this case, all custom settings including sorting will be discarded in all system sections.

SEE ALSO

- Setting up columns
- User profile

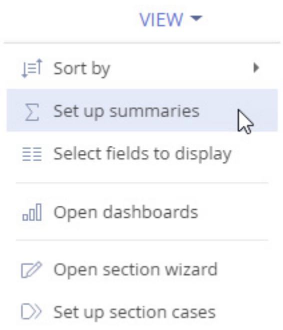
VIDEO TUTORIALS

- Creatio interface overview

Setting up summaries by columns

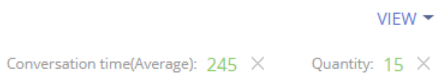
Set up the summaries to display the summary information based on the data in the section columns. Select the [Set up summaries] command in the [View] menu to manage summaries (Fig. 13).

Fig. 13 The [Set up summaries] option



The set up summaries will be displayed in the top right part of the section area (Fig. 14).

Fig. 14 Summaries area in a section

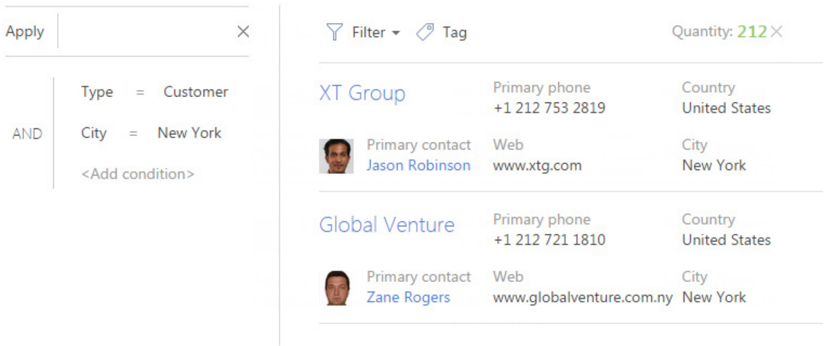


Summaries are used to calculate:

- the total number of records (available for all columns). For example, you can calculate the number of the registered customers in the **Contacts** section.
- the minimum or maximum value in a column (available for numeric columns, date/time columns). For example, in the **Accounts** section, you can find out the last date that a new company was added.
- The sum or the average value in a column (for numeric columns only). For example, in the **Activities** section, you can display the average activity duration.

If the section records are filtered (for example, a folder is selected, or one or more filters are applied), then summaries will be calculated only for the filtered records. For example, if you want to calculate the number of customers from New York, set the corresponding filter and display summaries (Fig. 15).

Fig. 15 Display of summaries for filtered records

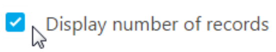


Calculating the number of records in a section

To display the key value, click the [Show] button.

1. Open the needed system section.
2. In the [View] menu, select the [Set up summaries] command (Fig. 13).
3. Select the [Display number of records] checkbox on the opened page (Fig. 16).

   Fig. 16 The [Display number of records] checkbox

4. Click the [Save] button to save the user settings.

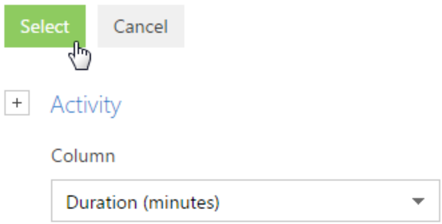
   As a result, the total number of system records will be displayed in the summary area.

Calculating summary amount by a numeric column

Described below is the procedure of setting up summaries by column values, using the average activity duration value as an example. To set up:

1. Open the needed section, for example, the **Activities** section.
2. In the [View] menu, select the [Set up summaries] command (Fig. 13).
3. On the opened page, click the [Add] button.
4. In the list, select the numeric column the summaries should be displayed by, for example, "Duration (minutes)". Click the [Select] button (Fig. 17).

Fig. 17 Selecting a column



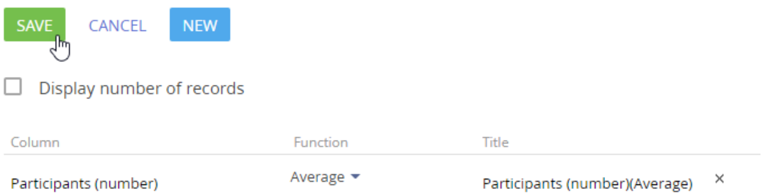
NOTE

To select a column of a subordinate object, click the + button and select the needed subordinate object from the list.

5. On the summary setup page, specify the display parameters for the summary information:
   a. Select the function from the list for calculating data, for example, "Average".
   b. Enter the caption that will be displayed in the summary area, for example, "Average duration (minutes)", and click the button.
   c. Click the [Save] button to save the user settings (Fig. 18).

   As a result, the average activity duration will be displayed in the summary area of the **Activities** section.

Fig. 18 Setting up summaries by column values of an object



To view summaries for specific records, apply a filter or select a folder. For example, you can specify the owner, activity category and the required period of time.

Removing the summary information

To remove summaries from the page, click the × button next to the record in the summary area (Fig. 19).

Fig. 19 Canceling dashboards display

SEE ALSO

- Filters
- Folders

VIDEO TUTORIALS

- Analytics in Creatio. Working with dashboards

Setting up columns

Any list can be set up individually for each system user. You can add or remove columns from a list, edit column position, width and display style.

You can display columns of the current object as well as columns from connected objects. For example, in the list of the [Accounts] section, you can display information about the account's primary contact (such as primary contact's position, phone and email address).

Also, the list can display aggregate columns that show the summary information about the subordinate objects. For example, for the "Account" object, you can calculate the number of activities by account; for the "Contact" object, you can display the date of the last call by customer, etc.

> **NOTE**
>
> Objects that contain fields with the current object specified are called "subordinate objects" or "objects with reverse connection".

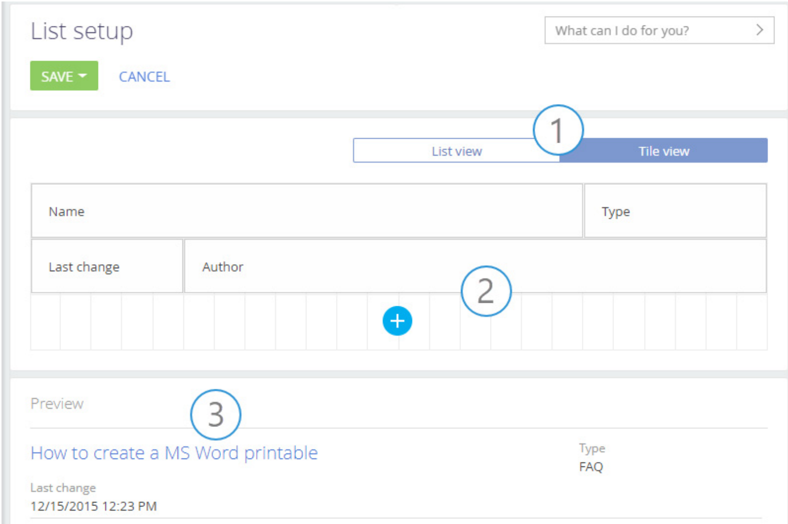
The name of the connected column is generated in the format "Object.Column", for example, "Primary contact.Job title" or "Account.City". The name of the aggregate column is generated in the format "Function(Object (the way it is connected)).Column". For example, to see the date of the last activity registered for a contact, display the following column in the list: "Maximum(Activity(by column Contact)).End date". The column caption that is displayed in the list can be customized.

CONTENTS

The columns setup window

Select the [Select fields to display] command in the list's [View] menu to open the columns setup page (Fig. 20).

Fig. 20 The columns setup window



The column setup page contains list view modes (1), column setup area (2) and the preview area (3).

List view mode switch (1)

Use these buttons to select view mode for section records.

List mode displays the data as a simple table, each row being a separate record. In list mode, table columns correspond to the section's fields. Use this view for lists where there is no need to display a lot of information about each record.

Tile view shows each record as a set of tiles, each tile representing a field from the corresponding section. A record in tile view usually occupies several rows. Tile view is best used when the list must show a lot of information about each record, as well as images, such as contact profile photos and account logos.

Column setup area (2)

Use the column setup area consists to manage list columns, their size and position. Cells in the tile view can consist of several rows, and cells in the list view can consist of only one row.

Preview area (3)

The preview area shows several records from the current list according to current settings in the list view mode switch and the column setup area. The records in the preview area are not available for editing.

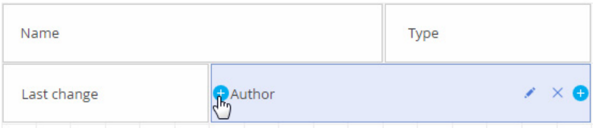
How to set up list columns

To **add** a new column, click the  button.

- Clicking the button in an empty cell will add a column at that position. In the list mode, you can add columns only if free cells are available in the column setup area. Clicking the  button in the tile view if no free cells are available in the column setup area, will add the column in a new row.

- near the border of any column. Clicking the button on a column in the list (Fig. 21) will add a new column on the right or left of the existing column.

Fig. 21 Inserting a column between existing columns



To **set up the display column properties**, select it and then click the button. Edit or hide column captions, specify functions and filters for calculating aggregate columns, as well as select the caption display style.

NOTE

You can only setup the [Hide caption] column if you select in the tile view of the record list.

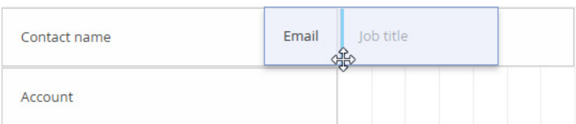
To **hide a column**, select it and click . If there are no columns in the row after the column has been removed in the tile view, then the row will be hidden.

To **adjust column width**, drag its left or right border with your mouse (Fig. 22). If no free cells are available in the row, the width of other columns will be modified to accommodate the new column size.

Fig. 22 Changing a column width

To **move a column**, select it and then drag it to an empty cell with your mouse (Fig. 23).

Fig. 23 Moving a column



To **save** column settings, click the [Save] button. The changes will be saved for the current user. If the column settings must be saved for all users, select the [Save for all users] command from the [Save] button menu.

NOTE

The [Save for all users] command is available if the current user has permission for the [List setup for all users] system operation.

NOTE

To cancel custom column settings in all sections, click the [Restore default settings] button in the user profile. Read more in the "User profile article.

How to add a column from the current object to the list

Described below is the procedure for adding current object columns to the list.

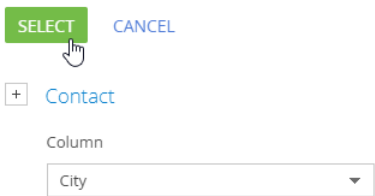
CASE

Display the [City] and [Department] columns in the **Contacts** section.

To do this:

1. Open the **Contacts** section.
2. In the [View] menu, select the [Select fields to display] command.
3. On the column setup page, click the button.
4. Select the column to be displayed, for example, "City". Click the [Select] button (Fig. 24).

Fig. 24 Selecting a column to be displayed

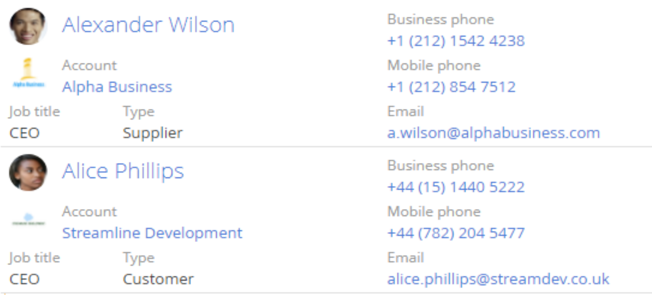


5. In the column settings area, select the added column and set up its width (Fig. 25).

Fig. 25 Widening a column

6. Use the same procedure to add the [Department] column. Use the preview area to optimize the column width (Fig. 26). Click the [Save] button.

Fig. 26 Setting up columns in the [Contacts] section



How to add an aggregated column in the list

You can display aggregate columns of the connected objects. For example, you can get the summary information about the “Account” object by the connected “Activity” object.

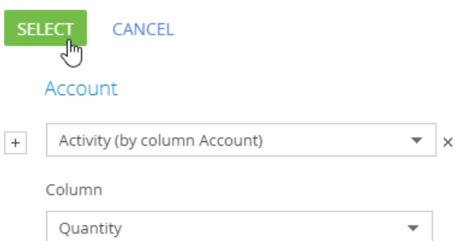
CASE

Display a number of current contact’s activities connected to each account in the list of the [Accounts] section.

To do this:

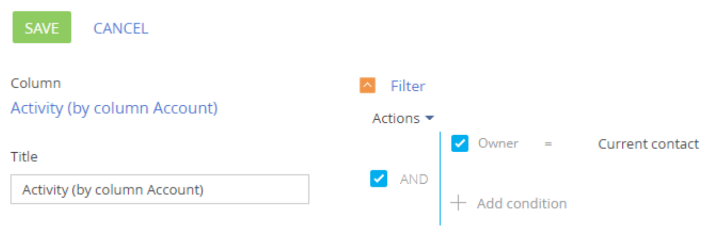
1. Open the [Accounts] section.
2. In the [View] menu, select the [Select fields to display] command.
3. On the column setup page, click the + button.
4. In the opened column selection window:
    a. Click the [+] button next to the object name.
    b. In the added field, select the object with the reverse connection, for example, “Activity (by the [Account] column)”.
    c. In the [Column] field, specify the column of the connected object, for example, “Quantity”.
    d. Click the [Select] button (Fig. 27).

Fig. 27 Selecting an aggregate column



5. On the opened page, specify the display and filter parameters for the selected column (Fig. 28).

Fig. 28 The column setup page



   a. Enter the caption for the column to be displayed, for example, “Number of activities”.
   b. Specify the filter for data aggregating. For example, to display the number of activities, whose owner is the current user, apply filtering by [Owner]: Current contact.
6. Click the [Save] button on the column setup page.
7. Save the column setup parameters.

   As a result, the accounts list will display the number of activities of the current user for each account.

SEE ALSO

- Exporting list data to Excel
- Setting up summaries by columns
- List FAQ

VIDEO TUTORIALS

- Creatio inetrface overview

List FAQ

- How many columns can I add to a section list?
- How do I quickly update the list without reloading the entire section page?
- When I export data, the "You have insufficient rights to perform the operation” message pops up
- How to download detail values?

How many columns can I add to a section list?

Section lists can be displayed in either “list” or “tile” view.

The maximum number of columns displayed in the **list view** is 24. However, selecting a significant number of columns may be uninformative since the visible area of the list depends on your monitor size. In addition, column width depends on your monitor resolution. Column width may not be sufficient to display the information on smaller monitors (768px, 1024px).

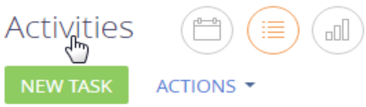
The number of columns displayed in the **tile view** is unlimited. However, selecting a significant number of columns affects the overall performance of the system due to increased database loading times.

We recommend selecting the optimal number of columns to display the most important data in the list.

How do I quickly update the list without reloading the entire section page?

If you make changes to the list (for example, if you modify filtering conditions or sort list entries) It may be necessary to quickly update the list without having to refresh the section page (by pressing the F5 button, or using the "Reload" command). To update the list data, click on the name of the section (Fig. 29).

Fig. 29 Updating list data in the [Activities] section



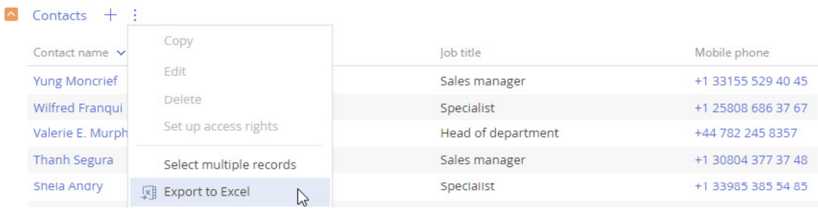
When I export data, the "You have insufficient rights to perform the operation" message pops up

You may have not configured access permission to the [Export list records] system operation.

How to download detail values?

Data from the detail can be exported with the [Export to Excel] command available from the actions menu of the detail (Fig. 30).

Fig. 30 Exporting a detail list to Excel



SEE ALSO

- Universal import from Excel FAQ
- Exporting list data to Excel

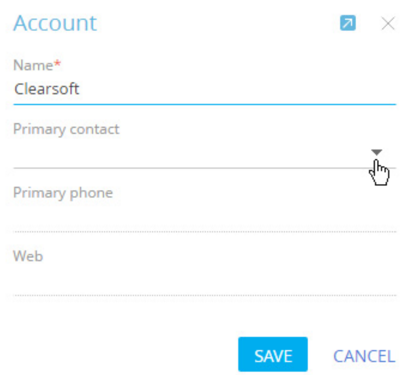
Mini pages

You can quickly add and view records using mini pages.

How to add records using the mini page

When you add records in the [Contacts], [Accounts], [Activities], [Leads], [Opportunities] sections, a mini page opens. Fill the page out and save the changes (Fig. 31).

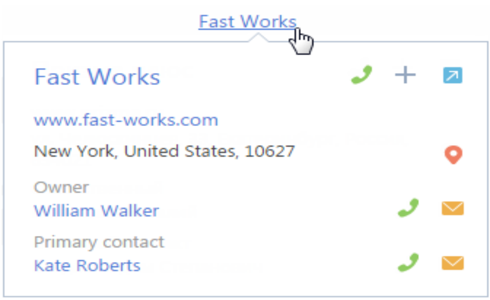
Fig. 31 Adding a new record via mini page



How to view the mini page of a record

You can view mini page for contacts, accounts, activities, leads and opportunities. When you hover the mouse cursor over a **hyperlink** to open these records, a mini card is displayed (Fig. 32).

Fig. 32 Account mini page



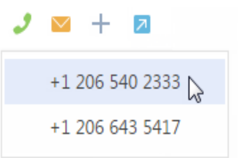
Mini pages contain only those fields that are filled in for the corresponding record. If, for example, the [Address] field is not filled in on the account page, it is not displayed in the mini page of this account.

Which actions are available in mini pages

With mini pages, you can perform the basic actions available on the edit page of the corresponding records.

To **make a call**, click the button and select the required number (Fig. 33).

Fig. 33 Making a call



NOTE

If the phone integration settings are not set, the button will display phone number. Call management is covered in a separate article.

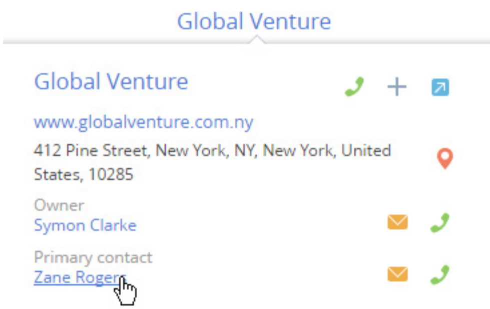
To **send an email**, click the and select an email address.

NOTE

Working with emails is covered in a separate article.

To **open records** that are displayed in the mini page, click the corresponding hyperlink (Fig. 34).

Fig. 34 Opening the contact edit page



To open the edit page of a record from its mini page, click the button in the upper right part of the mini page.

NOTE

The information and available actions are different for the contact, account and activity mini pages.

In addition to the ability to call or send emails, you can also create tasks and contacts from the mini pages in the **[Accounts] section**, as well as view the location of an account on the map.

You can use mini pages in the **[Contacts] section** to make calls, send emails and check contact's current local time.

To **create a task or a contact**, click the + and select the required action. To **view the location of the account on the map**, click the button.

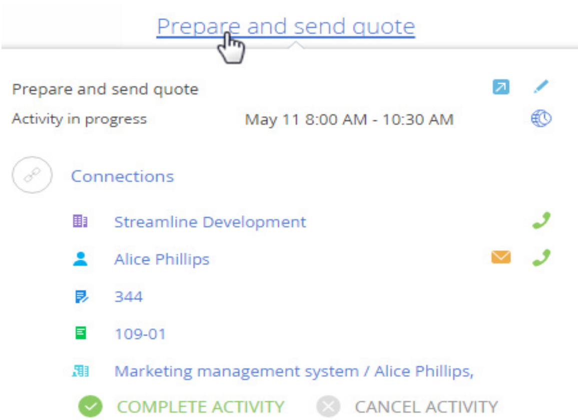
Additional options available in the activity mini page

In addition to making calls and sending emails directly from an **activity** mini page, you can also:

- Schedule employee and customer activities in different timezones, taking into account the time difference. More information about working with contacts in different time zones is available in a separate article.
- Edit planned date and time.
- Change activity status. If an activity status is “Not started” or “In progress”, you can complete or cancel it as well as specify its result using the mini page.
- Add connected records to an activity mini page.

The information available in an activity mini page depends on which fields are filled in on the activity record page (Fig. 35). If, for example, the [Contract] field is not filled in on the account page, it is not displayed in the mini page of this account.

Fig. 35 The activity mini page



How to add connected records to an activity mini page

Using mini pages, you can connect an activity to a different system record. To connect an activity to a contract:

1. Enable editing by clicking the button at the top right corner of the mini page.
2. Click the + button in the [Connected to] block to add the [Contract] field to the mini page and select a contract from the list.

NOTE

The list of contracts displayed when you hover the mouse cursor over the [Contract] field, is filtered by the [Account] field.

How to add activity participants

1. Click the button to open the record page.
2. Go to the [Participants] tab and click the + button, then select a contact (Fig. 36).

Fig. 36 Adding activity participants

You can exit the edit mode by clicking the × button or pressing the “Esc” key.

SEE ALSO

- How to configure mini pages for using in a section
- Example of creating mini pages

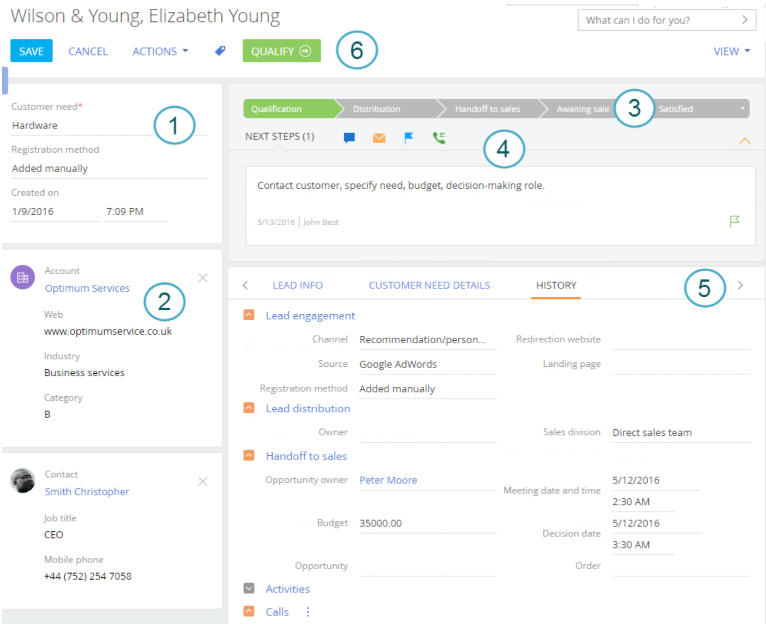
Record pages

All information about the record is available on its edit page. There is no need to move on to other objects in the system — all the main functions are available on the record page.

Each record page consists of several blocks with structured details containing record data (Fig. 37). The page contains:

- Record profile
- Connected information profile
- Page tabs
- Dashboard tile if it was added to the page by user
- Toolbar
- As well as stage indicator and action panel depending on the section.

Fig. 37 Record page



Record profile (1)

The most important information about a record is displayed on the record page in the main sections of Creatio.

Connected record block (2)

Brief information about connected records, for example, client name, job title and mobile phone number in the profile enables you to look through all the key data of the connected record on the page of the main record. A page can contain one or several profiles.

If the connected record in the profile is not specified, you can select it from existing ones or create a new record. You can delete a record connection by clicking at the top right of the profile page.

Workflow bar (3)

In sections where records are maintained by a business process, a workflow bar is displayed. It enables you to see at what stage of the workflow a record is, and quickly move on to the next stage. This makes the case intuitive and simple and helps you to focus on moving forward.

The bar color changes depending on the stage. For example, the workflow bar is colored red if the opportunity is moved to [Closed lost] stage.

NOTE

Use the case designer to set up the workflow bar. Read more >>>

Action panel (4)

With the actions panel you can always see scheduled tasks and with just one click proceed to your activities, work with email or the feed. You don't need to leave the main section because all the work with activity takes place in the mini page.

For sections that use business processes or cases, you can also work with a list of tasks that are scheduled automatically according to the process (case). You can, for example, approve a document (order, memo, etc.) right from the action panel. You can work with the case, communicate with a client, or follow the opportunity history and lead registration data at the same time.

Using the action panel, you can:

- schedule a task
- Send an email .
- Create a case in the self-service portal .
- Create a post in the record feed .
- Record call results .

The action panel displays the following:

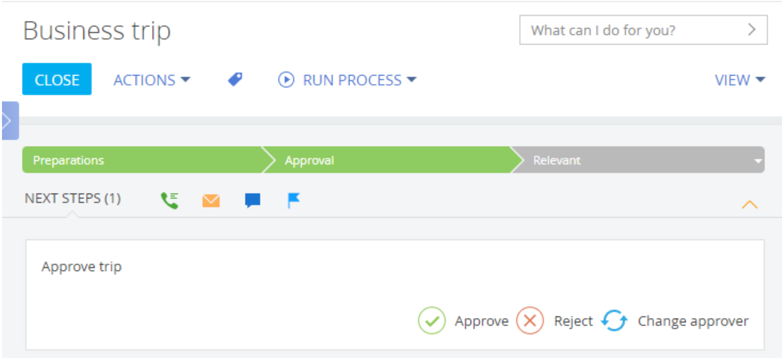
- Activities connected to a section object in a specific field. For example, in the lead action panel, only tasks that contain the selected lead in the [Lead] field are shown.
- Activities not in a final state.

NOTE

The activity is in its final state when the [Final state] checkbox is selected in the [Activities states] lookup.

- Approval in the “To set” status which is not canceled (Fig. 38).

Fig. 38 Approval on the action panel



The action panel can contain other business process elements, such as user dialogs and other pages that the process is supposed to open.

Page tabs (5)

Detailed information about the record is displayed on separate tabs. For example, the [History] tab contains the history of activities, calls and messages, and information about connected records. The [Feed] tab contains user-published messages related to the record. These tabs contain fields, groups of fields, details and dasboards.

Toolbar (6)

The toolbar contains buttons to perform actions with the record.

- You can **save** data, **cancel changes** or **close page** on the toolbar.
- The **[Actions]** button enables you to set access rights and subscribe to updates for a selected record. With the help of the action menu you can also perform other tasks that depend on the section, for example, update a contact with social network data, create an order based on opportunity, or send an invoice or order for approval.
- The **[Tags]** button enables you to set tags to make searching more convenient and to group records.
- The **[Print]** button enables you to save information about a record in a separate file. Clicking the button opens a list of print forms and reports available in this section. The list of data, displayed in the printed form, depends on the section. After you select a report or a printed form, the information from the record page is stored in a separate file in PDF format.
- You can launch a process for the selected record by clicking the **[Run process]** button. The [Run process] button is enabled only if the start of the business process for a section record is configured. Read more >>>
- The **[View]** button opens the section wizard.

Page dashboards (7)

You can configure displaying of dashboard tiles on any record page. A dashboard component displays the system data in various ways, for example, as a chart or a number. Adding of dashboard tiles on record pages is performed in the section wizard. Read more >>>

Fields and details

Information can be displayed as a field or a detail.

A **field** is an element displayed in the form of a certain value. The value can be specified in a textual, numeric, or logic format, in the format of date or time, and can also be selected from a list or a lookup.

When selecting values from a list or a lookup, the system will offer a list of records starting with the entered value after entering a few characters.

Similar fields can be grouped in field groups. You can minimize groups.

A **detail** is an element about other objects connected to the selected record. Details are implemented are used when the main record may be connected to more than one record object. For example, the information connected to activity contact, addresses, documents, etc.

Visually, a detail is different from a group field due to the presence of the toolbar for managing data (update and change records, sort, filter, configure details, etc)

The records in a detail can have their own edit pages.

Lookup fields with predicted values

If a lookup field in a section is configured to predict values, Creatio will display the prediction results in the field and automatically rate the quality of the prediction based on the following factors:

Depending on the balance of probabilities, Creatio determines the following prediction types:

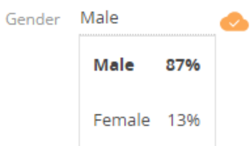
- certain prediction
- near certain prediction
- weak prediction

Certain prediction

Certain prediction is a prediction with an evident leader. In this case, the field is automatically populated with the predicted value, and the icon appears next to it. Save the page if the field is populated correctly.

Clicking the button displays all possible predictions and their probabilities with the most probable item highlighted (Fig. 39).

Fig. 39 Certain prediction

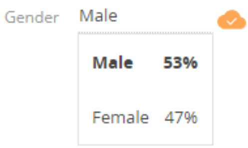


If you modify the field, the button appears. Clicking the button displays all predictions.

Near certain prediction

If there are multiple values with close probabilities, the field is not populated, and the button appears next to it. Clicking the button displays the list of predictions (Fig. 40).

Fig. 40 Near certain prediction



Weak prediction

Weak prediction occurs when Creatio cannot compare the historical data to the data used for analysis.

The button appears next to the unpopulated field. Clicking the button displays the list of predictions and their probabilities.

SEE ALSO

- Mini pages
- Section wizard
- How to create a lookup value prediction model
- Predicting a contact's gender

VIDEO TUTORIALS

- Creatio interface overview

Sharing records

You can manage access rights to the information that you add in Creatio. For example, when registering a new account record, you can specify users who have access to it.

You can manage access rights to certain operations with the records. There are three groups of such operations: **read**, **edit**, and **delete**. For example, the access to the "read" operation means that the user or user group can view the record in the section and open its page.

For each operation, you can choose one of two permissions:

- **Granted** – the right to read, change, or delete a record.
- **Granted/Delegation permitted** – the right to perform the operation on the record, as well as to manage access rights to this operation.

  NOTE

  If some access level is disabled it means that you don't have access to a record.

By default, the user who has created a record has the right to perform and delegate all operations with the record. The default access rights to records are defined by the system administrator.

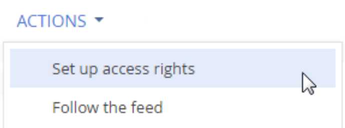
To manage access rights to a record, open the page of the record and select the [Access rights] command in the [Actions] menu.

CONTENTS

Managing access rights

1. Open the page of the record whose access rights must be changed.
2. Select the [Set up access rights] command (Fig. 41) in the [Actions] menu.

Fig. 41 Switching to access rights setup

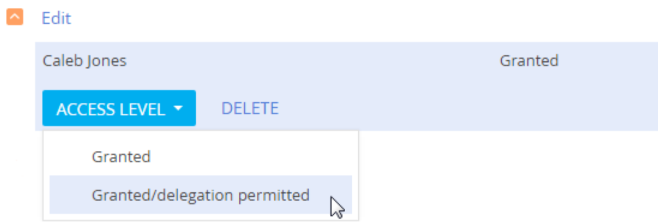


3. On the opened access rights page, click the [Add] button and select the operation for which permissions must be set. For example, to grant the right to edit the record, select the [Edit access right] command.
4. In the opened window, select the user or user group for which access rights must be granted. For example, to grant the edit permission to all employee users, select the "All employees" user group. As a result, a new rule will be added to the corresponding page detail. The rule will determine access rights for the selected user or user group to the selected operation on the current record. By default, the access rights to the operation are always defined as "Granted".
5. Tap the [Save] button.

Changing access rights

1. Open the edit page of the record whose access rights must be changed.
2. Select the [Set up access rights] command in the [Actions] menu.
3. On the opened access rights page, in the **Read**, **Edit**, or **Delete** detail, select the record to modify. For example, to allow the user to delegate the right to edit the record, in the **Edit** detail, select the record that contains the name of this user.
4. In the [Permission] menu, select the permission that must be set. For example, to allow the user manage access rights to the selected operation, select the [Granted/Delegation permitted] command (Fig. 42).

Fig. 42 Changing access rights for the record



5. Tap the [Save] button.

Restricting access

1. Open the edit page of the record whose access rights must be changed.
2. Select the [Set up access rights] command in the [Actions] menu.
3. On the opened access rights page, on the **Read**, **Edit**, or **Delete** details, select the access rights to be canceled and delete it. For example, to restrict the right to edit the record for all users, select the "All employees" record in the **Edit** detail and click [Delete].

VIDEO TUTORIALS

- User and role management, access permissions

Filters

You can filter records in the list for sections and details in Creatio. The following tools can be used to search and filter records in sections:

- Quick filter;
- Standard filter;
- Advanced filter.

To filter records on the details, a standard filter is used.

Controls for managing filters are located in the upper part of the section page or directly on the detail (Fig. 43).

Fig. 43 Filter area

To manage standard and advanced filters in sections, use the [Filter] menu. To change the parameters of the applied filter either for the section or for the detail, click the filter and edit the needed fields in the filter area.

The filter settings are saved when updating the page, when switching sections or re-logging into the system. To remove a filter, click the × button in its right part (Fig. 44).

Fig. 44 Canceling one filter

NOTE

The [Filter] menu is also used to manage folders. If some folders have been marked as favorite, their list will be displayed in the [Filter] menu. More information about the working with folders can be found in a separate article.

CONTENTS

- Quick filter
- Standard filter
- Advanced filter

SEE ALSO

- Record lists
- Folders

VIDEO TUTORIALS

- Creatio interface overview

Quick filter

Certain sections in Creatio have quick filters. Use a **quick filter** to filter data by the most frequently used conditions (Fig. 45).

Fig. 45 Using the quick filter

For example, the [Activities] section contains a quick filter as it is needed to analyze employee's activity during a specified period of time. By default, quick filters are enabled. Quick filter parameters may vary depending on the section.

CONTENTS

Quick filter by time period

You can filter records by time period, for example, to display the activities for the current or previous week.

There are three quick filter presets:

- – shows records for the current day.
- – shows records for the current week.
- – shows records for the standard period, for example, “Yesterday”, “Current week”, “Next week”, “Previous month”, and so on. You can also set a custom period by specifying its start and end dates using the built-in calendar.

  NOTE

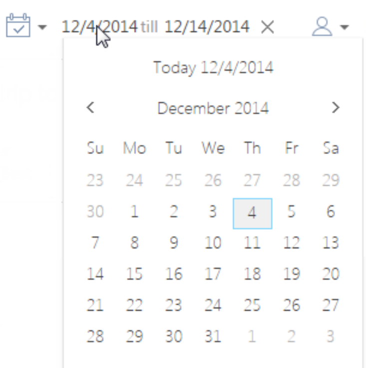
  Previous, current and next week (month) are actual calendar weeks (months). For example, if the previous month was December, then when you select the “Previous month” period in the [Activities] section, the activities will be displayed for the period of time between 1st and 31st of December.

  NOTE

  Use the advanced filter to display records by quarter, half year or other custom periods in the list.

To set up custom filter period, select the start and end date of the period using the built-in calendar. You can open the calendar by clicking the start or end date of the period (Fig. 46).

Fig. 46 Opening the calendar filter



Quick filter by owner

Apply a filter by owner, for example, to display activities by one or more users.

To view data by a certain owner, select the user's name in the filter menu. To view data about several owners, select the [Add owner] option from the menu and specify the user in the opened window.

To cancel a filter by owner, select the [Clear] option from the filter menu.

SEE ALSO

- Standard filter
- Advanced filter

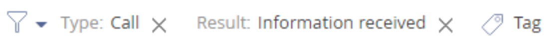
VIDEO TUTORIALS

- Creatio interface overview

Standard filter

The **standard filter** is used to search for records either in the section or on the details by the values specified in one or more columns. For example, to search for all companies of a specified type or activities that have a specified status and priority.

Fig. 47 Standard filter in the [Activities] section

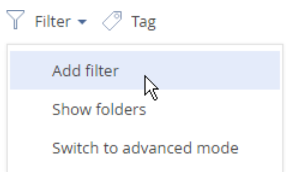


CONTENTS

Applying standard filters in sections

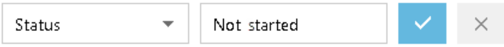
1. From the [Filter] menu, select the [Add condition] option (Fig. 48).

Fig. 48 Adding standard filter conditions for the section



2. In the appeared fields, specify a filter condition. Select a column that you want to search records by and specify the column value (fully or partially). To apply the filter conditions, click the button (Fig. 49).

Fig. 49 Applying standard filter conditions for the section



As a result, the section list will display the records that match the applied filter condition.

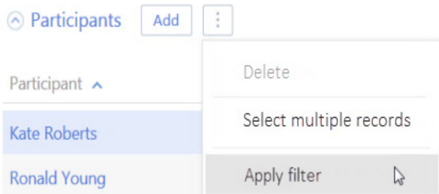
Applying multiple standard filters for the section

You can apply more than one standard filter in a section. To add more filters, select the [Add condition] option from the [Filter] menu once again and specify a filter condition. Once several standard filters are applied, the list will contain only those records that match all filter conditions.

Applying a standard filter for the detail

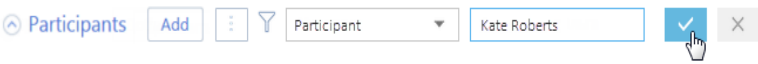
1. Select the [Apply filter] option from the ⋮ menu (Fig. 50).

Fig. 50 Adding standard filter conditions for the detail



2. In the appeared fields, specify a filter condition. Select a column that you want to search records by and specify the column value (fully or partially). To apply the filter conditions, click the ✓ button (Fig. 51).

Fig. 51 Applying standard filter conditions for the detail



As a result, the detail list will display the records that match the applied filter condition.

NOTE

Applying filter condition is possible only for the details with lists.

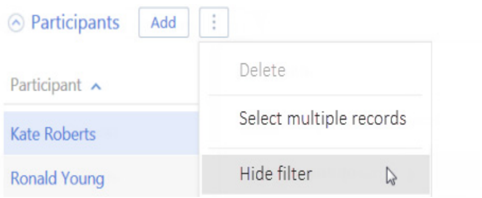
Applying multiple standard filters for a detail

You can apply more than one standard filter for a detail. To add more filters, click the filter button and specify a filter condition. Once several standard filters are applied, the detail will contain only those records that match all filter conditions.

Removing the filter panel from the detail

The filter panel will be automatically hidden after the page update. To hide the filter panel manually, select the [Hide filter] option in the ⋮ menu (Fig. 52).

Fig. 52 Hiding filter panel on the detail



ATTENTION

This action is available if no other filter conditions are applied.

NOTE

The filter conditions will not be reset if you can expand and collapse the detail (by clicking the button).

SEE ALSO

- Quick filter
- Advanced filter

VIDEO TUTORIALS

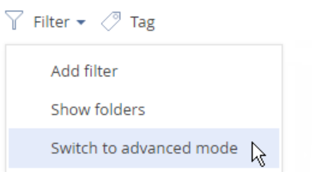
- Creatio interface overview

Advanced filter

If you need to apply a more complex filter with several search parameters and conditions, use the **advanced filter**. For example, you can use it in the [Activities] section to display all meetings with new customers.

To apply the advanced filter, select the [Switch to advanced mode] option from the [Filter] menu (Fig. 53).

Fig. 53 Switching to the advanced filter mode



NOTE

If you will require the configured filters in the future, you can save a dynamic folder by them.

CONTENTS

- Applying an advanced filter by object columns

- Applying an advanced filter by connected object column
- Applying the advanced filter with grouping filter conditions
- Applying an aggregate filter
- Applying filter by time period

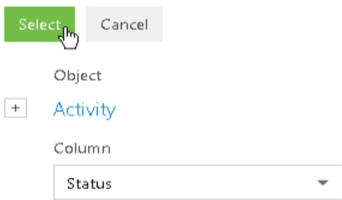
Applying an advanced filter by object columns

You can apply filter by one of the current section columns (for example, you can filter activities by the [End date] column of the "Activity" section or contacts by the [Job Title] column of the "Contact" section).

For example, to filter the uncompleted activities that were changed within the last two weeks in the [Activities] section:

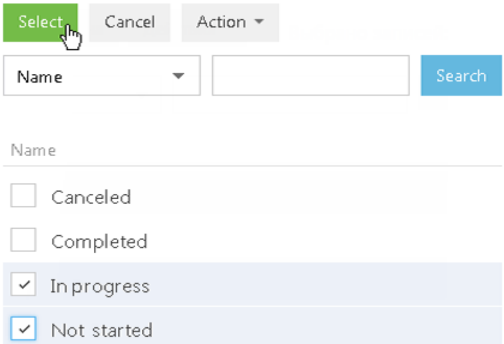
1. Open the [Activities] section. From the [Filter] menu, select the [Switch to advanced mode] option (Fig. 53).
2. In the filter setup area, click the <Add condition> link.
3. In the opened window, select the needed column from the [Column] drop-down list, for example, [Status], and click the [Select] button (Fig. 54).

Fig. 54 Selecting a column for the advanced filter



4. On the filter page, select the needed parameters:
   a. Select the condition type by clicking its symbol, for example, "=".
   b. Click the <?> link. On the opened window, specify the values for the selected column, for example, "Not started" and "In progress". Click the [Select] button (Fig. 55).

Fig. 55 Selecting a value for a column

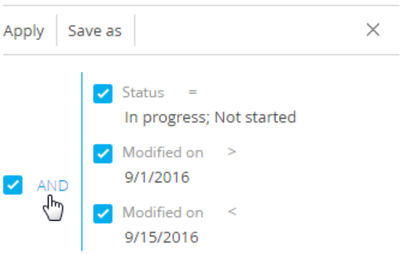


NOTE

When using the "≠" condition, records with unfilled fields are now taken into account.

5. Similarly, add the remaining conditions. For example, specify the threshold dates for the records that were modified.
6. Specify the logical operator for the added conditions, for example, “AND”, by clicking it (Fig. 56).

Fig. 56 Selecting a logical operator



NOTE

The “AND” logical operator is applied if the record must match all conditions in the group. Apply the “OR” logical operator if the record must match at least one of the conditions in the group.

NOTE

By default, the filter area contains one empty root group with the logical operator “AND”.

7. Click the [Apply] button.

   As a result, only uncompleted activities that were changed within the specified period will be displayed in the [Activities] section.

SEE ALSO

- Applying an advanced filter by connected object column
- Applying an aggregate filter

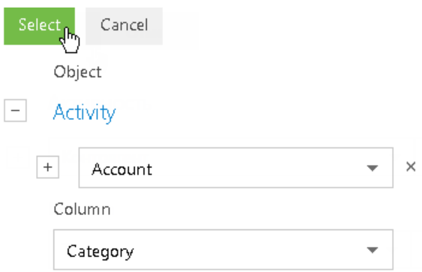
- Applying filter by time period

Applying an advanced filter by connected object column

You can filter records by the columns of the current record and by the columns of the objects connected to it. Another example, activities can be filtered by the category of the connected account (the [Type] column of the [Accounts] section). For example, to filter activities in the [Activities] section by a certain type of company:

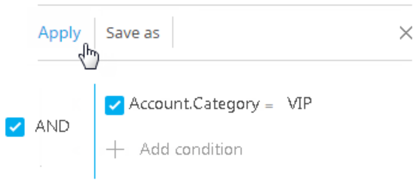
1. Open the [Activities] section. From the [Filter] menu, select the [Switch to advanced mode] option (Fig. 53).
2. Click the <Add condition> link.
3. On the opened column selection page:
    a. Click the + button next to the object name.
    b. In the added field, select the connected object, for example, “Account”.
    c. In the [Column] field, specify the column of the connected object, for example, “Category”.
    d. Click the [Select] button (Fig. 57).

Fig. 57 Selecting a column of the connected object



4. On the filter setup area, select the needed parameters:
    a. Click the symbol of filter condition to change its type. By default, the “=” condition is indicated.
    b. Click the <?> link. In the opened window, select the needed value for the selected column, for example, “Category = VIP”. Click the [Select] button.
5. Click the [Apply] button (Fig. 58).

Fig. 58 Applying filter conditions



As a result, only activities that are connected to accounts of "VIP" category will be displayed in the section list.

NOTE

For example, when the filter is set up for <Account.Type ≠ Customer>, activities will be displayed for the accounts that are not customers and those with the [Type] field unfilled.

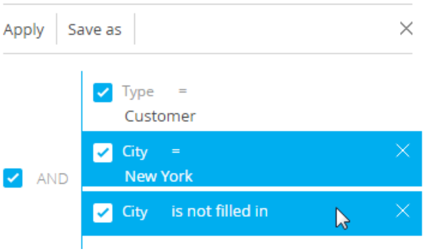
If you use filtered data on a regular basis, click the [Save as] button to create a dynamic folder using this filter.

Applying the advanced filter with grouping filter conditions

You can create advanced filters with several logical operators. For example, you can display all customer accounts who reside in New York, and those that have no city specified:

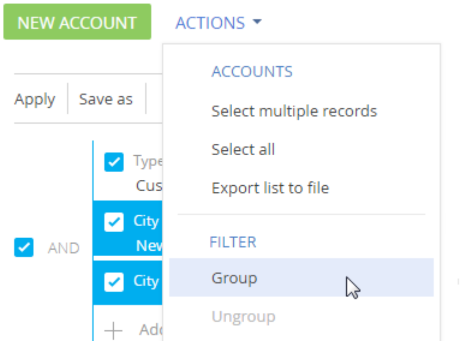
1. Open the Accounts section. From the [Filter] menu, select the [Switch to advanced mode] option (Fig. 53).
2. Apply the “Type = Customer” condition:
   a. Click the <Add condition> link.
   b. In the opened window, select the account column, for example, “Type”. Click the [Select] button.
   c. In the filter setup area, click the <?> link. In the opened window, select the needed value for the selected column “Category = VIP”. Click the [Select] button.
3. Add the “City = New York” condition in the same manner.
4. To apply the “City is not filled in” condition:
   a. Click the <Add condition> link.
   b. In the opened window, select the “City” column. Click the [Select] button.
   c. In the filter setup area, click the condition type and select the “is not filled in” condition from the menu.
5. Group the needed conditions and set a different logical operator for them:
   a. Holding down the Ctrl key, select the conditions to group (Fig. 59).

Fig. 59 Selecting filter conditions to be grouped



b. From the [Actions] menu, select the [Group] option (Fig. 60).

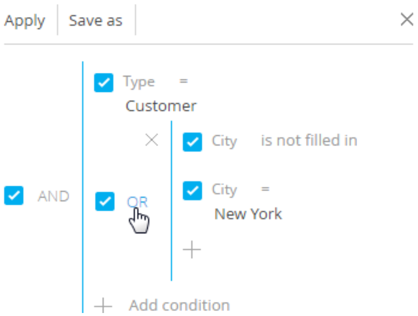
Fig. 60 Grouping filter conditions



As a result, the selected conditions will be combined in a separate group.

c. Set “AND” as the logical operator of the root group and “OR” as the logical operator for the newly created group by clicking the operator name (Fig. 61).

Fig. 61 Setting a logical operator for the group of filter conditions



6. Click the [Apply] button.

As a result, only the accounts of the "Customer" type for which the "New York" value or no value is specified in the [City] field will be displayed in the section.

SEE ALSO

- Applying an advanced filter by object columns
- Applying an aggregate filter
- Applying filter by time period

Applying an aggregate filter

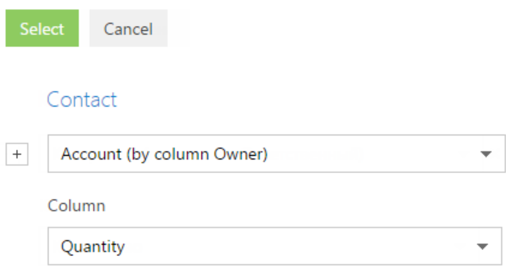
The aggregate filter allows to filter object records by the connected records in objects with the reverse connection. The following filter conditions can be applied in the aggregate filter:

- Count – a certain number of the connected records exists in the object with the reverse connection for the filtered records. For example, you can filter users who are specified in the [Owner] field for five or more accounts.
- Maximum / minimum – for the filtered records, the object with the reverse connection contains records with a specific maximum (minimum) value in the numeric or the date column. For example, you can select employee users whose last task was completed last week.
- Sum, average – for the filtered records, the object with the reverse connection contains the connected records with the particular sum of values or the average value in the numeric column. For example, you can filter employee users whose average task duration is greater than two hours.

Applying the aggregate filter is identical to applying the filter by connected object columns. For example, you need to obtain a list of users who are owners for the accounts of the "Customer" type. Applying the following aggregate filter will help you compile this list:

1. Open the section whose records must be filtered, for example, Contacts. From the [Filter] menu, select the [Switch to advanced mode] option (Fig. 53).
2. Click the <Add condition> link.
3. In the opened column selection window (Fig. 62):

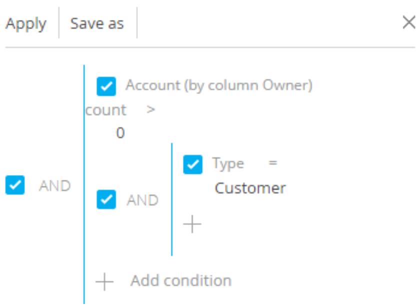
Fig. 62 Setting up a reverse connection object column in the aggregate filter



   a. Click the + button next to the object name.
   b. In the added field, select the object with the reverse connection. For example, to apply an aggregate filter by the [Owner] column of the [Accounts] section, select "Account (by column Owner)".

   c. In the [Column] field, specify the column of the object with the reverse connection, for example, “Quantity“.
   d. Click the [Select] button.
4. In the filter setup area (Fig. 63):
   a. Select the filter conditions. In this case, the condition is “Quantity > 0”.
   b. Apply the necessary additional conditions: For example, if you need to display only those contacts that are owners for accounts of the “Customer” type, add this condition to the filter.

Fig. 63 Applying filter conditions for an aggregate filter



5. Click the [Apply] button.

   As a result, the record will be displayed in the **Contacts** section, only if there is an account for which this contact is specified in the [Owner] field.

SEE ALSO

- Applying an advanced filter by object columns
- Applying an advanced filter by connected object column
- Quick filter
- Standard filter

Applying filter by time period

You can filter records by specific period or exact date. For example, display all records added to the section for the last week.

Following types of filters by period are available:

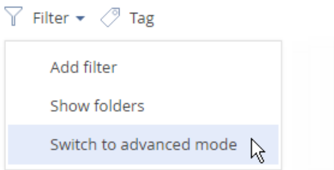
- Filter by exact date
- Filter by standard period
- Filter by annual events.

Filter by exact date

To display data whose date falls within a certain period of time, specify this period in the filter conditions. For example, you can view the activities that took place during your business trip three weeks ago.

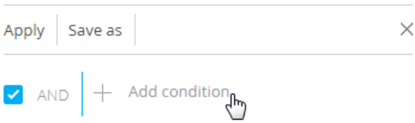
1. Open the [Activities] section
2. From the [Filter] menu, select the [Switch to advanced mode] option (Fig. 64).

Fig. 64 Switching to the advanced filter mode



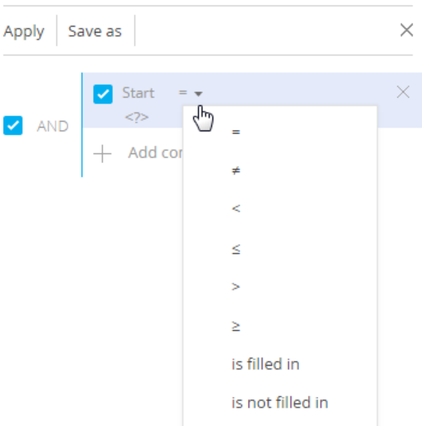
3. When the filter area opens, select the beginning of the period you want to display records for. To do this:
   a. Click the <Add condition> link (Fig. 65). In the opened window, select the needed date column, for example, "Start", to sort activities by the start date.

Fig. 65 Adding column to filter condition



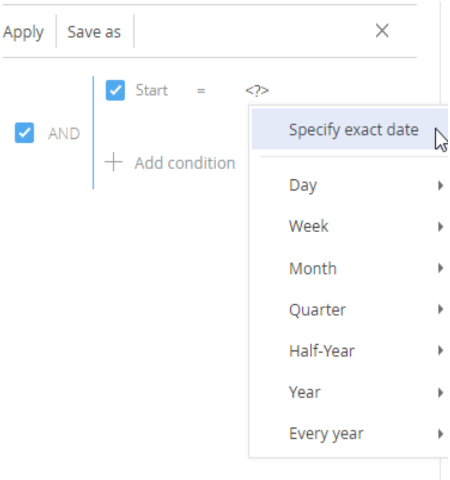
   b. Select the logical operator next to the added column (Fig. 66), for example, "≥" (greater than or equal to), to set this period as the filter start date.

Fig. 66 Selecting filter condition type



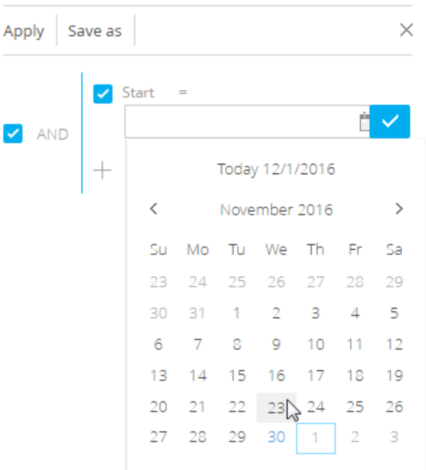
   c. From the <?> link menu, select the [Specify exact date] option (Fig. 67).

Fig. 67 Specifying the exact date of filter period



d. In the opened window, click the button to open the built-in filter calendar, and select the needed date (Fig. 68).

Fig. 68 Built-in filter calendar



4. Specify the filter end date.

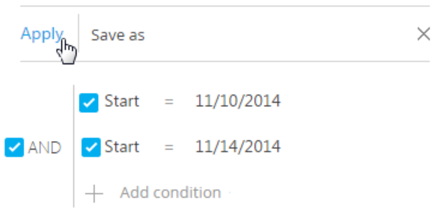
a. Add the “End” column to the filter condition to sort activities by the start date.

b. Then select the “≤” (less than or equal to) condition type.

c. Select the date from the built-in calendar.

5. Make sure that the “AND” logic operator is set for the added filter conditions.
6. Apply the filter by clicking the corresponding button.

Fig. 69 Applying filter



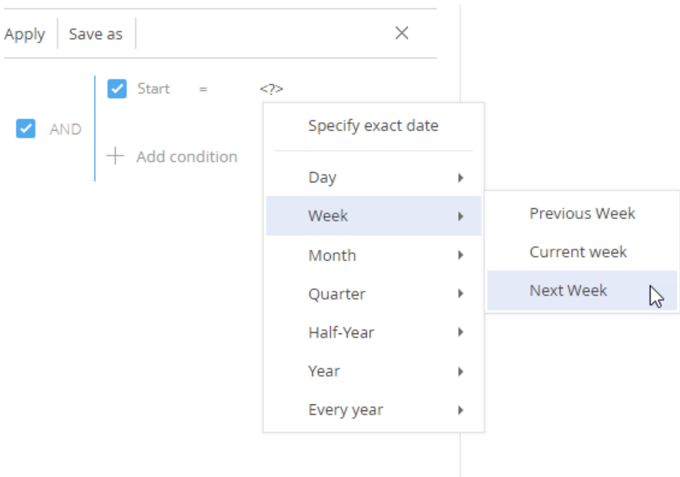
As a result, only activities that started within the specified period will be displayed in the [Activities] section.

Standard filter periods

To facilitate working with filters, use standard filter periods. For example, you can easily display records for the previous, current or next week.

Standard periods are available in the <?> link menu of the filter condition (Fig. 70).

Fig. 70 Selecting standard filter period



Hour

The menu includes options that allow you to display records for the previous, current or next hour. In addition, you can display records for a certain number of previous or next hours. In addition, you can set the exact time to the minute as a filter value.

To do that, select the [Exact time <?>] option and enter the needed time value in the following format – H:MM, for example, “2:43 PM”. Also, you can select a standard time value from the drop-down list.

To define the number of previous or next hours, select the **[Previous hours <?>]** or **[Following hours <?>]** option respectively. Enter the needed number in the appeared field. Only integer numbers are acceptable.

Please, note that the previous, current or following hour is not an hour from the current moment, but a full hour starting from the 1st till the 60th minute, for example, from 9:00 to 9:59. Therefore, if the current time is 2:34, the following hour is the period from 3:00 to 3:59, not from 2:34 to 3:33.

Day

The menu consists of options that allow you to display records for the previous, current or next day. In addition, you can display records for a certain number of previous or next days. You can also use a specific day of the month or week as a filter value.

To set a specific day of the month as a filter value, select the **[Day of the month <?>]** option and enter the needed date in the appeared string.

To set a specific day of the week as a filter value, click [Day] –> **[Day of the week <?>]** and select the needed day.

Week

The menu includes options that allow you to display records for the previous, current or next week.

Previous, current or next week is a calendar period from Monday till Sunday. It is not a 7-day period starting from the current day. For example, if today is Wednesday, the next week is the period from next Monday till Sunday, not the following 7 days from the current day.

Month

The menu includes options that allow you to display records for the previous, current or next month. You can also use a specific month as a filter value.

To set a specific month as a filter value, click [Month] > **[Month <?>]** and select the needed month.

Previous, current or next month is a calendar period. For example, if the previous month was December, then when you select the "Previous month" period, the records for the period from December, 1st till December, 31st will be displayed.

Quarter

The menu includes commands that enable you to view recordsf for the previous, current or next quarter.

The previous, current or next quarter is a 3-month period: the 1st quarter includes the 1st, 2nd and 3rd months of the year (January, February, March), the 2nd quarter includes the next three months (April, May, June) and so on. For example, if it's August, the next quarter is the period that includes October, November and December (the 4th quarter).

Half-year

The menu includes options that allow you to display records for the previous, current or next half-year.

Previous, current or next half-year is a 6-month period: the period from January to June is considered the 1st half-year. The 2nd half-year is the period from the July to December. For example, if it's August (included in the 2nd half-year), then the next half-year is the time period from January to June of the next year.

Year

The menu includes options that allow you to display records for the previous, current or next year. You can also use a specific year as a filter value.

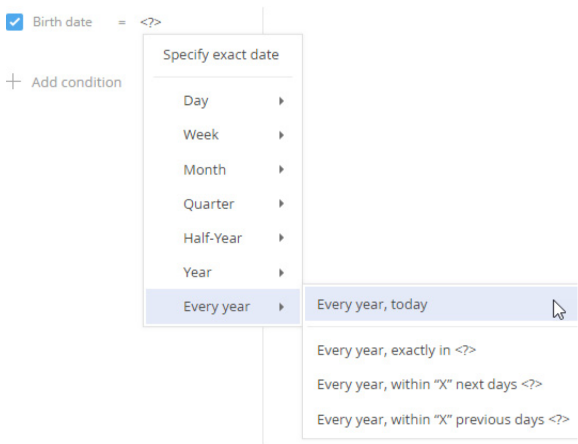
Previous, current and next year is a calendar period. For example, if it's August, 2014, the next year is the period from January to December of 2015 inclusive. It's not a 12-month period starting from August, 2014.

Filter by annual events

The filter takes into account only the day and month of the filtered dates. This filter can be used to track events that repeat each year, such as holidays or noteworthy events of contacts.

Annual event macros are available in the <?> link menu of the filter condition (Fig. 71).

Fig. 71 Filter by annual events.



The menu consists of the following options:

- **Every year, today**. Displays a list of records whose date matches the current date not counting the year. I.e., contact's birthday is today.
- **Every year, exactly in <?>**. Displays a list of records whose date will come after a specified number of days not counting the year. I.e., contact's birthday is exactly in 5 days.
- **Every year, within "X" next days <?>**. Displays a list of records which date falls on one of the next days not counting the year. I.e., contact's birthday is within 5 days or less.
- **Every year, within "X" previous days <?>**. Displays a list of records which date falls on one of the previous days not counting the year. I.e., contact's birthday was 5 days ago or less.

SEE ALSO

- Applying an advanced filter by object columns
- Applying an advanced filter by connected object column
- Quick filter
- Standard filter

VIDEO TUTORIALS

- Creatio interface overview

Folders

Use folders to organize and segment your records. Setting up folders will assist you to easily find the necessary records among multiple data. For example, in the [Contacts] section, you can create a "New customers" folder that will filter records by the contact type ("Customer") and the record date ("Current month"). If you select a folder within a section, only the records that match folder filter conditions will be displayed. You can add your most frequently used folders in favorites.

A section record can be included into one or more folders.

Working with folders

Two types of folders are used in Creatio:

- Static folders (indicated with the icon) include only those section records that have been added to these folders manually or via convertation from the dynamic folder. "VIP" or "Black list" are the examples of static folders, because the decision to include certain customers into such folders is made for each record individually.

  Static folders can be used to group other folders. For example, static folder "By type" in the [Accounts] section can contain subordinate dynamic folders "Partners", "Customers" or "Competitors".

- Dynamic folders (indicated with the icon) contain only those section records that match the specified filter conditions. For example, you can create a dynamic folder "New customers" for records filtered by the date they were created on.

  ATTENTION

  Static folders are only available in some Creatio sections.

Records cannot be manually included in or excluded from dynamic folders. A record will be displayed in a dynamic folder only if it matches the folder filter. If the record no longer meets the folder filter, it will automatically be excluded from that folder.

For example, your "Competitors" folder filters the records by the account type ("Competitors"). Thus, the companies for which the "Competitor" value is specified will be automatically included in the folder. If the company type changes, the record will automatically be excluded from that folder.

The folders can have a tree-like structure and contain both parent and subordinate folders. The folder structure does not affect the contents of the folders. For example, if a record is included in one of the subordinate folders, it does not necessarily mean it is included in the parent folder.

You can create the necessary folder structure and specify your own rules for the folder contents. The procedures for creating static and dynamic folders are different. Deleting a folder will not result in deleting the records contained in it.

CONTENTS

VIDEO TUTORIALS

- Creatio interface overview
- Process library

How to create a static folder

Static folders are only available in some Creatio sections.

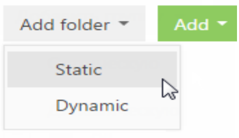
You can create a static folder in the following ways:

- add a folder and fill it with records manually.
- Copy the folder content from a dynamic folder.

To add a static folder **manually**:

1. In the [Filter] menu, select the [Show folders] option. The folder area will be displayed.
2. In the [Add folder] menu, select the [Static] command (Fig. 72).

Fig. 72 Creating a static folder



NOTE

The [Add folder] button menu is only displayed for sections where you can create a static folder.

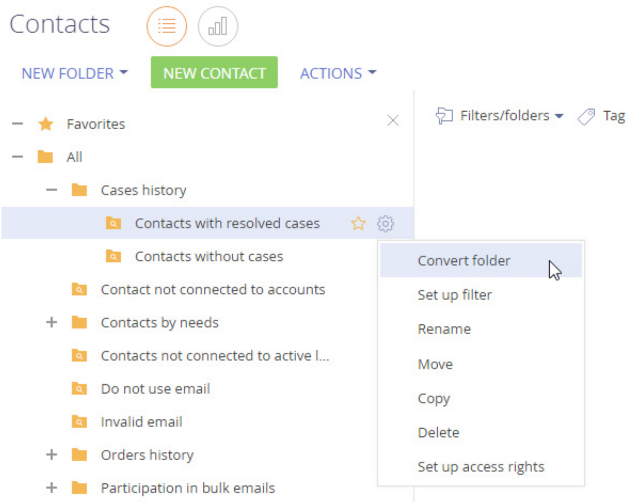
3. Enter the folder name and click the [OK] button in the opened page.

As a result, the new static folder will be added in the section. You need to populate this folder manually. Read more >>>

To create a static folder from a **dynamic** folder:

1. In the [Filter] menu, select the [Show folders] option.
2. In the folder tree, select a dynamic folder which content you need to include in a static folder.
3. From the menu, select the [Convert folder] option (Fig. 73).

Fig. 73 Converting the dynamic folder to static



4. Enter the new folder name and click the [OK] button in the opened page.

As a result, the static folder will appear as a subfolder of the selected dynamic folder. The content of the folders will be identical at the moment of conversion. Further, you can manually include or exclude records in the folder.

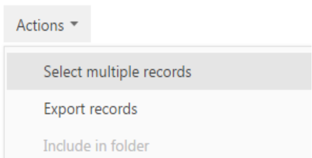
NOTE

The [Convert folder] action does not affect the content of the original dynamic folder.

Adding records to a static folder

1. In the [Actions] menu, select the [Select multiple records] command (Fig. 74).

Fig. 74 Switching to the multiple selection mode

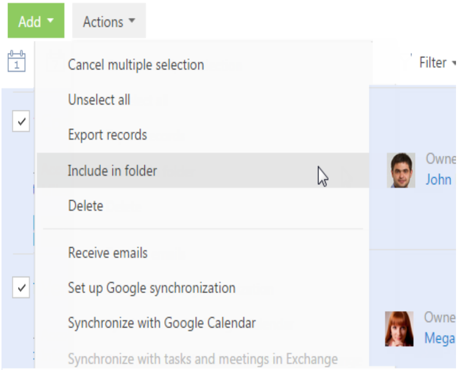


NOTE

There is no need to switch to the multiple selection mode if you want to add a single record to the static folder.

2. Check the boxes next to the records you want to include in the static folder.
3. In the [Actions] menu, select the [Include in folder] command (Fig. 75).

Fig. 75 Adding a record to a static folder



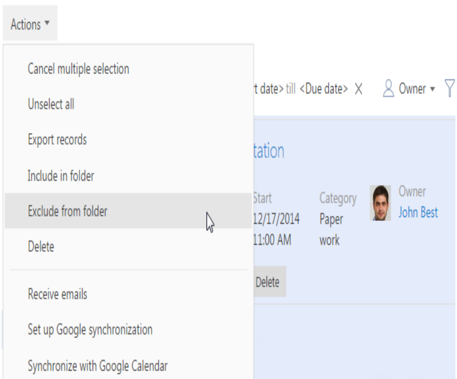
4. In the opened window, select the needed folder and click the [Select] button (or double-click the needed folder).

As a result, records selected in the section will be included in this static folder.

Excluding records from a static folder

1. In the section [Filter] menu, select the [Show folders] command.
2. Select a static folder whose records must be excluded.
3. In the [Actions] menu, select the [Select multiple records] command.
4. Select the records that must be excluded from the selected folder.
5. In the [Actions] menu, select the [Exclude from folder] command (Fig. 76).

Fig. 76 Excluding records from the selected static folder



As a result, the selected records will be excluded from the selected static folder.

SEE ALSO

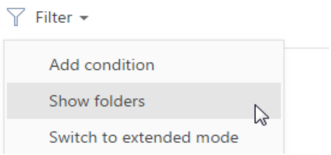
- How to create a dynamic folder
- How to manage favorite folders

How to create a dynamic folder

To create a dynamic folder with the corresponding filter conditions: To do this:

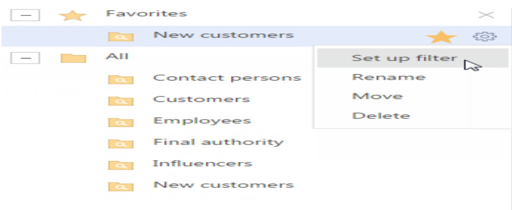
1. In the [Filter] menu, select the [Show folders] command (Fig. 77).

Fig. 77 [Show folders] command



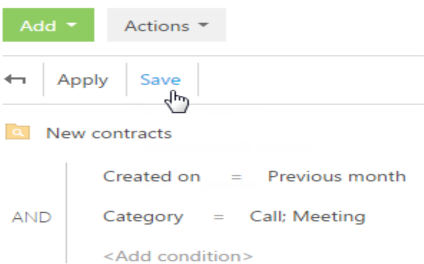
2. Click the [Add folder] button. In the sections where the static folders are available, select the [Dynamic] command in the button menu.
3. Populate the opened window with the folder name and click [OK] – you will see a filter condition setup area appear (Fig. 78).

Fig. 78 Folder filter setup area



4. Set the needed filter conditions and click the [Save] button (Fig. 79).

Fig. 79 Saving a folder filter



NOTE

Filter condition setup is identical to the advanced filter setup. Read more >>>

As a result, all the records that meet the filter conditions appear automatically in the section list when you select the folder.

NOTE

You can also save an advanced filter as a dynamic folder. To do this, click the [Save as] button in the filter area.

NOTE

You can copy the necessary folder if you need to create a folder whose filter conditions are partially identical to one of the existing folders. You can also copy the original folder access rights if necessary. To do this, select [Copy] in the button menu of the necessary folder.

SEE ALSO

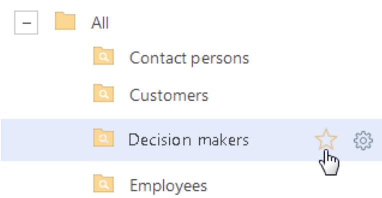
- How to create a static folder
- How to manage favorite folders

How to manage favorite folders

You can add the most frequently used folders to the list of favorites.Both static and dynamic folders can be added to the list.

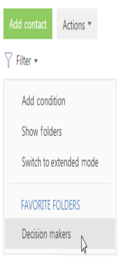
To add a folder to favorites, select it and click the button (Fig. 80).

Fig. 80 Adding a folder to favorites



All added folders are displayed as subordinate to the "Favorite" folder in the folder area. In addition, the favorite folders become available in the [Filter] menu (Fig. 81).

Fig. 81 Selecting the favorite folder in the [Filter] menu



SEE ALSO

- How to create a static folder
- How to create a dynamic folder

VIDEO TUTORIALS

- Creatio interface overview

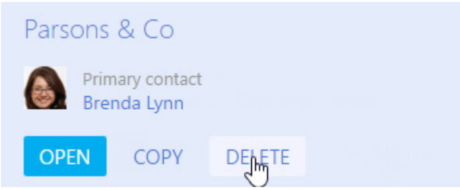
How to delete records

When deleting a Creatio record, you can opt to delete or save its connected records.

How to delete a record from the drop-down list

To delete a record from the drop-down list, select it and press [Delete] (Fig. 82):

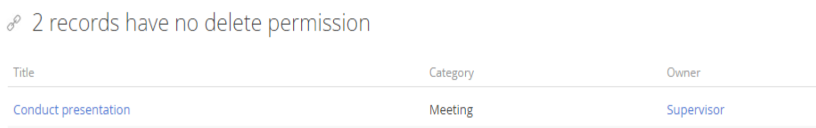
Fig. 82 Deleting a record



Before you can delete a record, the system asks for confirmation. Once you've given your confirmation, the record will be deleted if:

- this record is not connected to other objects in the system.
- this record is not prohibited from being deleted (Fig. 83).

Fig. 83 Insufficient rights to delete a record



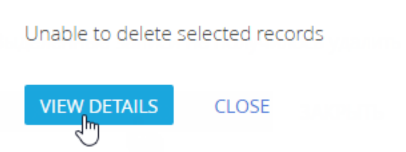
NOTE

To obtain rights to delete records, please contact your system administrator.

How to delete a record connected to other objects in the system

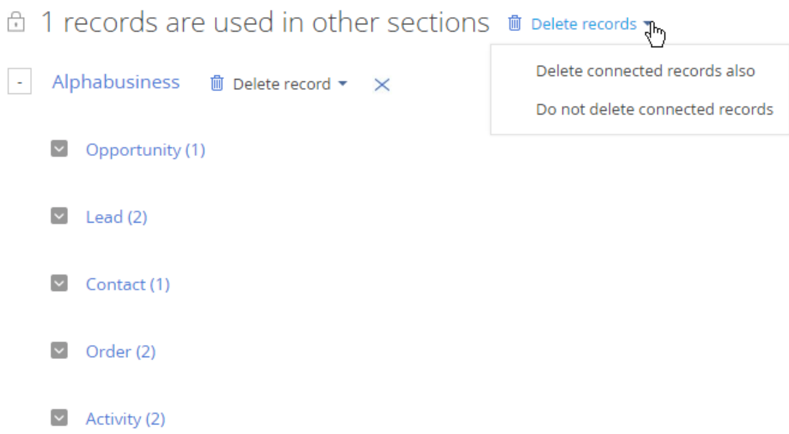
When you try to delete a record connected to other records, a notification appears and you can view the list of connected objects, by clicking [See more] (Fig. 84).

Fig. 84 Viewing objects connected to a record



The opened page displays objects that the record is connected to. Information on the record and connected objects is conveniently grouped in the sections in which they are contained (Fig. 85).

Fig. 85 Deleting a record connected to other sections



To view detailed information on the objects connected to the record, click the button to the left of the section in which they are contained.

After analyzing the drop-down list, you can:

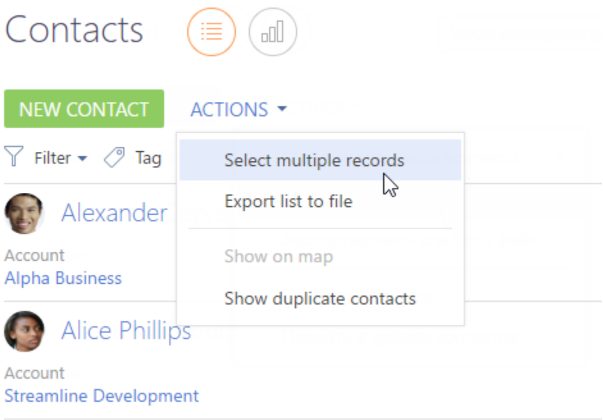
- Remove the record from the list and leave it in the system. To do this, click the button to the right of the record name.
- Delete the along record with all the connected objects. To do this, click [Delete records] and then click [Delete connected records]. The connected objects can have their own connections that need to be handled separately.
- Delete a record and leave the connected objects in the system. To do this, select the [Do not delete connected records] command.

How to delete multiple records

To delete multiple records:

1. In the [Actions] button menu, click [Select multiple records] (Fig. 86).

Fig. 86 Selecting multiple records to delete



2. Select the records you wish to delete.
3. In the [Actions] button menu click [Delete].

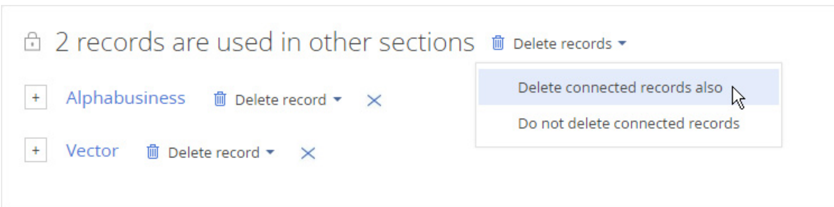
NOTE

The number of records selected for deletion is displayed in brackets on the [Actions] button.

A notification displays the number of successfully deleted records and the records not deleted due to their connections to other objects.

If you need to delete all **records from the drop-down list and their connections**, click the [Delete records] button and select the [Delete connected records] command (Fig. 87).

Fig. 87 Deleting multiple records connected to other objects



If you need to delete records from the drop-down list selectively, and examine the list of objects connected to those records. Read more >>>

SEE ALSO

- Record lists
- Finding and merging duplicates
- Filters
- Folders

Attachments and notes

To work with additional information in Creatio, use the **Attachments and notes** tab. The tab contains the [Attachments] and [Notes] details.

Use these details to store external files, links to web resources and extended descriptions of the record. The tab is available in all system sections. For example, in the [Contacts] section, you can add documents that represent the history of your interactions with the contact; in the [Activities] section, add files that have been prepared within a task.

How to use the views of the [Attachments] detail

The [Attachments] detail has the following views:

– the **tile** view. In this view, the files and links added to the detail are displayed as icons. The icon appearance varies depending on the file extension.

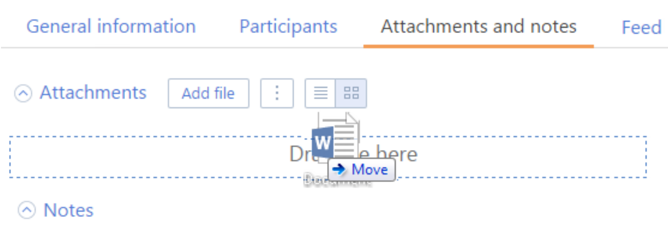
> **NOTE**
> The icons for different file types can be set up in the [File extension] lookup. For the files whose types are undefined in the lookup, a default icon is used.

– the **list** view. In this view, the files and links added to the detail are displayed as a list of records. Use this view to delete a file or edit a link.

How to add a file

1. Open the needed record, for example, the activity page. Open the [Attachments and notes] tab.
2. On the [Attachments] detail, click the [Add file] button. You can also drag the file and drop it into the detail (Fig. 88).

Fig. 88 Dragging a file into the [Attachments] detail



As a result, the selected file will be saved on the detail.

How to add and edit a link

1. On the [Attachments] detail, in the ⋮ menu, select the [Add link] option.
2. On the displayed page, enter the link address in the [Name] field and save the page.

   As a result, the link will be added to the detail.
3. If you need to edit the link, in the list view, click on it and select the [Change properties] option from the ⋮ menu.

How to add a link to a knowledge base article

1. On the [Attachments] detail, select the [Add link to knowledge base] option from the ⋮ menu.
2. In the displayed window, select the needed knowledge base article and click the [Select] button.

   As a result, the selected link to the knowledge base article will be added to the detail.

How to download a file

To download the file that has been added to the [Attachments] detail, click its title. Specify the location to save the file to.

How to delete a file from the [Attachments] detail.

1. Open the list view by clicking the ≣ button.
2. Select the file, and then select the [Delete] option from the ⋮ menu.

How to work with notes

The [Notes] detail is used to store additional text information about the section record. On the detail, you can edit and format the text of the notes using the built-in formatting tools. You can also add an image or an external link to the detail.

If you switch to another tab of the page, the information on the [Notes] detail will be saved. To save the notes, save the record.

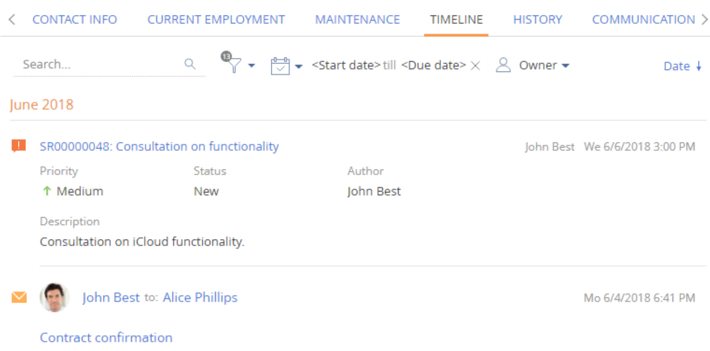
Timeline

Use timeline to get chronological insights of your customer history. The **Timeline** tab (Fig. 89) provides quick access to information about tasks, communications, additional materials and other linked objects in Creatio.

This tab is available by default in the following sections:

- [Contacts]
- [Accounts]
- [Leads]
- [Opportunities]
- [Cases].

Fig. 89 Example of the [Timeline] tab



NOTE

You can add the [Timeline] tab to other Creatio sections using developer tools. Read more >>>

The timeline displays linked records in chronological order. The following types of records are displayed on the timeline:

- tasks
- calls
- emails
- feed messages
- files
- links
- contracts
- documents
- projects.

In some sections, the timeline displays additional types of records. The timeline content is determined by the Creatio product and section specifics. For example, in bank products the history of the customer's cases, invoices and cards is also displayed in the timeline.

Timeline controls:

– apply filter by date

– apply filter by record type

The records on the [Timeline] tab are displayed as a list. Click a record title or the button to open the connected record.

Depending on the text volume, the list records may be displayed in a "collapsed" view mode. You can expand a collapsed record by clicking the [Show more] button.

The timeline records are grouped by months. By default, newer records are displayed first. You can sort records by date in ascending or descending order using the [Date] ↓ or the [Date] ↑ buttons.

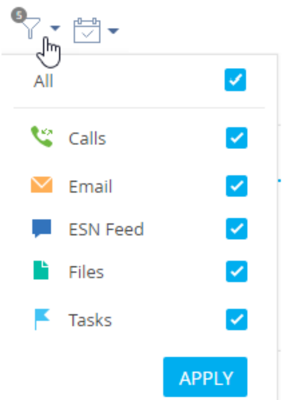
Filters

The following quick filters are available in the timeline:

- by date
- by assignee
- by linked object type

The number over the pipeline icon indicates the number of timeline record types currently selected. (Fig. 90).

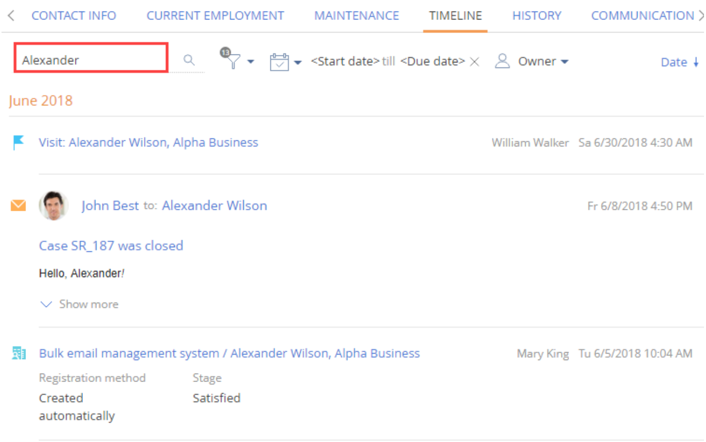
Fig. 90 Applying filter by timeline record type



Search

Use the search string on the [Timeline] tab to find timeline records quickly. The search string looks up for feed messages and email texts (Fig. 91).

Fig. 91 Search by the key word



Refreshing or closing the page will reset the timeline search.

SEE ALSO

- Record pages
- Attachments and notes

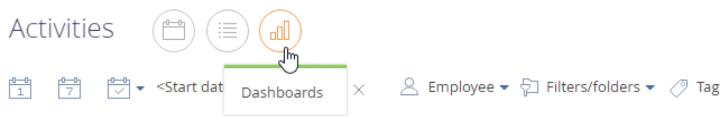
Dashboards

Use the Creatio dashboards to analyze section statistics. There are several ways to visualize statistics in the system, such as charts, calculated indicators, special lists. For example, you can track the current status of the employees' tasks, display various ratings, etc.

Dashboards are available:

- In the **Dashboards** view of Creatio sections (Fig. 92). This view displays the general statistics for the section records (taking the current filters into account), such as, for example, top 5 overdue activities of current owner in the [Activities] section.

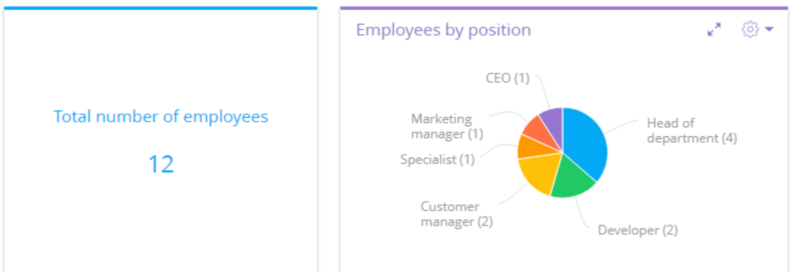
Fig. 92 Opening the [Dashboards] view in the [Activities] section



- On **record pages**. Here you can configure displaying of any analytical data of Creatio records, such as the number of communications with a contact for current month.
- In the **[Dashboards] section**. The section displays system-wide analytics based on the data from different Creatio sections. The analytics in the [Dashboards] section may include elements from the [Analytics] view of other sections.

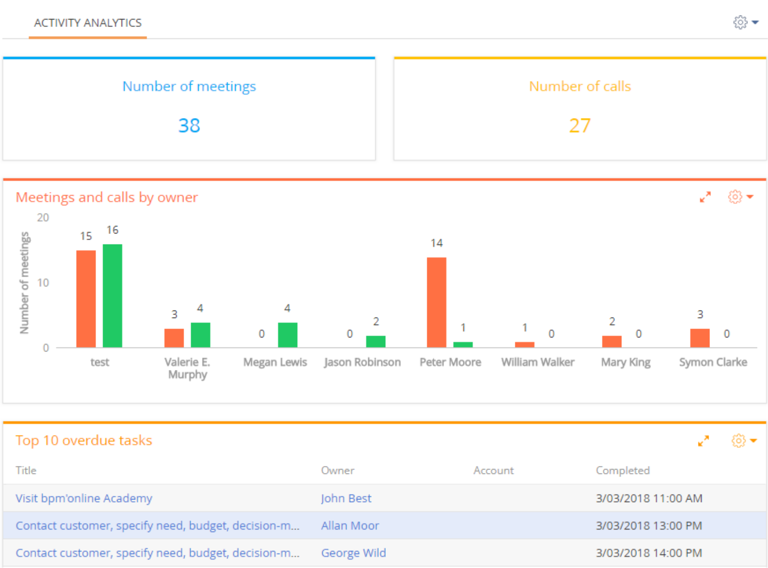
Analytical data is visualized via special **dashboard tiles**, each of which is a separate chart, list or metric (Fig. 93).

Fig. 93 Examples of dashboard tiles



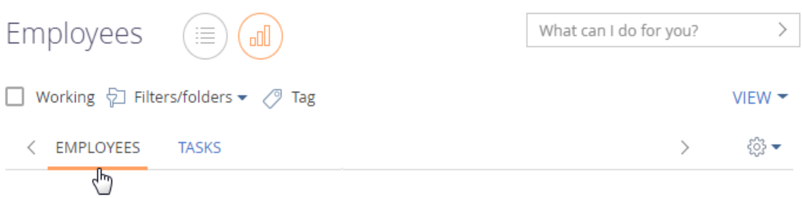
Dashboard tiles are placed on **dashboard tabs** (Fig. 94).

Fig. 94 An example of a dashboard tab



The dashboard tiles, their titles and contents are fully customizable. You can add custom dashboard tabs and populate them with dashboard tiles (Fig. 95). For example, the [Employees] tab can display statistics on the efficiency of your employees, and the [Tasks] tab can show information about employees' activities.

Fig. 95 Selecting a dashboard tab



NOTE

Detailed instructions on setting up dashboard tabs and dashboard tiles are available in separate chapters.

CONTENTS

- Dashboard tabs
- Dashboard tiles
- Dashboards on a record page
- Analytical reports

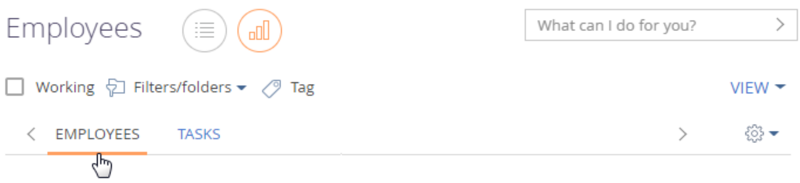
VIDEO TUTORIALS

- Analytics in Creatio. Working with dashboards

Dashboard tabs

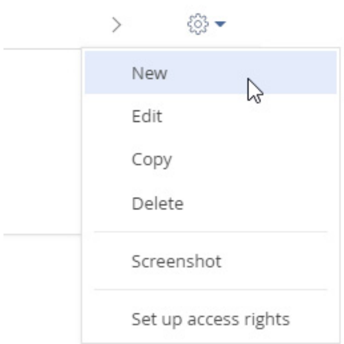
You can access dashboard tabs (Fig. 96) in the [Dashboards] view (available in all standard sections), or in the [Dashboards] section.

Fig. 96 Dashboard tabs in the [Activities] section



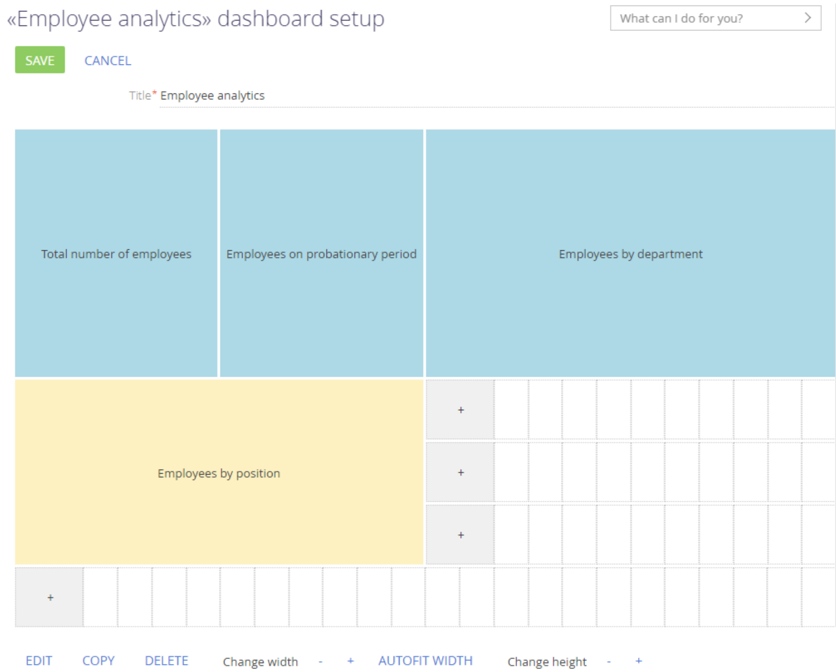
To create a new dashboard tab, click the button and select [New] (Fig. 97).

Fig. 97 Adding a new dashboard



To edit, copy, or delete a dashboard, open it and select the corresponding command in the tab area menu. The dashboard setup page (Fig. 98) will open. The page contains the [Title] field and the dashboard tile setup area.

Fig. 98 Dashboard setup page with examples of adding dashboard tiles



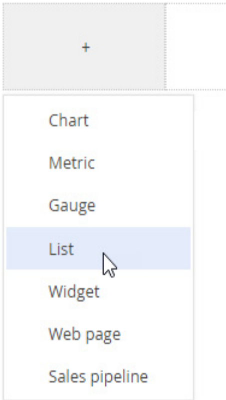
Dashboard setup

The dashboard setup page (Fig. 98) enables you to:

- add new dashboard tiles
- edit the existing tile settings
- copy the existing tile
- delete a tile from the dashboard

Click the [+] button of the dashboard setup area to add a new tile to a dashboard. Select the type of the tile in the button menu (Fig. 99).

Fig. 99 Adding a new dashboard tile



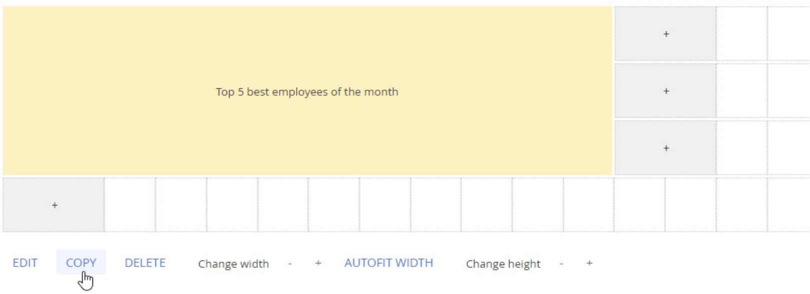
As a result, the corresponding dashboard tile setup page will open. Different settings needed for different dashboard tiles are covered in subsequent articles.

NOTE

If you need to add a dashboard tile whose settings mostly repeat those of an existing one, you can copy the existing tile and change its settings.

To edit, copy, or delete a dashboard tile, select it and click the [Edit]/[Copy/[Delete]] button below the tile setup area (Fig. 100).

Fig. 100 Copying an existing dashboard tile



NOTE

You can also double click a dashboard tile to edit it.

ATTENTION!

To save the changes after adding or editing a dashboard tile, first save the dashboard tile itself, and then save the dashboard setup page that contains the tile.

SEE ALSO

- Dashboard setup

- Dashboard tiles

VIDEO TUTORIALS

- Analytics in Creatio. Working with dashboards

Dashboard tiles

The following types of dashboard tiles are available in Creatio:

- **Chart** displays information on dynamics and/or percentages, such as monthly sales dynamics or distribution of customers by industry. Read more >>>
- **Metric** displays a single numeric value, for example, the total number of current employees. Read more >>>
- **List** displays a list of Creatio records with specific settings, such as displayed columns, filter, sorting and record limit. For example, the list can display top 3 efficient employees of your company. Read more >>>
- **Widget** enables to apply additional widgets set up by a developer, such as exchange rate or weather widgets. Read more >>>
- **Gauge** displays a single numeric value (much like "Metric" tiles) on a custom scale, which shows whether the value is "good" (green), "average" (yellow) or "bad" (red). This type of tile is great for displaying KPIs, such as average duration of employee's calls, number of uncompleted activities, etc. Read more >>>
- **Web page** displays a web page as a dashboard tile. For example, you can add a search engine page, an online currency converter or your corporate website page to a dashboard tab. Read more >>>
- **Sales pipeline** helps to analyze transition of Creatio opportunity records through stages (i.e. how many opportunities have moved from the "Qualification" to the "Presentation" stage, etc.) during a specific period of time. This dashboard tile is available in Creatio products that contain the [Opportunities] section. Read more >>>
- **Full pipeline** helps to analyze the complete life cycle of a customer need in Creatio by tracking both the lead and opportunity stages i.e. how many customer needs have gone all the way from the lead "Qualification" stage to the "Closed won" opportunity stage) during a specific period of time. This dashboard tile is available in Creatio products that contain the [Opportunities] section. Read more >>>

CONTENTS

SEE ALSO

- Dashboard tabs

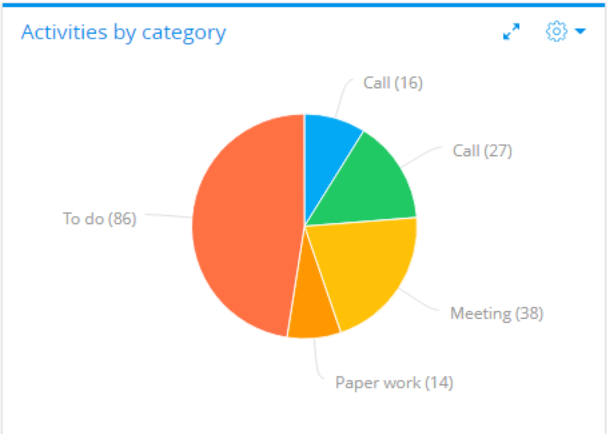
VIDEO TUTORIALS

- Analytics in Creatio. Working with dashboards

The "Chart" dashboard tile

The "Chart" dashboard component displays system summary information. For example, you can use a chart dashboard to display distribution of activities by categories (Fig. 101).

Fig. 101 The "Chart" dashboard tile



You can change the data display mode of an existing chart tile.

- Diagram mode – spline, line, pie, etc. Read more >>>
- List mode – record list used as a basis for building a chart. Read more >>>

Use the toolbar buttons at the top-right of the dashboard tile to change the chart type or switch to the list mode.

- – opens dashboard tile menu. The menu items vary depending on the dashboard tile type.
- – opens a chart in the full screen mode. Click the button again to go back to original size.

  NOTE

  You can also close a maximized dashboard by pressing the Essc key on the keyboard.

- – switch back from the list mode to the diagram mode. For instance, you can get back from the list type to the chart type view mode.

You can "drill down" a chart element (for example, a pie chart section or a bar chart column) and display its data as a separate chart or list. To do this, click the necessary chart element. Read more >>>

NOTE

Changes of the chart view properties made within a dashboard tile (for example, switching to a list view mode or changing the chart type) will not be saved when reloading the page. Creatio will only save the changes made in the dashboard settings.

To edit the chart, double click it on the dashboard setup page. Read more >>>

CONTENTS

SEE ALSO

- The "Metric" dashboard tile
- The "Gauge" dashboard tile
- The "List" dashboard tile
- The "Widget" dashboard tile
- The "Sales pipeline" dashboard tile
- The "Full pipeline" dashboard tile
- "Web page" dashboard tile

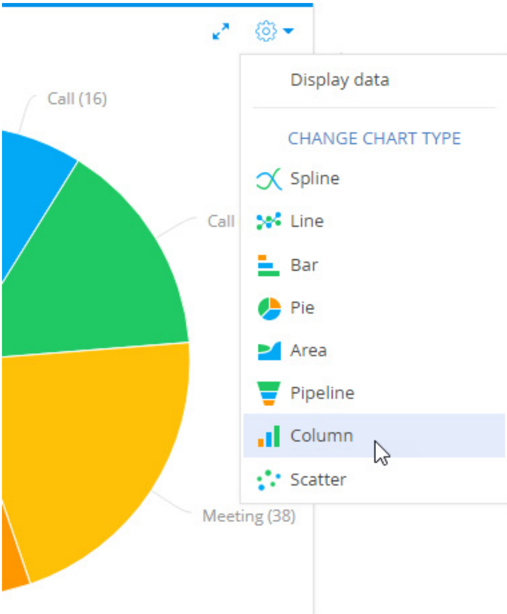
Diagram mode

The diagram mode is the default mode of the "Chart" dashboard tile.

In this mode, the ⚙ button menu contains additional menu items:

- [Display data] – switches the chart to the list view mode.
- [Change chart type] – select one of the menu items to display the data using another chart type (Fig. 102).

Fig. 102 Selecting the chart type in the diagram mode



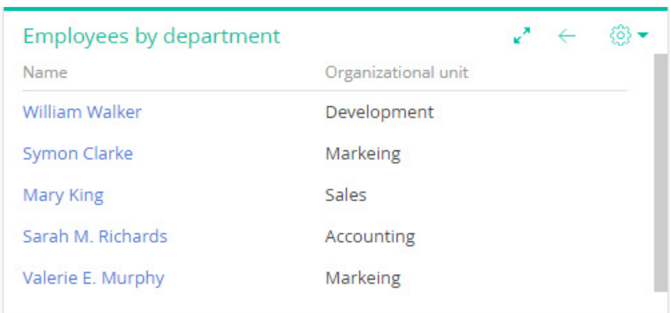
SEE ALSO

- List mode
- Viewing chart element details
- Setting up the “Chart” dashboard tile

List mode

A “Chart” dashboard tile can be displayed as a list (Fig. 103).

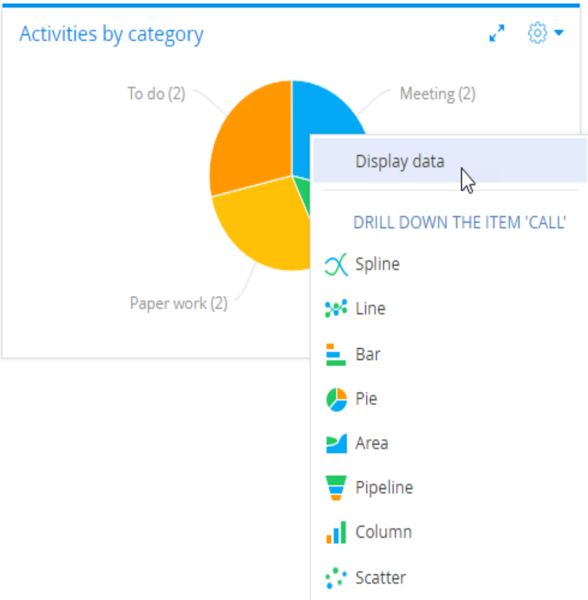
Fig. 103 The “Chart” dashboard tile list mode



To switch to the list mode, use the **[Display data]** item from the ⚙ menu or from the chart element menu.

- To display all chart data in the list mode, click ⚙ button and select [Display data].
- To display the data of a specific chart element (a section or a column) in the list mode, click the element and select [Display data] in the opened menu (Fig. 104).

Fig. 104 Switching to the list mode of the "Meeting" element.

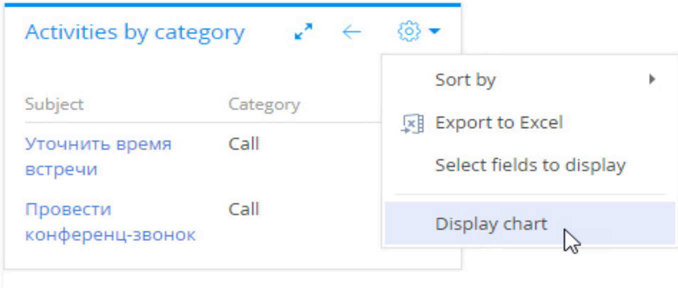


In the list mode, you can:

- Set up the columns. Read more >>>
- Sot data by the displayed columns.
- Export list data to Excel Read more >>>

To switch back to the chart mode, use the [Display chart] command (Fig. 105) or click the ← button.

Fig. 105 Returning to the chart mode



SEE ALSO

- Diagram mode
- Viewing chart element details
- Setting up the “Chart” dashboard tile

Viewing chart element details

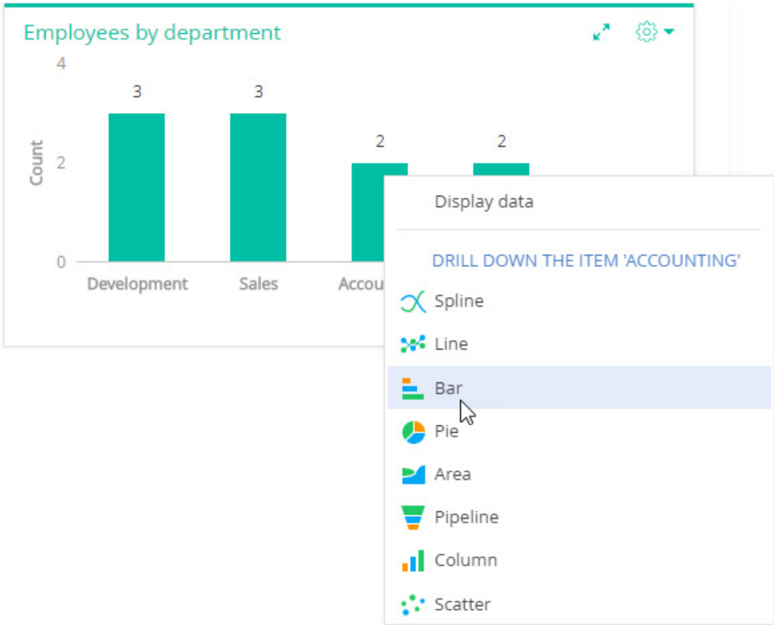
You can bring up additional information about any chart element, such as a column, an area, a segment. For example, when analyzing a chart, which displays employees by departments, you can “drill down” the R&D department and display the number of positions in the R&D department.

Any element of the new chart can be “drilled down” as well. For example, you can display how developers are grouped by their role in decision-making.

To drill down a chart element:

1. Click the needed chart element.
2. Select a chart type in the menu (Fig. 106).

Fig. 106 The chart menu. Selecting a chart type



3. In the opened window, specify the column the chart should be based on, for example, the "Job" column of the current object.

   As a result, the dashboard tile will display how the employees of the R&D department are grouped by positions.

   Click the ← button of the dashboard tile to return to the previous chart.

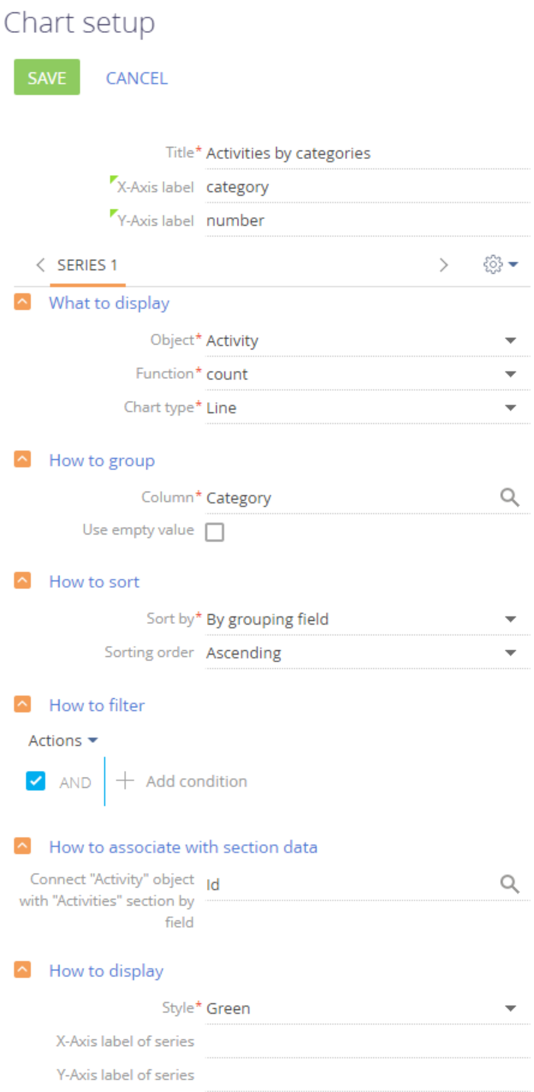
SEE ALSO

- Diagram mode
- List mode
- Setting up the "Chart" dashboard tile

Setting up the "Chart" dashboard tile

A chart setup page (Fig. 107) will open when you add or edit a chart on a dashboard panel. Here you can set up the primary chart parameters: – data, title, filters and display conditions.

Fig. 107 Chart setup page.



[Title] – the chart name that will be displayed on the dashboard tile.

[X-axis label] and [Y-axis label] – the labels of X and Y-axes that will be displayed on the chart. These fields are only displayed for the charts that contain axes (“spline”, “line”, “area chart” and “scatter chart”).

What to display

[Object] – Creatio object (section, detail or lookup) whose records you want to use for building the chart. For example, to calculate the average call duration (calls are activities of the "Call" category), select the "Activity" object.

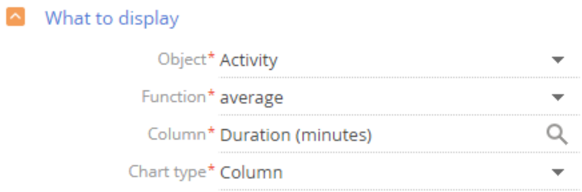
[Function] – the type of value that should be displayed on the chart. The following chart functions are available:

- "count" – the value is used to build a chart by the number of records in the selected Creatio object. For example, you can calculate the number of activities of each type.
- "maximum", "minimum", and "average" – the values calculated by numeric column (or a date column with the exception of the "average" function) in the specified object. For example, you can calculate the average duration of employee activities.
- "sum" – the sum of values of the specified numeric column of the selected object. For example, you can calculate the employee's total activity duration for a week.

[Column] – the column to be used in the calculation. The list includes numeric columns and date columns. For example, specify the "Duration (minutes)" value to calculate the average call duration by managers (Fig. 108). This field is not displayed if the "count" value is selected in the [Function] field.

[Chart type] – the type of the chart: "Bar chart", "Pie chart", etc.

Fig. 108 Setting up the [What to display] field group for a chart

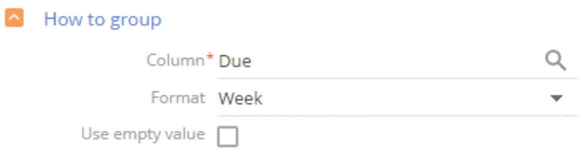


How to group

[Column] – the column to group the chart values by (each value in this column will be represented as a separate chart element – bar, sector, etc.). For example, select the "Owner" field to calculate the number of activities by owner. You can group data by any column of the selected object.

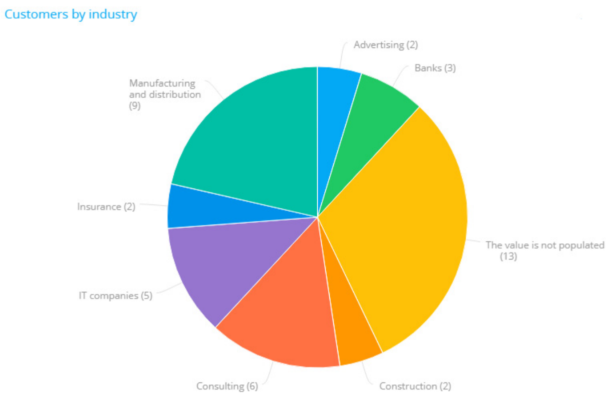
[Format] – the format of dates that will be displayed on the chart, for example, "Week" or "Month & Year". This field is displayed if the date value is selected in the [Column] field in the [How to group] block. For example, to calculate the number of completed activities by week, specify "Week" in the [Format] field and "Due" in the [Column] field.

Fig. 109 Setting up the [How to group] field group for a chart



[Use empty value] – if the checkbox is selected, the chart will include the records, whose grouping column is not populated (Fig. 110).

Fig. 110 “Customers by industry” chart including empty values



How to sort

[Sort by] – the value to sort chart areas by. For example, the values in the “Activities by owner” chart are grouped by the [Owner] field, with each chart block representing a certain number of activities. Select “By grouping field” to sort chart areas alphabetically (in this case by the [Owner] field) or select “By selection result” to sort chart areas by number of activities.

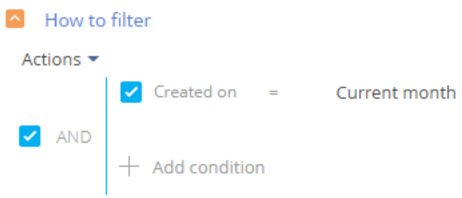
[Sorting order] – the sorting order for the chart areas (by the values selected in the [Sort by] field) in ascending or descending order (Fig. 111).

Fig. 111 Setting up the [How to sort] field group for a chart

How to filter

Use the standard filter area to filter the chart data. For example, to create a chart that displays how contacts were added within the specified time period, specify the needed period in the filter conditions, for example, “Created on = Current month” (Fig. 112).

Fig. 112 Setting up the [How to filter] field group for a chart



The filter becomes available when the [Object] field is populated.

NOTE

You can find more information about the advanced filter in a separate article.

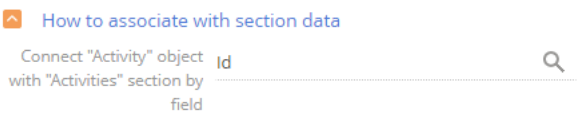
How to associate with section data

[Connect ... object with ... section by field] – select a chart object column in this field if you want to display the data according to the section filters. If you leave this field unpopulated, the applied section filters will not affect the chart data. The field will be populated automatically if you configure dashboards for the object of the current section. The field is displayed if the [Object] field is populated and is not available at all if you configure charts in the [Dashboards] section.

You can connect a chart to section records in a number of ways.

1. The chart is built based on the records of the current section (the chart object corresponds to the section object). For example, when creating a chart in the [Activities] section, you select "Activity" in the [Object] field. In this case, the connection field is populated automatically with the [Id] column.
   a. If you select the [Id] column in the field (Fig. 113), the chart will be built based on the records that correspond to the filter conditions specified in the section. For example, if you apply a filter to the [Activities] section list so that only completed activities are shown, the "Activities by owner" chart will display only the information related to the completed activities.

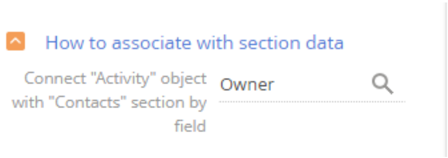
Fig. 113 Connecting a chart to a section by the "Id" field



   b. If you clear the connection field, the chart will display the information for all section records, regardless of the set filter conditions.
2. The chart is based on the records from another section (the chart object is different from the section object). For example, there is an "Activities by owner" chart added to the [Contacts] section to display number of activities by owner. The chart object columns available for selection in the [Connect...] field are filtered according to the current section object (in this case, the available columns will be [Contact], [Owner], [Created by], etc.).

a. If you populate the [Connect...] field (Fig. 114), the chart will use only records that are connected to the section records via the specified column. Then, if you set a filter in the [Contacts] section, the chart will only display the information related to the activities whose owners are displayed in the section. Or you can select the "Author" column – in this case, the chart will only display the information related to the activities added by the specified contacts.

Fig. 114 Connecting a chart to a section by the "Owner" field



b. If you leave the connection field unpopulated, the chart will display the information for all records of the chart object, regardless of the section filter conditions.

c. The chart data may not be related to the section data at all (in this case, the [Connect...] field should also be left empty). For example, you can add the "Activities by owner" chart to the [Knowledge base] section.

How to display

[Style] – select the color of the dashboard tile title and chart elements.

[X-Axis label of series], [У-Axis label of series] – if a chart consists of more than one series, you can indicate the labels of X and Y axes for every series. These fields (Fig. 115) are only displayed for the charts that contain axes ("spline", "line", "area chart" and "scatter chart").

Fig. 115 Setting up the [How to display] field group for a chart

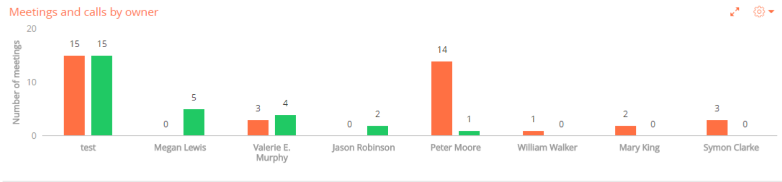
NOTE

If you populate both the [X-axis label], [Y-axis label] as well as [X-Axis label of series] and [У-Axis label of series] fields, a single-series diagram will display the values of the [X-axis label] and [Y-axis label] fields.

Displaying several series on a chart

You can display several sets of data called "series" on your chart. For example, you can display meetings and calls of employees on separate series (Fig. 116).

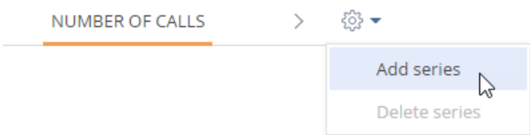
Fig. 116 Example of a chart with two series



To **add series** to a chart:

1. In the button menu of the chart setup page, select the [Add series] command (Fig. 117).

   Fig. 117 Adding a new series to a chart

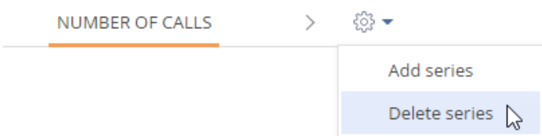
2. On the new series tab, populate the required fields and save the page.
3. Save the chart setup page and the dashboard setup page that contains the chart.

As a result, the chart will display the new data series.

To **delete series**:

1. Select the series tab you want to delete.
2. In the button menu of the chart setup page, select the [Delete series] command (Fig. 118).

   Fig. 118 Deleting a series from chart

Save the chart setup page and the dashboard setup page that contains the chart.

SEE ALSO

- Diagram mode
- List mode
- Viewing chart element details
- Dashboard tabs
- Dashboard setup

The “Metric” dashboard tile

The “Metric” dashboard tile (Fig. 119) displays a calculated numeric value or a date according to specific Creatio data, for example, total number of employees per department.

Fig. 119 “Metric” dashboard tile

Metrics can display the following data types:

- The total number of either all or filtered records of a system object, for example, the number of all Creatio contacts.
- Minimum or maximum value of a numeric field or a date field, for example, minimum or maximum call duration.
- Sum or the average value of a numeric field, for example, the total amount of paid invoices.

Setting up the “Metric” dashboard tile

A metric setup page will open when you add or edit the “Metric” dashboard tile on a dashboard panel. You can set up the primary metric parameters here – data, title, and display conditions.

[Title] – the tile name that will be displayed on the dashboard.

What to display

[Object] – Creatio object whose data must be displayed in the metric.

[Function] – the type of value that should be displayed on the tile. The following functions are available:

- “count” – number of object records, for example, total number of employee records in Creatio.
- “sum” – the sum of values by column, for example, total duration of employees' calls.
- “average”, “minimum”, “maximum” – respective values by column, for example, the average duration of employees' calls (the “average” function is not available for date fields).

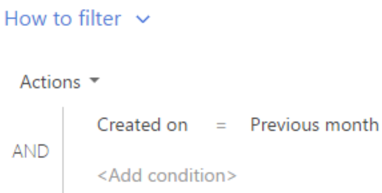
[Column] – the column to be used in the calculation. The list includes numeric columns and date columns. For example, specify the “Duration (minutes)” value to calculate the average duration of calls by managers (Fig. 120). This field is not displayed if the “count” value is selected in the [Function] field.

Fig. 120 Setting up the [What to display] detail for an indicator

How to filter

Use this detail to specify conditions for selecting the data to be displayed in the metric. For example, to display the average duration of calls made by employee users for the previous month only, specify the following filter conditions: “Created on = Previous month” (Fig. 121).

Fig. 121 Setting up the [How to filter] detail for metric



The filter is available if the [Object] field is populated.

NOTE
You can find more information about the advanced filter in a separate article.

How to associate with section data

[Connect ... object with ... section by field] – populate the field if you want to display the data only for records currently displayed in the section list. If you leave this field empty, the filters applied in the section will not be considered when calculating the indicator value. The field is displayed if the [Object] field is populated, but it is not displayed when yo uset up a metric in the [Dashboards] section.

Different cases of using this field are covered in the “Chart” dashboard tile description. Read more >>>

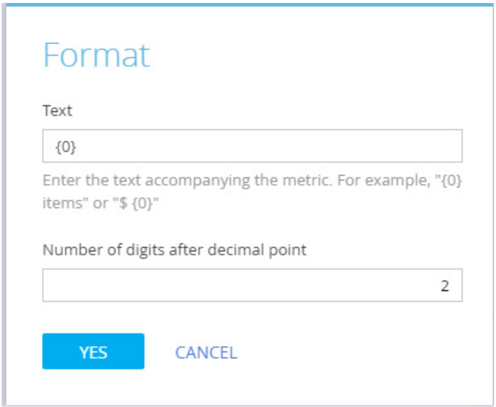
How to display

[Style] – the color of the title and metric value.

[Font size] – the metric text size – “Default” or “Large”.

[Format]] – the display format for the metric. The display format is set up in the additional window (Fig. 122). To open the window, click the button of the field.

Fig. 122 Metric display format window



[Text] – the text accompanying the metric. For example, if the metric should be “Total employees: 513”, where 513 is the actual calculated metric, enter the following value in the [Text] field: “Total employees: {0}”. If the format should be “513 employees”, enter the mask value: “{0} employees”

NOTE

If you insert the variable incorrectly, the numeric value will not be displayed on the tile. To restore the variable, clear the field and save changes in the window.

[Number of digits after decimal points] – accuracy of the fractional part of the metric. For example, set the “1” value to display the metric number with one digit after decimal point. To display the digit without the fractional part, set the number of digits to “0”.

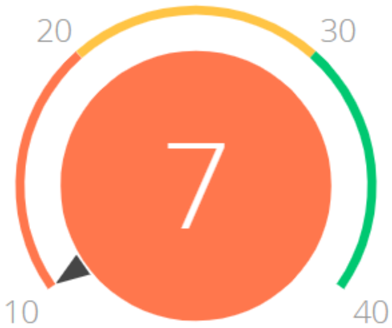
SEE ALSO

- Dashboard tabs
- Dashboard setup
- The “Chart” dashboard tile
- The “Gauge” dashboard tile
- The “List” dashboard tile
- The “Widget” dashboard tile
- The “Sales pipeline” dashboard tile
- The “Full pipeline” dashboard tile
- “Web page” dashboard tile

The “Gauge” dashboard tile

The “Gauge” dashboard tile (Fig. 123) displays the number returned as a result of a system query relative to the standard scale. For example, use this dashboard tile to display the number of conducted meetings of a manager if the desired rate is known. You can also use it to monitor the balance between the planned and actual number of calls an agent is required to make per day.

Fig. 123 "Gauge" dashboard tile



On the color scheme, the red interval displays the undesirable level of values, yellow – the satisfactory level and the green one displays the desirable level. The color of the gauge circle depends on the interval that the current value is in.

Gauges can display the following data types:

- The total number of either all or filtered records of Creatio object, for example, the number of calls per manager a day.
- Minimum or maximum value of a numeric field, for example, minimum or maximum call duration.
- Sum or the average value of a numeric field, for example, the total amount of paid invoices.

The settings of the "Gauge" dashboard tile are similar to Setting up the "Metric" dashboard tile, but you need to additionally set up the scale to measure the calculated value against.

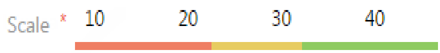
Gauge scale setup

The scale settings are located in the [How to display] field group on the gauge setup page.

1. In the **[Style]** field, specify the color of the gauge title.
2. In the **[Display order]** field, select "The more the better" or "The less the better".

   The display order determines the order of "good"/"average"/"bad" segments on the gauge scale. In the first case the red interval will be displayed on the left, in the second case - on the right.
3. On the gauge scale (Fig. 124), specify:
   a. The first two fields on the gauge scale limits the "maximum" segment (red or green, depending on the value in the [Display order] field).
   b. The third value determines the maximum value that falls into the second (yellow) segment.
   c. The fourth value determines the maximum value that falls into the third segment (red or green, depending on the value in the [Display order] field).

Fig. 124 Example of gauge scale setup



Once all fields on the [How to display] field group are populated, the gauge preview will be displayed.

NOTE

The "Gauge" dashboard tile now displays big numbers with separators in accordance with the user culture.

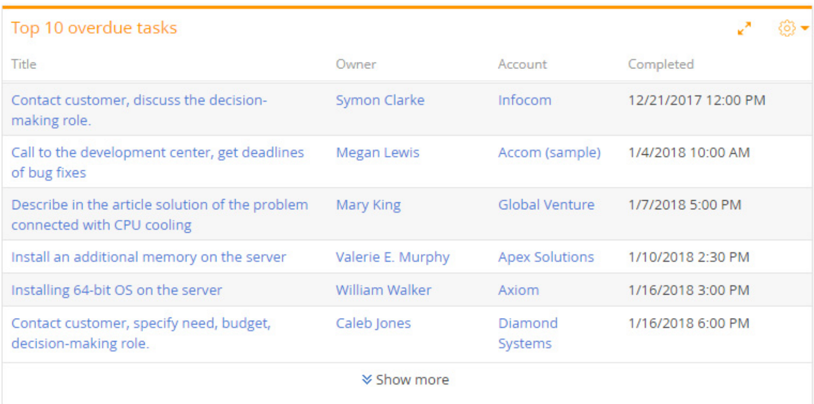
SEE ALSO

- Dashboard tabs
- Dashboard setup
- The "Chart" dashboard tile
- The "Metric" dashboard tile
- The "List" dashboard tile
- The "Widget" dashboard tile
- The "Sales pipeline" dashboard tile
- The "Full pipeline" dashboard tile
- "Web page" dashboard tile

The "List" dashboard tile

The "List" dashboard component (Fig. 125) displays system information as a list with the specified number of records.

Fig. 125 The "List" dashboard tile


Top 10 overdue tasks

Title	Owner	Account	Completed
Contact customer, discuss the decision-making role.	Symon Clarke	Infocom	12/21/2017 12:00 PM
Call to the development center, get deadlines of bug fixes	Megan Lewis	Accom (sample)	1/4/2018 10:00 AM
Describe in the article solution of the problem connected with CPU cooling	Mary King	Global Venture	1/7/2018 5:00 PM
Install an additional memory on the server	Valerie E. Murphy	Apex Solutions	1/10/2018 2:30 PM
Installing 64-bit OS on the server	William Walker	Axiom	1/16/2018 3:00 PM
Contact customer, specify need, budget, decision-making role.	Caleb Jones	Diamond Systems	1/16/2018 6:00 PM

Show more

The list displays records of a particular object with custom filter and sorting settings.

Values of lookup columns that display records from Creatio sections are displayed as links to the corresponding records. For example, a primary column for the "Activity" object is the [Title] column. Thus, activity titles will be displayed as links to the corresponding activity pages.

NOTE
The column titles in the "List" dashboard tile correspond to Creatio column titles.

To manage how the data are viewed, use the toolbar buttons located at the top-right of the dashboard tile.

- – opens dashboard tile menu. You can export the dashboard tile list to Excel via the [Export to Excel] menu command. The [Show as multi-line text] or [Sow as single line text] menu commands enable you to set up the text display mode on the list dashboard tile.
- – opens the dashboard tile in the full screen mode. Click the button again to go back to original size.

NOTE
You can also close a maximized dashboard by pressing the Essc key on the keyboard.

- The [Show more] link enables viewing all the available data if their number exceeds the number displayed on the dashboard tile.

NOTE
By default, the "List" contains the number of records that was specified in the [Number of records] field on the [Display options] tab of the "List" dashboard setup page. Clicking the "Show more" link will expand the dashboard tile to your entire browser window and automatically load additional records to the list.

Setting up the "List" dashboard tile

A list setup page will open when you add or edit a list on a dashboard. You can set up the primary list parameters here – data, title, filters and display conditions. Populate the [Title] and [Object] fields at the top of the page.

[Title] – the tile name that will be displayed on the dashboard.

[Object] – Creatio object whose records are displayed in the list.

On the **[Column setup]** tab, set up the columns that will be displayed on the tile. List setup is described in a separate chapter.

NOTE
Column setup area is only available if the [Object] field is populated.

Set up the data display conditions on the **[Display options]** tab.

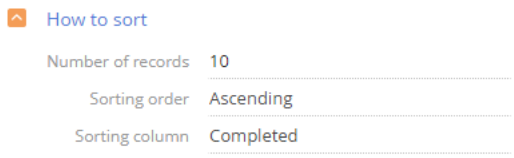
How to sort

[Number of records] – the number of records that will be displayed in the list (Fig. 126).

[Sorting order] – the order in which the values are displayed in the list by the column selected in the [Sorting column] field.

[Sorting column] – the column used for sorting records in the list. You can select columns added on the list column setup page.

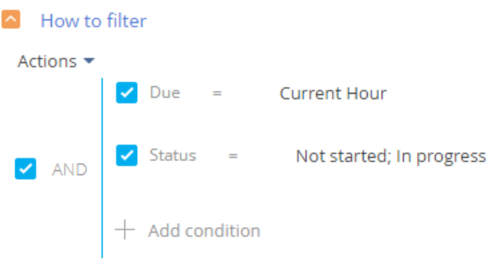
Fig. 126 Example of the [How to sort] field group setup in the "Top 10 overdue tasks"



How to filter

Use standard filter to select the records that will be displayed in the list. For example, to display the overdue activities, set up the "Due < Current hour" and "Status=Not started; In progress" filters (Fig. 127).

Fig. 127 Example of the [How to filter] field group setup in the "Top 10 overdue tasks"



The filter is only available if the [Object] field is populated.

NOTE

You can find more information about the advanced filter in a separate article.

How to associate with section data

[Connect ... object with ... section by field] – populate the field if you want to display the records connected to the currently displayed section records. If you leave this field empty, the filters applied in the section will not affect the records in the "list" dashboard. The field is displayed if the [Object] field is populated and is not available in the [Dashboards] section.

More information about connecting the dashboard records to the section records is available in a separate article. Read more >>>

How to display

[Style] – color of the dashboard tile title.

SEE ALSO

- Dashboard setup
- The "Chart" dashboard tile
- The "Metric" dashboard tile
- The "Gauge" dashboard tile

- The "Widget" dashboard tile
- The "Sales pipeline" dashboard tile
- The "Full pipeline" dashboard tile
- "Web page" dashboard tile

The "Widget" dashboard tile

The "Widget" dashboard tile is used to display custom dashboard tiles in Creatio sections.

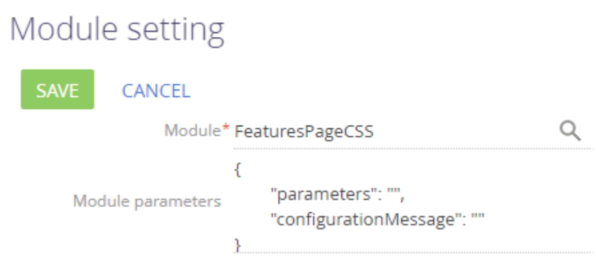
Setting up the "Widget" dashboard tile

A page (Fig. 128) with the following setup parameters opens when you add a "Widget" dashboard tile on a dashboard panel:

[Module] – widget program module to be displayed on the dashboard.

[Module parameters]] – parameters to be passed to the selected module.

Fig. 128 Widget setup page.



NOTE

Adding and setting up widgets are performed as part of developer customization. More information about dashboard widget setup is available in a separate article.

SEE ALSO

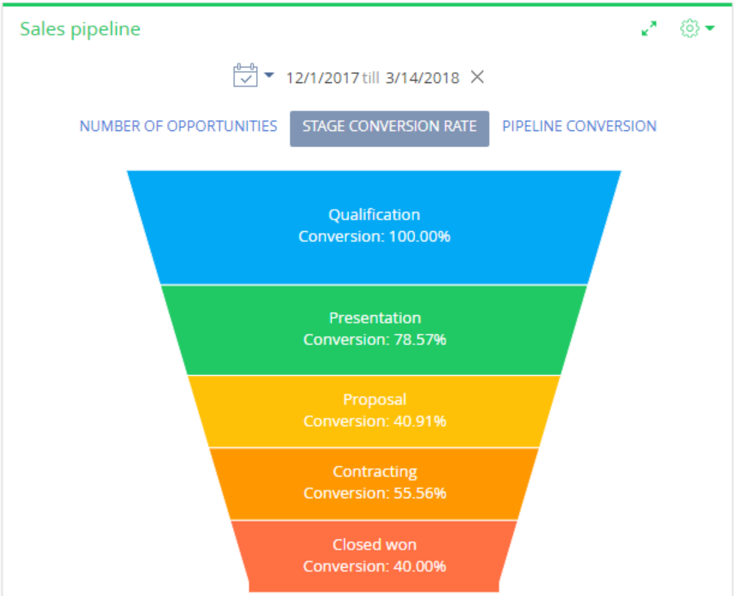
- Dashboard setup
- The "Chart" dashboard tile
- The "Metric" dashboard tile
- The "Gauge" dashboard tile
- The "List" dashboard tile
- The "Sales pipeline" dashboard tile
- The "Full pipeline" dashboard tile
- "Web page" dashboard tile

The "Sales pipeline" dashboard tile

The "Sales pipeline" dashboard tile is available in Creatio products containing the [Opportunities] section. This dashboard tile is primarily designed to analyze sales dynamics by stage (Fig. 129).

ACCELERATE

Fig. 129 "Sales pipeline" dashboard tile



NOTE

The "Sales pipeline" dashboard tile should be distinguished from the "Chart" dashboard tile of the "Pipeline" type. The "Chart" dashboard tile is described in a separate article.

The diagram element height corresponds to the number of current opportunities at the corresponding stage. The list of stages displayed on the diagram is configured in the [Opportunity stages] lookup. Opportunities with "Closed lost", "Closed won", "Closed rejected" and "Closed rerouted" statuses are not taken into account in the pipeline.

The sales pipeline has its own quick filter, which you can use to display data for a certain period of time, for example, for the current month.

NOTE

The quick filter functions are described in a separate article.

The sales pipeline can display data in the following views.

The number of opportunities displays how the opportunities that started during the specified time period are grouped by stages by the end of that period.

For example, 15 opportunities started during the selected period on the [Proposal] stage. Thus, the pipeline will display 15 opportunities at this stage.

Stage conversion rate displays the percentage of opportunities that have moved from a stage to a higher stage during the specified time period.

For example, there were 20 opportunities at the "Contracting" stage within the selected period. If 10 out of these 20 opportunities have moved to a higher stage than the [Contracting] stage by the end of the selected period, the [Contracting] stage conversion rate is 50%.

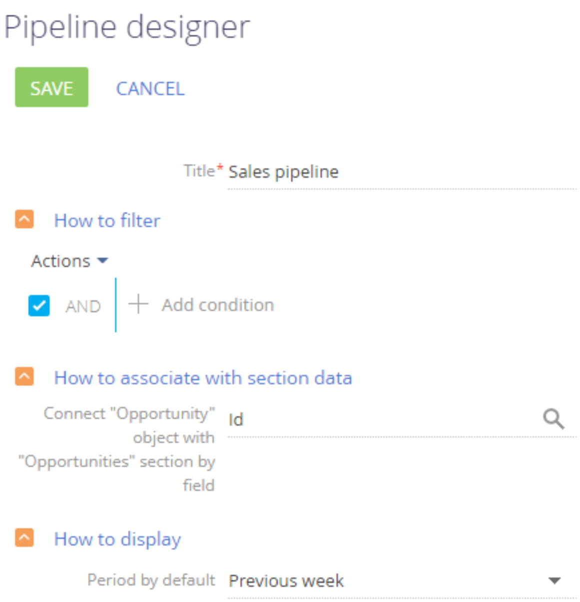
The pipeline conversion displays the percentage of opportunities at a certain stage, during the specified period against the total number of opportunities that started during this period.

For example, 100 opportunities started during the selected period and 55 of them passed the [Presentation] stage, so the monthly conversion rate of the [Presentation] stage is 55%.

Setting up the “Sales pipeline” dashboard tile

A pipeline setup page (Fig. 130) will open when you add or edit a sales pipeline on a dashboard panel. You can set up the primary parameters here – pipeline title, data, and display conditions.

Fig. 130 “Sales pipeline” dashboard tile setup page



How to filter

Use this detail to specify conditions for selecting the data for building the sales pipeline. For example, to display the sales dynamics within the sales pipeline for a certain owner only, specify the required owner in the filter conditions.

NOTE
Opportunities with the ”Closed lost”, ”Closed won”, ”Closed rejected” and ”Closed rerouted” statuses are not taken into account.

How to associate with section data

[Connect ... object with ... section by field] – populate the field if you want to display the data only for the selected records of the current section. For example, specify the “Opportunity“ value. As a result, the pipeline will only be built based on the records whose [Opportunity] field contains the same value as in the similar field of the [Opportunity] object.

NOTE

The sales pipeline is built based on the [Stage in opportunity] object records..

If you leave the field empty, the filters applied in the section will not be considered when building the pipeline.

The field is not displayed when setting up analytics in the [Dashboards] section.

What to display

[Period by default] – a standard filtration period to be used in the quick filter for the sales pipeline, for example, "Current month".

NOTE

The quick filter functions are described in a separate article.

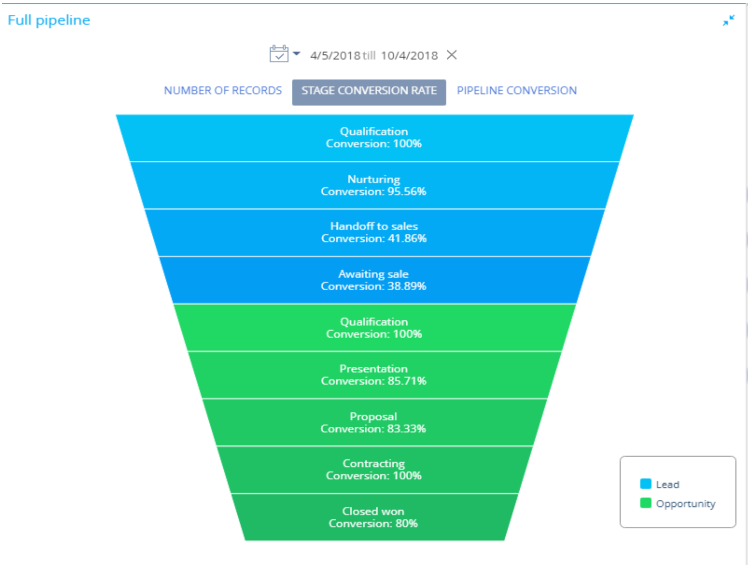
SEE ALSO

- Dashboard tabs
- The "Chart" dashboard tile
- The "Metric" dashboard tile
- The "Gauge" dashboard tile
- The "List" dashboard tile
- The "Widget" dashboard tile
- The "Full pipeline" dashboard tile
- "Web page" dashboard tile

The "Full pipeline" dashboard tile

The "Full pipeline" dashboard tile is available in Creatio products that contain the [Opportunities] section. This dashboard tile is used to analyze sales dynamics by stage, starting with lead registration and up to closing of the corresponding opportunity (Fig. 131).

Fig. 131 The “Full pipeline” dashboard tile



NOTE

The “Full pipeline” dashboard tile should not be confused with the “Chart” dashboard tile of the “Pipeline” type. The “Chart” dashboard tile is described in a separate article.

The diagram element height corresponds to the number of leads and opportunities that are currently at the corresponding stage. The list of stages displayed on the diagram can be configured in the [Lead stage] and the [Opportunity stages] lookups.

The full pipeline has its own quick filter, which you can use to display data for a certain period of time, e.g., for the current month.

NOTE

The quick filter functions are described in a separate article.

The full pipeline can display data in the following views:

Number of records view displays how the leads and the registered opportunities that started during the specified time are grouped by stages by the end of that period.

For example, of all leads that were registered during the specified period, only 150 have reached the [Qualification] stage by the end of the period. Thus, the pipeline will display 150 leads at the [Qualification] stage.

Stage conversion rate displays the percentage of leads and opportunities that have advanced to a higher stage during the specified time.

For example, there were 20 opportunities at the [Contracting] stage during the specified period. If by the end of the specified period 10 out of these 20 opportunities have advanced to a stage higher than the [Contracting] stage, the stage conversion rate will be 50%.

Pipeline conversion displays the percentage of leads/opportunities at a certain stage, during the specified period against the total number of leads that started during this period.

For example, 100 leads were registered during the specified period, 5 out of these 100 leads reached the [Closed won] stage. Consequently, the [Closed won] stage conversion makes up 5% against the total number of registered leads.

Setting up the “Full pipeline” dashboard tile

When you add or edit a full pipeline, a dashboard tile setup page will open on the dashboard panel. Here you can set up the primary parameters, such as pipeline title, data, and display conditions.

How to filter leads

Set up a filter for selecting the leads to include in the full pipeline. For example, you can display the conversion dynamics of leads registered from a landing page or leads of a particular customer need type.

How to filter opportunities

Set up a filter for selecting the opportunities to include in the full pipeline. For example, you can display the dynamics of leads that were converted to opportunities of the “Enterprise” category or only opportunities with issued orders.

SEE ALSO

- The “Sales pipeline” dashboard tile
- The “Chart” dashboard tile
- The “Metric” dashboard tile
- The “Gauge” dashboard tile
- The “List” dashboard tile
- The “Widget” dashboard tile
- “Web page” dashboard tile

“Web page” dashboard tile

The “Web page” dashboard tile is designed to display web pages on a dashboard. For example, a search engine page, an online currency converter or your corporate website.

Setting up the “Web page” dashboard tile

To set up the dashboard tile, go to the web page designer page. You can open the designer page by adding a new “Web page” tile to the dashboard or by editing the exiting tile. You can learn more about how to add a new tile to the dashboard in a separate article.

1. [Title] – the title of the web page.
2. [Page URL] – the link to the web-page to display on the dashboard. The URL must include the protocol type (“http”, “https”), for example, “http://www.creatio.com”.

   ATTENTION

   If your Creatio application uses secure data transfer protocol (“https”), the “Web page” dashboards will support only links with secure protocol. The pages that use unsecured “http” protocol will not be displayed in the “Web page” dashboards on Creatio sites that use “https”.
   If the application website uses “http” protocol, the “Web page” dashboards will support both “http” and “https” links.

NOTE

To add a Youtube video to the dashboard, use the link specified on the [HTML- code] tab, which opens when you click the [Share] button on the video page.

3. To configure the width or color of the dashboard tile border, specify HTML styles in the **[Styles]** field. For example, if you enter the following parameters: "border-width: medium; border-color: red", the border will be of average width and red color.

NOTE

Website-wide restriction to display other sites using iframe will prevent the "Web page" dashboards from displaying. Such restrictions may be part of website security policy. You can check if similar restrictions exist on a website using a web-browser console (in most browsers, you can open the console by pressing F12). The iframe restriction is enabled if the console displays the following errors: X-Frame-Options: DENY or X-Frame-Options: SAMEORIGIN.

SEE ALSO

- Dashboard setup
- The "Chart" dashboard tile
- The "Metric" dashboard tile
- The "Gauge" dashboard tile
- The "List" dashboard tile
- The "Sales pipeline" dashboard tile
- The "Full pipeline" dashboard tile
- The "Widget" dashboard tile

Dashboards on a record page

You can configure displaying of dashboard tiles on any record page tab or in the record profile. The following types of dashboards are available on record pages:

- chart
- metric
- gauge
- Web page

The analytics can be added on the section record page using the section wizard or detail wizard.

NOTE

The settings of dashboard tiles on record pages are similar to those of the corresponding regular tiles You can find more information about the setup in tile descriptions.

Adding a communication dynamics chart on the contact page

Let's create a chart that would display dynamics of communications with the customer on the [History] tab of the contact page. To add a chart on the contact page:

1. Open a contact page and select the [Open section wizard] option from the [View] menu.
2. Open the page designer by clicking the [Page] button on the wizard navigation panel (Fig. 132).

Fig. 132 Page designer

3. Click the [History] tab (the one that will display the diagram) on the right side of the wizard panel (Fig. 133).

Fig. 133 Switching to the [History] tab

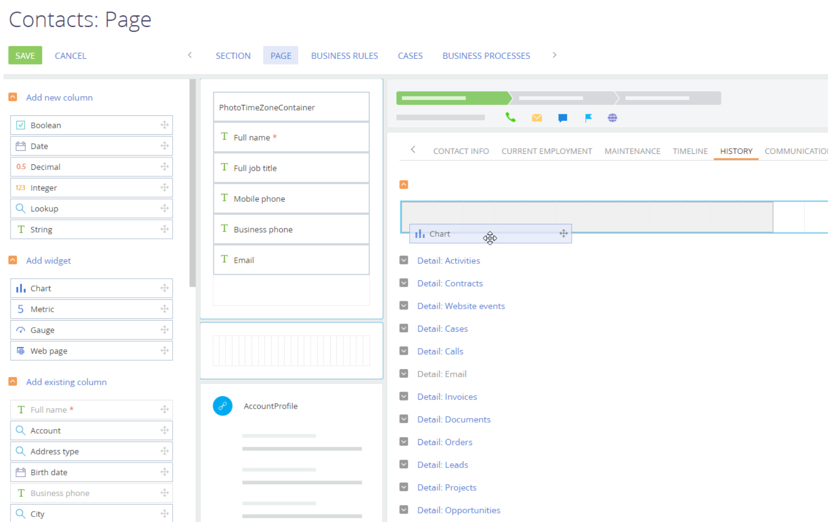
4. Add a new field group, which will contain the diagram by clicking the [New filed group] button at the bottom of the page. Locate the field group at the top of the [History] tab page.

NOTE

If you need to add analytics on a page detail, use the detail wizard instead of the section wizard.

5. Expand the “Add widget” block and select a dashboard tile. In this case, it is the “Chart” tile. Drag it on the tab (Fig. 134). Areas in which the chart can be added will be highlighted in blue.

Fig. 134 Adding a chart on the contact page

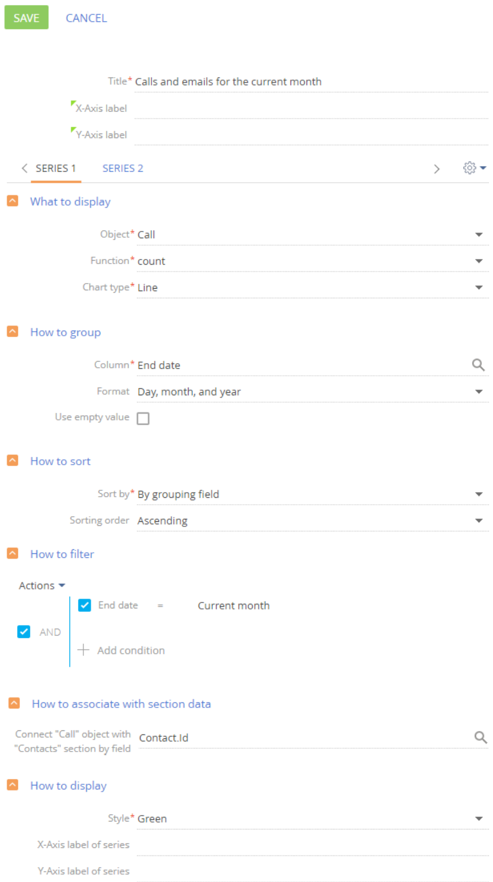


6. On the opened setup page (Fig. 135), specify parameters for the chart with two series that would display the number of calls and emails of the contact for the current month. Set the parameters as follows:

- [Title] – “Calls and emails for the current month”.
- [Object] – for the first series, it is the “Call” object, and for the second series, it is the “Activity” object.

- [Function] – "Count".
- [Chart type] – "Line".
- Grouping by the "End date" column for calls and the "Due" column for activities.
- Configure filters. Specify the "End date = Current month" for calls. Specify two conditions for activities: "Type = Email" and "Due = Current month".
- Associate the object with the section by the "Id" column of the "Contact" object.
- Save your settings.

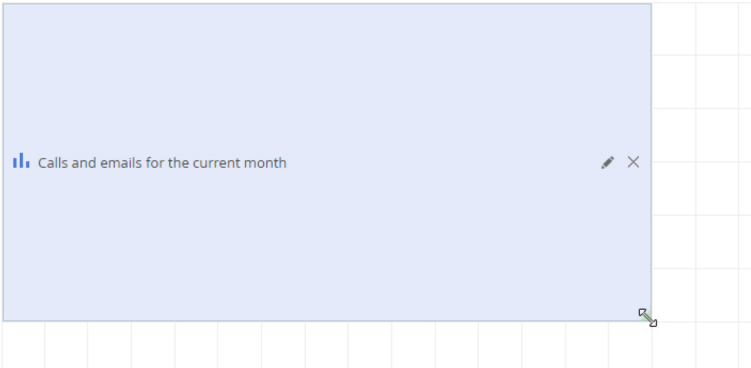
Fig. 135 Setting up the "Calls and emails for the current month" chart



More information about the "Chart" dashboard configuration is available in a separate article.

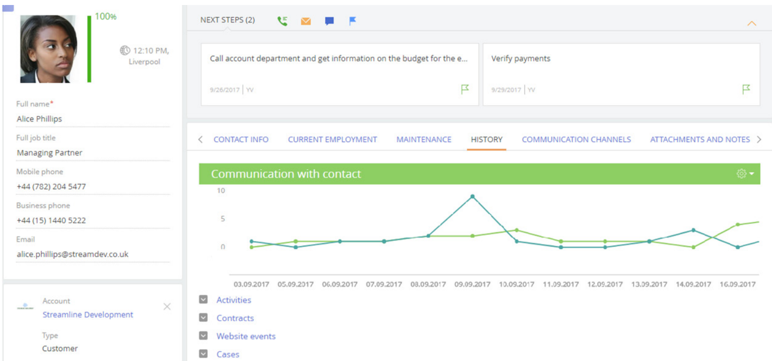
7. For correct displaying of the data, adjust the size of the chart (Fig. 136).

Fig. 136 Resizing the chart



As a result, the chart showing the dynamics of communications with the contact for the current month will be displayed on the contact page (Fig. 137).

Fig. 137 Record page with a configured dashboard tile



NOTE

You can display the data used for building the chart as a list. Read more >>>

SEE ALSO

- Analytical reports
- Dashboard tabs
- Dashboard tiles

VIDEO TUTORIALS

- Analytics in Creatio. Working with dashboards

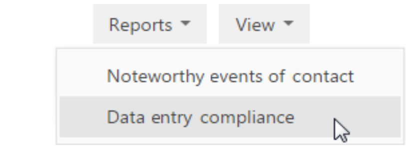
Analytical reports

Analytical reports show summarized section information. For example, reports of the **Contacts** section can be used to view the list of contact's noteworthy events or analyze the section data compliance.

Reports are available in the **Analytics** view. To view the report:

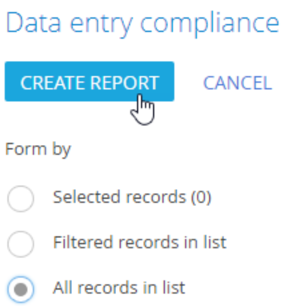
1. Select a report from the [Reports] button menu, for example, Data entry compliance (Fig. 138).

   Fig. 138 Selecting a report

2. On the opened page, specify how the report should be created, for example, based on all section records.
3. Click the [Create report] button (Fig. 139).

   Fig. 139 Selecting the method of forming the report

   As a result, your browser will start downloading the report file in PDF format.

SEE ALSO

- Dashboards on a record page

ACCELERATE

The communication panel

Use the **communication panel** to work with customers and colleagues with no need to switch from your current tasks. Make calls, process emails, make approvals and use corporate social network easily. The reminders and system notifications will make sure you never miss any important events.

Fig. 140 The communication panel

The communicational panel consists of the following tabs:

-  – **consultation panel.** The tab is available only in bank customer journey and designed for providing consultations to current and potential customers. Use the consultation panel to search for clients in the database and initiate consultations.
-  – **CTI panel**. The telephone tool in Creatio can make and receive calls directly in the system.
-  – **Email**. Use this tab to work with emails. Send and receive emails and connect them to other objects in the system. Read more >>>
-  – **Feed**. This tab displays the messages of the **Feed** section. Use this tab to view messages you follow, as well as to add new messages and comments. The functionality is identical to the functionality of the [Feed] section.
-  – **Notification center**. This tab displays notifications about events stored in the system. Read more >>>
-  – **Business process tasks**. Displays uncompleted business process-related tasks. Read more >>>

CONTENTS

SEE ALSO

- Managing calls

ACCELERATE

- Working with emails

Notification center

Click the button in the communication panel to open the notification center in Creatio. In this section you will find notifications about activities or invoices, comments to your records or mentions in a corporate social network, system notifications. The number on the button displays a total number of new messages in the notification center. Information messages are displayed on separate tabs:

- – reminders created for you by activities or invoices. Read more >>>
- – notifications about events connected to your posts in enterprise social network. For example, if you were mentioned in a post, received comments on your record in the feed or somebody liked it. Read more >>>
- – the list of notifications that must be approved. Read more >>>
- – notifications about the noteworthy events of contacts and accounts. Read more >>>
- – system messages about completed actions in the system. For example, information about import results. Read more >>>

Reminders and approval notifications are active until they are processed. Feed notifications, messages about noteworthy events and system notifications are considered to be read by switching to the corresponding tab. The history of notifications is stored on the tab for a month after they are created. The read notifications are not added to the tab count nor to the common notification center count.

> **NOTE**
> The period of time that read notifications are stored in the system can be modified in the "Notification storage period (days)" system setting. The period is 30 days by default.

CONTENTS

How to process notifications in a pop-up window

All information messages in the notification center are displayed as **pop-up windows**. They are displayed only once. The notifications received after logging off from Creatio will be displayed in the pop-up windows upon the next log in.

> **NOTE**
> Your browser may ask you permission to display pop-up windows. If the pop-up windows are not displayed, check the settings of your browser. The pop-up windows are not supported in Internet Explorer.

To hide a notification, click the button of the pop-up window. By doing this, the notification will be considered to be unread and will be added to the number of the unread notifications on the corresponding tab.

To open a page for a notification, click the banner in the pop-up window.

You can **disable pop-up notifications** in your user profile, by clicking the [Notification settings] button and clearing the [Enable popups] checkbox.

SEE ALSO

- How to work with reminders
- How to work with feed notifications
- How to work with approval notifications
- How to work with noteworthy event notifications
- How to work with system messages

How to work with reminders

You will not miss upcoming meetings or deadlines with the **reminders.** All reminders that are due are displayed on a separated tab in the notification center. To view reminders, go to the tab. The tab number displays the total number of your active (unprocessed) reminders.

Create a reminder on the invoice or activity page by selecting the checkbox in the [Reminders] fields group.

Data that is displayed in reminders

The reminders display **activities** of any category ("Meeting", "To do", etc.) that meet the corresponding criteria:

- You are the owner or the author of the activity;
- The activity has the "Not started" or "In progress" status;
- You or any other system user created a reminder on this activity for you.

The **invoices** that meet the following criteria are also displayed in the reminders:

- you are the owner for the invoice;
- the invoice has the "Draft", "Unpaid" or "Partially paid" status;
- you or any other system user created a reminder on this invoice for you.

The reminder contains the title of the task or invoice number, the date, the customer of an activity or an invoice. An icon shows if an activity is a meeting or a call.

The key information in the reminder is displayed as hyperlinks. Click the task title to view its page.

How to create a reminder

Create reminders for invoices and activities in the [Reminders] fields group of the record page. To create a reminder for the activity:

1. Open the page of the activity that you wish to create a reminder for.
2. Select the checkbox in the [Reminders] fields block:
   a. Select the [Remind owner] checkbox to create a reminder for the user specified in the [Owner] field of the page.

   b. Select the [Remind reporter] checkbox to create a reminder for the user specified in the [Reporter] field.

3. Specify the date and time when the reminder should be displayed for the user.
4. Save the record.

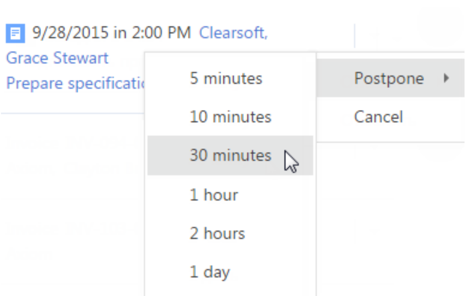
If the activity is not completed, the notification will be displayed in the notification center at the specified time for the user selected in the [Owner] or [Author] field.

How to process a reminder

All the notifications on the tab of the notification center are active until they are processed. You can cancel the reminder or postpone it. You can also process all the reminders at once or each separately.

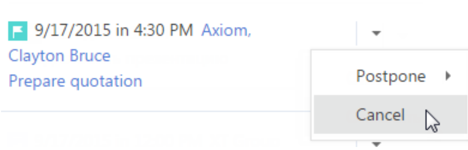
To **postpone a reminder**, select the [Postpone] option from the menu and specify the time (Fig. 141). The reminder will not be displayed in the list and the number of unread reminders will decrease. The reminder will be renewed at the end of the time specified.

Fig. 141 Postponing a reminder to a later period



To **cancel a reminder**, select the [Cancel] option from the menu (Fig. 142). The reminder will not be displayed in the notification center any more.

Fig. 142 Cancelling a reminder



NOTE

A reminder will be cancelled automatically if the activity is moved to its final "Completed" status, and the invoice to its final "Paid" payment status.

To simultaneously **process all reminders**, use the [Postpone all] or [Cancel all] option on the notification tab.

SEE ALSO

- How to work with feed notifications
- How to work with approval notifications
- How to work with noteworthy event notifications
- How to work with system messages
- How to process notifications in a pop-up window

How to work with feed notifications

You will be informed if someone mentions you in a post, comments on or likes your posts in the feed.

The feed notifications are displayed on the tab in the notification center. The number on the tab displays the total number of unread feed messages.

The tab gives notifications about the following **events**:

- Someone commented on your message in the feed section;
- Someone mentioned you in a message or in a comment;
- Someone liked your post or comment.

After opening the tab, all new notifications will be marked as read and will not be displayed on the tab. If a new notification is received when the tab is open, the notification will be marked with a gray color and it will be added to the notification count. Click a notification to mark it as read. As a result, the emphasis will be removed.

SEE ALSO

- How to work with reminders
- How to work with approval notifications
- How to work with noteworthy event notifications
- How to work with system messages
- How to process notifications in a pop-up window

How to work with approval notifications

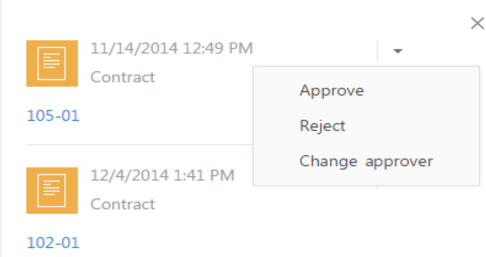
Use the tab of the notification center to receive information about records that need to be approved. The notification tab displays the total number of records to be approved. The name of the notification corresponds to the record that must be approved. Notifications also display the date and time of submission for approval. To view the record page, click the approval caption.

How to process an approval

All notifications on the tab in the notification center are active until they are processed. You can set approve or reject an approval or delegate the approval to someone else. After processing an approval the notification will not be displayed in the tab and the notification count will be updated.

Process approvals using the approvals actions menu (Fig. 143).

Fig. 143 Approvals actions menu



- [Approve] – sets a positive result for the approval.

  NOTE

  By default, approval comments are optional. You can make the [Comment] field required by editing the [Accept approval without comment] system setting.

- [Reject] – sets a negative result for the approval.

  NOTE

  If the approver chooses to reject an approval, a pop-up window will open where you can enter your comments. The comment will be displayed on the approval page.

- [Change approver] assigns a different user as the approver. This action opens a window where you can choose the user or user group. Approvers can be changed only if the [Approval may be delegated] is selected for this approval in the Process Designer.

  NOTE

  You can also process an approval using the [Approvals] tab or the action panel on the page of the required document.

SEE ALSO

- How to work with reminders
- How to work with feed notifications
- How to work with noteworthy event notifications
- How to work with system messages
- How to process notifications in a pop-up window

How to work with noteworthy event notifications

Creatio reminds you about upcoming noteworthy events with your colleagues and customers through the tab of the notification center. The tab count displays the total number of unread notifications about noteworthy events.

Data that is displayed in noteworthy events

The tab notifies you about birthdays or foundation days of accounts for the current day or the next two days. and the next two business days.

NOTE

Use the "Noteworthy events notification period, days" system setting to change the period of time for noteworthy events notification. The period is two days by default.

A history of read notifications for noteworthy events is stored on this tab for a month.

You will receive notifications for the following contacts and accounts:

- Contacts and accounts for which you are an owner.
- Contacts of type "Employee" or those for whom "Our company" is specified as an account.
- The main contacts of the accounts for which you are an owner.
- Contacts and accounts specified for the orders of which you are an owner. Orders with "Draft", "Confirmation" and "In progress" status are considered.
- The contacts and accounts specified in opportunities for which you are an owner (by the [Customer] field and the [Contacts] detail of the opportunity). The opportunities that are not at the final stage are considered and those which were completed successfully during the previous half-year.

  NOTE

  Use the "Noteworthy event notification period for opportunity participants, months" system setting to change the period of time of successfully closed opportunities to notify about the noteworthy events. The period is six months by default.

- The contacts and accounts specified in activities for which you are an owner (by the [Account] field and the [Participants] detail of the activity). Only activities that do not have a final status are considered.

The noteworthy event notification list is updated every 24 hours. You will receive a notification about the upcoming event at once if you were assigned as the owner for a contact, account or opportunity.

How to process a notification for the noteworthy event

To view additional information about a contact or an account, click a hyperlink in the notification. A contact or account page will opened. If you need to perform any action connected to the upcoming event, create an activity for it. To do this, select the [New task] option in the actions menu.

SEE ALSO

- How to work with reminders
- How to work with feed notifications
- How to work with approval notifications
- How to work with system messages
- How to process notifications in a pop-up window

How to work with system messages

All Creatio system messages are displayed on the tab. These messages do not require your attention. They are: messages about Excel import, contacts and accounts duplicates search or bulk email sending notices.

The tab count displays the total number of unread system messages. All messages are considered as read if you open the tab. The history of notifications is stored on the tab for a month after they are created.

SEE ALSO

- How to work with reminders
- How to work with feed notifications
- How to work with approval notifications
- How to work with noteworthy event notifications
- How to process notifications in a pop-up window

Business process tasks

The [Business process tasks] tab helps you keep track of the tasks that are linked to your business processes and cases right from the communication panel. Click the button to view business process action notifications. The counter of the button displays the number of tasks that require your attention.

Which data are displayed in the notifications

The notifications display case and process steps (also known as "user actions") that require some form of activity from you. These process-related actions may include completing Creatio activities, sending emails, editing records, filling out pre-configured pages, etc. The tab displays process tasks where:

- You are specified as the owner.
- The process task status is "Running".

By default, the tab displays notifications about the process tasks for the current day. Select the [Show future tasks] checkox at the top of the notification panel to display all notifications.

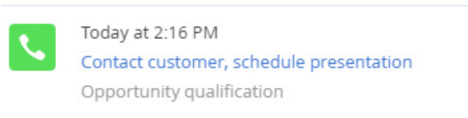
Each notification (Fig. 144) displays the following information:

- The icon of the corresponding business process element.
- Date and time of the step execution.
- Step title.
- Business process or case title.

NOTE

You can modify the business process title displayed in the notification by editing the [Process instance caption] caption parameter in the process properties of the process designer.

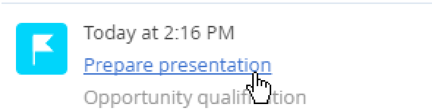
Fig. 144 Business process task notification



Working with the business process task notifications

All notifications on the tab in the notification center are active until they are processed. Click the process task title to open the page where you can complete this process task (Fig. 145).

Fig. 145 Executing a business process task



Perform the process task on the opened page: complete the opened activity, send the email, save the record, etc. If the process task is canceled or postponed to a later time, the corresponding notification will be updated automatically.

After completing the process task, the notification will no longer display on the communication panel.

Once all process steps have been completed, the counter on the  button disappears.

SEE ALSO

- The communication panel
- Creatio business processes overview

Excel data import

Use **data import** in Creatio to add large numbers of records. You can add customer databases, lists of products, lookup records and other data from .xlsx files within several minutes.

Use data import to populate your database with records before you start working with Creatio You can also use import for updating existing records.

ATTENTION

We recommend you to import data after you set up Creatio permissions, since imported records will be assigned default permissions.

To import information from an Excel spreadsheet to Creatio:

1. **Prepare an Excel file for import**: see the "How to prepare an Excel file for import" article for details. Use the following excel files as templates:
   - An example of file for the import of accounts
   - An example of file for the import of contacts
   - An example of file for the import of products
2. **Run the Import Wizard**: go to a **section** in which you need to import data and select the [Data import] action from the [Actions] button menu. You can import data to **details** or **lookups** in the same way. In this case, the object for import will be selected automatically.

   NOTE

   The data import can be launched from the system designer. In this case, you will need to specify the object (section, detail or lookup) for import manually.
3. **Add an imported file**: drag and drop your Excel file on the Import Wizard page, or click [Select file] and locate the file. **Specify the column mapping** by connecting the columns from the Excel file to the fields in the Creatio import object.
4. **Select the columns for identifying duplicate records**: select columns whose data must be unique for each of the imported records. Depending on whether the value of a column in the imported file coincides with the database value, Creatio either creates a new record or updates the existing record. For example, such column can be a contact's "Full name": if a contact with the same full name already exists in the database, Creatio updates the existing record, if a contact with such a full name does not exist, Creatio creates a new record.

   NOTE

   These steps cover general import procedure. For detailed instructions on the most common import cases, please see the corresponding articles in the contents of this section.

To avoid errors, be sure to prepare the import file according to the recommendations in this article.

CONTENTS

- Universal import from Excel FAQ

How to prepare an Excel file for import

To successfully upload data, make sure the **file meets the following criteria**:

- The file is in *.xlsx format.
- The file is not damaged.
- The file does not contain active hyperlinks. Disable all active hyperlinks in the file before importing.
- The file contains the correct column captions and data (having the column headings in the imported file match the field names in Creatio will save you time on column mapping during import).
- The file contains no additional data except for the column titles in the first row.
- The file contains no more than 50,000 rows approximately. The exact limit for the number of rows in the imported file is not a fixed value and may change depending on the number of columns and information volume specified as column values.

Follow these recommendations while **entering values** in the columns of the imported file:

- Make sure that the **cell formats** in the file correspond to the columns in Creatio. For example, for the [Full name] column, specify "Text" format, and for the [Start] column, specify "Date" format.
- If you are importing website addresses, social network page addresses or any other **URLs**, they must not be active hyperlinks. Disable all active hyperlinks in the file before importing.
- Specify one of the following **date formats** for the values:

  ```
  MM-DD-YYYY;
  MM.DD.YYYY;
  MM/DD/YYYY;
  ```

  Here, “MM” is for month, “DD” is for day and “YYYY” is for year.
- If you import a value to the **date/time** column, specify the time after the date using a space.

  Below are examples of correct date/time values in the Excel file.

  ```
  01.31.15 2:01:00 PM
  01.31.2015 14:02:00
  01/31/2015 2:03:00 PM
  01/31/2015 14:04:00
  01-31-2015 2:05:00 PM
  01-31-2015 14:06:00
  1.31.2015 2:07:00 PM
  01.31.2015 02:08:00 PM
  01.31.2015 02:09:00 pm
  01.31.15 02:10:00 AM
  ```

- The values of **Boolean** fields, such as [Do not use email] must be specified in one of the following formats (not case sensitive):

  ```
  Yes/No
  True/False
  1/0
  +/-
  Y/N.
  ```

- Specify the values in the **required** fields. For example, specify the [Full name] field for contacts and the [Name] field for accounts. The exceptions are the required fields, which are automatically populated by default, such as the [Status] and the [Owner] fields. If you leave these fields blank, they will be automatically populated with default values.
- Please note, that when importing data to **lookup** fields, any values that do not exist in the corresponding Creatio lookups will be added there automatically. When checking the values, the opening and closing spaces and letter case are not taken into account, while special characters are important. For example, if the imported file has the "customer" value and the [Contact types] lookup contains the "Customer" value, new values will not be added to the lookup and the record will be linked to the existing lookup value. However, if the “Client” contact type is specified in the import file, a new “Client” value will be added to the [Contact types] lookup. To avoid duplicates in the Creatio lookups, check the lookup values in the imported file.

NOTE

Before adding an import file, please ensure that all plugins are disabled in your browser. Certain plugins may cause errors during the import process.

SEE ALSO

- How to import a customer database

How to import a customer database

Let's have look at an example of importing customer database from an Excel file.

ATTENTION

Before importing contacts ensure that the [Order of first/last names] system setting has the “Last name, First name [Middle name]” value. It is necessary to correctly display contact names per separate columns: [Last name], [First name], [Middle name].

To import data, go to the [Contacts] section and perform the [Data import] action from the [Actions] button menu. The import page with automatically selected object will open in a new browser tab.

Uploading a file

Use the first page of the wizard to upload the Excel file to the automatically selected object.

NOTE

If you opened the data import window from the system designer you need to specify the object for import.

Click the [Select file] button and choose the Excel file containing your customer database. You can also drag-and-drop the file.

NOTE

File format and volume validation is performed at this stage.

Click the [Next] button.

NOTE

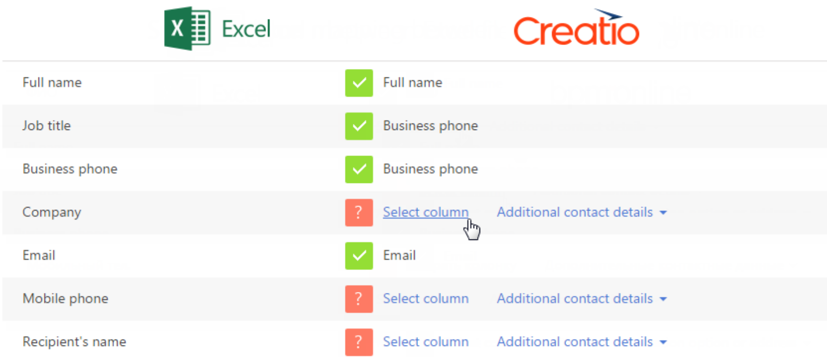
Before adding an import file, please ensure that all plugins are disabled in your browser. Certain plugins may cause errors during the import process.

How to set up columns

On the next wizard step, you need to specify the column **mapping** in your file. Match columns in the selected Creatio object to the columns in the imported file. On this step:

- If the name of the column in the file **corresponds** to the name of the column in Creatio, it will be mapped automatically. For example, if the name of the contact in your file is specified in the "Full name" column, Creatio will automatically map the [Full name] column on the contact page in Creatio. Automatic mapping is performed for the columns of the main object.
- If the column name in the file **differs** from the column name in CreatioCreatio, you need to map that perform column manually. For example, if the imported file with contacts has "Company" column where the contact's employer company is specified, you need to map the "Company" column from the Excel file to the [Account] column in Creatio. To do this, click the [Select column] link (Fig. 146) and select the [Account] column from the list of contact columns.

Fig. 146 Selecting a column for mapping



Importing additional information

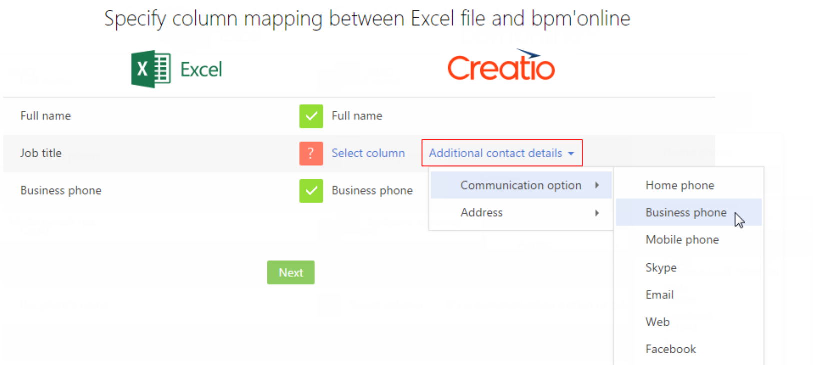
When importing contacts and accounts, you can also upload **additional details** of the objects, e.g., records from the [Communication options] and [Addresses] details. Use this feature if you need to upload multiple addresses or different communication options of one type, for example, several mobile phone numbers.

NOTE

Please note that the communication options and addresses can be imported either to the main object columns or to the details. When importing to the main object columns, the communication option data will also be saved in the details. By importing only to the primary object columns you can upload only one communication option and address of each type from the list of available ones. The columns that correspond to the main object columns can be used for the duplicate search during import.

When mapping [Communication options] and [Addresses] detail, click the [Additional contact details] and select the required column (Fig. 147).

Fig. 147 Selecting a column to correspond to the [Communication options] and [Addresses] details



NOTE

In Creatio, you can only import an address of one type in the [Addresses] detail.

Click the [Next] button to start importing the file.

NOTE

If the data is imported to the [Accounts] section, and the "Primary contact" column is populated in, the [Career] tab of the [Job] tab will be filled in automatically.

Duplicate parameters

Use the [Duplicate management] page to specify **duplicate search parameters**. If duplicate records are found in the import file, only the first record will be uploaded. Duplicates will not be imported.

You can perform a duplicate search by the values of one or several columns.

NOTE

Be aware that the columns of the main object are used while searching for duplicates in the communication options and addresses for contacts and accounts the columns.

To use a column for duplicate search during import, select the checkbox for this column on the [Duplicate management] page of the Import Wizard. When selecting several columns for the duplicate search, they are joined using the "AND" logical operator which means that duplicate records will have similar values in both selected columns. For example, you can set the duplicate check for the contacts in the [Full name] and [Email] columns (Fig. 148). If several contacts are found with the same full name and email address, only one contact will be uploaded into the system.

Fig. 148 Setting duplicates search rules while importing

NOTE

Use the duplicate search while importing to update existing Creatio records. For example, you can update phone numbers for multiple contacts. To do this, make sure that the imported file contains a column that also exists in Creatio and can uniquely identify each contact in both. Set the duplicate search by this column(s) that all imported records are considered duplicates. As a result, existing contacts will be updated with new phone numbers, and other fields that are left blank in the imported file, will not affect data in Creatio.

Uploading data

Click the [Start data import] button after specifying columns for duplicate search. The import process will start. If you close the page, the import will proceed in background mode. After the import is completed, you will receive a confirmation message with the number of uploaded records. You will also receive a system notification with file name and the number of imported records in the notification center.

NOTE

You can view information about errors during import in the [Excel import log] lookup. This lookup contains data about those records that were not imported.

Check the import result in the [Contacts] section. You can go to the list of imported records from the "import finished" message. All imported records will be automatically tagged with the time and date of import. Later you will be able to easily find all imported records, using a filter by the corresponding tag.

NOTE

You can tag the imported records and open their list only when importing records to a section.

Please note that Creatio will add all lookup values that were specified in the imported file but are not found in Creatio lookups, e.g., cities, contact and account types, etc. If you have not specified the values for the auto-fill fields in the imported file, these fields will be filled with the default values.

SEE ALSO

- How to prepare an Excel file for import

How to import contact communication options

In addition to the primary contact details of your customers, you can import additional information, such as communication options and addresses. They are located both in the primary object (Contact, Account) and on details on the [General information] tab.

- If communication options are contained in the same import file as the primary object records (contacts or accounts), they will be imported along with primary object information. These communication options will be saved both in the primary object ("Contact" or "Account") and on the [Communication options] detail. In this case, you can upload only one communication option and address of each type. Communication options and addresses that are located in the primary object can be used to search duplicates during import. For more information, please see the Customer base import article.

- If communication options and addresses are located in a separate file, they can be imported after importing the customer database. To do this, select "Contact communication option" or "Account communication option" object.

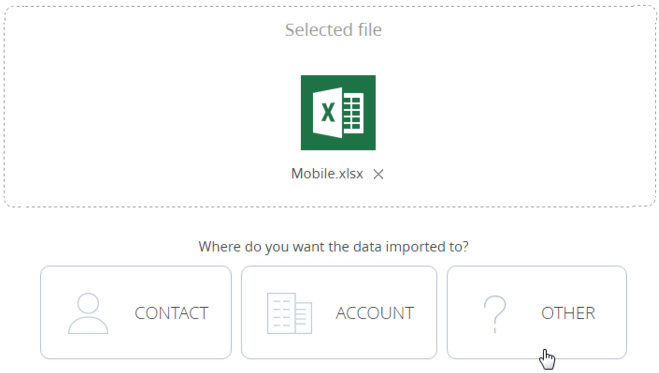
Below is an example of importing communication options from a single file.

Prepare the import file. To do this, enter the contact full names in the first column, enter communication option types, such as "mobile phone" in the second column and the phone numbers in the third column. To import several communication options of the same type for a single contact, add a new row for each phone number in the imported file. The records in the [Full name] column must match the records of the similar column in the customer database file imported earlier.

Import the prepared Excel file:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Click the [Data import] link in the [Import and integration] block. A data upload page will open in a new tab of your browser.
3. Click the [Select file] button and specify the prepared import file or drag the file directly to the Import Wizard page.
4. Click the [Other] button to select an import file (Fig. 149).

Fig. 149 Selecting object for import



5. Select "Contact communication options" from the drop-down list and click the [Next] button.

NOTE

If you are importing communication options for the [Accounts] section records, select the [Account communication options] object.

6. On the next wizard step, specify the column mapping in your file. In this case, the "Number" and "Type" columns are mapped automatically, and the "Contact name" column must be mapped to the [Contact] column.

NOTE

To map the columns in the imported Excel file and Creatio automatically, make sure that the column titles in the Excel file must match corresponding column names in Creatio.

7. On the [Duplicate management] page, select the "Contact" and "Number" columns. The selected columns will be used to check if the imported records already exist in Creatio. Click the [Start data import] button.

If you close the page after starting data import, the import will continue on the background. You will receive a notification from the notification center when the import is complete. Check the import result in the [Contacts] section.

SEE ALSO

- How to prepare an Excel file for import
- How to import a customer database

How to import contact addresses

Contact records can contain information about several addresses of different types: business, home, delivery, etc. Only one of these addresses can be set as the primary address and copied to the address column of the [Contact] object.

First, prepare the import file. Each row in the Excel file must contain a contact's full name that must be identical to the full name value of the contact record, one address and its type. Select the contact's primary address in the [Primary] column and set the "True" value. For the rest of addresses, set the "False" value. Specify country, city and postal code in the separate columns of the imported file (Fig. 150).

Fig. 150 An example of Excel file ready for address import

Full name	Address type	Address	City	Country	Index
Alexander Wilson	Legal	148 Flint Street	Atlanta	USA	
Alexander Wilson	Home	25 Washington Rd	East Point	USA	
Alexander Wilson	Business	148 Flint Street	Atlanta	USA	

To import prepared data on the addresses detail:

1. Enter the record of a random contact in the [Contacts] section.
2. Click the ⋮ button of the [Addresses] detail and select the [Data import] action.
3. Click the [Select file] button and specify the prepared import file or drag the file directly to the Import Wizard page.
4. On the next page, the "Address", "City", "Country", "ZIP/postal code", "Primary" and "Address type" columns are determined automatically, and the "Full name" column must be mapped to the [Contact] column. Click the [Next] button.

NOTE

To map the columns in the imported Excel file and Creatio automatically, make sure that the column titles in the Excel file must match corresponding column names in Creatio.

5. Select the [Contact], [Address type] and [Address] columns on the "Duplicate management" page of the Import Wizard. Click the [Start data import] button.

The import process runs on the background. After the import is complete, you will receive a message in the notification center. Check import results.

SEE ALSO

- How to prepare an Excel file for import
- How to import a customer database

How to update product prices

To update multiple product prices, import data on the [Prices] detail of the [Prices and availability] tab on the product page. To do this, **prepare the import file** that contains the following columns:

- Unique codes of products whose prices must be updated.
- Currency.
- New product prices.
- Price list from which the prices originate.

If the same product is part of several price lists, each price list mush have a separate row in the imported file (Fig. 151).

Fig. 151 An example of Excel file ready for importing product prices

Code	Currency	Price	Price list
122268	USD	200.00	Base
347802	USD	3000.00	Base
347802	USD	3500.00	For Distributors
975355	USD	400.00	Base
922306	USD	40.00	For Partners
922306	USD	56.00	Base
975355	USD	564.56	Base

To import data on the [Prices] detail:

1. Open the record of a random product in the [Products] section.
2. Click the button of the [Prices] detail and select the [Data import] action.
3. Click the [Select file] button and specify the prepared import file or drag the file directly to the Import Wizard page and click [Next].
4. On the next step, map all file columns to corresponding Creatio columns. If the column names in the Excel file are identical to those in Creatio, they will be mapped automatically. Click the [Next] button.
5. Select the duplicate search parameters: the “Product” (by a unique code) and “Price list” columns. Click the [Start data import] button.

Creatio will notify you when the import process is complete. You can view the results in the [Products] section and the detailed information about the import can be found in the [Excel import log] lookup.

SEE ALSO

- How to prepare an Excel file for import

How to update information about the product availability?

To add up-to-date information about product availability in warehouses to Creatio, you can import data to the [Availability] detail of the [Prices and availability] tab on the product page.

First, **prepare the import file** with the following columns:

- Unique codes of products whose prices must be updated.
- Warehouse where the product is stored.
- Number of units available.
- If several products were ordered but not paid for, specify their quantity in a separate column.
- Quantity of products in stock.

If identical products are stored in different warehouses, then each of them has to be specified in the import file as a separate row. Products with zero availability must also be specified in the import file (Fig. 152).

Fig. 152 Prepared import file.

Code	Warehouse	In Stock	Reserved	Available
244685	Regional Warehouse	250	40	210
367898	Central Warehouse	750	0	750
367898	Regional Warehouse	0	0	0
111659	Central Warehouse	200	0	200
111659	Regional Warehouse	1500	200	1300
996658	Central Warehouse	1440	120	1320
686657	Central Warehouse	0	0	0

To import data from the prepared file to the [Availability] detail:

1. Open the record of a random product in the [Products] section.
2. Click the button of the [Availability] detail and select the [Data import] action.
3. Click the [Select file] button and specify the prepared import file or drag the file directly to the Import Wizard page and click [Next].
4. On the next page, map all file columns to corresponding Creatio columns. If the column names in the Excel file are identical to those in Creatio, they will be mapped automatically. Click the [Next] button.
5. Specify the duplicate search parameters by the “Product” (by a unique code) and “Warehouse” columns. Click the [Start data import] button.

The import process runs on the background. After it is completed, you will receive an appropriate notification. The import results can be viewed in the import log or on the [Prices and availability] tab on the product page.

SEE ALSO

- How to prepare an Excel file for import
- How to update product prices
- Universal import from Excel FAQ

Universal import from Excel FAQ

- Will the field values be overwritten when I reimport data from Excel?

- Why do duplicate records appear after import?
- How do I import records to page details?
- How do I import products with characteristics?
- How do I import opportunities with products?
- How do I import leads with customer need types?
- The percentage of profile completion displayed in the list after import is incorrect. How can I update it?
- How do I update a single column without modifying other columns during import?
- How do I import records, view results and then roll back any changes made during the import?
- My import file has separate columns for first, last and middle names, while Creatio has a single [Full name] field. How do I import contacts?
- What columns should be included into the import file?
- How do I import users from Excel?

Will the field values be overwritten when I reimport data from Excel?

When you import, Creatio analyzes the imported file, identifies the columns (using the title row) and then analyzes the data itself. Creatio checks whether imported records are duplicates, using the columns that you selected on the corresponding step of the import wizard. It is recommended to select columns that contain unique values (those that uniquely identify each record) to avoid errors and save the data. If the records are identified as duplicates, all field values from the file will overwrite the current values. Otherwise, Creatio will create new records with the values from the Excel file. If the file contains empty values for imported columns, the corresponding field values in Creatio will not be deleted.

Why do duplicate records appear after import?

During the import process, Creatio checks imported records for duplicates. To do this, the system uses the columns that you select on the corresponding step of the import wizard. For the records that were identified as duplicates, existing field values will be replaced with those from the imported file (unless the value in the imported file is empty). If you select the columns that contain values that are not unique, duplicate records will not be identified as such. As a result, Creatio will import the records from the Excel file as new Creatio records, thus creating duplicates.

How do I import records to page details?

To import the data on the page detail, go to the detail and select the [Data import] action from the ⋮ button menu. The import page with automatically selected object will open in a new browser tab.

How do I import products with characteristics?

Unlike communication options and addresses, product characteristics cannot be imported along with the product records. The proper import process is divided into several stages.

1. Import a file with all products and general product information, including the [Name] column, as well as additional [Code] and [Price] columns.
2. Next, populate in the [Characteristics] lookup. If there are only a few characteristics, you can add them manually, by specifying name, type and notes. To import characteristics, open the [Characteristics] lookup and run the [Data import] action from the [Actions] button menu. The

file for import must contain at least two columns: The “Name” column, which will contain the names of all characteristics, and the “Value type” column with values like “String”, “Integer”, “Decimal”, etc.

3. After adding all product characteristics to the lookup, you can start importing records on the [Features] detail of the [Products] section. This table must contain separate columns for product name, feature name and feature value.

How do I import opportunities with products?

Importing opportunities with products is done in two stages: first import opportunities, then import opportunity products. Prepare an excel file with opportunity records and another file with opportunity products that has columns for opportunity and product names.

1. Go to the [opportunities] section and run the [Data import] action from the [Actions] button menu. Upload the table with opportunities.
2. Open a random opportunity record and run the [Data import] action from the ⋮ button of the [Products] detail. Please note that opportunity names must be unique and match the names of imported opportunities. If you have several opportunities with identical names, the corresponding products will be added to the first opportunity in the list. Likewise, the product names must match the products in the [Product] section. Otherwise, new product records will be added in the [Products] section.

How do I import leads with customer need types?

To import leads with the [Customer need] field, add the corresponding column to the imported Excel file. If the customer need column was not automatically mapped by the Import Wizard, you will need to map it manually. The customer need values in the imported Excel file must match the values in the [Need types] lookup. If the values in the imported Excel file are different from those in the lookup, they will be added to the lookup as new values.

How to import the lookup contents?

To import a lookup contents, populate the columns in the import file that correspond to columns displayed in the lookup (for example the “Name” and “Description” columns). Enter the lookup in which you need to import the data and perform the [Import data] action from the [Actions] button menu. After mapping columns and setting parameters for deduplication, start the data import.

The percentage of profile completion displayed in the list after import is incorrect. How can I update it?

The percentage of profile completion is updated when you open the corresponding account or contact page, save a record or modify calculation rules in the corresponding lookup. Because of this, after importing the displayed percentage of profile completion may be out of date. To update the percentage, run the [Update the profile data population] business process.

How do I update a single column without modifying other columns during import?

To modify values of a single column, add at least one column for connection with section records and duplicate search, and a column with imported data. Any fields that are not represented in the imported Excel file, will not be modified during import.

How do I import records, view results and then roll back any changes made during the import?

Creatio is aimed at data accumulation and analysis. In most cases, DBMS functions are used to roll back changes and restore a database to a previous state. There are several options you can use to safely view changes that will be implemented after import:

- Test import and settings by importing small batches of data (2-3 records). In this case, you can delete imported records to roll back the changes.
- You can request a database backup to test and configure the system on a separate site.
- You can use development options to implement automatic regular deletion of unnecessary data.

My import file has separate columns for first, last and middle names, while Creatio has a single [Full name] field. How do I import contacts?

The [Full name] column in the [Contact] object is required and must be specified in the imported file. If your imported Excel file has separate columns containing first, last and middle names, perform the following simple steps:

1. Create a "Contact name" column in the imported Excel file.
2. Fill in the "Contact name" column. You can use a simple Excel formula to combine text from several cells into one.
3. Save and import the resulting file.

What columns should be included into the import file?

If you are unsure which columns the imported file must contain, use one of the options below to resolve the problem. Open the section where you plan to import records, and create a column in your Excel file for each needed section column.

Alternatively, download an Excel template that contains all columns of the needed object:

1. Open the System Designer.
2. In the [Admin area] block, click the [Advanced settings] link.
3. In the setup menu, select [Import data].
4. In the opened window, in the [Object] field, select the object whose records you plan to import, for example, "Contact", "City" or "Product". Enter object name or open the lookup window and use its filtering options.
5. Click the [Download template] button.

An Excel file containing all columns of the selected object will be downloaded. Required columns will be highlighted in orange, Examples of import files:

- An example of file for the import of accounts
- An example of file for the import of contacts
- An example of file for the import of products

How do I import users from Excel?

You can import a list of users (both main application and portal users) from an Excel file. Learn more in the "How to import users from Excel" article.

SEE ALSO

- How to prepare an Excel file for import
- How to import a customer database
- Exporting list data to Excel

Finding and merging duplicates

NOTE

This guide is relevant for Creatio version 7.13.3 and up. The guide for previous versions is available in a separate article - "Finding and merging duplicates".

Duplicate records may appear in Creatio whenever users add new records to system sections. Finding and merging duplicates helps maintain the quality of your data in any Creatio section.

- Bulk duplicate search Bulk duplicate search is launched for the whole database (manually or automatically).
- Local duplicate search checks for duplicates for a particular record. It is run automatically, when a new record is added and saved in a section.

Additionally, you can manually **merge** any records in a section, even if they were not flagged as duplicates. This option is available for all Creatio sections and is covered in the "Arbitrary merging of records" article.

By default, duplicate search is available in the [Accounts], [Contacts] and [Leads] sections. In Creatio, duplicate search is executed with the help of pre-configured **rules**, e.g., duplicates may be identified by searching for identical phone numbers or email addresses automatically. Creatio enables you to customize these rules:

- Customize out-of-the-box duplicate search rules for **contacts, accounts and leads** to suit your specific needs.
- Create custom rules for **any Creatio section**, including custom sections. This process is described in more detail in the "Duplicate search rules" article.

ATTENTION

To ensure the correct operation of bulk duplicate search, **on-site** users need to install additional components. Learn more in the "Setting up bulk duplicate search" article.

CONTENTS

Searching for duplicates

CONTENTS

How to search for duplicates

Bulk duplicate search

Bulk duplicate search runs **manually** or **automatically**.

You can initiate duplicate search manually in any section that has at least one duplicate search rule. For example, to run duplicate search in the [Contacts] section, use the [Show duplicate 'Contacts'] action. Once the search is complete, Creatio will display a list of records that have been identified as duplicates.

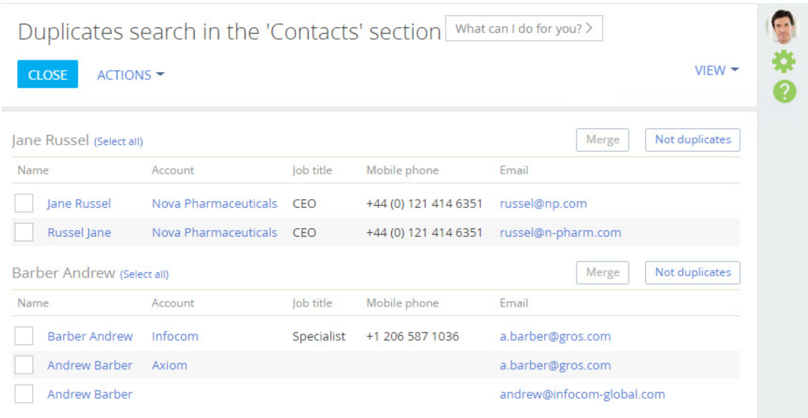
Automatic search is performed according to a configured schedule. Read more in the "How to set up a schedule for an automatic general duplicate search" article.

ATTENTION

To access the duplicate search window, users need to be granted certain access permissions. In the [Operation permissions] section, open the "Duplicate search" system operation (CanSearchDuplicates) and, on the [Operation permission] detail, provide permissions to the necessary users/roles.

Regardless of whether you search manually or automatically, the results are displayed on the duplicate search window (Fig. 153).

Fig. 153 Duplicate search results example in the [Contacts] section



NOTE

To set up columns displayed in the list of duplicates, click [View] and select [List setup].

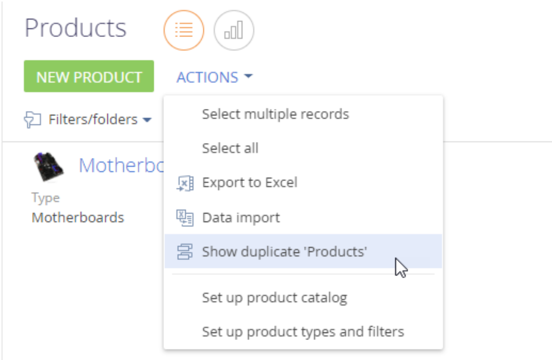
There are several ways to open this page:

- In a section, in the [Actions menu], select [Show duplicates] (Fig. 154).

NOTE

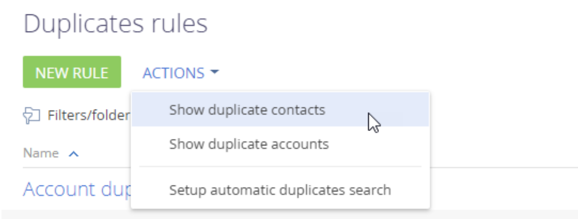
The [Show duplicates] action is available if at least one duplicate search rule is available in the section. Learn more in the "Duplicate search rules" article.

Fig. 154 Switching to the page with results using the action menu in a section



- Open the system designer by clicking ⚙ and then click [Setup duplicates rules]. Select the [Show duplicate accounts] or [Show duplicate contacts] option in the [Actions] menu (Fig. 155). This option is available for the [Contacts] and [Accounts] sections.

Fig. 155 Switching to the page with duplicate search results using the [Setup duplicates rules] section



How to search for and process duplicates

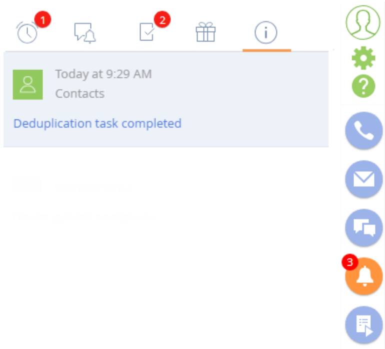
1. Open a section where you want to search for duplicates. For example, open the [Contacts] section.
2. In the [Actions] menu, select [Show duplicate 'Contacts'] (Fig. 154).

   A page with found duplicates will open. If the duplicate search was performed earlier (e.g., automatically), its results will be displayed on this page. You can process previous duplicate search results before searching again.
3. On the opened page, in the [Actions] menu, select [Run duplicate search].

   Creatio will look for duplicates in the background. In the meantime, you can continue working with the system.

   Once the duplicate search is complete, you will receive a notification on the ⓘ tab of the notification center (Fig. 156).

Fig. 156 Notification about duplicate search completion

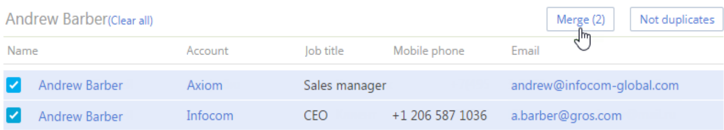


4. Open the link in the notification to view the results of the duplicate search. You can also open this page in several other ways (Fig. 154, Fig. 155):

   Duplicate records that were found based on the active duplicate rules are grouped, so that all records in a group are potential duplicates of a single record (Fig. 157).

   You can merge each group of records into a single record or indicate that the records in the group are not duplicates. They will be added into the list of exceptions for the next duplicate search.

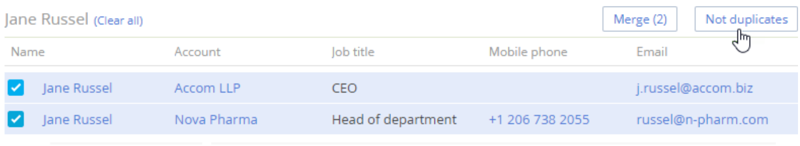
Fig. 157 Selecting duplicates for merging



   a. To merge duplicates, select the necessary records, and click [Merge].
      All selected records in the group will be merged into one that contains all the unique data from all merged records. If same field contains different data for the selected records, Creatio will prompt you to select which data needs to be saved. Read more in the "How duplicates are merged" article.

   b. To add records to the list of exceptions, click the [Not duplicates] button for the group containing only unique records (Fig. 158).
      As a result, Creatio will not consider records in the group as potential duplicates for the next duplicate search.

Fig. 158 Example of records which are not duplicates



How to search for duplicates when saving records

Creatio starts looking for duplicates when you save records. If a duplicate search page opens while saving a new record, it is likely that the created record already exists in the system.

NOTE

The opened page will display all similar records, even if the user does not have the appropriate access permissions to view them. However, Creatio will only display the columns that match the pre-configured duplicate search rules.

You can return to editing the record or save it. If you save the record, it will be displayed in the duplicate search results in the future. A detailed guide on how to merge records or add them to the exception list is available in a separate article - "How to search for and process duplicates".

Arbitrary merging of records

You can merge any number of records at will, without running duplicate search. Merging is available for **section records**, as well as **lookup values**.

To do this:

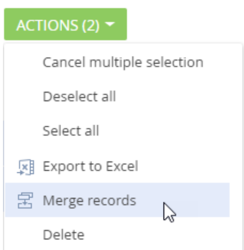
1. Enable the multiple record selection mode in the list by clicking [Actions] > [Select multiple records].

   ### NOTE

   You can select multiple records in the section by using the Ctrl or Shift keys. Hold down the Ctrl key to select multiple records in a random order. Hold down the Shift key to select a group of files that are contiguous (i.e. next to each other).

2. Select records to merge.
3. From the [Actions] menu, select the [Merge records] option (Fig. 159).

Fig. 159 Merging lookup values



NOTE

By default, the [Merge records] operation is available only to system administrators, which means that you need to grant permissions to other users manually. To do this, in the [Operation permissions] section, open the "Duplicate search" system operation (CanSearchDuplicates) and, on the [Operation permission] detail, provide permissions to the necessary users/roles.

Creatio will merge the selected records. If the records have different values in the same fields, duplicate merge window will open. Select the values to be saved in the merged record and click the [Merge] button. Read more in the "An example of saving data when merging duplicates" article.

Once the records are merged, you will receive a notification. Refresh the page to view the results in the list. Detailed information about merging duplicates is available in a separate article - "How duplicates are merged."

SEE ALSO

- How duplicates are merged
- How the duplicate search works
- Duplicate search rules

How duplicates are merged

When you click the [Merge] button on the duplicate page, the unique data from all merged records is saved in one resulting record automatically. As a result:

- The record with the earliest date in the [Created on] field is used.
- The unique values of the fields and details of the duplicate records are saved in the resulting record. All activities, calls, leads etc. that were connected to the merged records will be available on the details of the resulting record.
- Identical phone numbers will not be duplicated even if different types are specified, e.g., if the same phone number is specified as a business and mobile phone.
- Identical communication options, addresses and noteworthy events will not be duplicated.
- If some field values are different (e.g., full name, phone numbers, etc.), you can select which values will be saved in the resulting record. You can also select which text note will remain after merging.
- All external links that point to the merged duplicate records will point to the resulting record.
- Creatio saves the feed posts of all merged records in the resulting record.
- If any of the merged records are referenced in the records of other sections, e.g., in the [Primary contact] field or in the [Contacts of accounts] detail of the [Accounts] section, the resulting record will keep the connections to records from other sections after merging.

An example of saving data when merging duplicates

If values for the same field are different, you need to specify which data is to be saved to the resulting record when merging.

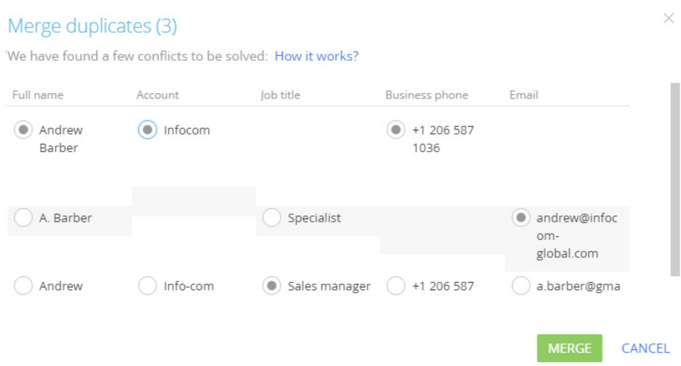
An example of which data is saved in the resulting records after merging is available in the table below:

Field	Duplicate 1	Duplicate 2	Duplicate 3	Resulting record
[Full name]	Barber Andrew	Andrew Barber	A. Barber	Decided by the user

Field	Duplicate 1	Duplicate 2	Duplicate 3	Resulting record
[Type]	—	Client	Contact person	Decided by the user
[Account]	—	Infocom	—	Infocom
[Mobile phone]	—	+1 206 5871036	+1-206-587-10-36	Decided by the user
[Business phone]	+1 206 480-3801	—	+1 206 480-3801	Decided by the user
[Email]	a.barber1891@gmail.com	a_barber1891@gmail.com	—	Decided by the user
[Skype]	barber_andrew	—	—	barber_andrew

A window for merging duplicates will open (Fig. 160).

Fig. 160 Resolving deduplication conflicts



Select the radio button next to the records to be merged and click the [Merge] button.

Only one record will be saved after merging. All objects that were connected to the merged records will now be connected to this record. For example, if the radio buttons are selected as it is shown on the picture (Fig. 160), the resulting record will contain the following data:

- [Full name]: Andrew Barber
- [Account]: Infocom
- [Job title]: Sales manager
- [Business phone] +1 206 587 1036
- [Email] andrew@infocom-global.com

SEE ALSO

- Duplicate search setup

- How to search for duplicates when saving records
- How the duplicate search works
- Arbitrary merging of records

How the duplicate search works

The duplicate search mechanism is identical to the global search mechanism.

Creatio uses data indexing to remove all special characters, and divide all remaining symbols and numbers into two or three characters and records them in the index, which is then used by the search mechanism.

> NOTE
> Actual section records are not modified during indexing.

Local search procedure:

1. The user creates and saves a new record.
2. Creatio processes new data (removes all special characters, and divides all remaining data into two or three characters) and requests Elasticsearch to search for records, which contain the specified symbols.
3. Creatio displays all matches, according to at least one active duplicate search rule (the [Use this rule on save] checkbox must be selected for this rule).

   > NOTE
   > You can learn more about duplicate search rules in a separate article - "Duplicate search rules".

   Matches with word swapping will also be found.

The bulk search is executed in a similar way, taking into account the active duplicate search rules. Please note that the list of duplicates will not display the records which were excluded earlier via the [Is not a duplicate] button. You can learn more about processing duplicate records in a separate article - "How to search for and process duplicates".

All phone numbers are compared to each other, regardless of the phone number type: [Business phone], [Mobile phone], [Home phone]. For example, if the same phone number is registered as a business phone in one record, and as a home phone in another – the record will be considered a duplicate.

SEE ALSO

- How to search for duplicates when saving records
- Duplicate search setup
- Lead duplicate search
- Arbitrary merging of records

Duplicate search setup

CONTENTS

- Duplicate search rules
- How to set up a schedule for an automatic general duplicate search

SEE ALSO

- Setting up bulk duplicate search

Duplicate search rules

Duplicate search is performed with the help of a set of rules. By default, Creatio includes out-of-the-box duplicate search rules for the [Accounts], [Contacts], [Leads] sections.

> NOTE
> All pre-configured rules are described in the "Pre-configured duplicate search rules for contacts and accounts" article (version 7.12.0).

You can perform the following actions in Creatio:

- create new duplicate search rules based on a text or a lookup field in any section
- enable or disable individual rules
- specify which rules will be used while saving a record
- remove unused rules

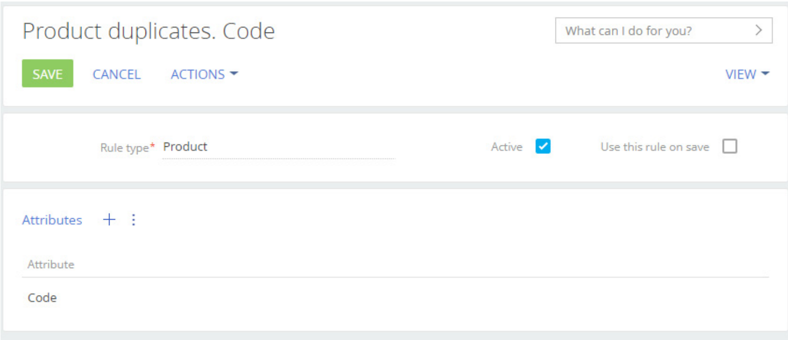
> NOTE
> Default rules designed to search for contact and account duplicates in leads cannot be deleted. The process of disabling these rules is described in more detail in the "How to disable a duplicate search rule" article.

How to create a new duplicate search rule

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Open the [Setup duplicates rules] link.
3. Click the [New rule] button.
4. Set up the rule (Fig. 161):
   a. In the [Type] field, select a section which will use this rule, e.g., "Products". You can create a rule for a section if the [Indexing for full-text search] checkbox is selected in its properties.
   b. Click + on the [Attributes] detail and add a column (or multiple columns) that will used to search for duplicates. Please note that the [Attributes] detail can only store text and lookup fields.

      If you select multiple attributes, e.g., "Code" and "Name", the duplicate search is performed via the "AND" operator, i.e., Creatio will look for records in which both the code and the name are duplicated. When creating several rules with only one attribute, e.g., if the first rule contains only the "Code" attribute and the second one contains the "Name" attribute, then the duplicate search is performed via the "OR" operator, i.e., displays records in which either the code or the name are duplicated.
   c. Select the [Active] checkbox.
   d. Select the [Use this rule on save] checkbox to use this rule while saving the record.

Fig. 161 Creating a new duplicate search rule



5. Save the changes.

   Creatio will display a message prompting the user to log in to the system again. As a result, duplicate search will be performed according to the created rule, and the action [Show duplicates] will appear in the corresponding section.

How to disable a duplicate search rule

You can deactivate a rule (permanently or temporarily) and it will not be used to search for duplicates. To do this:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Open the [Setup duplicates rules] link.
3. Select a rule in the list and click [Open].
4. Remove the [Active] checkbox.
5. Save the changes.

   As a result, the rule will not be used to search for duplicates. You can re-activate it anytime.

SEE ALSO

- How to set up a schedule for an automatic general duplicate search
- Bulk duplicate search
- How to search for and process duplicates

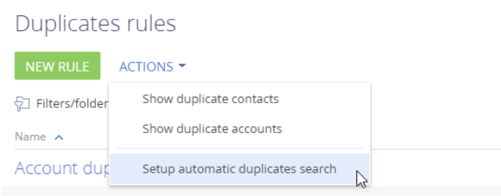
How to set up a schedule for an automatic general duplicate search

In Creatio, you can set up a schedule for an automatic general duplicate search, e.g., three times a week. To do this:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Open the [Setup duplicates rules] link.

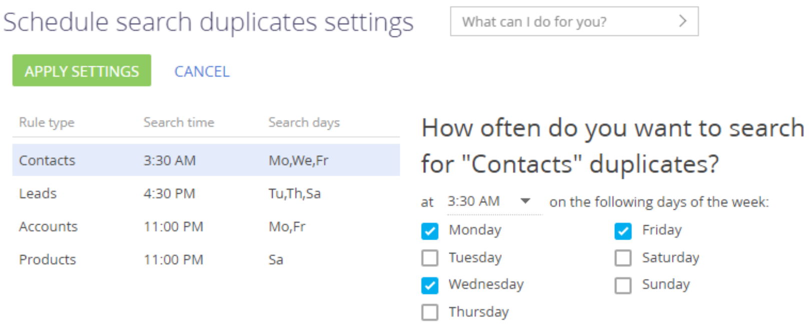
3. Select the [Setup automatic duplicate search] option from the [Actions] menu on the duplicate search page.

Fig. 162 Opening the automatic duplicate search setup window



4. Set the parameters for the automatic duplicate search on the [Duplicate search schedule] page (Fig. 163):

Fig. 163 Duplicate search schedule setup



   a. Select a section, for which the schedule will be configured. The list only displays the sections that have at least one duplicate search rule configured.
   b. Select the time for the search to run.
   c. Select the day of the week for the search to run.

5. Click the [Apply] button.

   As a result, a duplicate search will be performed automatically based on the active rules. Please note that merging duplicates automatically is not performed in this case - all found records need to be processed manually.

To disable the automatic duplicate search, clear the values in the time and date field, or clear the checkboxes for the days of the week of the search and save the changes. The auto duplicate search will be disabled in any of these scenarios.

SEE ALSO

- Searching for duplicates
- How duplicates are merged
- How the duplicate search works

- Arbitrary merging of records

Data enrichment

Maintain the completeness and relevance of the customer base via the data enrichment functionality. You can add new users to the system, and enrich contact and account data from all available sources in a few clicks.

In Creatio, you can enrich data in three ways:

- add new contact data to the contact page from the correspondence
- add new account data from the open Internet sources
- enrichment of contacts and accounts data from their profiles in social networks

ATTENTION

To enable data enrichment from correspondence and open sources, Creatio on-site users will need to specify a cloud service key in the corresponding system setting. More information about the setup is available in a separate article.

CONTENTS

SEE ALSO

- How to set up data enrichment
- Working with emails

Contact profile enrichment

Contact profile enrichment is a quick an easy way to update contact records with latest information about their communications, addresses, noteworthy events and accounts in the system. You can create a new contact from the incoming email, add new data to the contact page, link the contact record with its profiles in social networks and obtain new data.

CONTENTS

SEE ALSO

- Account profile enrichment

Enrichment of contacts from the incoming emails

Smart enrichment allows you to maintain up-to-date contact data and create new contacts in a few clicks. When an email is received from a contact, the system automatically searches for new information about the contact in the message text, for example:

- contact full name

- account name of the contact
- phone numbers
- email addresses
- social network accounts
- websites

If the information is found, you can add it to the existing contact or create a new contact record.

NOTE

If the communication option type cannot be determined for information found in the email signature, the default communication option type will be assigned to the communication options added during enrichment. For example, for phone numbers it will be "Business phone". You can change the type of these communication options on the contact page. The default communication option types are defined in the [Default type of contact communication options] system setting.

CONTENTS

SEE ALSO

- How to set up data enrichment

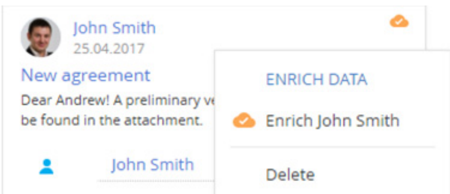
Contact profile enrichment from the incoming email

The incoming emails are checked for enrichment data upon downloading. Creatio analyzes the data in individual emails and email threads (enriching profile data of all thread participants). The signatures of incoming email messages are compared with the contact records in the system. If enrichment data are found, the button appears next to the message header in the email message area of the communication panel.

To enrich a contact profile:

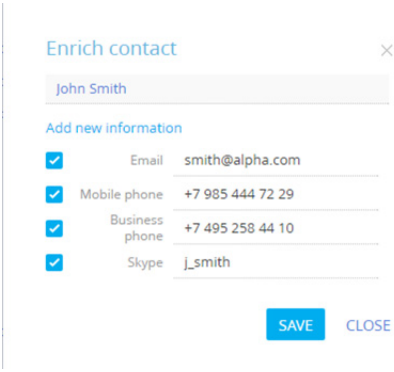
1. Click the button.
2. A menu with a list of all contacts to create or update records will be displayed. Select the [Enrich "contact name"] action (Fig. 164)

Fig. 164 Enrichment of contacts from the incoming email



3. In the opened window, select the data you want to add to the contact page from the email messages found in the signature (Fig. 165).

Fig. 165 Data enrichment window



NOTE

If the message is included in an email thread, the contact enrichment window will contain information on both the current contact and any other contacts identified in the thread, such as contacts from a forwarded message. Check the list of enrichment data before adding them to the system.

4. Save the new data.

NOTE

The contact data for enrichment, that were not selected by the user will be remembered by the system and will not be offered for this contact anymore.

As a result, the information found in the emails will be added to the contact page and updated in all correspondence for the previous 7 days. The new data will also be reflected on the profile data complete indicator.

SEE ALSO

- How to enrich contact profile from the contact page
- How to add a new contact from an email
- How to enrich contact profile from the case page
- How to process emails

How to enrich contact profile from the contact page

You can run smart enrichment of the contact data directly from the contact page. If enrichment data is available, the button will appear in the contact profile. Data enrichment from the contact page is similar to the enrichment data from an email message.

After adding the data to the contact page, the button will disappear from the email messages in the communication panel and from the contact page.

SEE ALSO

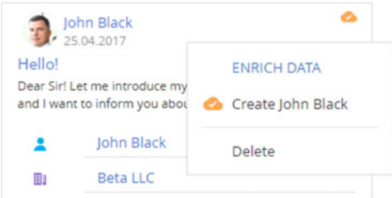
- Contact profile enrichment from the incoming email
- How to add a new contact from an email

How to add a new contact from an email

If an email is received from a contact that has not been registered in the system, the sender's data will be displayed as “unrecognized” in the emails. In this case, you can create a new contact record directly from the incoming email. To do this:

1. Open the emails area in the communication panel.
2. Select the author of the email for which you want to create a contact.
3. Tap the button.
4. Select the [Create “contact name”] from the data enrichment menu (Fig. 166).

Fig. 166 Creating a new contact from the email conversation



5. Select the contact data that you want to add in the opened window.
6. Save the changes.

As a result, a new contact will be added to the system. The [History] tab of the new contact page displays all email messages in the last 7 days where this contact appeared as the sender or recipient. The email will be automatically linked to the new contact.

SEE ALSO

- How to set up data enrichment
- How to process emails
- Working with emails FAQ

How to enrich contact profile from the case page

Creatio enables you to enrich contact data directly from the email chain on the case page. Use data enrichment on the case page to:

- populate the contact record with new data found in the email signature
- add a new email address to the contact page
- create a new contact based on the email and nickname of the applicant and specify it as a contact for the case.

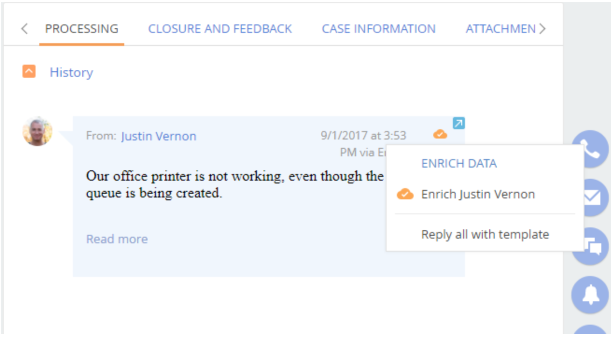
ATTENTION

Adding a new email address to the contact’s page and creating a new contact from the email chain is only available if automatic contact registration for unknown email addresses is disabled. Use the [Automatically create new contacts for unknown email addresses] system setting to manage the way Creatio handles unknown email addresses.

Existing contact profile enrichment

The button will appear in the email chain on the case page If Creatio detects new data in the email signature (Fig. 167). The process is similar to the email data enrichment on the communication panel.

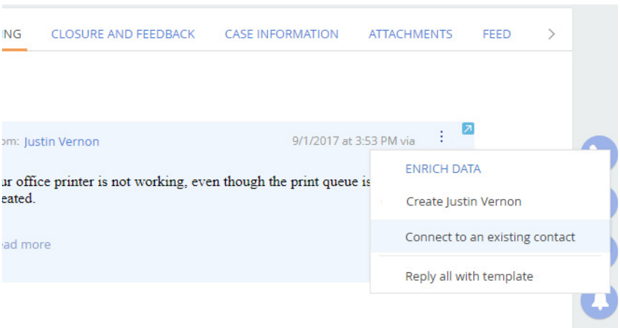
Fig. 167 How to enrich contact profile from the case page



Adding a new email address for an existing contact

If the case was registered based on an unknown email address of an existing contact, you can easily add the new address to the contact's page directly from the case page. Click the [Connect to an existing contact] button and specify the contact to enrich (Fig. 168).

Fig. 168 Adding an email address for an existing contact

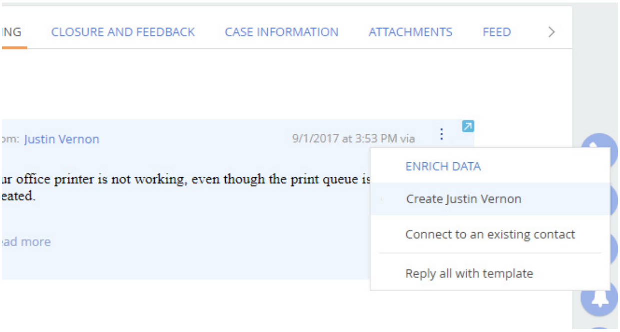


Upon adding a new email address to the contact's communication options, the email will be displayed on the [Email] detail on the contact's page. Creatio will prompt you to select the contact as the main contact in the case.

Creating a new contact

If the case was created based on an email from an unknown contact, you can also create a new contact from the case page. Adding a new contact that way is similar to adding a contact from an email on the communication panel (Fig. 169). Creating a new contact only requires the name and the email address of the case contact, specified in the “From” field in the email (e.g., John Best, <john.best@gmail.com>).

Fig. 169 Creating a contact from an email on the case page



The email used to create a contact will be displayed on the [Email] detail on the contact’s page. Creatio will prompt you to select the contact as the main contact in the case.

SEE ALSO

- How to add a new contact from an email
- Contact profile enrichment from the incoming email

Receiving contact information from Facebook

Integration with Facebook allows you to maintain the information about contacts stored in the system.

Run the [Update with social networks data] action to receive additional information about a contact. To run the action, specify the Facebook account on the [Communication option] detail of the contact page.

CONTENTS

- Connecting a contact to its Facebook account
- Populating the contact page with Facebook information
- FAQ on populating the contact page with Facebook information

SEE ALSO

- Receiving account information from Facebook
- Setting up additional parameters and integrations

Connecting a contact to its Facebook account

1. On the contact page, expand the [Communication options] detail and click the button.

   NOTE
   Only one communication option with the “Facebook” type can be added on the contact page.

NOTE

If you have not used Facebook integration before, when you click the [f] button, the Facebook authorization window will open.

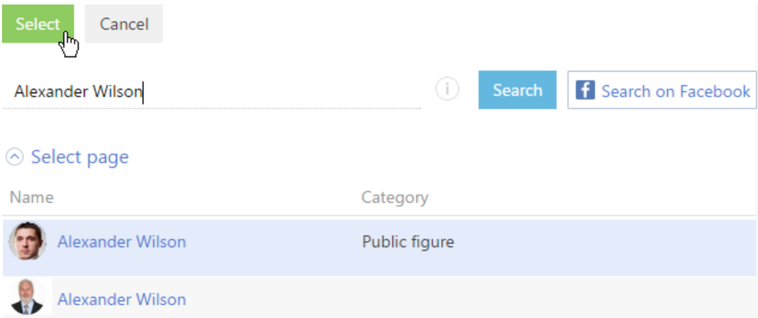
2. The displayed Facebook search page will contain public pages and profile pages of the contact, if any. You can change the search criteria or enter the link to the page in Facebook if it is known.

NOTE

If the link to the Facebook profile of the account does not have a numeric user ID, the profile will not be displayed among the results.

3. Select an account to add to the [Communication option] detail of the contact page (Fig. 170).

Fig. 170 Selecting a contact account



As a result, a new record with the “Facebook“ type will be added to the [Communication options] detail. If the account doesn't have a photo, it will be added from the Facebook page.

NOTE

If a contact has both a profile page and a public page, it is recommended to add the public page to the [Communication options] detail because the public page contains more information about the contact.

SEE ALSO

- Populating the contact page with Facebook information
- FAQ on populating the contact page with Facebook information
- Connecting an account to their Facebook account

Populating the contact page with Facebook information

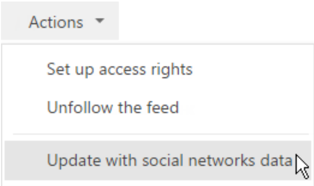
Let's review the example of populating the contact page with photo from the Facebook page of the contact.

NOTE

Populating the contact page with data from the Facebook public page is described in the “Populating an account page with Facebook information“ article.

1. On the contact page, expand the [Communication option detail] and make sure the contact is connected to the proper Facebook account.
2. Select the [Update with social networks data] option from the [Actions] menu (Fig. 171).

Fig. 171 Selecting the [Update with social networks data] action



3. On the displayed page, you can select a new contact photo and click the [Save] button.

   As a result, the contact photo on the contact page will be updated.

SEE ALSO

- Populating an account page with Facebook information
- Fields completed in Creatio from a Facebook page
- FAQ on populating the contact page with Facebook information

FAQ on populating the contact page with Facebook information

- Why searching by user page address on Facebook returns no results?
- Why aren't some of the existing pages displayed among the results of the search by Facebook user name and last name?
- Why does the [Update with social networks data] action result in different amount of fields updated for different contact records?
- Why the field for entering Facebook address becomes inactive after a Facebook profile has been added?
- How to obtain access to the Facebook page of the contact if it is protected by privacy settings?

Why searching by user page address on Facebook returns no results?

In the Facebook social network, in addition to profile page, a user can have a public page. Facebook public pages are visible to everyone, regardless of whether a viewer is a registered Facebook user or Page fan.

Due to changes in Facebook privacy policy, searching for a user **profile** by unique page name is unavailable for third-party applications. If the link to the Facebook profile of the account does not have a numeric user ID, the profile will not be displayed among the search results. For example, search request "www.facebook.com/zuck" will return no results, while searching for "https://www.facebook.com/4" will return Mark Zuckerberg's page. You can also search by user's first and last names.

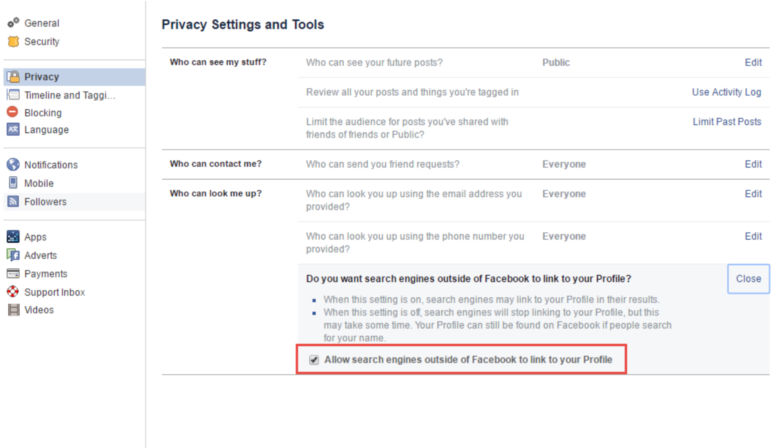
Searching for **public pages** has not changed, they can be found using direct links of any type.

Why aren't some of the existing pages displayed among the results of the search by Facebook user name and last name?

Facebook search data is provided through the Facebook API. If a Facebook user restricted indexing of their page by search systems, this user's data will not be found by Creatio.

To search for personal pages via third-party applications, a user must permit tho show their profile in search results (Fig. 172).

Fig. 172 Facebook privacy settings page



Why does the [Update with social networks data] action result in different amount of fields updated for different contact records?

Due to changes in Facebook privacy policies, third-party applications can obtain limited amount of information from personal user pages. If a contact has both a profile page and a public page, it is recommended to add the public page to the [Communication options] detail because the public page contains more information about the contact. The list of Creatio fields that can be filled in from a public Facebook page is available in a separate article.

Why the field for entering Facebook address becomes inactive after a Facebook profile has been added?

When adding a new Facebook profile link, the field becomes unavailable for editing because Facebook API generates an individual link for every contact.

How to obtain access to the Facebook page of the contact if it is protected by privacy settings?

If the Facebook personal page of the contact is protected by privacy settings, the contact data cannot be enriched from this page. This is due to Facebook privacy policies,. To quickly switch from Creatio to contact data on Facebook, add a link to the user profile on the contact page as a communication option of the "Web" type. This link can be obtained from the enrichment of contacts from the incoming emails if the contact has links for profiles in social networks in the signature or after the search in Facebook.

SEE ALSO

- Connecting a contact to its Facebook account
- Populating the contact page with Facebook information

- Fields completed in Creatio from a Facebook page

Account profile enrichment

You can save time on searching and entering contact details of an account using the profile enrichment function. Profile enrichment includes:

- Adding company website address and logo on a new account page. This function is performed if you select one of suggested company names from the drop-down list when filling out the [Name] field of a new account record. Read more >>>
- Adding communication options to an account page: phone numbers, email addresses and social network profile. This is performed automatically, when you run the [Enrich data] action. Read more >>>
- Adding information from the social network public pages to an account page. Performed by the [Update with social networks data] action. Read more >>>

To enable data enrichment, Creatio on-site users will need to specify a cloud service key in the corresponding system setting. Read more >>>

CONTENTS

SEE ALSO

- Contact profile enrichment
- Setting up additional parameters and integrations

How to enrich the account data from the open Internet sources

Use the [Enrich data] action to run automatic search for account information. Click the button to run this action.

> **NOTE**
> To access the data enrichment function, you need to have permission for the [Can enrich account data] system operation.

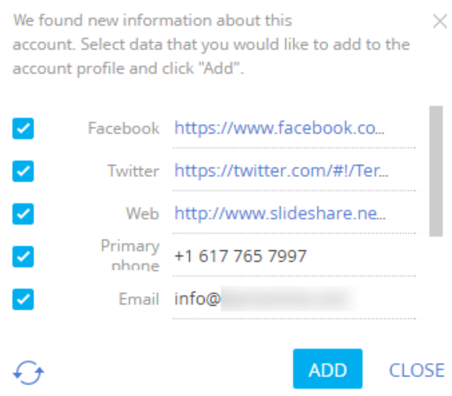
> **NOTE**
> Before running the data enrichment, make sure that the account profile contains at lease company name and website address.

As a result, Creatio will search open sources for the following account data:

- email addresses
- phone numbers
- account profiles in Twitter, LinkedIn, Google+, Youtube, Instagram, SlideShare and Pinterest social networks.

When the search is complete, a window with a list of found communication options will open (Fig. 173).

Fig. 173 Data enrichment window



You can edit the communication options in this window. Select records that must be added to the account page and click [Add]. The data will be saved on the account page:

- email addresses will be saved as "Email" communication options
- phone numbers will be saved as "Primary phone" communication options
- Facebook profile pages will be saved as "Facebook" communication options
- Twitter profile pages will be saved as "Twitter" communication options
- LinkedIn, Google+, Youtube, Instagram, SlideShare, Pinterest profile pages will be saved as "Web" communication options.

To run the search again, click the button in the data enrichment window.

NOTE

You can change the number of displayed communication options of each type using system settings. Read more >>>

SEE ALSO

- How to set up data enrichment
- Account data enrichment from the open Internet sources FAQ

Account data enrichment from the open Internet sources FAQ

- Data enrichment cannot find account information. Why?
- Why does the list of found data contain invalid values?
- How do I limit the number of records in the data enrichment window?

Data enrichment cannot find account information. Why?

Data enrichment function searches account information in open sources. The list of the sources is confidential. If the search does not return any account information, please try the following:

- Ensure that data enrichment function is properly configured in your Creatio.
- Ensure that account name matches the corresponding company name.
- Add at least one company website in the [Web] field of the account page. Ensure that the specified website address is correct.
- Specify company email.
- Check the [Social links enrichment limit], [Phone number enrichment limit] and [Email enrichment limit] system settings. Their values must not be "0".

If the problem persists, the following may be the case:

- There is no information about the company in the open sources, or Creatio could not find the company based on the entered data. Please contact Creatio support and send a list of companies that cannot be found. We will use this information to improve the data enrichment function.
- Creatio was unable to find new information. All information obtained through data enrichment is already available in the account profile.

New Creatio versions will use more sources and better search algorithms for data enrichment.

Why does the list of found data contain invalid values?

Creatio searches information in unstructured data from the open sources using AI-like algorithms that can process unclear data. As a result, the data enrichment window may contain invalid communication options. We recommend reviewing the data enrichment results before saving them in the account profile.

The data search and recognition algorithms will be perfected with each Creatio update.

How do I limit the number of records in the data enrichment window?

Open sources may contain dozens of communication options for certain companies, such as emails of different departments, branches and offices. Use the following system settings to limit the number of different types of communication options displayed in the data enrichment window:

- [Social links enrichment limit]
- [Phone number enrichment limit]
- [Email enrichment limit]

By default, each limit is set to "10".

To change the limit:

1. In the system designer, open the [System settings] section.
2. Go to the [Creatio cloud services] > [Data enrichment] folder and open the needed system settng.
3. In the [Default value] field, enter the maximum number of communication options to display in the data enrichment window.

As a result, Creatio will limit the number of communication options of this type displayed in the data enrichment window.

SEE ALSO

- How to enrich the account data from the open Internet sources

Receiving account information from Facebook

Integration with Facebook allows you to maintain the information about accounts stored in the system.

Run the [Update with social networks data] action to receive additional information about an account. To run the action, specify the Facebook account on the [Communication option] detail of the Creatio account page.

CONTENTS

Connecting an account to their Facebook account

1. On the account page, expand the [Communication options] detail and click the button.

   NOTE

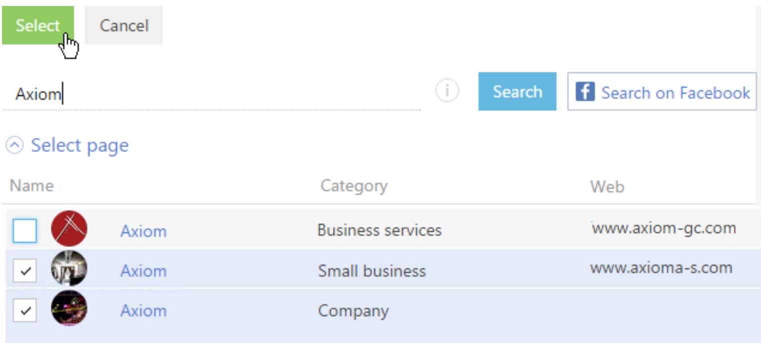
   If you have not used Facebook integration before, when you click the button, the Facebook authorization window will open.

   NOTE

   To add one more communication option with the "Facebook" type to the existing ones, click [Add] —> [Social networks] —> [Facebook].

2. The displayed Facebook page will contain the list of public pages that meet the search criteria. You can change the search criteria or enter the link to the account page in Facebook if it is known.
3. Select the Facebook accounts to add to the detail (Fig. 174).

Fig. 174 Selecting the public pages of a Creatio account

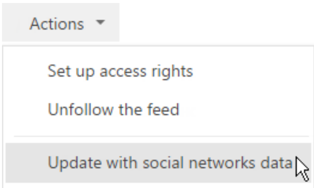


As a result, a new record with the "Facebook" type will be added to the [Communication options] detail.

Populating an account page with Facebook information

4. On the account page, expand the [Communication option] detail. Make sure that the detail contains the needed Facebook pages of the account.
5. Select the [Update with social networks data] option from the [Actions] menu (Fig. 175).

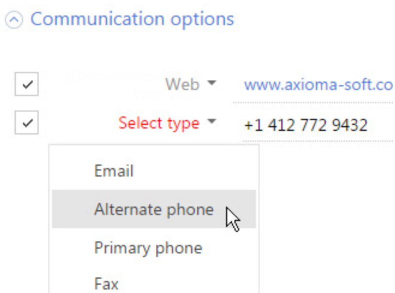
Fig. 175 Selecting the [Update with social networks data] action



The displayed page will contain the account data stored in Creatio and the information from all Facebook public pages that are specified on the [Communication options] detail of the account page.

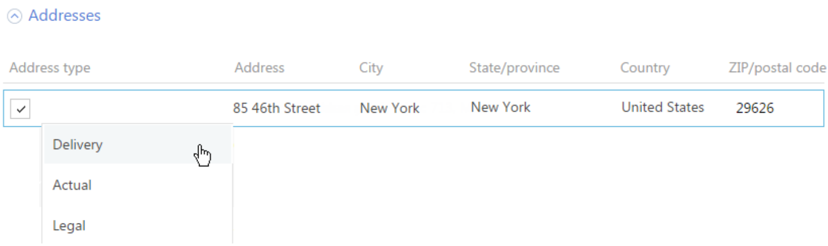
6. Analyze and select the data to add to the existing account information:
   a. On the [Communication options] detail, select the communication options to be saved in Creatio. To add a phone number, specify its type, for example, "Primary phone" or "Extension number" (Fig. 176).

Fig. 176 Selecting a communication option type



   b. On the [Address] detail, enter the value in the [Address type] field. If necessary, edit the following fields: [City], [State/province] and [Country] (Fig. 177). Select the addresses to be saved in Creatio.

Fig. 177 Selecting an address type



c. Edit the information on the [Noteworthy events] detail by specifying the event type, for example, “Company foundation day”.

d. If necessary, edit the [Notes] detail.

7. After you edit and save all the needed data from Facebook, click the [Save] button on the page.

   As a result, the information will be added to the corresponding page details.

   ATTENTION!

   On the population page, if you deselect the information that has been previously added to Creatio, this information will be deleted from the account page after the data population is completed and the changes are saved.

Fields completed in Creatio from a Facebook page

Let's review the list of fields that can be populated in Creatio based on the data from Facebook. Fields of the public page that can be mapped to the Creatio fields are located on the [About] tab of the Facebook public page and are described below.

Facebook field	Creatio field
Website	Web is saved on the [Communication options] detail.
Phone	To save a phone number, in Creatio, specify its type, for example, “Business phone“ or “Mobile phone“. is saved on the [Communication options] detail.
Email	The email address. is saved on the [Communication options] detail.
Start Date	The start date is saved on the [Noteworthy events] detail.
Address	The address. is saved on the [Addresses] detail.
Short Description	Notes are saved on the [Attachments and notes] detail.

SEE ALSO

- Facebook integration setup (for “on-site” Creatio applications only).

Approvals

Creatio enables the users to submit records for approval by other users who can choose to approve or reject the record. There are two types of approvals based on who the approver is:

- Approval by a specific employee, for example, a department manager.
- Approval by an employee of the specific role (user group), such as "Finance department", "Administration", etc.

NOTE

To submit one record for approval to several employees, create an approval for each of them.

By default the approval functions are available in the [Contracts], [Invoices], and [Orders] sections. You can enable approving in any section.

How to approve a record

If someone has submitted a record for your approval, you can approve, reject or forward it to another employee. You can manage your pending approvals with the help of:

- The notification center on the communicational panel. Read more >>>
- The [Approvals] tab on the section record page. Read more >>>
- The action panel of the record page. Read more >>>

CONTENTS

How to set up approvals

To set up approvals in a section:

- Enable the approval function in the section wizard.
- Set up approving process in the in the process designer or case designer.

How to enable approving in the section

1. Select the [Open section wizard] option from the [View] menu in the list of the corresponding section.
2. Select the [Enable approval in section] checkbox on the [Section] tab.
3. Save the changes. Saving may take some time.

As a result:

- The [Approvals] tab will appear on the section record pages (Fig. 178). You may need to refresh the record page to display the tab.
- A new tab will appear in the notification center for approvers where they can view pending approvals and process them (Fig. 179).

NOTE

Enabling approvals in the section wizard will not automatically create a business process or case for approving. You will need to set up the process or case manually.

ATTENTION

After enabling approving in section it is not possible to clear the [Enable approval in section] checkbox. If you do not use this function, delete the [Approvals] tab from the section page. Read more >>>

Fig. 178 [Approvals] tab on the [Documents] section record page

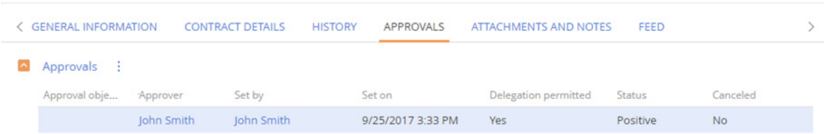
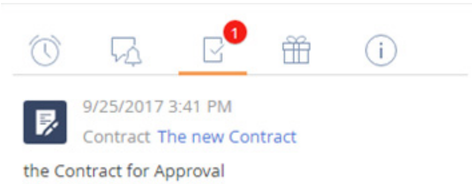


Fig. 179 Tab with the approval notifications



How to set up the approving process

Depending on the specifics and complexity of your approval process, you can set up your approval sequence in:

- the process designer
- the case designer.

If the approval process is complex and has several stages, use the **process designer**.

If the approval process is simple and has no complex conditions and transitions, or if it does not have a set sequence and is difficult to structure, use the **case designer.**

NOTE

More information about setting up the section cases can be found in the process setup documentation.

- If you set up approvals in the case designer, the approval will be created automatically when a corresponding case stage is activated.
- If you set up approvals in the business process designer, user the [Approval] business process element to specify the approval's behavior.

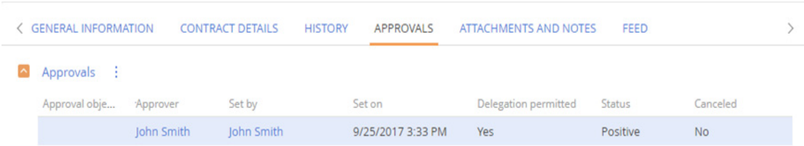
[Approvals] tab

The [Approvals] tab is displayed on the record page if the approvals are enabled in the section (Fig. 180).

NOTE

By default the tab is available in the [Contracts], [Invoices], and [Orders] sections. Adding the tab to another section can be preformed in the section wizard. Read more >>>

Fig. 180 [Approvals] tab on the record page.



The [Approvals] detail contains information about all approvals created for the current record.

Approval objective	Purpose of the approval. The field is populated once the approval is created.
Approver	An employee or a specific role that was specified as an approver when the approval was created. If a role is selected instead of specific user, any employee who is a member of the organizational role can process the approval. The field is populated once the approval is created.
Set by	Name of the employee who processed the approval.
Set on	Date and time when the approver processed the approval.
Delegation permitted	If this checkbox is selected, the approver can forward the approval to another employee or a group.
Status	Approval result, (“Positive”,“Negative”, etc). If the approval has not been processed yet, it has the “To set” status.
Delegated from	Name of the employee who forwarded the approval. This field is populated if the approver choses to delegate the approval. For example, initially, a sales department manager is specified in the [Approver] field. If the approval is later delegated to the finance department, the [Delegated from] field will be populated with the name of the sales department manager.
Canceled	The checkbox indicates that the approval has been canceled and another approval is valid at the moment. You cannot cancel an approval manually, the checkbox is selected and cleared automatically, according to the business logic of the approval process. For example, Creatio can automatically select the [Canceled] checkbox for the current approval if the other approval of the same record from the same approver has the “Negative” status.
Notes	Approver’s comments about the approval result. The field is filled in once the record is approved or rejected.
Waiting for my approval	The checbox enables filtering the approvals with the [Canceled] checkbox cleared, whose approver is the current user.

Approving actions

Use additional commands in the actions menu of the [Approvals] detail to manage approvals.

[Show all approvals]/[Show active approvals] – displays all approvals for the record, or only those for which the [Canceled] checkbox cleared. By default, it displays active approvals only.

[Approve] – sets the approval with a positive result. After you confirm the action, the approval status will be changed to "Positive".

> NOTE
> By default, the approval comments are optional. You can make the [Comment] field required by editing the [Accept approval without comment] system setting.

[Reject] – sets the approval with a negative result. Select this action to open an additional window for entering approval comments. After you confirm the action, the approval status will be changed to "Negative".

[Change approver] – changes the employee assigned as approver. The action is available for approvers if the [Delegation permitted] checkbox is selected for the approval and the [Delegated from] field is not filled in. This action opens a list of users and user groups that comprise the organizational structure of your company. The user selected in this list will be specified in the [Approver] field, and the current user will be specified in the [Delegated from] field.

[Delete] – deletes the selected approval. Requires administrator privileges. An approval can only be deleted after being approved/rejected by the approver or if it is canceled.

The [Approve], [Reject], and [Change approver] commands can be used for approvals in the "To set" status. The [Canceled] checkbox should be cleared.

Approval notifications

You can enable approval's email notifications in the properties of the [Approval] element in the business process or case.

The command line

Use Creatio **command line** (the field labeled "What can I do for you?") to quickly access the frequently used operations, such as opening a record page or running a business process.

The command line is similar to the search line of web search engines. For example, enter the name and click > button or press the [Enter] key, to find a contact record.

Execute other commands in the same way. For example, enter the command "Create Contact" to instantly open a new contact page or "Run Process" to launch the corresponding business process. The command line can recognize several variations of the same command. For example, both the "Create Contact" and the "Add Contact" are both valid commands.

If you enter a partial command, the system will offer you a list of several options. For example, if you enter "Create A", the system will offer the following options: "Create Account" and "Create Activity".

CONTENTS

Global search

You can search the system data by entering a search query in the command line. Creatio always searches in all sections (including custom sections).

> **NOTE**
> On-site users need to perform preliminary registration of the global search. Learn more in the "Global search setup" article.

How to search

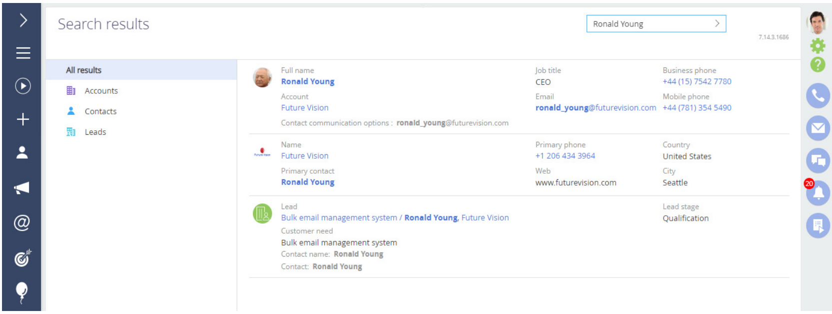
- The records are searched by their text and lookup fields as well as the following details: [Addresses], [Communication options] and [Banking details]. For example, you can find an account by its alternative name, phone number, address or account number.
- Files and links on the [Attachments and notes] tab of the record page can be found by their name or description.
- Search requests are processed taking into account common typos and morphology of different word forms in English (other languages are not currently supported). The query is not case-sensitive. You only need to enter the search text, for example, contact last name or the name of the knowledge database article. For a more accurate search, add more details to your search query, for example, "ronald young director future vision".

> **NOTE**
> To include certain section's data in global search results, open the section wizard for the necessary section and select the [Indexing for full-text search] checkbox. Learn more about indexing in the "How to configure section properties" article.
> Indexing is enabled in the following sections by default: [Contacts], [Accounts], [Employees], [Knowledge base], [Leads], [Opportunities], [Products], [Orders], [Invoices], [Contracts], [Documents], [Projects], [Services], [Service agreements], [Configuration] (advanced settings), [Cases], [Problems], [Changes], [Campaigns], [Events] and [Marketing plans].

How the search results are displayed

The search results are displayed as a list of records containing the text of the search query or a part of it. The text that matches the search query is highlighted in bold for each found record (Fig. 181).

Fig. 181 A list of search results



The results are ranked by relevance both in the actual results list and with any configured filters. For example, if the search is performed from the [Contacts] section the records of this section are displayed at the beginning of the list, and records from other sections of the system will be displayed below. For example, if you set up a filter by contact on the search result page, contacts with matching names will be displayed at the top of the list.

If a user does not have permissions for a specific object column, e.g., for viewing an invoice amount, such column is not displayed on the page of global search results.

NOTE

The rules for displaying search results are determined using the [Global search default entity weight] and [Global search default primary column weight] system settings.
To display search results taking morphology, typos and fuzzy matches into account enable the [Display search results with partial match] system setting.
To manage the amount of displayed search results with partial match and increase the chances of finding data for inaccurate search requests, set a value for the “Match threshold for displaying in search results (percent)” system setting.
System settings are described in more detail in “The [System settings] section” article.

Example: searching contacts by phone number

Lets find a contact by its phone number.

1. Enter the phone number in any format in the command line. You can enter only part of the number, with or without special delimiter characters.
2. Click the > button or press the [Enter] key.

   After processing the search query, a list of results will be displayed with the contact you were looking for at the top of the list and other records that contain the entered phone number afterwards.

SEE ALSO

- Navigation in the system
- Creating records
- Business process launch

- The command line setup
- Global search setup

Navigation in the system

You can use the **Go to section** command of the command line to quickly display contents of any folder in any section. For example, while working with the [Activities] section, you can easily open the "Customers" folder in the "Accounts" section. To do this, enter the command: "Go to section Accounts Customers".

When you enter the command, the drop-down list will display commands for opening other folders in that particular section.

SEE ALSO

- Global search
- Creating records
- Business process launch
- The command line setup

Creating records

To create records from the command line, use the **Add** command. When you enter it, the drop-down list will display commands for creating records in various sections, such as "Add Activity", "Add Contact", etc.

The name of the new record can also be specified as part of the command. For example, enter "Add Contact Jones" in order to create a contact whose last name is "Jones". As a result, a contact page will be opened containing "Jones" in the [Full name] field.

SEE ALSO

- Global search
- Navigation in the system
- Business process launch
- The command line setup

Business process launch

To start a business process, enter the **Run process** command and the process name in the command line. For example, if there is a "New employee registration" process set up in the system, enter the "Run process New employee registration".

> **NOTE**
> The list of processes available for selection in the command line is defined in the [Process library] section. Managing your business processes is described in a separate book.

SEE ALSO

- Global search
- Navigation in the system
- Creating records
- The command line setup

The command line setup

To create new commands for the command line, enter: Add Custom command. You can specify the command text (for example, "My tasks"), select the key word (for example, "Go to section") and then stipulate additional parameters depending on the selected key word (for example, you can choose the [Activities] section and dynamic folder "My tasks").

Key words represent types of operations that can be performed by the command line.

- Search – for finding records.
- Go to section – for navigating through sections and folders.
- Add – for creating records in system sections.
- Run process – for launching a business process.

NOTE

If any objects were configured in the system, for example, new sections were renamed or added, then to make them appear in the command line, you must perform the action "Generate metadata for command line macros" in the system settings page. This action is available by clicking the button in the right upper corner of the advanced settings page.

SEE ALSO

- Global search
- Navigation in the system
- Creating records
- Business process launch

VIDEO TUTORIALS

- Creatio inetrface overview

User profile

The profile page is used to set up individual settings for current user.

There are several ways to open the user profile page:

- Choose the [User profile] option from the main menu.
- Click the [Profile] link on the home page.
- Click the profile picture at the top right corner of the window and select [Your profile].

Change password	Click this button to change your account password in Creatio. You will need to re-enter current password.
Localization	Select the interface language. This affects only common interface captions and does not change the language of the section records and lookup values.
Time and date format	Time and date format For example, when you select the "Brazilian (Brazil)" time format, the date will be displayed as dd.mm.yyyy, 00:00 and if you select "English (USA)" — mm/dd/yyyy 00.00 PM The time and dates on record pages both in the list and in the exported files are displayed in the format specified in the user profile.
Time zone	Select the default time zone. The list of available time zones is configured in the [Time zones] lookup.
The command line settings	Set up the list of additional commands recognized by the Creatio command line, for example, commands that are used for viewing a list of your tasks or any other group of records. These commands are custom so they are only available for the users who added them.
Configuring the Call Center parameters	Configure agent’s telephony parameters, such as telephony server address, phone line, login and password.
Email accounts	To send and receive email messages in Creatio, set up the parameters of your email accounts using the [Email accounts] button. Here you can also view the number of new messages that has been received in each of your mailboxes.
Accounts in external resources	You can synchronize Creatio contacts with your Google contacts, as well as Creatio tasks and meetings with your Google calendar. Facebook and Twitter can be used to search for additional data and contacts within your social networks.
Restore default settings	Restore default interface settings, such as column layouts in section lists, parameters for sorting records, etc.

NOTE

The system automatically saves custom interface settings, such as list columns layout, parameters for sorting records, etc. For each section, it also saves the information about active system views (sections will open in the views that were selected for them previously).

NOTE

The list of available time zones in the [Time zones] lookup must match the list of time zones set up on the production server with the deployed Creatio.

SEE ALSO

- Phone integration
- Integration with email services by the IMAP/SMTP protocol
- Integration with the MS Exchange service
- Integration with Google services
- Integration with social networks

VIDEO TUTORIALS

- Creatio inetrface overview

Working with emails

Email integration features in Creatio enable you to enrich the history of your cooperation with customers. The emails that you receive will be automatically bound to other objects in Creatio. You can create and manage emails and run business processes by email directly in Creatio.

NOTE

To receive and send emails in Creatio, you need to set up the email provider connection parameters, add an email account and set up mailbox synchronization. If your email provider uses IMAP/SMTP protocol, you will need to set up the integration with the mailbox by IMAP/SMTP protocol. There are pre-configured providers for popular email services, such as Gmail, Yahoo and AOL mail. If you use the MS Outlook email service, set up the integration with MS Exchange.

Open the **email area** by clicking the  button on the communication panel. The button counter displays the number of unread email messages.

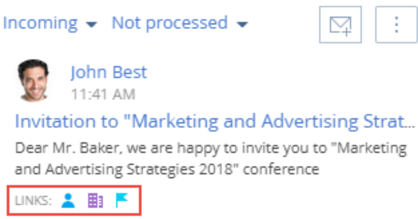
At the top of the [Email] tab on the communication panel you can see filters and buttons for managing emails (Fig. 182). You can:

- Create a new email-message. Read more >>>
- Add a new account and set up your mailbox. Read more >>>
- How to upload emails to Creatio Read more >>>
- You can filter your mails, for example, display only the outbound or unprocessed email messages.

Fig. 182 Filters and buttons for managing emails

Email messages are displayed as a list. You can see the sender's data, time of sending, email subject and the initial text in every email. At the bottom of each email you can see the icons of all bound objects (Fig. 183). You will understand what Creatio records your email is bound to and what additional data you have at a single glance.

Fig. 183 Displaying of email bound objects on the communication panel



NOTE

You can learn more about how to bind email messages to other Creatio objects automatically or manually in separate articles.

How to set up automatic binding of emails to other Creatio objects. Read more >>>

How to bind emails to Creatio records manually. Read more >>>

CONTENTS

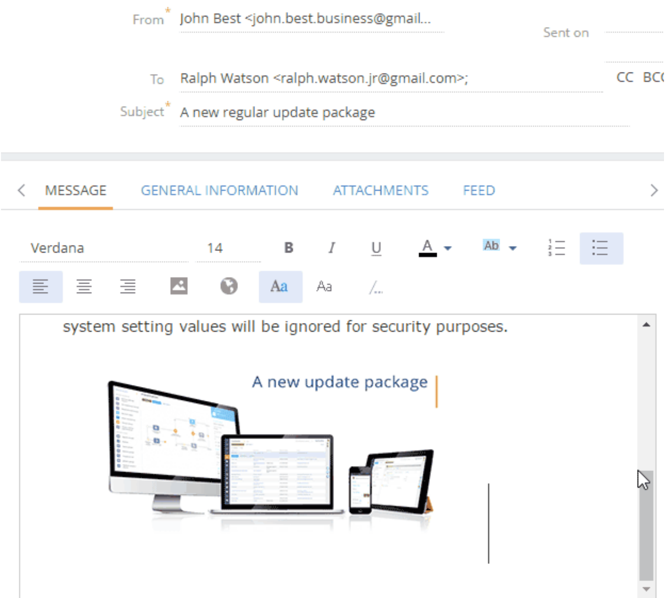
SEE ALSO

VIDEO TUTORIALS

How to create a new email from the communication panel

1. Click the button on the communication panel.
2. To create an email, click the button.
3. On the email page, populate the required fields:
    a. In the [From] field select the mailbox to use for sending this email. If you configured an email signature, it will be added to the text area.
    b. Specify the recipient's email.
    c. If necessary, click the [Cc] and [Bcc] buttons to display the [Carbon copy] and [Blind carbon copy] fields.
    d. Specify the subject of the message.
    e. Enter the body of the email.
    f. To add an image to the email body, paste it from the clipboard or drag-and-drop the image to the email text (Fig. 184).

Fig. 184 Using the drag&drop feature to add an image



4. Click the [General information] tab.
   a. Populate the standard activity fields (such as [Show in calendar], [Start], [Due], etc.) if the email must be displayed as a calendar activity.
   b. If the email is bound to other Creatio objects, such as accounts and documents, populate the corresponding fields in the [Connected to] field group.
5. To add an attachment, click the [Attachments] tab of the email page.
   a. Click the [Add file] button.
   b. In the opened window, select the file to attach.

NOTE

By default, the maximum size of an attachment is 10 MB. You can change this value in the "Attachment max size" (MaxFileSize) system setting.

6. Click the [Send] button.

   As a result, the email will be sent from the mailbox, specified in the [From] field to the addresses specified in the [To], [Cc] and [Bcc] fields. The email sending status will be changed to "Completed".

SEE ALSO

- How to create a new email based on a template
- How to upload emails to Creatio
- How to set up a personal mailbox

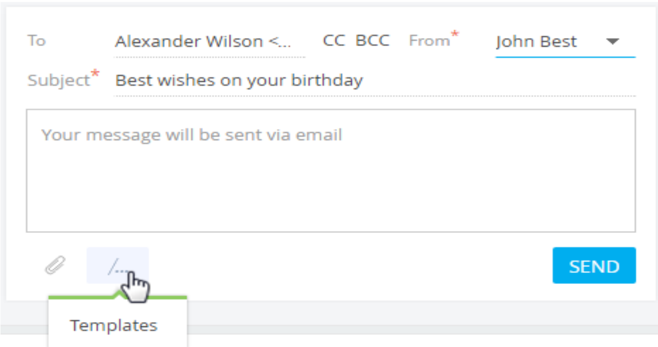
How to create a new email based on a template

You can use email templates when sending emails with the action panel button. The action panel is available in several system sections, such as [Contacts], [Accounts], [Leads], etc.

To create an email based on a template:

1. Click the button on a record page action panel.
2. In the email message area, populate the needed fields ([From], [To], [Subject], etc.).
3. Instead of entering a message text, click the [/...] button to open template lookup (Fig. 185).

Fig. 185 Selecting a template for an email



4. Select the needed template.

NOTE

The template list displays the records from the [Email templates] lookup. If you are creating an email from a contact page, the list displays only those templates that have the “Contact” specified as a source of macros, as well as any templates that have no source specified at all. Same applies to accounts, leads, etc.

As a result, the text of selected template will be added to email. Macros, such as recipient’s name and sender’s name will be highlighted in the text.

5. Edit the template text, if needed, and click the [Send] button.

NOTE

Email templates are available only when sending emails from the action panel. Email templates are not available when creating a message through the communication panel, or from the [Communication options] detail on pages of certain Creatio sections.

You can add and modify templates in the [Email templates] lookup. The content designer is used for creating and editing email templates.

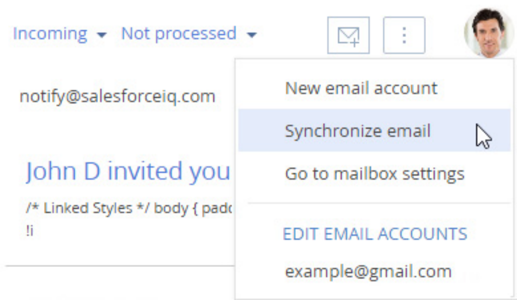
SEE ALSO

- Content designer

How to upload emails to Creatio

1. Click the button in the communication panel.
2. From the menu, select the [Synchronize email] option (Fig. 186).

Fig. 186 Synchronizing email



As a result, emails will be downloaded from the synchronized email server folders. Email attachments will be automatically added to the [Files] detail of the [Attachments] tab.

NOTE

You can set up periodic synchronization of the email account using synchronization setup page.

SEE ALSO

- How to process emails
- How the fields are populated for downloaded emails
- How to set up a personal mailbox

How to process emails

An email is considered **processed** if either the [Account] or [Contact] is specified and at least one of the connection fields, for example, [Opportunity] or [Contract], is filled in.

NOTE

Emails in which the [Contact], [Account] and [Case] fields were automatically populated are not processed.

When uploaded, the emails are processed **automatically** according to the email binding rules. For example, if the subject of the email contains an invoice number, this email will be automatically connected to the corresponding invoice. Read more >>>

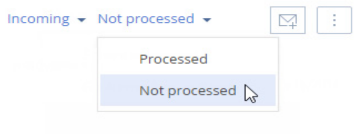
NOTE

An email is considered processed if the [Needs processing] checkbox on the email page is cleared. The checkbox is selected/cleared automatically.

The emails that were not processed automatically require **manual** processing. To process an email:

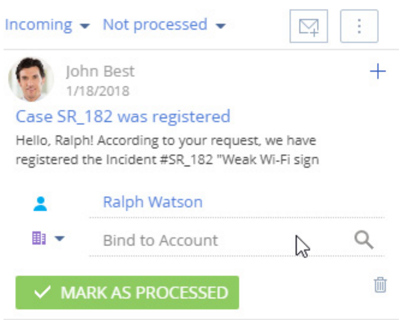
1. Display the unprocessed emails by selecting the [Not processed] filter (Fig. 187).

Fig. 187 Filtering emails



2. Select the email to process (Fig. 188).

Fig. 188 Selecting an unprocessed email



3. Bind an email to Creatio records. More information about binding emails is available in a separate article.
4. Click the [Mark as processed] button.

   As a result, this email will no longer be displayed in the list of unprocessed emails and the [Needs processing] checkbox on its page will be cleared. To view the list of processed emails, select the [Processed] filter in the filter area.

SEE ALSO

- How to upload emails to Creatio
- How the fields are populated for downloaded emails
- How to set up rules for binding emails to other Creatio objects automatically
- How to bind emails to Creatio records manually
- How to create a new record in a section based on an email message.
- How to set up a personal mailbox

How to run a business process by email

You can set up the list of business processes involved in the email management. For example, if a customer expresses interest in your products in his email, a new lead has to be created, if the email contains a request or a question, the system has to register a case.

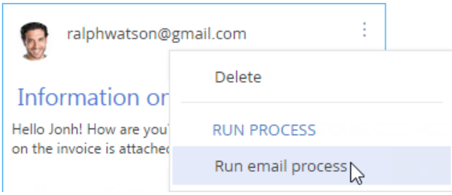
NOTE

Detailed descriptions of the business process automation is available in the Creatio business process documentation.

To run a business process by email:

1. Click the button on the communication panel.
2. Select the email to run the business process by.
3. From the menu, select the process to run by the current email (Fig. 189).

Fig. 189 Running a process by email



As a result, the business process will be run by the selected email.

NOTE

To display the business process in the menu of the email, add the “Email Process” tag, as well as a parameter with the “RecordId” code and the [Unique identifier] data type in the business process parameters (see business process documentation for more information).
You can change the tag using the “Email processes tag“ (EmailProcessTag) system setting.

SEE ALSO

- How to process emails
- How to set up a personal mailbox

How the fields are populated for downloaded emails

Each time an email is downloaded, Creatio automatically performs initial email processing.

1. The **[From] field value** is associated with the communication options of contacts and accounts registered in the system. If the match is found, the [Account] and [Contact] fields on the email page will be automatically filled in.
2. If no match is found, the system analyzes the **values in the [To], [Cc] and [Bcc] fields**. Then, if the match is found, the [Account] and [Contact] fields on the email page will be automatically filled in.

NOTE

When matching the [To], [CC] and [BCC] fields with contact communication options, any contacts connected with Creatio user records will be ignored.

3. Creatio also verifies the **rules for binding emails to other Creatio objects**. For example, if the email subject contains an invoice number, the email will be automatically bound to the corresponding Creatio invoice. Read more >>>

The emails uploaded to Creatio will be populated as follows:

Creatio field name	Email message field name
From	Values of the corresponding email fields.
To	
Cc	
Subject	
Body	Message body.
Start date	Date and time when the email was created in the mailbox.
Due	
Author	User that received this email message.
Owner	
Status	The “Completed” value.
Priority	It is populated depending on the email importance, for example, “Average”, “High”, or “Low”.
Email status	The “Sent” value.

SEE ALSO

- How to process emails
- How to set up rules for binding emails to other Creatio objects automatically
- How to set up a personal mailbox

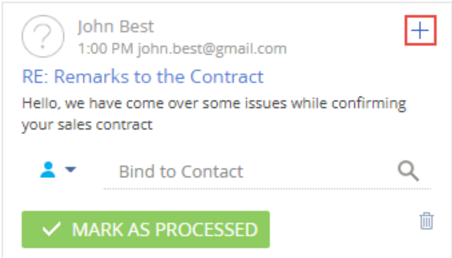
How to create a new record in a section based on an email message.

You can create a new record in any Creatio section based on an email message from the communication panel. For instance, you can add a new contact based on an email from an unknown sender. His email address and name will be automatically filled in on his edit page with the data from the linked email message. If you add another record (i.e., an opportunity, invoice or an order), Creatio will automatically populate its corresponding fields on the edit page with the contact data from the email message. Thus when you create a new opportunity the field [Customer] on the opportunity edit page will contain the name of the account or contact.

Below is an example of creating a new record based on an email message for a contact.

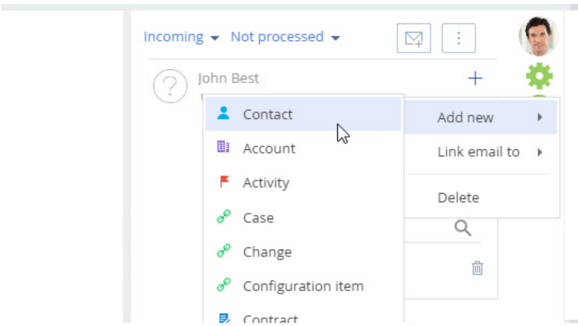
1. Click the button on the communication panel.
2. Select an email message.
3. Click the + button in the top right corner of the email message and select [Add new] command (Fig. 190).

Fig. 190 Adding a new record based on an email message in the communication panel



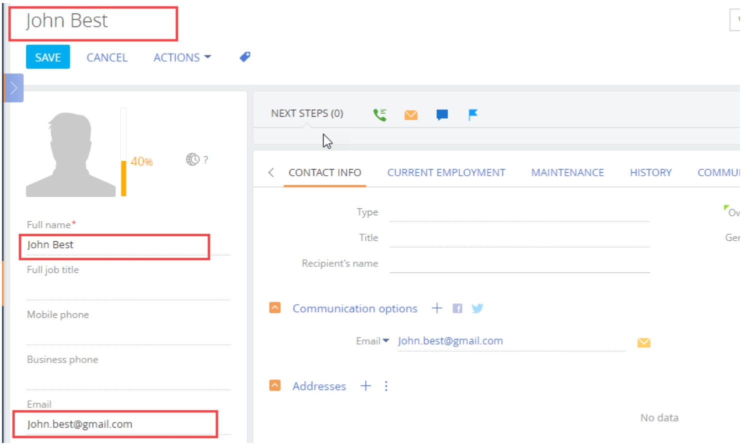
4. Select an object (the type of Creatio record to create) from the menu, for example, "Contact" Fig. 191).

Fig. 191 Selecting the type of Creatio record to create



5. A new contact edit page will be created, its [Name] and [Email] will be populated with the email message data. You can modify the entered data manually before saving the changes (Fig. 192).

Fig. 192 Page of the contact, created from the email message



As a result, a new record based on the email message data will appear in the [Contacts] section .

SEE ALSO

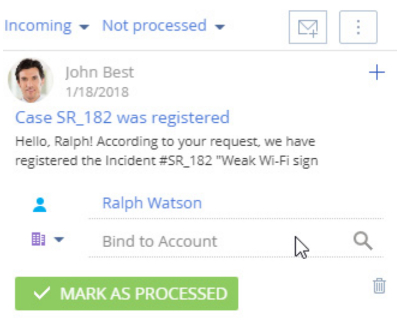
- How to process emails
- How to bind emails to Creatio records manually
- How to set up rules for binding emails to other Creatio objects automatically
- How the fields are populated for downloaded emails
- Working with emails FAQ

How to bind emails to Creatio records manually

You can bind email messages to other records manually:

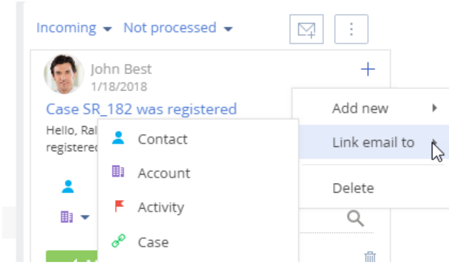
- By using a special email field where you can specify a Creatio record to bind (Fig. 193).

  Fig. 193 Binding an email message to another record using email message fields



- By clicking the + button in the top right corner of the email message (Fig. 194).

Fig. 194 Binding an email message to another record using the + button

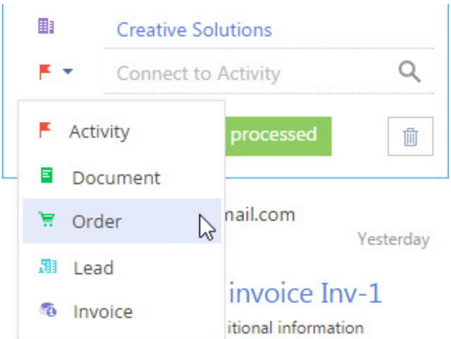


- By using the [General information] tab of the email message page. To open the email message page, click its subject.

To bind an email message to a Creatio record:

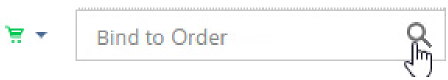
1. Click the button on the communication panel.
2. Select the email message that needs linking to another record.
3. Click the and select the necessary object, such as “Activity” (Fig. 195).

Fig. 195 Selecting an object (Creatio section) to link an email to one of its records



4. Select the record to link the email to in the lookup field. (Fig. 196).

Fig. 196 Binding an email to a Creatio account



As a result, the bound email message will be displayed in the [History] tab of the activity page.

You can also bind an email message to other Creatio records using the + button in the top right corner of the message. To do this:

1. Click the + button and select [Link email to] command (Fig. 194).
2. From the displayed menu, select an object, for example, “Account”.
3. In the opened window, select the necessary account from the lookup.

The two methods of binding emails to Creatio records work identically.

SEE ALSO

- How to process emails
- How to create a new record in a section based on an email message.
- How to set up rules for binding emails to other Creatio objects automatically
- How the fields are populated for downloaded emails
- Working with emails FAQ

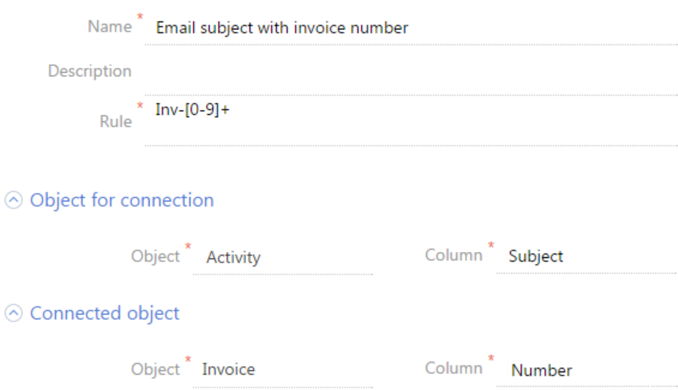
How to set up rules for binding emails to other Creatio objects automatically

To bind an incoming or outgoing email to other Creatio objects, set up the binding rules in the [Rules for connecting emails to system sections] lookup. For example, if the email subject contains an invoice number, the email will be automatically bound to the corresponding Creatio invoice.

To set up the binding rules:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Click the [Lookups] link in the [System setup] block.
3. Open the [Rules for connecting emails to system sections] lookup.
4. On the lookup page, click the [Add rule] button or open an existing rule for editing.
5. On the displayed page, populate the required fields (Fig. 197):

Fig. 197 Setting up the binding rules



a. Specify the **rule name**, for example, “Email subject with invoice number”.

b. In the [Rule] field, enter a regular expression that would match the subject text, such as the invoice number prefix.

CASE

For example, if the following invoice auto numbering format is set up as follows: Inv-1, Inv-2, Inv-3, ..., Inv-n, the regular expression is: Inv-[0-9]+. As a result, when the following email is received - “Additional information for Inv-53“, Creatio will automatically verify whether the specified invoice exists. If the invoice is found, the [Invoice] field on the email page will be populated with the corresponding value.

NOTE

To ensure the correct connection between emails and Creatio records, set up different auto numbering patterns for different objects. For example, the auto numbering mask for invoices is "Inv-{0}", for orders – "Ord-{0}", for contracts – "Cont-{0}", etc. In Creatio the record auto numbering is set up using the system settings.

c. Populate the **[Object for connection] field group**. To automatically bind emails to Creatio objects, select “Activity“ in the [Object] field. In the [Column] field, specify the field to bind by. Creatio matches emails based on their subjects. Use the [Subject] column for indicating the subject.

d. Populate the **[Connected object] field group**. In the [Object] field, select the Creatio object, such as “Invoice“. In the [Column] field, select the column for which the search is done. In this case, the column is [Number].

6. Save the rule.

7. Similarly, add the rules for other sections.

As a result, the message subjects will be checked according to the configured rules each time an email is downloaded or sent from Creatio. If the match is found, the connection fields will be automatically populated. In addition, such messages will be automatically considered processed.

SEE ALSO

- How to set up a personal mailbox
- How to process emails
- How to bind emails to Creatio records manually
- How the fields are populated for downloaded emails
- Working with emails FAQ

Setting up sending localized emails

Localized email templates in Creatio enable you to send emails to your customers in their native language. This function is used when sending template-based email messages from the action panel, communication panel, as well as when sending notifications on business processes.

Perform the following steps to set up sending localized emails:

- Set up the languages that will be used for your communication with customers. Read more >>>
- Set up localized email templates. Read more >>>

Setting up languages for contact communication

The preferred language is specified on the corresponding [Contact] page. It is the language used for sending notifications to the contact. It does not depend on the interface languages configured for user operation or the default language. The **[Customer languages]** lookup values are used to specify languages and generate multilingual templates.

- Only the languages with the [Is used] checkbox selected in the [Customer languages] lookup are available for selection on the [Contact] page.
- By default, all languages listed in the lookup are available for usage in email templates. If you add inactive language to a template, the [Active] checkbox will be selected for this language in the [Customer languages] lookup.

The deactivated language becomes unavailable in the [Preferred language] field menu on the contact page, but is still displayed if it was specified earlier. The email template tab in such language is hidden, but emails will still be sent if this language is specified on the contact page.

If you reactivate a language, all the earlier created templates will be displayed in the lookup.

Setting up localized email templates

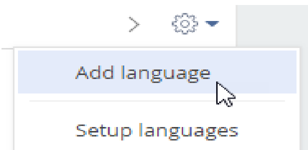
You can set up localized email template in the [Email templates] lookup or in the content designer.

To create a localized template:

1. Open the [Email templates] lookup in the [Lookups] section of the system designer.
2. Select the template to which you want to add localizations.
3. Click the button. In the menu, you will see all languages with the [Active] checkbox selected in the [Languages] lookup. Select a template language you want to add.

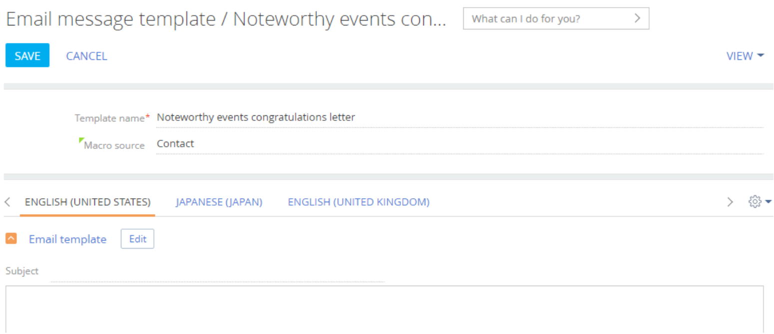
   If there are no active languages in Creatio yet or you want to add a tab with the language that has not been activated, select the [Add language] menu option (Fig. 198) and select the template language you want to add in the opened window. The [Active] checkbox for this language will be selected automatically.

   Fig. 198 Adding languages to the template

4. After you select the language, Creatio will prompt to copy the content of an existing template to the added tab. Select this option if you need to use the configured layout for the added localization.
5. If you need to add several languages into a template, reproduce steps 3 and 4 for each localization. As a result, several tabs for creating emails in the selected languages will be displayed on the template page (Fig. 199).

Fig. 199 Localized email template



6. Select the necessary tab and enter the email subject. To switch to editing the email body, click the [Edit] button. The content designer page will open. You can learn more about creating templates via content designer in a separate article. Similarly you can create emails in every of the selected languages.
7. Save the changes.

NOTE

When copying a multilingual template, all of its saved localizations will be copied.

How to define a language when sending multilingual email messages

To define the language of a template that is sent to a customer Creatio verifies:

1. Whether the preferred language is populated on the contact page.
   - If the field is populated, the template in the specified language will be sent to the recipient.
   - If the field is not populated, Creatio will switch to the next verification stage.
2. Whether the language of mailbox from which the email is sent is specified (only for Creatio service products).
   - If the language of the mailbox is specified, the email in mailbox language will be sent to the recipient.
   - If the language of the mailbox is not specified, Creatio will switch to the next verification stage.
3. Whether the [Default language for messages] system setting is populated.
   - If the system setting is populated, the email in the system setting language will be sent to the recipient.
   - If the system setting is not populated, the email in the system default language will be sent to the recipient.

SEE ALSO

- How to create a new email based on a template
- Working with emails FAQ

- Content designer

Working with emails FAQ

Why do I receive an email notification that login/password is incorrect after mailbox registration?

Email server security settings sometimes block access to mailboxes from third-party applications. If you entered all information correctly during email account registration, but still received a notification about incorrect user name or password, do the following:

1. In the mailbox settings, enable IMAP access. Usually, email forwarding and working with POP/IMAP protocols settings are in a separate settings group.
2. In the email account security settings, enable access to your email account from third-party applications.
3. In most cases, the email server sends users an email about mailbox external connection attempt. In most cases, you can confirm the connection authenticity by following a special link from this email.
4. Repeat the mailbox registration procedure.

How do I set up a custom email provider?

To set up an email provider integration, you need to open ports 25 and 587 on the Creatio application server. On the email provider selection page, click the [Add provider] button, select the provider type and fill out all send/receive settings. Please see dedicated articles for detailed procedures for IMAP/SMTP and MS Exchange email provider setup.

Why no emails can be received in Creatio after successful mailbox synchronization setup?

This may occur if one of the following is the case:

1. An application required custom field was added to the "Activity" object.

   To enable receiving emails, modify the field attributes, making it required on the page level, but not required in the "Activity" object.
2. Emails, received from an IMAP mail server have been downloaded to Creatio and then deleted, or they had been downloaded in any other email client earlier.

   To receive the emails in the system, change the name of the lookup that was created based on the "EmailSynchronizedKey" object to any random name.

How to set up a shared mailbox?

Shared email accounts are used for emailing between the support team and the users. Shared mailbox setup is similar to individual mailbox setup in general, but has a number of additional steps.

Why the outgoing emails are not imported to Creatio?

You can set up import of all emails from your mailbox to Creatio. Alternatively, you can import emails from specific malibox folders only. Check your email account folder settings for email import.

If your mailbox security settings restrict access to certain mailbox folders for third-party applications, these folders will be unavailable for importing in Creatio. To permit access to these folders for third-party applications, modify your mailbox security settings.

Also, in some cases, outgoing emails may not import from MS Outlook, because not all email servers support saving emails sent from third-party applications.

Why do I receive the “Error sending email, please contact system administrator” message when trying to send emails?

This error may be the result of the following:

- Sending emails is restricted on the provider level;
- No connection to SMTP server;
- One of the following ports is closed on the SMTP server: 25, 465, 587.

Contact your system administrator to determine the exact cause of the error and correct it.

I cannot see the [Email] detail in the [Contacts] section. Why?

The [Email] detail is not displayed for contacts who have the “Employee” value specified in the [Type] field, and the “Our company” value specified in the account profile. Use Creatio development tools to modify this logic.

Working with currencies

In Creatio, you can store monetary values in multiple currencies. The values that you enter will be automatically converted to different currencies according to the exchange rates. These functions are available in products with the [Products], [Orders], [Invoices] and [Contracts] sections.

The currencies are used in special "currency fields".

CONTENTS

How to work with currency fields

In Creatio, you can enter monetary amounts in the special **currency fields**. For example, you can specify a product price in a "currency" field.

Currency fields store both the monetary amount and the currency in which this amount is specified. Click a currency field title to view the list of available currencies. The list contains currencies that are available in the [Currency] lookup (Fig. 200).

Fig. 200 Selecting currency from the list in the currency field

NOTE

If the [Currency] lookup contains only one record, the list of currencies in the currency field will be unavailable.

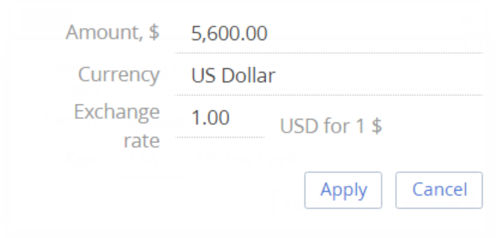
If you change currency in a populated currency field, the amount will be automatically converted to the new value according to currency exchange rates.

NOTE

Read more about how Creatio converts currencies in a separate article.

Clicking the button in the currency field displays an additional edit window (Fig. 201).

Fig. 201 Additional currency field edit window



In this window you can:

- View the equivalent of the specified monetary amount in the base currency in the [Amount] field. This is a non-editable field.
- Change the currency of the monetary amount (will be recalculated automatically).
- Edit the exchange rate of a currency in relation to the base currency, the amount will be recalculated automatically. The new rate will be in effect only for the current record.

  NOTE

  Use the [Base currency] system setting to specify the "base currency". All exchange rates will be calculated according to the base currency.

- View the value of the multiplicity ratio between the specified currency and the base currency when determining the exchange rate.

  NOTE

  When you select the base currency, the [Rate] field is automatically filled in with the "1" value and becomes grayed-out.

To save changes in the additional window, click the [Apply] button or anywhere outside of the currency field edit window.

SEE ALSO

- How is the monetary amount calculated during conversion

How is the monetary amount calculated during conversion

You can work with various currencies in Creatio. The conversion is performed automatically, taking into account the conversion currency exchange rate in relation to the base currency and multiplicity ratio.

- The **base currency** is the currency based on which the rate for all other currencies is set. Use the [Base currency] system setting to select a base currency.
- The **conversion currency** is any other currency to which the money is converted.
- The **exchange rate** determines the conversion currency amount in the base currency.
- The **multiplicity ratio** indicates how many monetary units of the base currency correspond to the set exchange rate.

The exchange rate and ratio of the currency are specified in the [Currencies] lookup (Fig. 202).

The exchange rate of the conversion currency is specified in terms of the base currency taking into account the ratio. Currency rates are automatically re-calculated according to their base currency exchange rates and ratio.

For example if the Yen is the base currency and the USD will have the 56537.3 exchange rate value for the 1000 ratio in the [Currencies] lookup, the exchange rate will be displayed in the additional window of the currency field as 17.6874 USD for 1000 Yen.

Fig. 202 – Possible content of the [Currencies] lookup

Name	Short name	Symbol	Ratio	Rate
Euro	EUR	€	100	107.1300
Yen	UAH	hrn.	100	1.9400
US Dollar	USD	$	1	1.0000
Australian Dol...	AUD	aud	100	79.9600

NOTE

The [Currencies] lookup structure is described in a separate chapter. Use the "Base currency" system setting to select a base currency.

How to set up exchange rates

Set up the exchange rates for proper currency conversion towards the base currency. To do this:

1. Open the [Currencies] lookup.
2. Set the "1" value for the rate of the base currency.
3. Select the currency to set up the rate (for example, euro). Click .
4. On the opened currency settings page, set the ratio, for example "1000".

   NOTE

   For a more accurate calculation of prices during conversion, specify a high ratio for currencies, for example "1000".

5. Specify the exchange rate between the current currency and the base currency in the [Rate] field, considering the ratio. Save the changes.

   CASE

   If the base currency is yen and the euro to yen ratio is 63.9655, specify the "63965.5" as the exchange [Rate] and "1000" as the [Ratio].

6. Repeat steps 3 through 7 for all currencies specified in the lookup.

Update all data in the lookup if the exchange rates are changed,

Calculating exchange rate with ratio.

The following formula is used for calculating exchange rates in Creatio:

```
[Rate]=[Amount in conversion currency]*[Ratio]/[Amount in base
currency]
```

CASE

1000 Japanese yen are worth 0.84 US Dollars. Yen is selected as the base currency and the dollar ratio is 100. The actual conversion is as follows:

```
[Rate]=19.40*100/1000=1.94
```

Thus, when the ratio is 100, the US dollar exchange rate to yen is 1.94

Calculating monetary amounts during conversion

When converting monetary amounts from the base currency into another currency, use the following formula:

```
[Amount in conversion currency]=[Rate]*[Amount in base currency]/
[Ratio]
```

For example, 1,000 yen must be converted to US dollars. Yen is selected as the base currency, the USD / yen exchange rate is 1.94 and the ratio is 100. The actual conversion is as follows:

```
[Amount in conversion currency]=1.94*1000/100=19.4
```

Thus, the amount of 1000 yen is equal to 19.40 USD.

When converting monetary amounts from one currency to another, calculations are made based on the base currency. The following formula is used:

```
[Amount in conversion currency(2)]=[Amount in conversion
currency(1)]*[Ratio(1)]*[Rate(2)]/[Ratio(2)]*[Rate(1)]
```

For example, USD 100 must be converted to euro Yen is selected as the base currency. The dollar / yen exchange rate is 1.94, with the ratio of 100 and the euro / yen exchange rate is 1.73, with the ratio of 100. The actual conversion is as follows:

```
[Amount in euro]=100*100*1.73/100*1.94=89.2
```

Thus, USD 100 is converted to EUR 89,20.

How to calculate the product price in an order

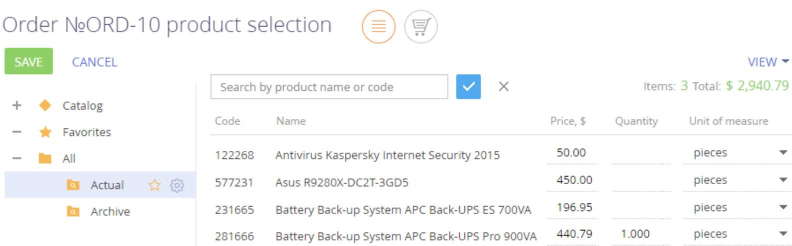
Let's see how the product price is calculated in an order.

CASE

The order currency is yen. Add a product with the price is specified in US dollars to the order. The base system currency is yen, the ratio of US dollar is 100, the product price is USD 14.6.

Click + on the [Products] detail to add products to the order. On the product selection page, all products are priced in the currency used for the order (Fig. 203). In this case, “yen”.

Fig. 203 The order product selection page



For the products with the base price specified in foreign currency, the product price is automatically converted to the base currency according to current exchange rate specified as follows:

```
[Product price]*[Ratio]/[Exchange rate] – 14.6*100/1.5092=967.40
```

As a result, a new product will be added to the detail. The price of the product will be specified in yen. The [Price] and [Total] fields are populated automatically and are not available for editing.

SEE ALSO

- How to work with currency fields
- The [Currencies] lookup

The [Currencies] lookup

This lookup contains a list of currencies used in mutual payments with customers, partners, suppliers, and the like.

Name	[Name] – indicate the name of the currency, for example, "US Dollar" or "Euro".
Code	Specify a banking code that is used for a specific currency, for example, US dollar code is 840.
Short name	Shortened currency name, such as "USD" or "EUR".
Symbol	Currency symbol, such as "$" or "€".
Ratio	Specify the currency amount for which the exchange rate will be calculated (for example, 1, 10, 100).
Description	Additional information about the currency.
Show currency sign	Choose the appropriate option from the drop-down list. Choose [on the left] or [on the right] options to display the sign before or after the amount.

[Exchange rate] detail

Information about exchange rates is stored on the [Exchange rate] detail.

Start	The starting date for the exchange rate. The start date of a new exchange rate is considered the end date of the previous exchange rate.
Exchange rate	Exchange rate between the base currency and the current currency. Enter a value according to the currency ratio, specified in the currency card. The value for the base currency must be set to "1".
End	The ending date for the exchange rate. Populated automatically,when the starting date of new exchange rate is set. This is a non-editable field.

NOTE

The base currency is used to calculate the financial performance indicators, for example, it can be "US Dollar". Use the "Base currency" system setting to select a certain base currency.

SEE ALSO

- Working with currencies

Currencies FAQ

- How to calculate the price of the product in an opportunity, if the base price list is listed in US dollars, and the base system currency is the Yen?
- How the currency conversion is performed in orders?
- Can I use different currencies for an order and its invoices?

How to calculate the price of the product in an opportunity, if the base price list is listed in US dollars, and the base system currency is the Yen?

The price of a product in opportunity is always converted to the system base currency. When the product is added to the opportunity the automatic conversion of the product price to the base currency is performed according to the exchange rate specified in the [Currencies] lookup. The page of a product in the opportunity displays the product price for one unit and total price of products specified in base currency and calculated according to the exchange rate available at the date of the offer. These data will be displayed in the order created based on an opportunity.

If the exchange rate has changed dramatically before order creation, remove the obsolete product data from the opportunity after the agreement with the customer. When you re-add the product to the opportunity, its price and total cost will be recalculated according to the current exchange rate.

How the currency conversion is performed in orders?

Currency conversion in an order occurs when you select or change the order currency. When adding products to the order, their prices will be automatically converted into the currency indicated on the order page at the current exchange rate. In case of changing the currency of an already created order, the prices and the total amount specified on the [Products] tab of the order page will be converted to the new currency. More information about price calculation of the a product in an order described in a separate article.

Can I use different currencies for an order and its invoices?

Yes you can. For example, when selling products or services to foreign customers, you can keep information on products in an opportunity and in order in the base currency and still issue invoices in the corresponding foreign currency at the exchange rate available on the date of invoicing.

SEE ALSO

- How is the monetary amount calculated during conversion
- How to work with currency fields

Managing calls

In Creatio, all base telephony features (for example, receiving incoming calls and making outgoing ones, putting calls on hold and transferring them to another number) are available on the communication panel. To display the [Calls] tab, click the button.

By default, internal calls are available in the system. Set up integration with telephony to enable external calls. To make and receive calls, use a headset.

CONTENTS

- Outgoing call
- Incoming call
- Subscriber identification
- Conversation mode
- Putting calls on hold
- Transferring calls to another number
- Video calls
- Calls history
- Call recording and playback
- Agent status menu

SEE ALSO

- Phone integration setup
- Feature Comparison for supported phone systems

Outgoing call

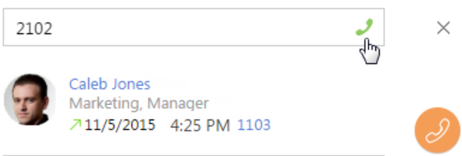
Outgoing call can be made in a number of ways. You can either dial the number manually on the communication panel, make a call using the calls history or click the call button on the contact page.

Manual dial

If you know the telephone number that you want to call:

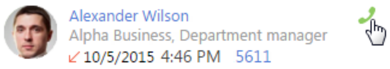
1. On the [Calls] tab, enter the phone number in the tab field and click the call button or press the [Enter] key (Fig. 204).

   Fig. 204 Manual dial



   You can also make a call by clicking the call button next to the name of the needed subscriber in the calls history (Fig. 205).

Fig. 205 Dialing from the calls history



2. Wait for the connection (Fig. 206).

Fig. 206 Outgoing call

3. If the connection is successful, the call will be switched to the conversation mode.
4. To end the call, click the end call button.

Searching a subscriber by name

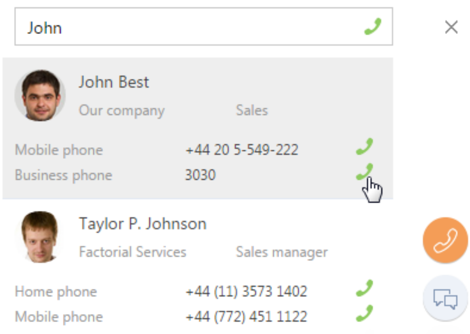
If you know the name of the contact that you want to call:

1. On the [Calls] tab, enter the contact name or a part of it in the tab field. The system will search for contacts whose name contains the entered fragment and will display those contacts on the tab.

   NOTE
   To start searching, enter three or more characters.

2. Find the needed subscriber in the list and click the call button next to the phone number you want to call (Fig. 207).

Fig. 207 Searching a subscriber by name



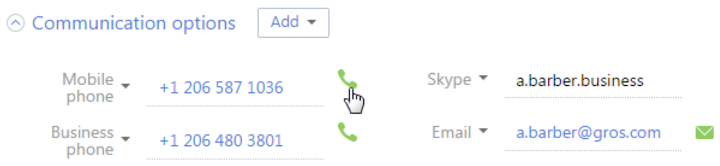
3. Wait for the connection.

Quick dial from record pages and from the list

You can call a contact (an account) from the contact/account page or from the section list.

1. To start a call from the contact page:
   a. On the **Communication options** detail, click the phone number or the call button next to the number you want to call (Fig. 208).

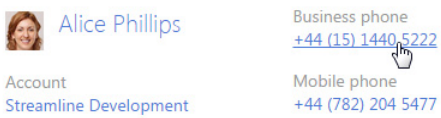
Fig. 208 Quick dial from the record page



   b. Wait for the connection.

2. To make a call from the section list, click the phone number that is displayed as a link (Fig. 209).

Fig. 209 Quick dial from the list



Incoming call

By default, the section is hidden. It expands in the right side panel of the screen when incoming call is received (Fig. 210).

Fig. 210 Incoming call

1. To start the conversation, click the call answer button or pick up the phone if the button is unavailable.
2. To decline a call, click the end call button.

NOTE

The type of the Call Center used in Creatio determines whether the answer button is displayed for an incoming call or not. For example, the answer button is available when working with Oktell Call Centre and is not available when working with Asterisk Call Center. If your telephone network supports this feature, and you would like to use it, open the Call Centre parameters setup page and select the [Enable picking up phone from application] checkbox. The setup page can be opened from the user profile.

Subscriber identification

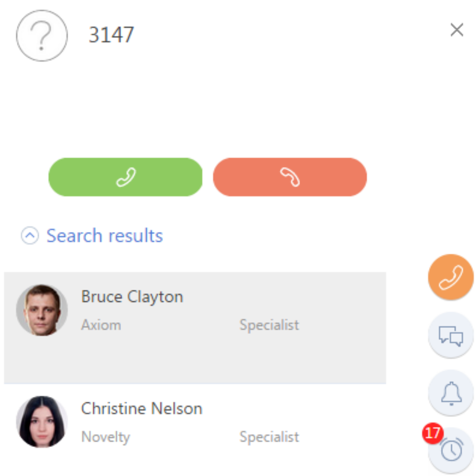
In Creatio, a subscriber is identified by the phone number during both an outgoing or an incoming call.

1. If a subscriber (a contact or an account) is identified by the phone number while calling, the name of the subscriber will be displayed on the call panel (Fig. 211).

Fig. 211 Subscriber identification

2. If the same phone number is specified for more than one contact or account, the list of those subscribers will be displayed on the call panel. To select the needed subscriber, click the subscriber's record in the list (Fig. 212).

Fig. 212 Selecting one of the contacts found by the phone number



3. If you need to change the selected subscriber, open the additional menu next to the subscriber's name and select the [Select another record] option (Fig. 213).

Fig. 213 Selecting another subscriber

NOTE

The information about the selected subscriber will be saved in the call history in the [Calls] section.

If a subscriber is not identified by the phone number while calling, at the end of th call you will be able to create a contact or an account or connect a call to the existing contact or account via the call history.

Conversation mode

Once a call is received, on the panel, it switches from the dial mode to the conversation mode (Fig. 214).

Fig. 214 Conversation mode

To end the call, click the end call button or put down the phone.

Putting calls on hold

While you are on a call, you can put the call on hold so that the subscriber is still on the line but cannot hear you.

Click the  button on the call panel to put a call on hold. Click the  button to resume conversation.

NOTE

The call cannot be transferred or finished when it is on hold.

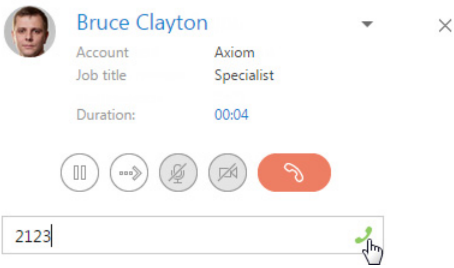
Transferring calls to another number

While you are on a call, you can transfer the call to another phone number. by the following steps:

1. Click the  button on the call panel. An additional field will be displayed. Use this field to enter the phone number that you want to transfer the call to. Also, the calls history will become available on the tab. Use it to transfer the call to a subscriber that you recently contacted.

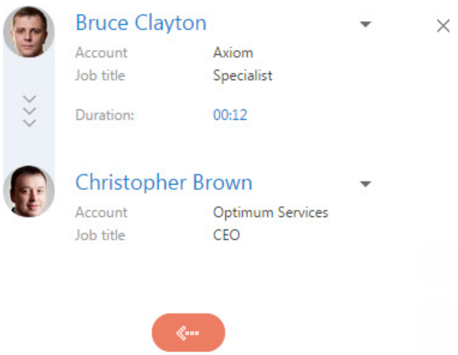
2. Enter the phone number or select the needed subscriber from the calls history and click the call button (Fig. 215). You can also find the needed subscriber by name.

Fig. 215 Dialing when transferring the call



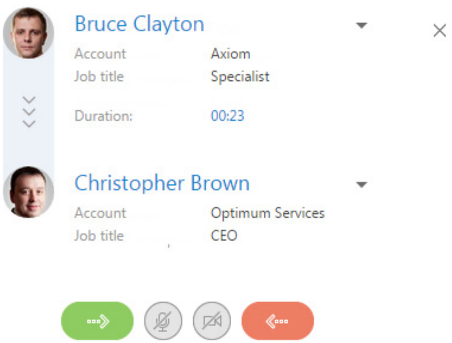
3. The call will be put on hold, and the system will start establishing the connection with the subscriber whom you transfer the call to. The information about subscribers will be displayed on the call panel (Fig. 216).

Fig. 216 Connecting to another subscriber when transferring the call



4. To quickly transfer the call, put down the phone, so both subscribers will be connected, and you will be disconnected from the conversation.
5. To make an attended transfer, wait for the connection with the subscriber whom you transfer the call to. In case if the connection is successful, the call panel will display additional buttons used to finish the transfer or to cancel it (Fig. 217).

Fig. 217 Conversation with a subscriber while transferring the call



Video calls

In Creatio, you can make video calls if Webitel integration is configured in Creatio. Video communication is available only for internal calls.

Setting up video calls

You can enable/disable video calls in Creatio. To manage video calls setup:

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the displayed page, select/deselect the [Use video] checkbox to enable/disable video calls.

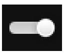
When video calls are enabled, during the call, you see the video image of the user that the connection is established with and share your own video image.

Video call mode

In the video call mode, the communication panel additionally contains the video area. At the bottom of this area, the following buttons are available:

/ – play/pause buttons, that resume and pause the video stream, respectively.

/ – sound on/off buttons.

 – slider for managing the sound volume.

 – activate/exit the full screen mode.

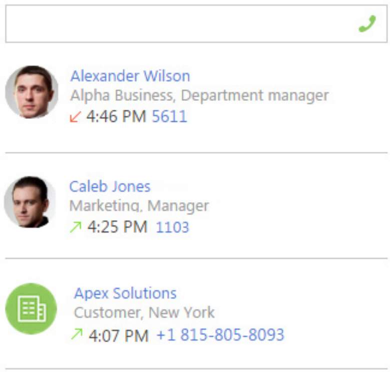
Also, during the video call, the video area contains a scrollbar and a time indicator to show you the time that has passed from the beginning of the call.

Calls history

You can view the recent calls history on the communication panel. It is available if the user is neither in a conversation mode nor searching for a subscriber. The history is also available when transferring a call to another number.

The calls history chronologically displays the recent incoming, outgoing and missed calls, and brief information about the accounts/contacts that a connection was established with (Fig. 218).

Fig. 218 Calls history



NOTE

The number of calls displayed in the history can be set up in the "Number of records on the "Calls history" tab" system setting.

NOTE

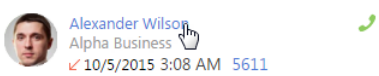
Do not close the browser window when making a call via the Creatio interface for proper saving the call history. If the window was closed during the conversation, the call ent dime and its duration will not be saved.

The calls history displays information only about the latest communication session with a certain subscriber (account or contact). For example, if you call several numbers specified on the [Communication options] detail of a contact, the calls history will display one record for this contact with the number that was dialed last.

If you called a subscriber and now you need to call another of his/her numbers, go to the contact/ account page from the calls history and make a call from the subscriber page.

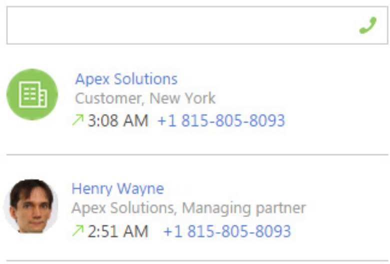
To do that, in the calls history, click the name of the contact/account. It is displayed as a link (Fig. 219). The subscriber page will open. On the page, select the needed number from the numbers available on the [Communication options] detail. You can call directly from the contact/account page by clicking either the phone number or the call button next to the number on the [Communication options] detail (Fig. 208).

Fig. 219 Opening a contact page from the calls history



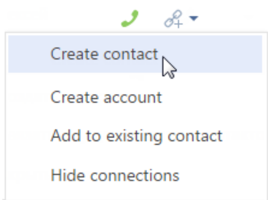
If the same phone number is associated with several subscribers (contacts and/or accounts) in the system, then when the connection is established, different subscribers will be identified, and the calls history will display separate records for each contact/account (Fig. 220).

Fig. 220 Calls history for one number associated with several users



In addition to viewing completed incoming and outgoing calls, you can create a contact or account, connect the call with an existing contact and display connected activities. To process a call, use the menu, which you can open by clicking the button (Fig. 221).

Fig. 221 Call processing menu



To **add a contact** for the call subscriber, select [Create contact]. New contact page will open. After saving the contact, the corresponding phone number will b automatically added to the [Communication options] detail. By default, “Mobile phone” will be set as the communication option type.

You can **add an account** based on the call subscriber. To do this, select the [Create account] menu command. After saving the account, the corresponding phone number will b automatically added to the [Communication options] By default, “Primary phone” will be set as the communication option type.

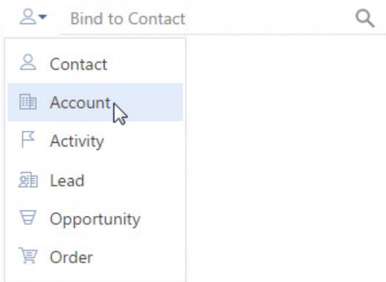
To **connect a call to an existing contact or account**, select the [Add to existing contact] menu command and select corresponding record from the lookup. The phone number from the call will be added to the [Communication options] detail of the selected record.

To display call connections to contacts, accounts and other records, select the [Show all connections] menu command. Connected account, contact and activity will be displayed below the general call information (Fig. 222).

Fig. 222 Call connections

You can connect the call to a system record by selecting a record type in the menu and clicking the button (Fig. 223).

Fig. 223 Selecting a record type to bind a call to



Call recording and playback

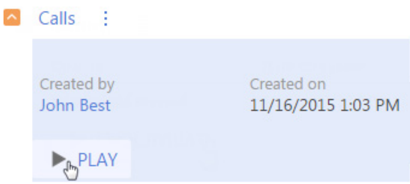
Recording and playback of calls is available in Creatio if your Call Center supports this feature. Call recording and playback rules can be set up in such office call centers as Oktell and Webitell.

NOTE

Additional setup is required to enable call playback.

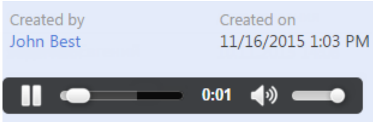
To play a call record, go to the [History] tab of the needed contact or account. Select the needed call record on the [Calls] detail and click the [Play] button (Fig. 224).

Fig. 224 Playing a call record



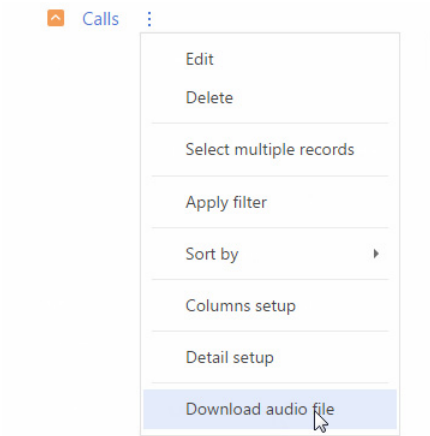
Call records are played in a web player with basic playback options (Fig. 225).

Fig. 225 Record playback



You can also download call record as an audio file by selecting the [Download audio file] menu command (Fig. 226).

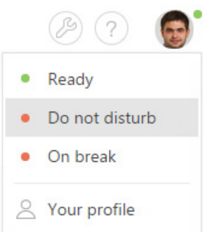
Fig. 226 Downloading call record file



Agent status menu

Agent status menu is displayed when you click the user image located in the top right corner of the screen (Fig. 227).

Fig. 227 Agent status menu



The list of available agent statuses depends on the telecommunications system that is used and can be set up in the [User status for message exchange] lookup.

SEE ALSO

- Phone integration setup

Time zones

To efficiently communicate with customers and employees around the world, Creatio takes into account timezones of each contact.

This enables you to:

- Quickly identify the current local time of an employee or a customer when planning activities and communications.
- Synchronize employee and customer activities in different timezones, taking into account the time difference.

The current local time and time zone is displayed for all contacts and activities.

CONTENTS

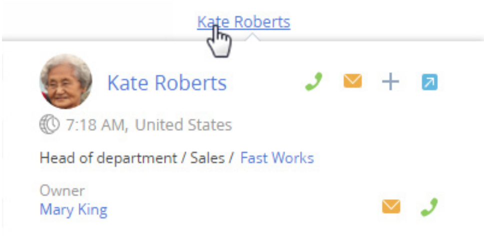
How to determine the current local time for a contact

The current local time is displayed for each contact on the contact page in the contact profile and on the contact mini page.

To quickly view a contact's local time, hover your cursor over the contact's name in the list. A contact mini page will open, in which the contact's current time is displayed under the contact's photo.

- Time zone information, displayed on the contact mini page, includes:
- Contact's current time
- Country or city name (Fig. 228)

Fig. 228 Contact's local time, as seen on a mini page



When you hover the mouse cursor over the time, the time zone is displayed.

How time zones are determined

To determine local time of a **customer** or **employee**, information from the [Addresses] detail of the contact record page is used.

Contact's time zone is automatically determined by the city specified in the home address, or the contact's country of residence, if the city is not specified.

NOTE

Cities are assigned to time zones in the [Cities] lookup. The countries have the same timezones as their capital cities. When adding new records in the [Cities] lookup, be sure to specify a time zone for each new city.

If a contact record page has 2 addresses of "Actual" type, the address that was added last is used for determining the time zone. If no address of "Actual" type is specified, the last added address is used, regardless of its type.

If no address is available on the contact page, the legal address of the connected account is used for determining the time zone. If a legal address is not specified for the connected account, then the time zone is determined by the last entered address of the account.

If the contact is a registered system user, then information from the user profile is used to determine the time zone.

> NOTE
>
> If no information can be found in the system to determine contact's time zone, the time zone icons will look like this: ? .

How to plan activities for participants in different time zones

Use the time zone function to plan tasks, calls and other activities with contacts in different time zones. The time zone function is available on the activity page and mini page. To plan an activity with participants in different zones:

1. Add a new record in the [Activities] section and add a participant(s).
2. On the record page, or its mini page, click the button to specify the time zone, where the activity will be held. It can be your current time zone or the time zone of any of the participants.
3. Specify the activity time in the selected time zone.

   The system will automatically calculate the time difference and correctly plan the activity in both your and participant's calendar.

> NOTE
>
> To calculate the time difference, use the time zone data specified in the user profile. If no time zone is specified in the user profile, the "Default TimeZone" system setting is used.

The system schedules activities in the local time of each participant. For example, if you want to schedule a call to a contact located in Los Angeles (UTC -8) for 10:00 a.m. Los Angeles local time, and you are located in New York (UTC -5), just specify the contact's local time. A new activity will appear in the calendar of your contact for 10:00 a.m. In your calendar, the activity will be scheduled for 1:00 p.m.

SEE ALSO

- User profile

Localization

Creatio supports localization into multiple languages. You can manage the list of languages in the system designer of the [Languages] section.

> **NOTE**
> Access to the list of languages and translation is configured using the “Access to “Languages” section” and “Access to “Translation” section” system operations. Setting up permissions for various operations is described in a separate article.

Creatio interface is translated into following languages:

English (United States)	Polish (Poland)
Arabic (Saudi Arabia)	Portuguese (Brazil)
Dutch (The Netherlands)	Romanian (Romania)
Hebrew (Israel)	Russian (Russia)
Spanish (Spain)	Ukrainian (Ukraine)
Italian (Italy)	French (France)
German (Germany)	Czech (Czech Republic)
Persian (Iran)	

All localization tools are built-in, there is no need to install or set up additional software in Creatio. Translation of the interface and other elements is performed in the [Translation] section.

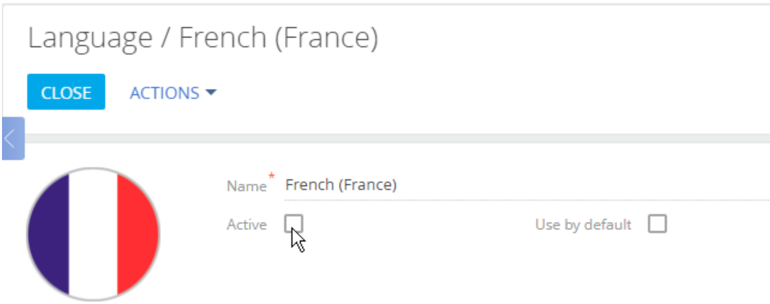
> **NOTE**
> If the needed language is present in the list above but is not available in the [Languages] section, contact Creatio technical support via support@creatio.com. Indicate Creatio version and product you use in your request.

How to enable an interface language

Only English language is available in the user profile by default. You need to enable the needed languages in the [Languages] section to add them to the list of languages in the user profile.

1. Go to the [Languages] section in the system designer.
2. In the list of languages, locate the language you need and click [Open].
3. On the language page, select the [Active] checkbox (Fig. 229).

Fig. 229 Enabling additional language



4. Save the changes.

   As a result, Creatio compilation will start and you will see the enabled language appear in your Creatio user profile after the compilation is finished.

   ATTENTION

   Compilation is a required step when enabling additional languages. If a language is enabled, but the application is not compiled, the user who selected this language will not be able to log in.

   NOTE

   If you cannot access Creatio after switching languages, you can quickly access the [Configuration] section by adding "/dev" after Creatio application URL and initiate compilation from there.

CONTENTS

SEE ALSO

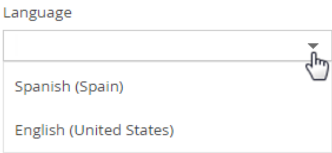
- How to set up access to perform operations

How to change Creatio language

You can change the system interface language in the user profile. These settings apply individually to the users who changed their language.

1. Click the profile picture at the top right corner and select [Your profile].
2. On the profile page, select the needed language from the available list and save the changes (Fig. 230).

Fig. 230 Changing the interface language



After changing language, you will need to log in again.

NOTE

If you do not see the needed language in the list, it may be disabled. You can find more information about enabling additional languages in a separate article.

NOTE

System administrators can change interface language for different users in the [Users and roles] section.

Creatio interface, including sections, columns, pages and lookups will be displayed in the language specified in the user profile (if the corresponding translation is available). The actual section data, such as account or contact names, notes and knowledge base articles are not localized and will always be displayed in the language they were entered.

NOTE

If a value has s a translation for the currently selected language, it will be displayed in that language. If no translations are found, the value will be displayed in the language it was originally added.

SEE ALSO

- User profile page
- How to add new languages
- How to translate the interface and system elements in Creatio
- User page

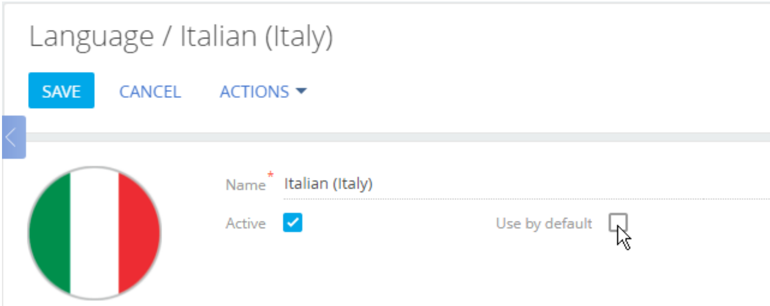
How to set the default language

After adding a new user account, system administrator specifies user's interface language (culture) on the user page of the [Users and roles] section. You can set default interface language for all users. This will help when adding large numbers of users at once (i.e., by importing users, when using SSO, etc.).

To set the default language:

1. Go to the [Languages] section in the system designer.
2. Select a language and click [Open].
3. Select the [Use by default] checkbox on the opened page (Fig. 231).

Fig. 231 Setting the default language



NOTE

The [Use by default] checkbox can be enabled only for one language.

4. Save the changes.

When you create a new user, the default language will be automatically selected in the user's profile.

NOTE

If the culture is not specified for the user, the interface language and localized data will be displayed in the language, specified in the [Primary culture] system setting. More information about system settings is available in a separate article.

Users can change language in their profile after logging in to the system. After changing the language, the interface will be displayed in that language next time the user logs in.

SEE ALSO

- How to change Creatio language
- How to add new languages

How to add new languages

If you are localizing your Creatio application to one of the languages that are not yet available, you will need to add that language in the [Languages] section first.

1. Go to the [Languages] section in the system designer.
2. Click the [New language] button. A new language page opens.
3. In the [Name] field, select the language you want to add.

NOTE

The list of languages is located in the system lookup, and is non-editable.

4. Select an image to be used as an icon for that language.
5. Save the changes.

SEE ALSO

- How to change Creatio language
- How to set the default language
- How to translate the interface and system elements in Creatio

How to translate the interface and system elements in Creatio

You can localize custom Creatio elements, e.g., sections, lookups, into languages available in the [Languages] section. The translation is performed in the [Translations] section of the System Designer (you can also open the [Languages] section by clicking the [Go to translation] button).

The records in the [Translation] section represent a list of strings requiring translation. You can enter translations directly in the list, without opening new pages.

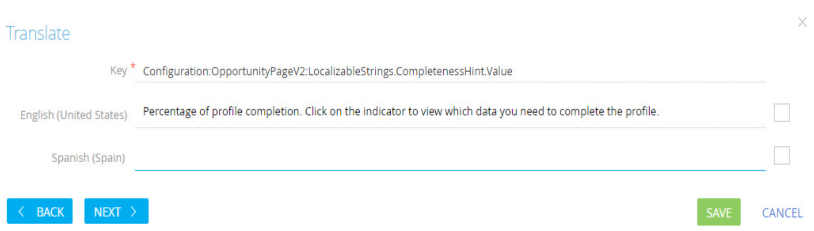
> **NOTE**
>
> Strings from the non-customizable interface (most of it is located on the "Advanced settings" page) are called "Core" resources. Core strings are not available in the [Translation] section. Core resources are stored in the form of MS Visual Resources (.resources files) along with Creatio executable files on the application server. The .resources files are localized using specialized localization tools (for example, Passolo, Catalyst, etc.).

The translation is performed using the **following columns**:

- [Key] – a system string name that shows the context of the string. This is a non-editable column. Read more >>>
- [English (United States) - Default] – the default language in Creatio is English.
- You can add a separate set of columns for each additional language. Use the [View] > [Select fields to display] command to set up the displayed languages in the translation section (usually, adding the target translation columns is enough).
- [Verified] – use this column for translation review. The checkbox will be automatically cleared for new translation strings and strings where source has changed since the translation verification.
- [Modified on] – standard Creatio column showing the date and time when the current record was last modified.

If the untranslated text is short and fully displayed in the [Translations] section string, translate it right in the editable list. More complex texts are easier to translate in the translation string edit window (Fig. 232).

Fig. 232 Translation string edit window



1. Use the standard filters to select records for translation.
2. Click the string to modify, then click the button to switch to edit mode.
3. Translate the text and save the changes.
4. Click the [Next >] button to display next sting in the edit window and the [< Back] button to display the previous string in the list.

5. When the translation is complete, close the translation edit window and click the [Apply translations] button. The newly translated strings will be displayed in the system next time a user with the corresponding language selected in their profile logs in.

   NOTE

   The [Translation] section is designed for localization of custom functions. To translate the whole system to a new language, we recommend exporting translation strings and using professional localization tools.

CONTENTS

How to identify a translation string by a key

The context of the translation string is represented with the [Key] column. Use the [Key] column in the [Translation] section to determine the context of each translation string. There are two general types of translation strings: **configuration resources** and **data resources**, each having specific key structure.

NOTE

Before starting the localization, we recommend getting a basic understanding of the system architecture, and the general functions of the [Configuration] section.

Structure of the configuration resource keys

Configuration resources contain translations for buttons, columns, notifications and other interface elements. The structure of their keys is: **<Resource type>:<Schema name>:<Key>**.

<Resource type> – is always “Configuration”. It indicates that the string is a configuration resource.

<Schema name> – internal name of the schema in which the translation string is located. “Schemas” are the “building blocks” of a Creatio configuration. There are three types of schemas: objects (they represent database tables), pages and processes. For example, “Activity” is the “Activity” object schema, “ActivityPageV2” is activity edit page schema, and “ActivitySectionV2” is the section page of the [Activities] section.

NOTE

The list of all schemas is available in the [Advanced settings] section, on the [Configuration] > [Schemas] tab.

NOTE

You can view internal names of schemas created for custom sections in the Section Wizard. Schema names for custom sections are generated automatically, based on the value in the [Code] field, entered on the first step of the Section Wizard.

<Key> – location of the string within the schema.
The following **types of keys** are used in the configuration resources:

- “Caption” – schema name. For example, the string “Configuration:ActivityPageV2:Caption” contains caption of the “ActivityPageV2” schema.
- “Columns” – key for strings that contain column names of an object schema. The “Columns” keys have the following structure: “Columns.<column internal name>.Caption“. For example, the “Configuration:Activity:Columns.Author.Caption” string contains the caption of the “Author”

column in the "Activity" object. Object column titles are used as the names of the corresponding fields on the section lists, record pages and details. Thus, by localizing a column in an object, you will localize the corresponding captions in the section and detail lists and pages.

- "LocalizableStrings" – key for localizable strings that were added directly by developers. These strings can be found in any schema (object, page, business process). Usually these are not standard translation strings (i.e. Not object fields) in the page schemas, such as menus, messages, etc. The key has the following structure: "LocalizableStrings.<Internal name of the string>.Value". The internal name of the string is specified by the developer or generated automatically by the Section Wizard. For example, the string "Configuration:ActivityPageV2:LocalizableStrings.CallTabCaption.Value" contains caption of the [Calls] tab of the activity page.

Keys for configuration resource strings that are unique to **business processes** are as follows:

- "Parameters" – the string contains process parameter names and values. The process parameter name key syntax is as follows: "Parameters.<Parameter internal name>.Caption". The key syntax process parameter names is as follows: "Parameters.<Parameter internal name>.DisplayValue". For example, the string "Configuration:CreateInvoiceFromOrder:Parameters.CurrentOrder.Caption" contains the name of the "CurrentOrder" parameter in the "New invoice based on this order" process.
- "EventsProcessSchema" – key of an embedded process string. Embedded processes handle business logic of objects and usually contain localizable error and message texts. The syntaxis of the embedded process string keys is similar to that of the regular process strings (with the addition of "EventsProcessSchema" at the beginning of the key).
- "BaseElements" – the string contains information about process elements. The key syntax depends on the information type. For example, the key "BaseElements.<element internal name>.Caption" identifies an element caption on the business process diagram, "BaseElements.<element internal name>.Parameters.<element parameter internal name>.Caption" – key for a process element parameter name string, "BaseElements.<element internal name>.Parameters.<element parameter internal name>.Value" — key for a process element parameter value string.

NOTE

Business process schema names are available in the [Name] column of the [Process library] section (you will need to add this column to the list via the [Select fields to display] command, or open a process properties page). Read more >>>

NOTE

The translation strings whose key ends with "DisplayValue" contain process diagram captions (seen on the diagram only) and do not require translation.

Below are examples of **configuration resource keys** and their meaning.

- Configuration:ActivityPageV2:LocalizableStrings.ActivityParticipantTabCaption.Caption – the name of the [Participants] tab on the activity page.

  "Configuration" – configuration resource key.

  "ActivityPageV2" – activity page schema.

  "LocalizableStrings" – localizable string.

  "ActivityParticipantTabCaption" – localizable string internal name, identifying it as the [Participants] tab.

  "Caption" – the string is the caption.

- Configuration:Account:Columns.Type.Caption – the title of the [Type] column in the "Account" object.

  "Configuration" – configuration resource key.

  "Account" – "Account" object schema.

  "Columns" – object column.

  "Type" – column name.

  "Caption" – column title.

- Configuration:ImportSettingsPage:EventsProcessSchema.LocalizableStrings.ErrorMessage.Value – error message in the embedded process of the "ImportSettingsPage" schema.

  "Configuration" – configuration resource key.

  "ImportSettingsPage" – import settings page schema.

  "EventsProcessSchema" – identifies that this is a string from an embedded process.

  "LocalizableStrings" – localizable string.

  "ErrorMessage" – error message.

  "Value" – message text.

- Configuration:AutoGeneratedPageUserTask:Parameters.InformationOnStep.Caption – name of the [Information on step] parameter of the [Auto-generated page] business process element.

  "Configuration" – configuration resource key.

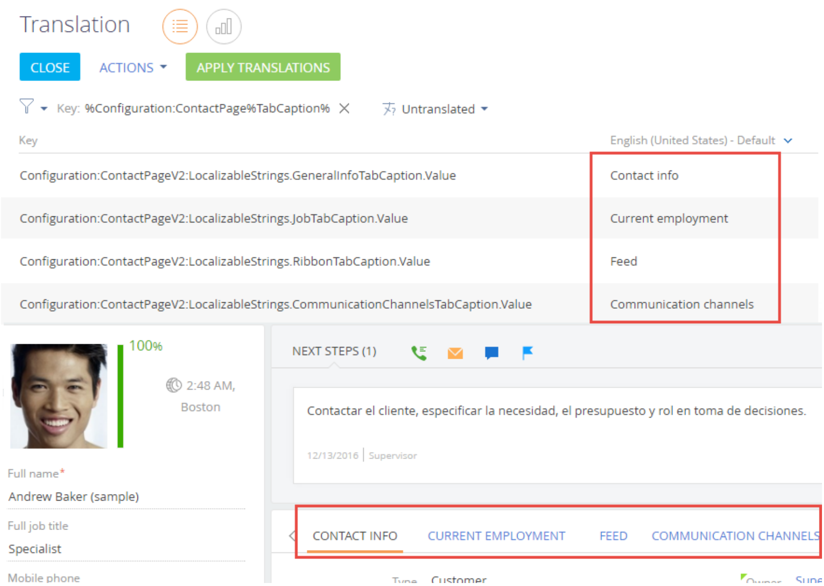
  "AutoGeneratedPageUserTask" – identifies that this is a schema of the [Auto-generated page] process element.

  "Parameters" – the string contains parameter information.

  "InformationOnStep" – internal name of the [Information on step] process element parameter.

  "Caption" – parameter title.

Fig. 233 Examples of translation strings and their location in the interface of the contact page



Structure of the data resource keys

Data resource keys identify data, such lookup records, that must be localized. The key format is <Resource type>:<Table name>.<Column name>:<Record Id>.

<Resource type> – is always “Data”. It indicates that the string is a data resource string.

<Table name> – name of the table (object) that contains the localized string. For example, “AddressType” refers to the lookup table that contains address types.

<Column name> – table column name in the database. For example, [Description] or [Name].

<Record Id> – unique Id of the localized record. Record ID is a unique code that can be viewed in the database or in the browser address bar by opening a specific record.

Below are examples of data resource keys and their meaning.

- Data:ActivityCategory.Name:42c74c49-58e6-df11-971b-001d60e938c6 – a activity category name.

  “Data” – this is a data resource.

  “ActivityCategory” – the table (object) is “Activity category”.

  “Name:” – the localized value is in the “Name” column.

  “42c74c49-58e6-df11-971b-001d60e938c6” – record Id.

- Data:ContactType.Name:60733efc-f36b-1410-a883-16d83cab0980 – a contact type name.

  “Data” – this is a data resource.

  “ContactType” – the table (object) is “Contact type”.

  “Name” – the localized value is in the “Name” column.

  “60733efc-f36b-1410-a883-16d83cab0980” – record Id.

- Data:SysDashboard.Caption:e2895654-6ce4-4ef8-a126-5f75f49d9073 — a "Dashboard" tab name.

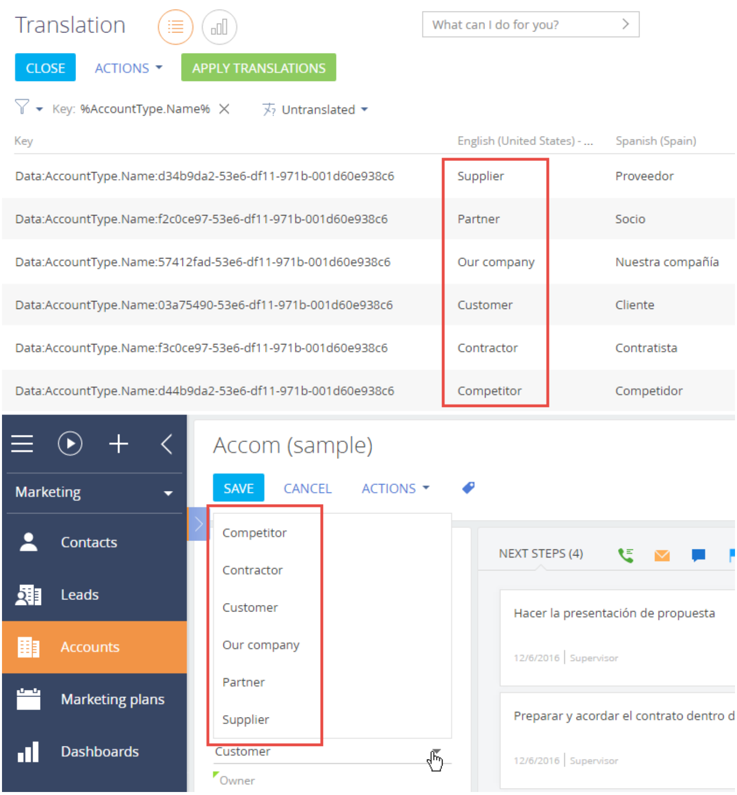
  "Data" – this is a data resource.

  "SysDashboard" – table (object) is "SysDashboard" (this object contains dashboard settings).

  "Caption" – the localized value is in the "Caption" column.

  "E2895654-6ce4-4ef8-a126-5f75f49d9073" – the record Id.

Fig. 234 Examples of data resource translation strings in the [Translation] section and in on the account page



SEE ALSO

- How to select specific translation strings using filters
- How to display untranslated strings
- How to update the list of translations

How to select specific translation strings using filters

The [Translation] section has a set of standard filters that you can use to search for specific translation strings. Since the [Key] column contains information about the string context, you can filter strings by this column to select only strings that are used in a specific part of the system: page, detail, mini page, etc. page, detail, mini page, etc.

> **NOTE**
> The translation string key structure and meaning are covered in a separate article.

To filter the strings, first you need to determine the schemas that implement the functions that you need to localize. To do this, use the [Configuration] tab of the [Advanced settings] window. Alternatively, you can access the required function (for example, open the page that you need to localize) and check its schema name in the browser address bar. For example, when the [Contacts] section is open, the following URL in the address bar looks like this: "http://creatioapp.com/0/Nui/ViewModule.aspx#SectionModuleV2/**ContactSectionV2**/". The name of the [Contacts] section schema is "ContactSectionV2".

> **NOTE**
> When searching schema names in the [Configuration] section, be sure to check if the search results contain schema names with "V2" suffix. If search results contain schema names both with and without suffix (for example, "ContactSection" and "ContactSectionV2"), make sure that you translate strings for the schema with the "V2" suffix.

> **NOTE**
> Strings whose keys contain "Configuration", followed by the schema name and the word "Caption" (for example, "Configuration:SchemaName:Caption") contain schema titles (displayed in the [Configuration] section) and do not require translation.

How to filter configuration resources

Configuration resources include list column and page field names, tab captions, field group names, etc. For example:

- To translate the **column names** in the [Contacts] section and the corresponding field names on the contact page, apply the following filter by the [Key] column: "Configuration%Contact%Column%".
- To translate the **section page** of the [Contacts] section, apply the following filter by the [Key] column: "Configuration%ContactSectionV2%".
- To translate the contact **mini page**, apply the following filter by the [Key] column: "Configuration%Contact%MiniPage%".
- To translate contact **section record page**, apply the following filter by the [Key] column: "Configuration%Contact%ContactPageV2"%. A section record page can have significant number of translation strings if separate pages are used for different types of records.
- To translate **detail list and record page**, apply the following filter condition: "Configuration:Contact%Detail%". In the list of filtered records, locate the name of the required detail schema. Then, apply a new filtering condition with the name of the needed detail schema, such as "Configuration%ContactCareer%" (for strings of the [Job experience] detail).
- If a section contains **built-in reports**, apply the following filter condition to select their translation strings: "Configuration%Contact%Report%".

Additionally, to select strings used in the contact synchronization functions, use the following filter: "Configuration:Contact%SyncSettings%". Use the "Configuration:%NotificationProvider%" filter to localize notifications.

> **ATTENTION**
> Translation string text may contain variables represented by numbers in braces, such as {0}. Make sure that translation includes all variables from its source text.

How to filter data resources (localized lookup records)

To localize lookup values for a specific section, first determine which lookups are used in the section. To do so, filter translation strings by the [Key] column, using the following filter: “Data:Lookup.Name%”. The resuting string list will contain names of all registered lookup schemas. You can also use the folders in the [Lookups] section of the system designer to check which lookups are associated with which section or function. Use lookup schema names to filter records from the needed lookups. For example, the “Data:Job%” filter condition will return all records from the [Job titles] lookup.

The [Contacts] section, for instance, uses the following lookups:

- [Contact types] – ContactType.
- [Contact roles] – ContactDecisionRole.
- [Salutations] – ContactSalutationType.
- [Contact genders] – Gender.
- [Job titles] – Job.
- [Departments] – Department.

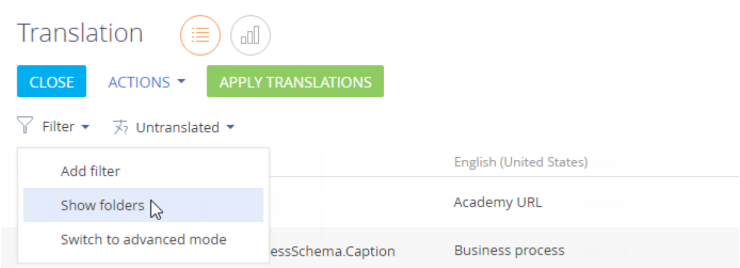
Lookups are not necesserily used on the record pages. For example, the [Reasons for job change] (JobChangeReason) lookup is used on the [Job experience] detail in the [Contacts] section.

How to maximize translation efficiency using static folders

Use static folders to avoid creating complex filters. You can manually add specific strings for translation (for example, all lookups used in specific section) and then woork only with the trans strings in the folder.

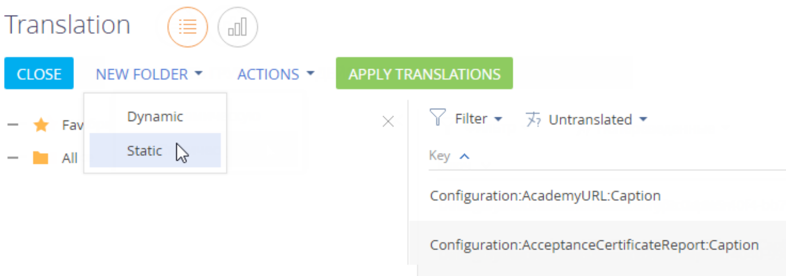
To create a static folder, in the [Filter] menu, select [Show folders] (Fig. 235).

Fig. 235 Enabling folder tree



Click [New folder] and select [Static] (Fig. 236).

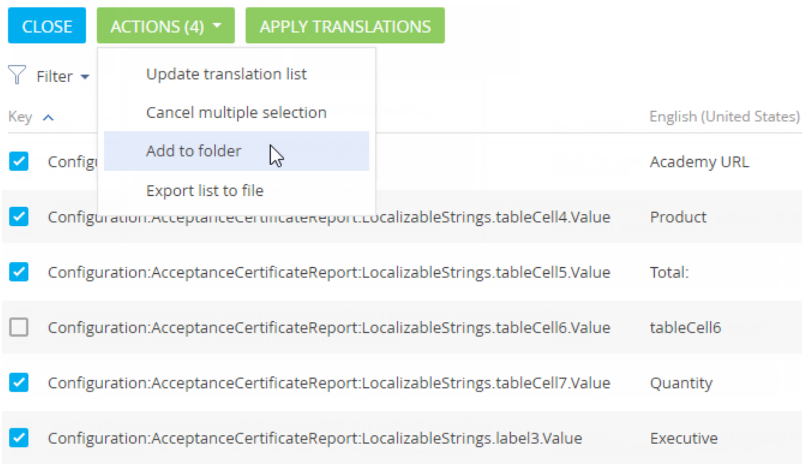
Fig. 236 Adding a static folder



Enter the name of the new folder and click [OK].

Apply a filter to select required strings, then add filtered strings to the folder. Apply next filter and add filtered strings to the folder (Fig. 237).

Fig. 237 Adding records to the static folder



This way you can create and save a list of strings used in a specific section or other system function and later use a single folder to access them all.

SEE ALSO

- How to identify a translation string by a key
- How to display untranslated strings
- How to update the list of translations
- How to import translations from Excel

How to display untranslated strings

To display untranslated strings, use the “Untranslated” filter and specify the target translation language. For example, in the “Untranslated” filter you have specified Spanish. The list will display strings that have a name or description of an item in Russian in the "Russian (Russia) - default" column, and the “English (United States)” column will not be filled in or will have the same value as “Russian (Russia) - default" column .

SEE ALSO

- How to add new languages
- How to change Creatio language

How to update the list of translations

After creating a new section or column or adding new values to the lookup, new strings will appear in the system. To work with an up-to-date list of untranslated strings, update the translation list. To do this, click the [Actions] button, select [Update translation list]. This action starts searching for new untranslated strings. We recommend you to update your list every time you start translating.

> **NOTE**
> The translation list update occurs every time you enter the [Translations] section.

SEE ALSO

- How to add new languages
- How to change Creatio language

How to import translations from Excel

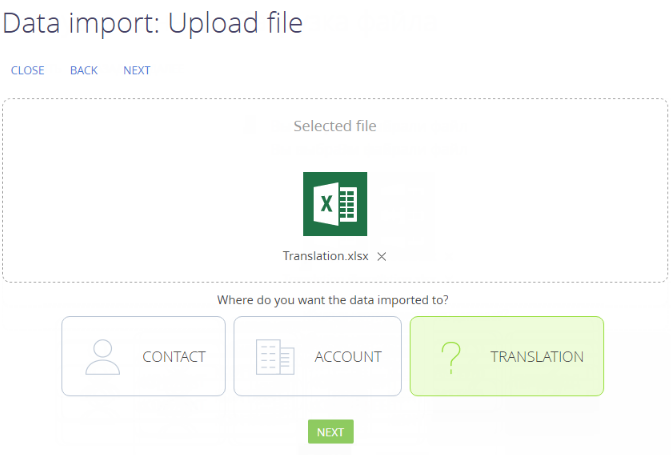
You can use Excel import to quickly export and import translations. To do this:

1. Open the [Translations] section and select the needed strings. Searching and filtering translation strings is covered in a separate article.
2. Use the [Export list to file] action in the [Translation] section to obtain a template for the import table. A XLSX file with the currently displayed records and columns will be downloaded.

   > **NOTE**
   > Columns required for translation are the [Key] column, as well as source and target language columns.

3. Open the system designer and click the [Data import] link. Drag the XLSX file with translations and click [Other]. Select the “Translation” object (Fig. 238).

Fig. 238 Importing the translation file



4. Set up duplicate check bu the [Key] column and click [Start data import].
5. After importing, perform the [Apply transfers] action in the [Translation] section.

SEE ALSO

- How to identify a translation string by a key
- How to select specific translation strings using filters
- Excel data import
- Exporting list data to Excel
- List FAQ

How to identify errors with applying translations

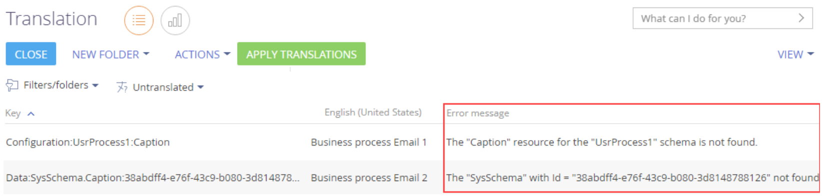
After completing the translation and clicking the [Apply translations] button, some UI elements may remain untranslated because of errors in the process of applying translations (e.g., the schema of the translated resource has been deleted, etc.).

NOTE

If a translation resource has been deleted, the corresponding translation strings will be deleted as well when the translations are applied. This does not result in a translation application error.

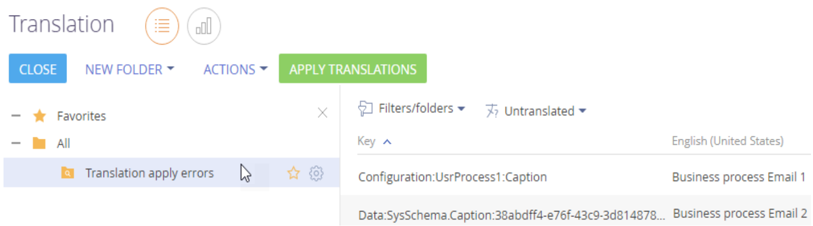
f an error occurs when applying translations from a string, Creatio records the error text in the [Error message] column in the [Translation] section list (Fig. 239). To display the [Error message] column in the list of translation strings, add the [Error message] column to the list view via the [Select fields to display] command of the [View] menu.

Fig. 239 [Error message] column in the section list



Use the [Translation apply errors] folder (Fig. 240) to quickly view all strings with error messages. To open the [Translation apply errors] folder, click the [Show folders] option in the [Filter] menu of the [Translation] section.

Fig. 240 Folder with translation apply errors



You can create additional folders using a filter by the [Error message] column to view specific translation errors.

If the [Error message] column is empty for a translation string, then it has been properly applied and should be displayed in the UI.

SEE ALSO

- How to translate the interface and system elements in Creatio
- Setting up columns
- Working with folders

Hot keys

This article lists keyboard shortcuts available in Creatio (a.k.a. "Hot keys"). Using keyboard shortcuts improves your efficiency by decreasing the time spent on frequent micro operations, such as saving mini pages, navigating lists, working with the campaign designer.

In the below table, you can find the most often used keyboard shortcuts.

> NOTE
> The table contains the shortcuts used for Windows OS. For Mac OS, use the "Command" key instead of "Ctrl"

Section list	
Select multiple adjacent records. Click the first record, press and hold the Shift key, and then click the last record.	Shift + click the record
Select multiple separate records.	Ctrl + click the record
Move up and down the record list. One of the records in the list has to be selected.	↑ and ↓
Open the selected record.	Enter
Save the record after editing.	Ctrl + Enter Ctrl + S
Confirm the action in the dialog windows.	Enter
Mini page	
Move the cursor to the next field.	Tab
Move the cursor to the previous field.	Tab + Shift
Save the mini page.	Shift + S Ctrl + S
Close the mini page without saving.	Esc
Tags	
Navigate between tags. To display the full list of tags, press ↓ in the tag selection string.	↑ and ↓
Select and apply tags.	Enter
Global search	
Search for currently entered value.	Enter
The [Activities] section	

Navigate the tasks in the chronological order. To do this, select the task and press the key.	Tab
Move the selected task up and down the calendar.	↑ and ↓
Move the selected task to previous or next day.	← and →
The [Dashboards] section	
Close the opened dashboard tile.	Esc
The [CTI panel] tab in the communication panel	
Dial the number entered manually.	Enter
Campaign designer	
Copy selected elements.	Ctrl + C
Paste selected elements.	Ctrl + V
Select all elements.	Ctrl + A
Select multiple separate elements.	Ctrl + click the element
Search for elements.	Ctrl + F
Delete selected elements.	Delete
Run the campaign.	Ctrl + Enter
Open help.	F1

SEE ALSO

- Process designer hot keys

Sections

CONTENTS

The [Agent desktop] section

The Agent desktop section is designed to facilitate the work of contact centers and helpdesk agents. Use the agent desktop to manage cases in a single window with the help of out-of-the-box best practice processes, get instant access to customer's profile, and improve customer experience.

Using the agent desktop an agent can quickly process tickets in the omnichannel mode, manage incoming and outgoing calls and work with other queue items. In the agent desktop the employee can read the messages posted on the feed and analytical KPI dashboards of a single employee or the whole team are available.

NOTE

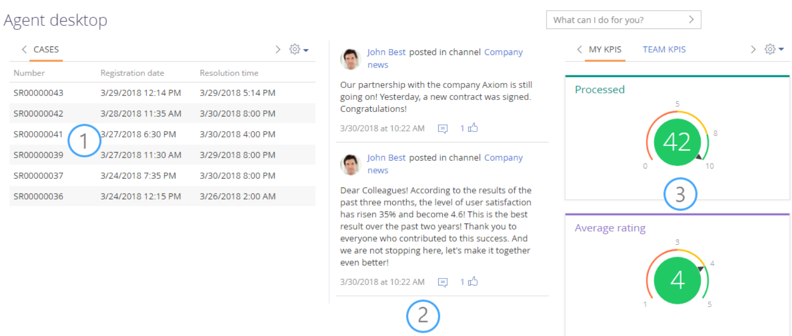
To allow the employees to receive incoming calls from the agent desktop, set up a connection between Creatio and your phone provider. Read more >>>

Agent desktop overview

The [Agent desktop] (Fig. 241) section consists of the following areas:

- The working area of the agent (1) displays the list of records for processing.
- The feed area (2) displays posts from your enterprise social network.
- The analytics area (3) displays aggregate data on agent performance.

Fig. 241 The [Agent desktop] section



The working area of the agent

The working area of contact center agent or helpdesk agent on the agent desktop is a number of tabs with the records that are displayed in the agent desktop according to the conditions of pre-configured queues.

The agent desktop tabs are created automatically, based on the queue teams of which the current agent is a member. Each agent desktop tab corresponds to a system object regardless of the number of the configured queues. For example, all records coming from the “Case”type will be displayed in the [Cases] tab of theagent desktop.

By default, the [Cases] tab displays incidents, service requests, claims and complaints, that come from the [Cases to be processed] queue. These are unresolved requests.

NOTE

You can set up custom agent desktop queues in the [Queues] section.

NOTE

Use the [Agent desktop queues upload interval] system setting to change the update cycle for agent desktop records.

Agent desktop feed channel

Use feed channel for prompt notification of the helpdesk agents or agents about noteworthy events of the company. The agent desktop feed displays posts and comments from a specific feed channel. Use the [Agent desktop - Channel] system setting to select this channel.

- The [Feed] section

Agent desktop dashboards

The agent desktop dashboard displays thecontact center KPI. The agent desktop analytics consists of two tabs. One tab displays the agent’s personal achievements and the other tab displays the team's achievements. These dashboards display summary data for the current day.

- Dashboards

CONTENTS

SEE ALSO

- The [Queues] section
- How to create and populate a dynamic queue
- How to create and populate a static queue
- How to set up a regular or a blind queue on the agent desktop
- How to sort queue elements on the agent desktop by the object columns

Managing records displayed in the agent desktop via regular and blind queues

The list of records displayed on the agent desktop tabs depends on the queue type, which can be "regular" or "blind".

Regular queues display lists of records, and the agent can select which record to process. The order of the records depends on the sorting rules of the agent desktop records.

Blind queues display:

- The [Next record] button which initiates the processing of the next record in the queue. The processing order depends on the sorting rules of the agent desktop records.
- The list of records for which the processing started, but has not been completed yet.

Use the [Maximum number of records in progress for a blind queue] system setting to limit the maximum number of records which can be displayed in the list of a blind queue. By using this system setting, you can limit the number of cases in progress shown to the agent in order to increase the case resolution efficiency.

By default, the [Maximum number of records in progress for a blind queue] system setting is set to “1”. Thus, the agent desktop working area shows either the [Next record] button or a single record if the processing of this record has not been completed.

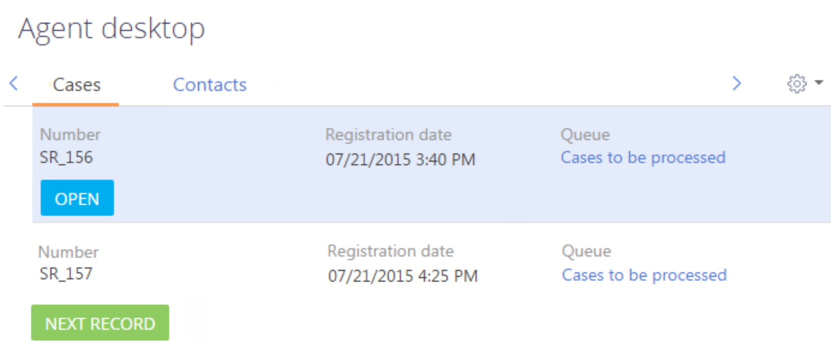
If you increase the value of this system setting, the agent will be able to continue working with the record in progress or take the next record in the queue for processing as long as the number of displayed records is not at maximum. When the number of displayed records reaches the maximum, the [Next record] button becomes unavailable.

For example, the value of the [Maximum number of records in progress for a blind queue] system setting has been set to “3”.

The agent who has started processing one or two caseson the agent desktop will see both the list of his cases in progress and the [Next record] button (Fig. 242). The agent can choose to continue processing the cases in the list or take a new record.

If the agent takes a third case, it will be added to the list in the agent desktop working area and the [Next record] button will be unavailable, so in order to be able to take another new case for processing, the agent must resolve at least one of the currently open cases.

Fig. 242 Blind queue example



SEE ALSO

- Agent desktop overview
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- How to process cases from incoming calls on the agent desktop
- The [Agent desktop] section
- How to set up a regular or a blind queue on the agent desktop
- How to sort queue elements on the agent desktop by the object columns
- The [Queues] section

Sorting records on the agent desktop

The records on the agent desktop tabs are sorted based on certain rules. These sorting rules are identical for both regular and blind queues.

- The records whose due date has been reached are displayed at the top of the list.
- These records are followed by more records from the existing queues.

  If multiple queues have been created for an object, then the records from a higher priority queue will be closer to the top of the list.

  If multiple queues with the same priority have been created for an object, their records will be sorted based on the internal sorting settings of the corresponding queues. Therefore, the records from multiple queues may take turns in the agent desktop. If the records which are coming from different queues should not be mixed in the list, create additional priorities in the [Agent desktop queue priority] and assign a separate priority for each queue specified for the object.
- The records in the queues are sorted based on the object columns first, and then – by the number of calls connected to each record (the less repeated calls there are, the higher the record's position in the list will be).

NOTE

More information on how to sort queue records by object columns is available in a separate article.

SEE ALSO

- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- How to process cases from incoming calls on the agent desktop
- The [Agent desktop] section
- How to set up a regular or a blind queue on the agent desktop
- How to sort queue elements on the agent desktop by the object columns
- The [Queues] section

Processing cases from a regular queue in the agent desktop.

Let's take a look at the typical procedure to process applications via the agent desktop using a regular queue. When an agent an employee takes a application from a queue to process it, the “Agent desktop: Queue cases processing” business process starts.

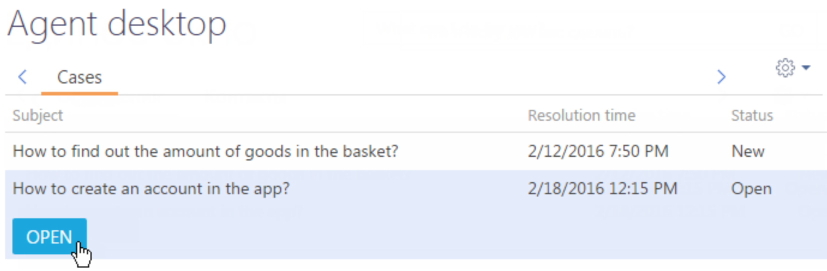
NOTE

You can set up your own business processes to handle the applications in your company.

To start working on a case from a regular queue:

1. Select the necessary record from the list and click the [Open] button (Fig. 243). When the agent takes a case, it is no longer is visible on the agent desktop for other agents.

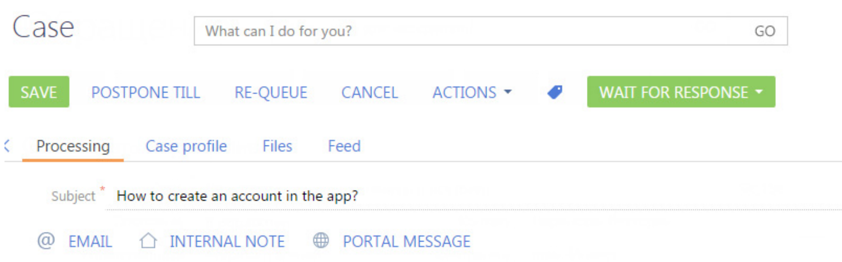
Fig. 243 Taking a case from a regular queue



The page of the selected case (Fig. 244) will open. with the following information:

- The value in the [Status] field changed to “In progress”;
- The agent who took the case is specified as the assignee;
- The [Actual response time] field is filled in with the current date.

Fig. 244 — Page of a case in progress



2. Perform one of the following actions:
   - To process the case, change its status. For example, specify the “Resolved” status.

     After you save the page, the [Agent desktop] section will be displayed again. The processed case will be removed from the queue.
   - To postpone processing the case to another specific time, click the [Postpone till] button and enter the date and the time.

     Click the [Submit] button to return to the agent desktop. The case will not be displayed in the agent desktop until the specified processing time comes. After that it will be displayed at the top of the list in the queue of theagent who initially took this case.
   - To put off processing thecase , click the [Re-queue] button.

     The [Agent desktop] section will be displayed again. The postponed case will be placed at the end of the queue regardless of the set record sorting rules in the queue.
   - To cancel processing the case, click the [Cancel] button.

You will return to the agent desktop and the case will be queued back to the same position it had before you started processing it.

SEE ALSO

- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a blind queue in the agent desktop
- How to process cases from incoming calls on the agent desktop
- The [Agent desktop] section
- How to set up a regular or a blind queue on the agent desktop
- How to sort queue elements on the agent desktop by the object columns
- The [Queues] section

Processing cases from a blind queue in the agent desktop

Let's take a look at the typical procedure to process cases via the agent desktop using a blind queue. When an employee takes a case from the queue, the business process is run “Processing order in Agent desktop queue”.

NOTE

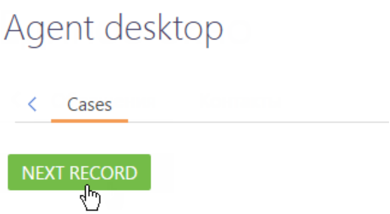
You can set up another business process to handle the cases in your company.

To start working on a casefrom a regular queue:

1. On the corresponding tab of the agent desktop, click the [Next record] button (Fig. 245).

   When the agent takes a case, it will become unavailable for processing to other agents on the agent desktop on the home page .

   Fig. 245 Taking a case from a regular queue

   As a result, the page of a case that must be processed next, will open. The algorithm used to select a case takes into account the priorities of the queues and the inner sorting rules set up for the given queue. (Fig. 246).

   NOTE

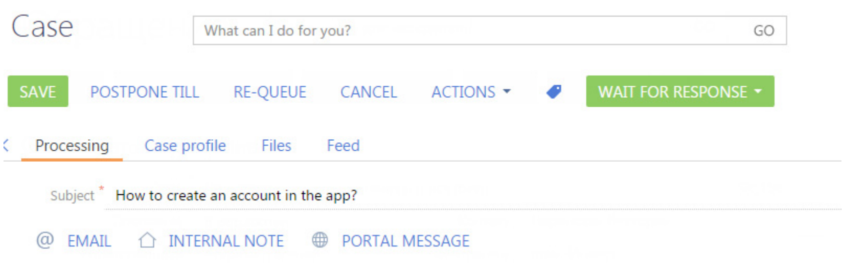
   Learn more about elements sorting order on the agent desktop from a separate article.

   On the opened case page, you will find:

   - The value in the [Status] field changed to “In progress”;
   - The agent who took the case is specified as the assignee;

- The [Actual response time] field is filled in with the current date.

Fig. 246 — Page of the case in progress



2. Perform one of the following actions:
   - To process the case, change its status. For example, specify the “Resolved” status.

     After you save the page, the [Agent desktop] section will be displayed again. The processed case will be removed from the queue.
   - To postpone processing the case to another specific time, click the [Postpone till] button and enter the date and the time.

     Click the [Submit] button to return to the agent desktop. The case will not be displayed in the agent desktop until the specified processing time comes. At the scheduled time, the case will be displayed on the agent desktop tab only for the who has started handling the case. Along with this, the [Next record] button will be available or unavailable based on the maximum number of cases that can be assigned with the “In progress” status simultaneously for the blind queue. This value is specified in the [Maximum number of records in progress for a closed queue] system setting.
   - To put off processing the case, click the [Re-queue] button.

     The [Agent desktop] section will be displayed again. The case will be placed at the end of the queue regardless of the record sorting rules of this queue. Time for processing such case will come after having processed the cases which are on the higher positions in the queue.
   - To cancel processing the case, click the [Cancel] button.

     The [Agent desktop] section will be displayed again showing the case which has been canceled. Along with this, the [Next record] button will be available or unavailable based on the maximum number of cases that can be assigned with the “In progress” status simultaneously for the blind queue. This value is specified in the [Maximum number of records in progress for a closed queue] system setting.

NOTE

The way the records from a blind queue are displayed in the agent desktop is described in a separate article.

SEE ALSO

- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues

How to process cases from incoming calls on the agent desktop

Creatio provides two proven business processes to handle cases received by call. The processes start when an agent receives a call from a customer.

> ATTENTION
>
> Telephony setup is needed to work by the processes. Furthermore, the processes are available only for the users included in the folder specified in the [Folder – Contact Center agents] system setting.

When taking a call, an agent can choose to run one of the Creatio business processes, depending on the call purpose: create a new case or start a consultation for an existing case.

The process flow depends on whether the subscriber is identified or not. The system allows identifying the contact or creating a new one. According to the customer's request, a new case will be created or the contact page will open. On this page, the agent will be able to see the history of communication with the customer and provide consultations regarding the existing cases.

When a call is received, the [Calls] tab becomes active on the communication panel. On the [Processes] detail of the [Call] tab, the following actions become available: [Add new case] and [Advise on existing case]. Each action starts the corresponding business process.

CONTENTS

Case registration process

To register a new case when taking a call, select the [Add new case] action. This action will trigger the corresponding process. The process can have different flows based on different conditions. These flows and conditions can be summarized in the following table.

Condition	Agent actions
The contact is uniquely identified by a phone number registered in the system.	Clicking the [Add new case] button opens a new case page where you should enter information provided by the customer. On the case page, the [Contact] field is automatically populated.

The system detected multiple contacts with the same phone number from which the call has been received	The call panel displays the [Search results] detail that contains the list of contacts with the phone number from which the call has been received. Click the record of the right contact and then click the [Add new case] button, so a new case page will open. The [Contact] field in the page will be automatically populated.
The contact is not identified by the phone number, but the call has been received from a customer already registered in the system	clicking the [Add new case] button opens the contact identification page. On this page, you can search for the contact by name, by communication options, or by the name of the company where the employee works. Select proper contact and then click the [Add new case] button, so a new case page will open. The [Contact] field in the page will be automatically populated. Phone number from which the call has been received will be added to the [Communication options] detail of the selected contact.
The contact is not identified by the phone number and the call has been received from a new customer	Clicking the [Add new case] button opens a contact identification page where you should select the [Add case and contact] action. On the opened page, enter contact data. Click the [Next] button, so a new case page will open. The [Contact] field in this page will be automatically filled in. If needed, you can edit the record of the new contact after saving the record of the new case.

Advising on an existing case process

To advise a customer on an existing case, select the [Advise on existing case] action. This action will trigger the corresponding process. The process can have different flows based on different conditions. These flows and conditions can be summarized in the following table.

Condition	Agent actions
The contact is uniquely identified by a phone number registered in the system.	Clicking the [Advise on existing case] button opens the page of the contact from which the call has been received. Open the [History] tab to view the list of cases connected to the given contact.
The system detected multiple contacts with the same phone number from which the call has been received	The call panel displays the [Search results] detail that contains the list of contacts with the phone number from which the call has been received. Click the record of the needed contact and then click the [Advise on existing case] button. The page of the selected contact will open. Open the [History] tab to view the list of cases connected to the given contact.
The contact is not identified by the phone number, but the call has been received from a customer already registered in the system	Clicking the [Advise on existing case] button opens the contact identification page. On this page, you can search for the contact by name, by communication options, by the number of the registered case, or by the name of the company where the employee works. Select proper contact and then click the [Add new case] button, The page of the selected contact will open. Open the [History] tab to view the list of cases connected to the given contact.

The contact is not identified by the phone number and the call has been received from a new customer for whom registered cases have not been found	You will need to proceed to the process of creating a new case. Clicking the [Advise on existing case] button opens a contact identification page where you should select the [Add case and contact] action. On the opened page, enter contact data. Click the [Next] button, so a new case page will open. The [Contact] field in this page will be automatically filled in. If needed, you can edit the record of the new contact after saving the record of the new case.

SEE ALSO

- Phone integration
- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- The [Agent desktop] section
- The [Queues] section

The [Accounts] section

All information about customer companies, partners, contractors or suppliers, that you interact with are stored in the [Accounts] section, up-to-date and easily accessible at any time.

Use the [Accounts] section of Creatio to keep record of account information, track connections between companies, group companies by various criteria and analyze the relevant statistics. For example, data on the number of employees can be used to estimate the size of the company.

Views

The section has several views:

-  – displays accounts as a list of records. The list columns are covered in the description of the account page below.
-  – displays charts, indicators and ratings that can be used to analyze accounts.

CONTENTS

- Account page
    - Record profile
    - The [General information] tab
    - The [Contacts and structure] tab
    - The [Timeline] tab
    - The [Connected to] tab
    - The [History] tab
    - The [Attachments and notes] tab
    - The [Feed] tab
- Finding and merging duplicates
- The [Accounts] section actions
- How to merge several companies into one holding/company group
- How to view the history of a holding/company group activities

SEE ALSO

- Percentage of profile completion
- Record pages

Account page

In Creatio, accounts can be:

- added manually;
- imported from an Excel file;

NOTE

When creating an account manually, Creatio will offer to select an account from the list. The data enrichment function must be set up beforehand. More information about data enrichment setup is available in a separate article.

Account profiles are located on the left. They contain basic information about the account and its primary contact.

The action panel, which contains activities, posts and emails, created when working with the account, is located at the top of the page.

Workflow bar enables you to:

- Schedule a task .
- Send an email .
- Create a case in the self-service portal .
- Create a post in the record feed .
- Record call results .

Tabs, which contain account fields and details, are located below the action panel.

Record profile

General information about the account.

Photo	The logo of an account. It is displayed on the page of the account and next to the name of the account In the section list and in the feed. Click the button to add a new image by using the standard file selection window. We recommend uploading a square image (aspect ratio: 1:1). Click on the button to remove the logo. If you mouse over the photo area, the buttons will become visible.
Company name	Official name of the company.
Type	Type of the account depending on its role in relation to your company, such as “Customer”, “Partner” or “Insurance company”. The account types can be used for filtering in other fields, so we do not recommend deleting the values from the [Account types] lookup.
Owner	Name of the Creatio user responsible for working with the account.
Web	Company web-site.
Primary phone	Primary phone number for contacting this account.
Category	Category that defines how important the account is for your company. For example, “A” – top importance, “D” – low importance.
Industry	Business field that the accountaccount operates in, for example, “IT Company”, “Business services”, or “Manufacturing and distribution”.

– data enrichment button. Read more >>>

Primary contact profile

The **primary contact profile** is located below the account profile and displays full name, job title, work and mobile phone numbers, an email address of the primary contact for the current account.

The [General information] tab

The tab contains primary information on the account, such as segmentation fields, communication options, connections to other contacts and accounts, banking details.

Alternate names	Aliases or additional names of the accountaccount
Primary contact	Name of the main contact person for the account
Company code	Unique code of account It is used to distinguish companies with identical names. The accountaccount code is non-editable and is populated automatically based on the specified template. Use the “Account code mask” system setting to customize auto numbering for legal entities.

Segmentation

Additional information about the account.

No. of employees	Approximate number of employees in the company, for example “51–100” or “501–1000”.
Business entity	Type of legal entity of the company, for example, “LLP”, “Ltd.”, or “Inc.”.
Annual revenue	Possible annual revenue ranges for companies, for example, “15–20 million” or “20–30 million”.

Addresses

List of all addresses of the account.

Address type	Type of account address, for example, delivery, legal, actual address, etc. It is defined when a record is added, but can be changed.
Primary	Indicates the primary address. The primary address of an account is displayed in the list and the record profile. By default, the [Primary] checkbox is selected for the first address added to the [Addresses] detail, but you can select this checkbox for a different address at any time. Only one address can be set as the primary address at a time (if you select the checkbox for a new address, the checkbox for the previous primary address will be cleared).
Address	Street, building number and other details of the company address.

Country State/province City	Location of the company. The [State/province] and [City] fields are connected to the [Country] field. For example, if a city is located in a certain country, then when you populate the [City] field, the [Country] field will be populated automatically. Similarly, if you enter a province in the [State/province], the [Country] field will be populated automatically. When you populate the [Country] field, the [State/province] and [City] fields will show only those regions and cities that correspond to the selected country. You can associate a region with a certain country in the [States/provinces] lookup, and associate a city with a country – in the [Cities] lookup. Use the [Districts] lookup to associate a district with a country.
ZIP	Postal code of the company.

NOTE

The list displays the primary address of an account (the addrss for which the [Primary] checkbox is selected).

After you populate one or several addresses of the account the [Show on map] section action becomes available.

Communication options

The detail contains the list account's communication options: phone numbers, email addresses, website URLs and social network profiles. The detail fields are displayed when you select the corresponding commands in the + menu.

Types of the account communication options.

Primary phone	Phone numbers that can be used to contact the company. Communication option types are defined when a record is added, but can be changed.
Alternate phone	
Fax	
Web	Website and email addresses of the company.
Email	
Facebook	Social network profiles of the account. A separate page is used to link social network accounts to accounts.
Twitter	

NOTE

If an account has multiple web addresses, the list displays the address that was entered last.

You can use default types of communication options or add custom ones. Use the [Communication option types] lookup to add custom types of communication options.

NOTE

Custom communication option types fall into one of the pre-set "communication types": Email, Phone, Skype, SMS, Social network or Web. Be sure to select one when adding a custom communication option type.

Buttons on the [Communication options] detail:

– call the company. The button is displayed on the page if at least one “Phone” communication option field is populated. Click the button to open the communication panel and dial the corresponding phone number.

NOTE

Phone integration is required to make calls. Read more >>>

– email the company. The button is displayed on the page if at least one “Email” communication option field is populated. Click the button to new email draft with the corresponding account specified in the [To] field. If you have synchronized your mail client with Creatio, the draft will be created directly in the Creatio. Otherwise, your default mail client will open.

– visit the company website. The button is displayed on the page if at least one “Web” communication option field is populated. Click this button to open the corresponding website. The website will be opened in your default browser.

– open Facebook search page for selecting the company’s Facebook accounts for adding to the list of the account’s communication options. If a Facebook account has already been added as a communication option, then clicking this button will open the Facebook page of the account.

Banking details

The tab also displays banking details of the account.

Account	Name of the company whose banking details are given. This is a non-editable field.
Opportunity name	Name or type of the company's banking information, such as “Primary bank account”.
Manager	Names of the chief accountant and CEO of the company.
Chief accountant	
Country	Country of the banking details for the account If the selected country has a specific template for banking details in the [Countries] lookup, then this template will appear in the [Banking details] field.
Banking details	Complete information on the company's banking details, for example, account number, SWIFT number, ABA Code, etc.
Notes	Additional information about the banking details,

Noteworthy events

List of company's noteworthy events.

Type	Type of the noteworthy event, for example, “Company day”. Defined when a record is added, but can be changed.
Date	Date of the noteworthy event.

The [Contacts and structure] tab

This detail displays information about the company contact persons and structure.

Organizational structure

This detail displays the company structure and divisions.

Account	Name of the company whose organization structure is established. This is a non-editable field.
Part of	The division that includes a specific department. This is a non-editable field. It is only displayed on the page of the division that has a parent element.
Division	Name of the company division. If you select a value in the [Division] field, this field will be populated with the selected value.
Department	Name of the company department.
Manager	Name of the division manager.
Notes	Additional information about the division.

[Add root item] – adds root items, such as company departments.

[Add subordinate item] – adds a subordinate item for the selected one, for example, a unit within a department.

Contacts

The list of company employees. The detail displays contacts who have this company specified as the current employer on the [Job experience] detail or the contact profile.

To add a new contact to the system, use the + button on the detail. A new contact page will open with the current account specified. Once the page is saved, the employment history detail will display the record about the contact's new place of work.

The [Timeline] tab

The [Timeline] tab contains chronologically organized entries that represent records linked to the current account. Read more >>>

The types of linked records on the account timeline includes activities, calls, emails, feed posts, attachments and cases.

The [Connected to] tab

Connections between the current account and other accounts and contacts.

Account	Name of the company which a relationship is established for. This is a non-editable field.
is a/an	Relationship type, for example, "Partner" – "Holding company". When you select a relationship, the inverse relationship type is automatically populated in the [Inverse relationship] detail.

for contact / for account	Name of the company or person who is connected to this account.
Actual	This checkbox indicates whether the relationship is relevant at the present time.
Notes	Any additional information about the entities.

– chart showing the account connections. The chart shows the “Holding company – Subordinate company” type connections of the account.

> **NOTE**
> You can change the type of the displayed connections using the “Connection type - "Parent account” system setting.

– list showing the account connections.

The [History] tab

The [History] tab contains system records connected to the account.

Cases

Service requests and incidents, registered on behalf of this account. from the [Cases] section. Connection between a case and an account is done by the [Account]field of the case page.

Activities

Tasks connected with this account. The detail displays information from the [Activities] section. To connect an activity to the account, populate the [Account] field of an activity page.

Calls

The list of the subscriber's incoming and outgoing calls. This detail displays information from the [Calls] section. To connect a call to a contact, populate the [Contact] field of the call page.

You can play back a recorded call directly on the detail. Read more >>>

Emails

Emails connected to the current account. To connect an email to the account, populate the [Account] field of an email page.

The [Attachments and notes] tab

Additional information about the account, as well as files and web-resources related to the account. Read more >>>

Attachments

Use this detail to store files and links related to the account. For example, on this detail you can add documents that reflect the accounts relationship history, or links to the company's web resources.

Notes

The [Notes] detail is used to store additional text information about the account. You can edit and organize notes on the detail. If you switch to another tab of the account page, the information on the [Notes] detail will be saved.

The [Feed] tab

The [Feed] tab displays the messages from the [Feed] section that are connected to the current account.

SEE ALSO

- Percentage of profile completion

Finding and merging duplicates

In Creatio, you can search for duplicates and eliminate them. When creating new records, the system automatically checks for duplicates. You can also schedule a periodic duplicates search for accounts and contacts. Read more >>>

SEE ALSO

- General duplicate search
- How to search for duplicates when saving records

The [Accounts] section actions

In addition to the standard actions, the section also contains special actions.

Show duplicate accounts

The [Show duplicate accounts] action opens an additional page that contains all possible duplicates of the accounts. After the duplicates search is completed, records are added on the page automatically. Read more >>>

Show on map

The action shows the list of the selected accounts on a map. Launching the action opens a window that displays accounts selected in the list. If the address is not filled in for all selected accounts, the action will not be performed. If the address is not filled in for some accounts or filled in incorrectly, then the corresponding information will be shown in the opened window.

> NOTE
> You can select multiple accounts in the section using the [Select multiple records] action.

If an account has several addresses populated, e.g., physical address and delivery address, the map displays all the specified addresses. To view the detailed description, click one of the addresses.

> NOTE
> If an account position is not accurate on the map, open the [Addresses] detail and set the point corresponding to the account location on the map.

Update with social networks data

This option allows you to populate the account page with additional information from Facebook. Read more >>>

Actions when saving a record

When you save an account record, additional actions are available.

Adding a new contact person for account

When you save a new account page, a message will appear prompting you to add a new contact person for this record. If you click the [Yes] button the page of a contact, where you can enter information about a primary contact for the account. Click the [No] button to cancel the action.

Duplicates search when saving a record

When you save an account, a duplicates search page might open. It means that this record might be already registered in the system. You can edit the new record or indicate that the records found are not duplicates of the new record being saved.

Print

Account summary	Displays summarized information about the company. The table contains the list of communication options and addresses of the company as well as the history of interaction with it. This print option is available on the account page in the [Print] menu.

Reports

Data sufficiency	The list of fields on the account page is given as a table. For each field the table contains the number of records where this field is filled in and the corresponding percentage. It also displays the number of entries that have no data in this field.

SEE ALSO

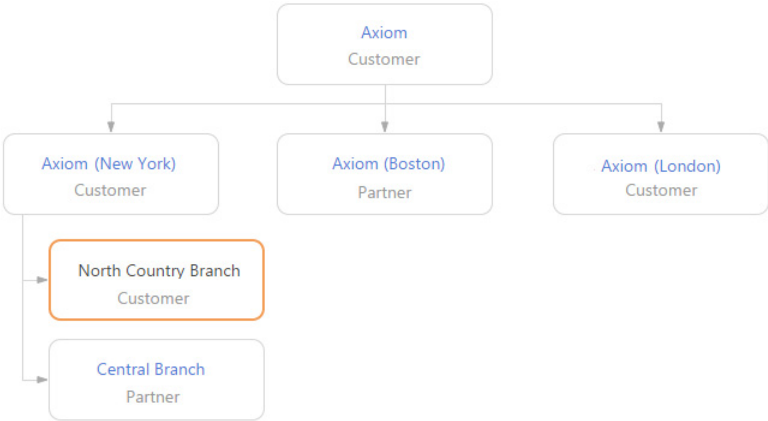
- Dashboards

How to merge several companies into one holding/company group

Make connections between accounts in Creatio to facilitate centralized communication and work flow between accounts. Use the chart to manage relationships with parent and subordinate accounts.

To view the location of an account within the relationship structure, open the [Connected to] tab of the account page. Currently selected account is highlighted in orange (Fig. 247).

Fig. 247 Company group chart



Click the button to view the company's relationships chart. Click the button to switch to the list view.

The chart only shows the “Holding company – Affiliate company” type connections of the account.

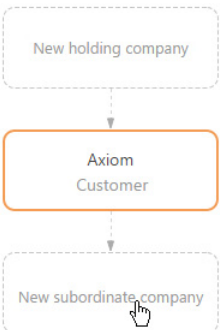
NOTE

You can change the type of the displayed connections using the “Connection type - "Parent account” system setting.

Let's create a holding company structure that includes subordinate companies with branches. To do this:

1. Open the page of the holding account and go to the [Connected to] tab.
2. Click the [Add subordinate company] button (Fig. 248).

Fig. 248 Adding an subordinate company

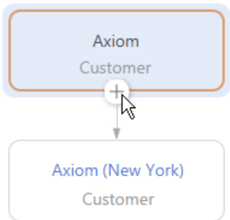


3. In the displayed field, enter the name of the subordinate company that you want to create aconnection to. Select a company from the list (Fig. 249) or create a new one by clicking [New...].

Fig. 249 Connecting the holding company to the subordinate company

4. To add more subordinate companies, select the holding company in the chart and click the existing workplace, select it in the workplace list and click the "+" button (Fig. 250).

Fig. 250 Adding a second subordinate company



5. Click the [+] button to add subordinate connections.
6. In the displayed block, enter the name of the subordinate company.
7. In the similar way, add the subordinate company branches.

NOTE

To delete a connection between accounts, select the company connection you want to delete and click the "x" button.

How to view the history of a holding/company group activities

Use the history to view and analyze the cooperation process with the holding company and all of its affiliates. This will enable you to view activities are in progress for both the holding and each subordinate account.

To view the history:

1. On the parent account page, go to the [History] tab.
2. Expand the [Activities] detail and click the  button.

NOTE

The button is displayed on the [History] tab details and only for parent accounts, if subordinate companies have connected records.

As a result, the detail will show the activities of the subordinate companies of the account (Fig. 251).

Fig. 251 Viewing the activity history of the subordinate companies

You can use the following details to view the opportunities history of the subordinate companies: [Activities] on the [History] tab, and on the [Contacts of account] of the [Contacts and structure] tab.

The history is only displayed for the first and second nesting levels. This means that if the subordinate company has its own subordinates, the records connected to these subordinates will not be displayed for the selected account.

The [Contacts] section

Contacts are the contact persons of your customers and partners , employees and other business and personal contacts.

Use the Contacts section to manage information about contacts, group them by various parameters, analyze the history of interactions with customers, and view the resulting statistics.

Views

The section has several views:

- – list of contacts. Displays contacts as a list of records. All list columns are described below in the context of the contact page.
- – contacts analytics. Displays charts, indicators and ratings that can be used to analyze contacts.

CONTENTS

SEE ALSO

- The [Accounts] section > Finding and merging duplicates
- Integration with the MS Exchange service
- Integration with Google services
- Integration with social networks
- Contact profile enrichment

Contact page

A contact can be:

- added manually;
- imported as an Excel file;
- received through synchronization with social networks.
- received through Google synchronization.
- created with incoming mail processing;
- created with Single Sign-On authentication.

ATTENTION

To synchronize with external resources, you need to perform initial setup. Social network integration, Google synchronization and Single Sign-On technology are described in separate chapters.

NOTE

Contact personal data are stored in the contact's profile, on the [Communication channels] and [Addresses] details at the [Contact info] tab and on the [Job experience] detail at the [current employment] tab. In the database they correspond to the following tables: "Contact", "ContactCommunication", "ContactAddress" and "ContactCareer".

The contact profile and connected account profile are located on the left side of the contact page. Profiles contain basic information on the current and connected records.

The action panel, which contains activities, posts and emails, created when working with the contact, is located at the top of the page.

Workflow bar enables you to:

- Schedule a task .
- Send an email .
- Create a case in the self-service portal .
- Create a post in the record feed .
- Record call results .

Tabs, which contain contact fields and details, are located below the action panel.

Record profile

General information about a contact.

Photo	A photo is displayed on the contact's page as well as next to the contact name when displayed in other sections and in the feed. Click the button to add a new photo. We recommend uploading a square image (aspect ratio: 1:1). Click on the button to remove the photo. If you mouse over the photo area, the buttons will become visible.
Time zone and city	Contact's time zone and current time, determined automatically, using data on the [Addresses] detail. Read more >>>
Contact name	First name, middle name, last name of the contact.
Full job title	Contact's job title, for example, "Direcor" or "Department manager".
Mobile phone	Mobile phone number. The value is synchronized with the [Communication options] detail of the [General information] tab.
Business phone	Business phone number. The value is synchronized with the [Communication options] detail of the [General information] tab.

Email	Email address. The value is synchronized with the [Communication options] detail of the [General information] tab.

Account profile

Under the profile with main information about contact, **the profile of the account** is located, in which fields are displayed with name, type and owner of the account, website address, primary phone, category and industry of the company the account works for.

Changing the account specified in the profile will also change information on the [Job experience] detail of the contact page. Likewise, modifying the information on the [Job experience] detail will update the account specified in the contact's profile.

The [General information] tab

The tab contains salutation, address, noteworthy events and the contact's connections to other contacts or accounts. .

Type	Contact type: customer, supplier, contact person or employee.
Owner	Name of the contact, responsible for the current contact.
Title	Honorific, for example, "Mr" or "Mrs".
Gender	Contact gender.

Communication options

This detail contains the list of contact's communication options, as well as the list of the banned ones.

The detail fields are displayed when you select the corresponding commands in the + menu.

Types of contact's communication options.

Business phone	The phone numbers you can use to contact the contact. Communication option types are defined when a record is added, but can be changed.
Mobile phone	
Home phone	
Skype	Contact's Skype account.
Email	Website and email addresses of the contact.
Web	
Facebook	Contact's social network profiles. A separate page is used to link a social network account to the contact
Twitter	

<table>
<tr><td>Do not use email</td><td rowspan="5">Checkboxes signify which communication options should not be used to contact a contact. For example, if a contact does not wish to receive mails, select the [Do not use mail] checkbox. For example, if a contact did not consent to receive emails, select the [Do not use Email] checkbox.

When sending bulk emails via the [Send email] element in the business process or case, Creatio ignores the [Do not use email] checkbox selected in the [Communication options] detail.</td></tr>
<tr><td>Do not use phone</td></tr>
<tr><td>Do not use SMS</td></tr>
<tr><td>Do not use mail</td></tr>
<tr><td>Do not use fax</td></tr>
</table>

NOTE

The record list displays the last of the entered email addresses of the contact.

You can use default types of communication options or add custom ones. Use the [Communication option types] lookup to add custom types of communication options.

NOTE

Custom communication option types fall into one of the pre-set “communication types”: Email, Phone, Skype, SMS, Social network or Web. Be sure to select one when adding a custom communication option type.

ATTENTION

If the MS Exchange integration is configured, it is not recommended to change default communication option types, since this may lead to synchronization errors. More information about contact fields is covered in a separate article.

Buttons on the [Communication options] detail:

– call to a contact. The button is displayed on the page if at least one field of the “Phone” type communication options is available Click the button to open the communication panel and dial the corresponding phone number.

NOTE

Phone integration is required to make calls. Read more >>>

– email the contact. The button is displayed on the page if at least one “Email” communication option field is populated. Click the button to new email draft with the corresponding account specified in the [To] field. If you have synchronized your mail client with Creatio, the draft will be created directly in the Creatio. Otherwise, your default mail client will open.

– visit the contact’s website. The button is displayed on the page if at least one “Web” communication option field is populated. Click this button to open the corresponding website. The website will be opened in your default browser.

– open Facebook search page for selecting the contact’’s Facebook accounts for adding to the list of the contact’s communication options. If a Facebook account has already been added as a communication option, clicking the button will open contact’s Facebook page.

Addresses

List of all addresses of the contact.

Address type	Type of address of the contact, for example, “Business”. Defined when a record is added, but can be changed.

Primary	Indicates the primary address. Select this checkbox to display this address in the contact profile. By default, the [Primary] checkbox is selected for the first address added to the [Addresses] detail, but you can select this checkbox for a different address at any time. The checkbox in the original record will be cleared.
Address	Street, building number and other details of the contact's address.
City	Contact's location. The [State/province] and [City] fields are connected to the [Country] field. For example, if a city is located in a certain country, the [Country] field will be populated automatically when you fill in the [City] field. Similarly, if you enter a province in the [State/province], the [Country] field will be populated automatically. When you fill in the [Country] field, the [State/province] and [City] fields will display only those regions and cities, which correspond to the selected country. You can associate a region with a certain country in the [States/provinces] lookup, and associate a city with a country – in the [Cities] lookup.
Country	
ZIP	Postal code of the contact's address.

NOTE

The list displays the contact's primary address.

Noteworthy events

List of contact's noteworthy events.

Type	Type of the noteworthy event, such as "Birthday" or "Company day". Defined when a record is added, but can be changed.
Date	Date of the noteworthy event.

Connected to

Connections of the contact with other contacts and accounts.

Contact	Name of the contact for whom a connection is established. This is a non-editable field.
is a/an	Relationship type, for example, "Employee" or "Employer". When you select a connection, the inverse connection type is automatically filled in the [Inverse relationship] detail.
For a contact	Name of the connected account or name of the connected contact.
Actual	This checkbox indicates whether the relationship is relevant at the present time.
Notes	Any additional information about the entities.

The [Employment] tab

The tab displays all information about contact's employment, including current job and the previous ones.

Type of employment	Indicates whether the employment of the contact is full time, part time or seasonal.
Employer	Account profile
Job title	Position held by the contact, for example, “Department manager”.
Full job title	Exact job title, such as “Sales department manager”. If you select a value in the [Job title] field, this field will be filled in with the selected value.
Department	Company's department where this conatct works, for example “Sales” or “Marketing”.
Role	Contact’s influence in the decision making process, for example, Manager” , “Assignee” .

The data on the [Current employment] tab is synchronized with the information on the [Job experience] detail.

If you fill in the [Account] and when saving the page of the contact a message will appear prompting you to add a new record on the [Job experience] detail. When you click [Yes], a record with the new place of employment is automatically added on the [Job experience] detail. This information includes the company name and a day when the contact started working at the company. The [Primary] and [Current] checkboxes are also selected.

When you change information in the fields of the [Current employment] tab that is associated with the [Job experience] detail (for example, information about the company, department and position of contact), a message will appear prompting you to add a new record on the [Job experience] detail or to update an existing record. When a new record is added in the [Job experience] detail, the [Primary] and [Current] checkboxes are selected for this record, and the [Started on] field is filled in with the current date. The [Current] checkbox will be cleared for the previous place of work and the [Worked till] field will be filled in with the current date.

If you clear the [Account

Job experience

Information about all employers of the contact.

Contact	Current contact. This is a non-editable field.
	Contact’s employer.
Job title	Position held by the contact, for example, “Department manager”.
Full job title	Exact job title, such as “Sales department manager”.
Department	Company department where the contact works.
Start	Date when the employee was assigned to work in this position.

Due date	Date when the employee left the job.
Primary	Checkbox indicates that this place of work is the principal one.
Current	Checkbox indicates the company where contact works at the present time.
Reason for job change	The reason why the employee decided to accept this position, for example, “Interesting work” or “Promotion”.
Description	Additional information about the contact's employment.

NOTE

The [Current employment] field group displays information about the place of work for which both the [Primary] and [Current] checkboxes are selected.

The data on the [Job experience] detail is synchronized with the information in the [Current employment] field group.

If either of the [Primary] and [Current] checkboxes is cleared for a record in the [Job experience] detail, the data about the place of work will be automatically cleared in the [Current employment] field group. When a record with the selected [Primary] and [Current] checkboxes is modified, the data in the [Current employment] field group is updated automatically.

If you select the [Primary] and [Current] checkboxes for another record in the [Job experience] detail, a message will appear asking whether the contact is still working in the specified position. If you click the [Yes] button, the [Primary] checkbox for the previous place of work will be cleared. If you click the [No] button, the [Current] checkbox for the previous place of work will be cleared.

The [Timeline] tab

The [Timeline] tab contains chronologically organized entries that represent records linked to the current contact. Read more >>>

The types of linked records on the contact timeline include activities, calls, emails, feed posts, attachments and cases.

The [History] tab

The [History] tab displays records that are connected to the current contact.

Cases

A list of applications or incidents that this contact has submitted from the [Cases] section. To connect an application to acontact fill in the [Contact] page of the application .

Activities

Tasks and meetings that are connected to the current contact. The detail displays information from the [Activities] section. To connect an activity to a contact, fill in the [Contact] field of an activity page.

Calls

The list of the subscriber's incoming and outgoing calls. This detail displays information from the [Calls] section. To connect an activity to a contact, fill in the [Contact] field of an activity page.

You can play back a recorded call directly on the detail. Read more >>>

•

The [Attachments and notes] tab

The [Attachments and notes] tab contains additional information and related links to web resources. Read more >>>

Attachments

Use this detail to store files and links. For example, on this detail you can add documents that reflect a contact's history or links to web resources.

Notes

The [Notes] detail is used to store additional text information. You can edit and organize your notes on the detail. If you switch to another tab of the contact page, the information on the [Notes] detail will be saved.

The [Feed] tab

The [Feed] tab displays the messages from the [Feed] section that are connected to the current contact.

SEE ALSO

- Integration with the MS Exchange service
- Integration with Google services
- Enrichment of contacts from the incoming email

Finding and merging contact duplicates

You can search for duplicates and eliminate them. When creating new records, the system automatically checks for duplicates. You can also schedule a periodic duplicates search for accounts and contacts. Read more >>>

SEE ALSO

- General duplicate search
- How to search for duplicates when saving records

The actions in the [Contacts] section

Show duplicate contacts

The [Show duplicate contacts] action opens an additional page that contains all possible duplicates of contacts. After the duplicates search is completed, records are added on the page automatically. Read more >>>

Show on map

This action shows the location of selected contacts on a map. Launching the action opens a window that displays contacts selected in the list. If the address is not filled in for all selected contacts, the action will not be performed. If the address is not filled in for some contacts or filled in incorrectly, then the corresponding information will be shown in the opened window.

NOTE

You can select multiple contacts in the section using the [Select multiple records] action.

Update with social networks data

This option is for populating the contact's page with additional information from Facebook. Read more >>>

Synchronize with Google Contacts

This action is for synchronizing Creatio with Google Contacts. Read more >>>

Set up Google synchronization

This action is available in the actions menu of the [Contacts] section. It sets up the integration between the Google Contacts and Creatio contacts. When you start this action, a setup window will open. Read more >>>

Synchronize with Contacts in Exchange

The action is displayed in the actions menu if the Microsoft Exchange email provider is added to the system. The action is available if a MS Exchange account is set up in Creatio. It is used for synchronizing Creatio with MS Exchange. Read more >>>

Actions when saving a record

When you save a record, additional actions are available.

Duplicates search when saving a record

When you save a contact, a duplicates search page might open. It means that this record might be already registered in the system.

You can edit the new record or indicate that the records found are not duplicates of the new record being saved.

Print

Contact's dossier	This displays the summarized information about the contact person. The table contains a list of communication options and addresses of the contact as well as the history of interaction with it. This print option is available on the contact's page in the [Print] menu.

Percentage of profile completion

You can monitor the percentage of completed profile data for contacts and accounts and track process flow using convenient visual tools. You can configure how the percentage of complete data will be calculated according to your company's internal requirements. The system will ask you to fill in the missing data for account, contact or opportunity page.

The system allows you to set up complete data analytics and view information grouped by owners.

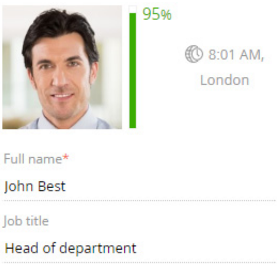
CONTENTS

- Complete data calculation settings

Analyzing profile data

The indicator on an account, contact or opportunity page displays the percentage of profile data complete (Fig. 252). The profile data complete indicator is located at the top left corner of a user page.

Fig. 252 Contact page data complete indicator



NOTE

Recalculation of the profile completeness indicator is performed when opening the contact page or account page and when saving or changing the recalculation rules in the lookup.. To update the percentage, for example, after importing data from Excel, run the [Update the profile data population] business process.

The unsatisfactory data percentage is marked red on the indicator, the satisfactory data percentage is marked yellow and the complete data percentage is of green color.

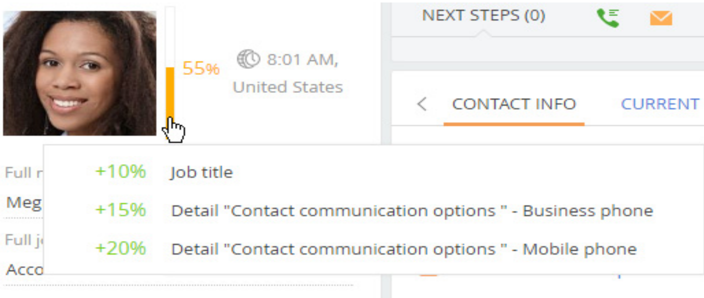
The indicator also shows the total percentage of data completeness. The indicator readings will depend on how many fields are filled in on a page. You can modify how each value item on a page will contribute to the calculation of profile data complete. For example, you can set up the calculation so that filling in the "Role" field on a contact page will add 10% to the percentage of the profile completion.

NOTE

For more information about the data completion calculation settings, read the corresponding article.

Click the indicator to view a hint about how many fields or details should be filled in to increase the percentage displayed. If there are several unfilled items, they will be displayed in the descending order of the percentage that they add to the indicator when filled in (Fig. 253).

Fig. 253 Hints about completing a contact page profile



SEE ALSO

- Complete data calculation settings
- Percentage of profile completion

Complete data calculation settings

Creatio allows you to customize the parameters used for the calculation of the profile data. You can set up the scale to be displayed on a contact, account or opportunity page.

The data complete calculation can be customized for the [Contacts], [Accounts] and [Opportunities] sections. The customization process is similar for all these sections.

To set up the data complete calculation for contacts or opportunities:

1. Open the [Lookups] section. To do this, open the system designer by clicking the button at the top right corner of the application. In the [System setup] block, click the [Lookups] link.

   NOTE

   You can set up access rights to this action using the [Access to "Lookups" section] system operation.

2. Select the [Data entry compliance] lookup in the list Select the lookup record and click the [Open content] button.
3. On the opened page, select the section for which you want to configure the data complete calculation: [Contacts], [Accounts] or [Opportunities].

   For example, let's configure the data complete calculation settings for contacts. To do this, select the [Contacts] record in the list and click [Open].
4. On the opened page, you can set up the scale and the parameters of the indicator.

Indicator scale setup

The incomplete data percentage is marked red on the indicator, the satisfactory data percentage is marked yellow and the complete data percentage is of green color (Fig. 254).

To set up the profile data complete indicator, define the ranges of values to be regarded as incomplete, satisfactory and complete profile data. To do this:

1. Specify the upper limit of the range to be assigned to the incomplete profile data. This is the lowest possible value that is satisfactory. By default it is set to "50%".

2. Specify the upper limit of the range for the satisfactory level of the profile data complete. This is the lowest possible value that is sufficient. By default it is set to “80%”.

Fig. 254 Profile data complete indicator

NOTE

The lower limit of the incomplete data range is non-editable and always equals "0%". Similarly, the upper limit of the complete data range is non-editable and always equals "100%".

Indicator attributes setup

You can set up the indicator attributes to define how different types of profile data entered impact the percentage of the profile data complete. For example, you can configure the settings so that entering information about a contact's company will add 15% to the percentage of the profile data complete.

NOTE

The [Attributes] detail of the [Data entry compliance] lookup uses an editable list which is described in a separate article.

To set up the data complete attributes:

1. Go to the [Attributes] detail toolbar and click the + button.

NOTE

The total percentage of the data complete attributes must equal 100%. You can add a new attribute only if the total percentage of the already added attributes is less than 100%.

2. Select the required attribute from the drop-down menu. An attribute can be:

    a. A field value on a page. For example, contact role.

NOTE

Fields to be filled in with numeric type values are considered filled in if they contain any value except 0.

    b. Information on connected tabs. For example, calls connected to a contact.

NOTE

The [Activities] detail displays the connected "Task" type activities only.

    c. Values for different types of detail fields.

    [Addresses] and [Communication options] tabs of contacts and accounts have different types of values to be filled in their fields. Each address type (legal, postal etc.) and each communication option (mobile phone, email etc.) is considered a separate attribute.

3. Specify the amount of percentage you want an attribute to add to the indicator of the profile data. For example, you can set up the calculation so that specifying a mobile phone number for a contact will add 25% to the percentage of the profile data complete.

    You can configure other attributes in the same manner.

NOTE

When you add a new attribute to the [Data population percentage] column, the maximum possible value is set by default.

4. Save the changes made to the [Data entry compliance] lookup after you finish the setup process. All indicators displaying the profile data completion will be updated automatically.

SEE ALSO

- Analyzing profile data
- Percentage of profile completion

The [Employees] section

Use the [Employees] section to maintain information about the company employees. This section enables you to add and maintain personal data, probation periods, onboarding plans, up–to–date information on career movements of employees.

Views

The following views are available:

- – employee list. Displays employee data as a list of records.
- – employee analytics. Admission and dismissal dynamics, dismissal reason analytics and other indicators are available in this view.

The “Working employees” quick filter is used in this section. The filter displays only employees with empty “Due date” field in [Career] tab or the date has not come yet.

CONTENTS

SEE ALSO

- Contact page

Getting started with the [Employees] section

Perform initial setup before working with the [Employees] section:

- Configure the list of job titles of your company employees. Read more >>>
- Configure hierarchical structure of departments and divisions to display your company structure and career movements of the employees. Read more >>>
- Fill the [Employees] section with data. Read more >>>

CONTENTS

SEE ALSO

- The [Contacts] section

How to configure job titles of employees

The staffing table of your company may be different from the staffing table of the other companies. Therefore, contact and employee positions are stored in separate lookups. To configure employee job titles according to your staffing table:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Click the [Lookups] link in the [System setup] block.
3. Select the [Employees] folder in the lookups section.
4. Open the [Employee jobs] lookup.
5. Add a new record to the lookup by clicking the [New] button.
6. Enter job name and description.
7. Repeat steps 5 to 6 for all job titles from your company staffing table.

SEE ALSO

- How to configure departments structure of your company
- How to create a new record in the [Employees] section

How to configure departments structure of your company

Configure hierarchical structure of departments and other structural units to maintain information about the company employees and their career movements. To do this, edit the records in the [Organization structure items] lookup. To configure the structure:

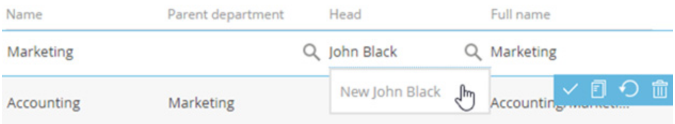
1. Open the system designer by clicking the button in the top right corner of the application window.
2. Click the [Lookups] link in the [System setup] block.
3. Select the [Employees] folder in the lookups section.
4. Open the [Organization structure items] lookup.
5. Add a new record to the lookup by clicking the [New] button.

   NOTE

   Start adding company departments from general to specific. This will help to set links between the departments and form the full names of departments and divisions.

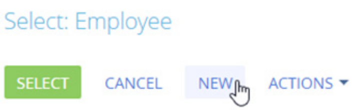
6. Enter the name of the organizational unit, for example, “Board of Directors”.
7. Specify the name of this organizational unit manager in the [Head] field. Click the button and select the manager from the list of employees. If the [Employees] section is empty, you can add a head of department in two ways:
   - Enter an employee name in the [head] field. You will be prompted to create a record in the [Employees] section with specified name (Fig. 255). A mini page of adding a record to the [Employees] department will open by clicking the prompt field. Fill out the contact page and click [Save]. The created contact will be specified in the [Head] field of the [Organization structure items] lookup.

Fig. 255 Creating new record in the [Employees] section from the [Organization structure items] lookup



- Click the button and click the [New] button in the opened window (Fig. 256). The new contact record page will be opened. The main personal data and communication options will be passed to the employee's page from this new record. Specify an account, department and position for the new employee. Save the page. As a result, new employee will be specified as a head of the department in the [Organization structure items] lookup.

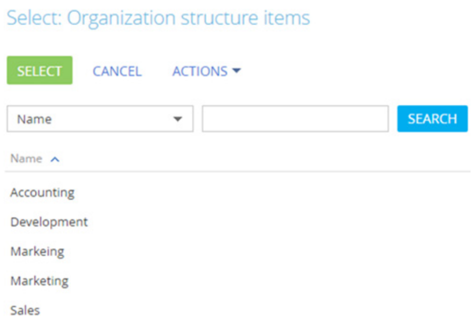
Fig. 256 Adding new record to the [Employees] section from the value selection window



8. Configure the status of created department in the company structure by specifying the parent department.
9. Repeat steps 5 through 8 for all departments of your company.
10. Full name of the organizational unit will be generated automatically. The values of the [Name] and [Parent department] fields will be used in its name.

As a result, a full hierarchical structure of the company will be generated and displayed at the selection of the employee's organizational unit (Fig. 257). A manager's profile will be populated on the employee's page according the information about employee's organizational unit.

Fig. 257 Organizational unit selection window of the employee's page



SEE ALSO

- How to configure job titles of employees
- How to create a new record in the [Employees] section

How to create a new record in the [Employees] section

A new record in the [Employees] section is created based on the existing contact. The employee's page will pull information such as personal data, contact and address information, noteworthy events and career changes from the corresponding contact page. Records can be imported or added manually.

> **NOTE**
> Data import is described in the corresponding article.

To create a new record in the [Employees] section **manually**:

1. Click the [New employee] button.
2. Specify in the mini page:
    - A contact based on which an employee record will be created.
    - Employee's job title, for example, "Department manager".
    - Exact job title, such as "Sales department manager".
    - Department, for example, "Marketing".

    > **NOTE**
    > A list and hierarchical structure of departments is configured in the [Organization structure items] lookup. For more information on importing communication options is available in a separate article.

    - Employee account.
3. The following data will be automatically passed to the new employee page from the contact page, if they were specified:

- Communication options.
- Addresses.
- Noteworthy events.
- Career.

The data about the user, its organizational and functional roles will be added.

4. Add the information about employee's career at your company on the [Career] tab.
5. Save the page.

Next time you edit the data on the employee page, the changes will also be reflected on the employee's contact page.

SEE ALSO

- How to configure job titles of employees
- How to configure departments structure of your company
- How to track information about former employees

How to track information about former employees

In the [Employees] section, enter the data about all employees of your company, both current and former. The base of contacts will help to work with recruiting agencies, black lists of job seekers or when an employee returns to the company. To set up a list of employees:

1. Add data about your former employees to the section. You can add data manually or import from a file (for more information please see the "How to create a new record in the [Employees] section" article).
2. Open the [Career] tab on the employee page and fill the [Due date] and [Reason for job change] fields.

   NOTE

   An employee is considered as working with empty "Due date" field in [Career] tab or the date has not come yet.

3. If you have information about further career of your former employee, add it to the [Job experience] detail.
4. Save the changes.

Only records of working employees are displayed in the section list and in folders by default. Disable the "Working employees" quick filter to display the full list of employees.

SEE ALSO

- How to create a new record in the [Employees] section

Employee page

Basic employee data (full name, communication options, title, date of birth, division is available) on the left of the employee page. The employee's manager information is also available in the profile area.

The action panel located at the top of the page. The action panel contains activities created when working with an employee. It also displays employee's activities from their schedule.

Using the action panel, you can:

- schedule a task
- send an email to an employee
- create a post in the record feed
- Record call results .

NOTE

The data displayed on the action panel of the employee page is synchronized with the action panel of the corresponding contact page. For example, a task scheduled using the action panel on the employee page will also be available on the contact page.

Tabs below the action panel display detailed information about the employee.

Record profile

General employee information

Photo	Employee’s photo. Photos are pulled from the corresponding contact pages. It can be changed only on the contact page.
Contact name	First and last name of the employee. The field displays the data specified on the contact page. If you change the name on the employee page, the data on the contact page will also be updated.
Job title	Employee's current position (e.g. “Director” or “Head of Department”). The field is populated with the [Employee jobs] lookup values.
Full job title	The field is populated automatically – it duplicates the title selected in the [Employee jobs] lookup. If necessary, the title may be edited.
Organizational unit	Company’s organizational unit where the employee works. The field is populated with the [Organization structure items] lookup values. At the same time, if the manager of the organizational unit is specified in the lookup, their data will be automatically displayed in the manager’s profile on the employee's page.
Account	The employer’s account name is specified in this field. You may only select the accounts with the “Our Company” type. If you update this field, the account field of the contact page will also be updated.
Business phone	Employee's business phone number. The field displays the [Communication options] detail value of the [Contact info] tab of the employee and contact pages.
Email	Employee's email address. The field displays the [Communication options] detail value of the [Contact info] tab of the employee and contact pages.
Birth date	Employee's birth date. The field displays the [Noteworthy events] detail value of the [Contact info] tab of the employee and contact pages.

Gender	Employee's gender. The field displays the value of the [Contact info] tab of the contact page. This field cannot be edited on the employee page.
Owner	The Creatio user who is the author of this record in the [Employees] section and maintains the information about this employee. The field is populated automatically once the record is created.

General information about the owner

Photo	Photo of the contact owner Photos are pulled from the corresponding contact pages. It can be changed only on the contact page.
Contact name	First and last name of the owner The field group displays the data that is specified on the contact page. This field cannot be edited on the employee page.
Mobile phone	The field group displays the data that is specified on the contact page. This field can not be edited on the employee page.
Business phone	

NOTE

if the owner of the organizational unit is indicated in the [Organization structure items] lookup, their data will be automatically displayed in the owner's profile on the employee's page. If the owner is not specified the lookup, you can specify him manually, from the employees list.

The [General information] tab

The tab contains general contact information about the employee (contact and address data, noteworthy events etc.). The data on the [General information] tab is synchronized with the corresponding data on the contact page. If you change the communication options or any other data, enter new information on the employee page, and it will also be displayed on the contact page.

Communication options

This detail contains the list of employee's communication options, as well as the list of the restricted communication channels. The tab displays the [Communication options] detail values of the contact page. If you change the communication options on the employee page, the data on the contact page will also be updated.

The detail fields are displayed when you select the corresponding commands in the [Add] menu.

Business phone	Phone numbers that can be used to contact the employee. Communication option types are defined when a record is added, but can be changed.
Mobile phone	
Home phone	
Skype	Skype account of the employee.
Email	Website and email addresses of the employee.
Web	

Facebook	Social network profiles of the employee. This field is populated by searching for the social network profile of the employee on a separate page.
Twitter	
Do not use email	Checkboxes indicate which communication options should not be used to contact the employee. For example, if a contact does not wish to receive SMS, select the [Do not use SMS] checkbox.
Do not use phone	
Do not use SMS	
Do not use mail	
Do not use fax	

– call the employee. The button is displayed on the page if at least one "Phone" communication option field is populated.

– opens the Facebook search page where you can select an employee's social network profile and add it as a communication option. If the employee's account has already been added as a communication option, the button will be displayed in a blue color. Click to open the Facebook page of the account.

Addresses

List of employee addresses. The detail displays the [Addresses] detail value of the [Contact info] tab of the contact page.

Address type	Type of address of an employee, e.g. "Home" or "Work". Defined when a record is added, but can be changed.
Address	Street, building number and other details of an employee's address.
City	Employee location. The [State/province] and [City] fields are connected to the [Country] field. For example, if a city is located in a certain country, the [Country] field will be populated automatically when you fill in the [City] field. Similarly, if you enter a province in the [State/province], the [Country] field will be populated automatically. When you fill in the [Country] field, the [State/province] and [City] fields will display only those regions and cities, which correspond to the selected country. You can associate a region with a certain country in the [States/provinces] lookup, and associate a city with a country – in the [Cities] lookup.
Country	
ZIP	Postal code of an employee.

Noteworthy events

List of employee's noteworthy events. The field displays the [Noteworthy events] detail values of the contact page.

The [Career] tab

The tab displays all information about career changes of an employee, including current and previous positions and the place of work. When editing data on the [Career] tab of the employee's page, changes will also be displayed on the [Workplace] tab of the employee's contact page.

General information

The field group contains such information as employment and dismissal dates, probation period and the dismissal reasons of an employee. For current employees the information on the current position is displayed in these fields.

Start date	The date the employee started working in your company.
Probation ends	The end of the probationary period.
Reason for job change	This field is populated with the [Reason for job change] lookup values.
End date	Date of dismissal.

Career in our company

Employee’s career changes within the company.

Account	The employer account name is specified in this field.
Organizational unit	Company’s organization structure unit where the employee works, for example “Sales” or “Marketing”.
Job title	Employee’s title, for example, “Department manager”. The field is populated with the [Job title] lookup values.
Full job title	Exact job title, such as “Sales department manager”. This field is automatically populated with the value that is selected in the [Job] field, but may be edited if necessary.
Start date	Date when the employee was assigned to work in this position.
Due date	Date when the employee left the job.
Current	Checkbox indicates the company where an employee works at the present time.

The [Career in our company] detail data is synchronized with the general career information fields of the employee profile. For example, if you change the date in the [Start date] field of the [Career in our company] detail, the date in the [Start date] field of the [General information] field group also changes. When entering the end date, the [Current] checkbox the automatically removed from the previous job record.

Let’s take a look at the process of transferring an employee to another department / unit within your company:

1. Select the record that indicates the current position of the employee on the [Career in our company] detail.

2. Go to the edit page of the record by clicking [Edit] in the action menu of the detail. Specify the end date for this position and save the changes.

   NOTE

   If you populated the [End date] and [Reason for job change] fields, the [Current] checkbox is automatically removed from the job record.

3. Add a new employee position by pressing the + button and fill in all the necessary data (e.g. new position, start date, organizational unit, [Current] checkbox).

As a result, the data in the [Basic Information] field group will also update.

Job experience

Information about all work places of an employee. The data specified on the [Career] detail of the linked contact page is displayed here. These details need to be updated when the employee is hired and dismissed.

The [User Account] tab

If an employee is a Creatio user, their information and roles are displayed on the [User Account] tab. Upon registering a new user account for an employee, all connected data will be displayed on the [User account] tab of the employee page automatically.

The user login and the [Active] checkbox on the [User Information] detail cannot be edited.

The data on the [Organizational roles] and [Functional roles] details may be edited on the employee page. If edited, the data will be updated on the contact page as well.

The [Attachments and notes] tab

Detailed information about an employee, as well as attachments and links to web resources. Read more >>>

Attachments

Used to store employee document copies. For example, you may add an employee's ID scan copy, employment contract, etc. to the detail.

Notes

The [Notes] detail is used to store additional text information about an employee. You can edit and organize notes on the detail. If you switch to another tab of the employee page, the information on the [Notes] detail will be saved.

The [Feed] tab

The [Feed] tab displays the messages from the [Feed] section that are connected to the employee record.

SEE ALSO

- Contact page
- Users and roles management

The [Activities] section

Use the **Activities** section of the Creatio to optimize your working day management, create schedules, plan activities for other employees, track interconnections between activities and other system sections, and keep records of completed tasks.

Views

The section has several views:

- – displays activities as an electronic day planner. Read more >>>
- – displays activities as a list of records. All list columns are described below in the context of the activity page.
- – activity analytics. It displays charts, indicators and ratings that can be used to analyze activities.

Filters

There are several quick filters set in the section:

- By date (the [Start] and [Due] fields) – the filter displays activities, which overlap with the specified time period. For example, if the activity time period is longer than the one specified in the quick filter and these time periods overlap - the activity will be displayed as a result of filtration.
- By responsible employee (data in the [Owner] field and the [Participants] detail of an activity page).

NEXT

- Calendar
- Task page
  - General information
  - The [General information] tab
  - The [Participants] tab
  - The [Attachments and notes] tab
  - The [Feed] tab
- Actions in the [Activities] section

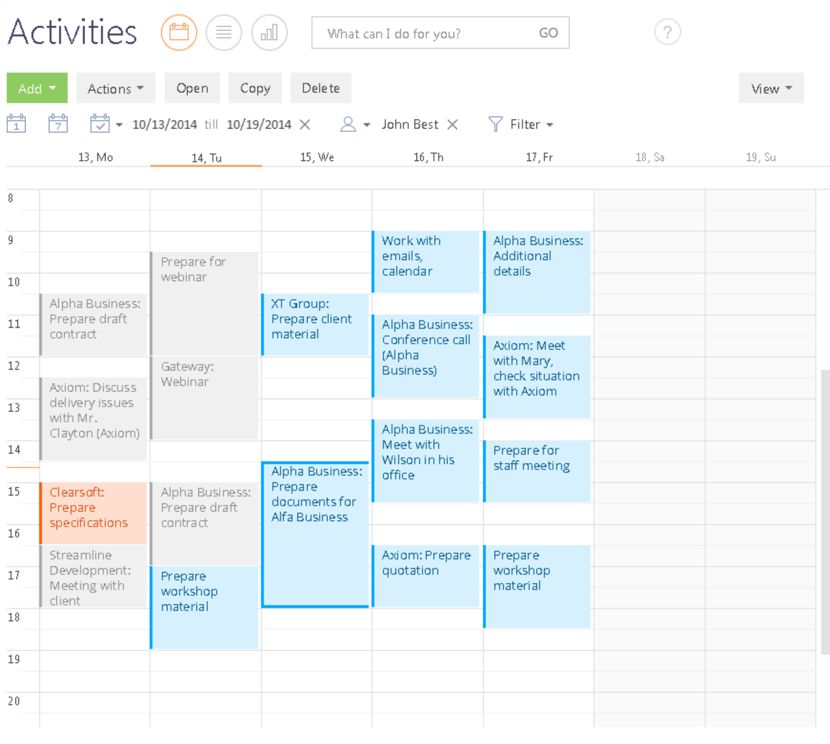
SEE ALSO

- Integration with email services by the IMAP/SMTP protocol
- Integration with the MS Exchange service
- Integration with Google services

Calendar

The calendar view (Fig. 258) displays activities as an electronic day planner.

Fig. 258 The calendar view



You can add, copy, delete, as well as open an activity for viewing or editing using the toolbar buttons. When you copy an activity, the list of its participants will be copied too. Activities in the calendar can be filtered in the same manner as records in the list.

The calendar area

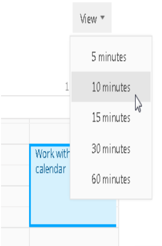
The calendar area is divided into days. The date and day of the week are displayed in the heading of each day column. The title of the current day is highlighted.

In the calendar area activities are displayed in the form of rectangular blocks whose height corresponds to the duration of activities. The current time is highlighted with an orange line. To scroll the calendar vertically, use the scrollbar at the right of the calendar or the [Up] and [Down] keys on your keyboard.

The calendar scale

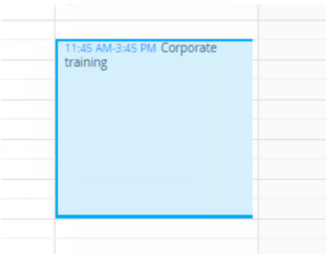
A calendar cell can display time intervals from 5 to 60 minutes. You can modify the calendar scale by selecting the corresponding command from the [View] menu (Fig. 259).

Fig. 259 Changing the calendar scale



The calendar scale influences the accuracy of how activities are displayed (a calendar cell is always fully occupied). For example, if the cell is set to the interval of “60 minutes“, the activity with 1 hour 20 minutes duration occupies 2 cells. In this case, the accurate duration of the activity is displayed (Fig. 260).

Fig. 260 Activity start and due date in the calendar

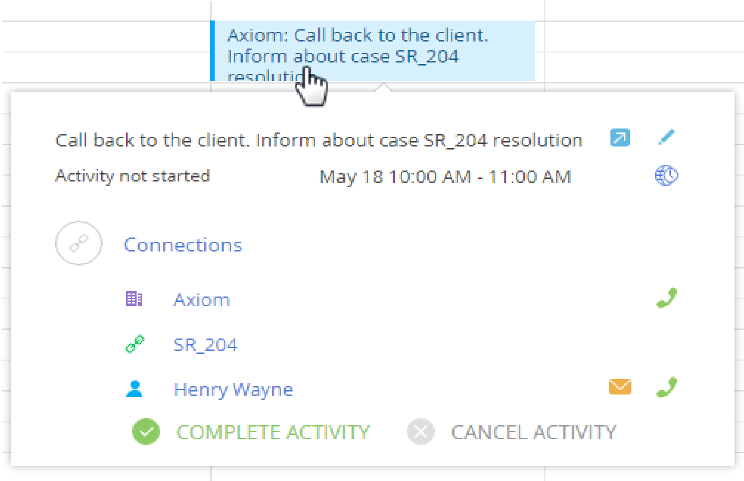


NOTE

If the account is specified for an activity, its name will be displayed in the calendar before the activity subject.

If the current calendar scale does not allow to display the accurate start and due time, you can see it on a mini page that appears when you mouse over the activity subject. In addition to timing, the mini page contains basic activity information (Fig. 261).

Fig. 261 Activity mini page in the calendar view



NOTE

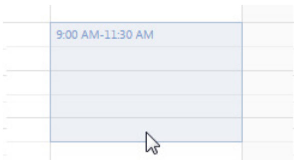
Information displayed on a mini page depends on which fields are filled-in on the activity page. For more information on mini pages, please refer to the separate article about mini pages.

How to add activities from the calendar view

You can add tasks to the section directly from the calendar. To do this:

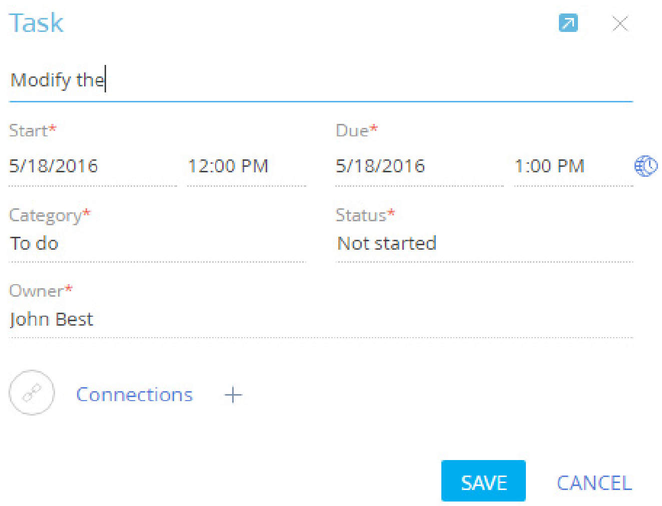
1. Use the mouse to highlight the time period required to complete the activity (Fig. 262).

   Fig. 262 Highlighting a time period in the calendar view

2. Start typing the activity subject. A mini page containing the added text will open (Fig. 263).

Fig. 263 Adding a task



3. Enter text, connect activity to other records and save your changes.

   As a result, a new task will be added to the system.

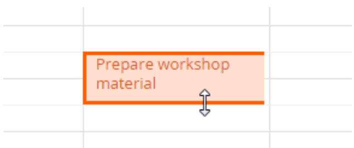
How to edit activities in the calendar

To edit an existing activity directly in the calendar view:

1. Click the **subject** of the needed record in the calendar area. Activity mini page will open.
2. Click the button to switch the mini page to edit mode, then make necessary changes and save the mini page.

You can also change activity duration without opening its mini page. To do this, place the cursor at the activity time border, click the left mouse button and drag it to the desired time mark while holding down the left mouse button (Fig. 264).

Fig. 264 Changing activity duration in the calendar view

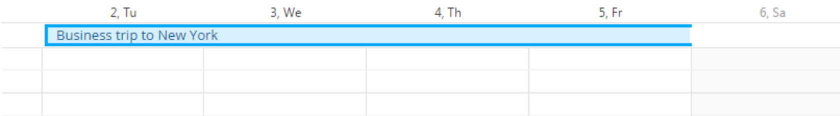


To move the activity to another date or time, drag it to the desired time in the calendar view. If some of the activities are scheduled for the same time, those activities will be displayed in the calendar view within the same time interval.

Long activities

An activity is considered as "Long" if it lasts more than 24 hours (for example, a business trip or a vacation). Such activities are displayed above the calendar (Fig. 265).

Fig. 265 Display of long activities in the calendar view



If the start or due date can not be specified within the time period that the calendar displays, it will display either the start date or the due date of the activity (Fig. 265).

Activity colors in calendar view

Activities in the calendar view are highlighted with different colors depending on their status and due date.

- Activities are highlighted red when their due time has already passed while those activity were not in the final state yet (overdue activities).
- Blue is used to highlight activities that are not in the final state (not started or in progress) and have not passed their due time yet.
- Grey is used to highlight activities that are in the final state (completed or canceled).

Task page

In Creatio, a task can be:

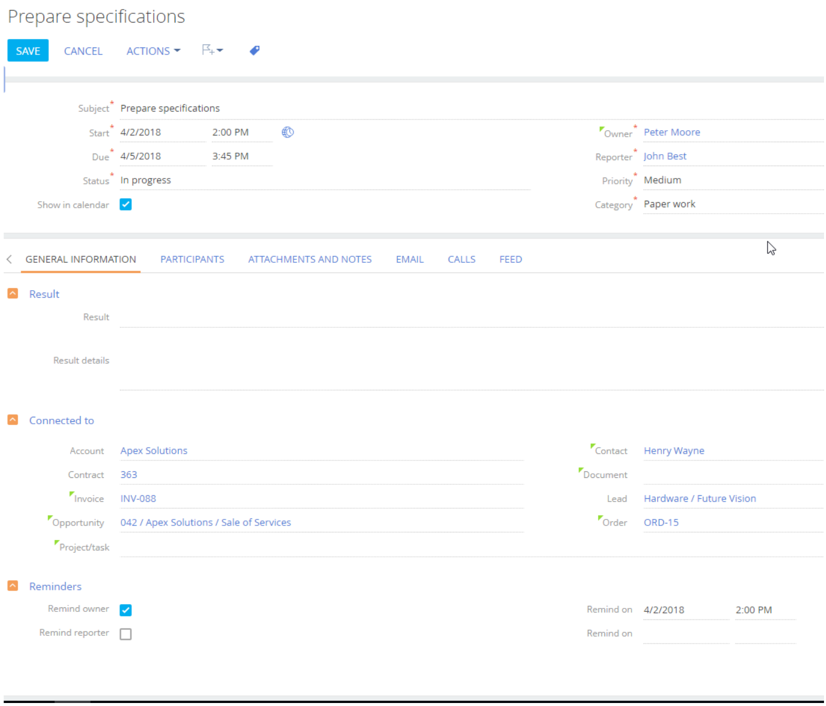
- added manually;
- received through MS Exchange synchronization;
- received through Google synchronization.

ATTENTION!

To synchronize with external resources, you need to perform initial setup. MS Exchange synchronization and Google synchronization are described in separate chapters.

The task page consists of a group of general data fields and some tabs (Fig. 266).

Fig. 266 An example of a task page



General information

General information about activity

Subject	Goal of the activity, for example, “Prepare documents“ or “Presentation“.
Start date	The date and time when the task should be started and finished. By default, the [Due] field value is 30 later than the [Start] field value. Use the time zone icon ( ) when planning acivities for participants in different time zones. Read more >>>
Due date	
Duration (minutes)	Length of the activity. The fields are not displayed on the activity page, but can be viewed in the list.
Duration (hours, minutes)	
Status	Status of the activity, for example, “In progress” or “Completed”.
Owner	User who is responsible for performing the activity.
Author	User who initiates the new activity.

Priority	Priority of the task, for example, “High” or “Medium”.
Category	Category of the activity, for example, “Meeting” or “Paper work”.
Calendar	Select this checkbox to make the activity visible in the calendar view.

The [General information] tab

The tab contains general activity data, such as its result, connection of the activity to other system objects and reminders for owner or author.

Result

This detail specifies what has been accomplished after performing the activity.

Result	Result of the activity. The field becomes editable, when the status of the activity is changed to “Completed” or “Canceled”. For different categories of activities the appropriate options for the [Result] field are available.
Result details	Detailed information about completing the activity. The field becomes editable, when the status of the activity is changed to “Completed” or “Canceled”.

Connected to

Information about system records connected to the activity.

Account	Company or person that is connected to the activity. When a contact is selected. The [Account] field is filled in automatically with the contact information.
Contact	

Reminders

This detail is used for creating reminders for the activity.

Remind owner	Used for reminding the owner and/or author about an activity at a specified time. Information about new reminders will be displayed on the owner's and/or author's communication panel.
Remind author	
Remind on	Date on which the owner or author of the activity will receive reminder.

The [Participants] tab

The tab contains the list of the contacts who participate in the task/call. By default, when a participant is added to the detail from the contact list, the detail will display the information from the [Job title] and [Business phone] fields of the contact page. Also, the activity will appear among the activities of all users specified in the detail.

NOTE

The contact specified in the [Owner] or [Contact] field will be added to the [Participants] detail automatically. When you copy an activity, the list of its participants will be copied too.

The [Attachments and notes] tab

The [Attachments and notes] tab contains additional information about the current task and attachments and links to the web resources related to the activity. Read more >>>

Attachments

Use this detail to store files and links related to the activity. For example, on this detail you can add documents or useful links related to the activity.

Notes

The detail is used to store additional text information about the activity. You can edit and organize your lead notes on the detail. If you switch to another tab of the activity page, the information on the [Notes] detail will be saved.

The [Feed] tab

The [Feed] tab displays posts from the [Feed] section that are connected to the activity.

SEE ALSO

- Integration with the MS Exchange service
- Integration with Google services

Actions in the [Activities] section

Synchronize with Google Calendar

Launches the synchronization between Google calendar and Creatio tasks. The action is available in the actions menu of the [Activities] section. Read more >>>

Set up Google synchronization

Launches the synchronization setup between Google calendar and Creatio tasks. The action is available in the actions menu of the [Activities] section. Read more >>>

Synchronize with tasks and meetings in Exchange

This action is displayed in the actions menu if the Microsoft Exchange email provider is added to the system. The action is available if a MS Exchange account is set up in Creatio. It is used for synchronizing the Creatio activities with tasks and meetings in MS Exchange. Read more >>>

Analytics in the [Activities] section

The **[Analytics]** view contains summary data on the section: charts, metrics, ratings and reports.

> NOTE
> More information about working with dashboards and dashboard setup can be found in the corresponding articles.

The [Activity analytics] tab

Analytics on the activities.

NOTE

Filters set in this section are applied to all dashboard components. Particularly, filters by date and responsible employee.

Reports

Activity report	Activities of the current user for the previous week. The [Completed activities] part displays all completed activities for the specified time period where the selected user participated (as listed in the [Participants] detail of the activity page). The [Incomplete activities] part displays overdue activities (whose due time has already passed while the activity was not in its final state) which the selected user is responsible for.

SEE ALSO

- Dashboards

The [Services] section

The **Services** section is designed to manage the list of services provided by your company. Here, you can set the parameters of services, assign employees to process related cases, and view the history of services provided.

Views

The section has several views:

- – displays services as a list of records. All list columns are described on service page.
- – displays charts, numeric indicators, and lists used to analyze services.

CONTENTS

Service page

The service page consists of the field groups that contain general data, and several tabs.

Common data

Additional information about the service.

Name	Service name.
Status	Current service status. For example, “Active“ or “Under testing“.
Response time	Standard time from the moment when a service-related case was registered till the moment when the team member starts processing it (the moment when the status of the case is changed to "In progress").
Response time unit	Time units in which case response time is measured: “Working days”, “Calendar days”, etc.
Resolution time	Standard time limit for resolving a service-related case.
Resolution time unit	Time units in which case resolution time is measured: “Working days”, “Calendar days”, etc.
Case category	Category of service-related cases: “Incident“, “Complaint“, “Claim“, “Service request“. When a new case is created and the [Service] field is filled in, the selected category will be specified in the [Category] field of the case page.

Calendar	Calendar that defines the work of the support team. The system calculates the response and resolution time for the service-related cases based on the selected calendar. By default, the field is filled in with the value specified in the "Base calendar" system setting. Custom calendars can be set up in the corresponding lookup.

The [History] tab

The tab details display records that are connected to the current service.

Cases

A list of service-related cases from the [Cases] section. To connect a case to a service, fill in the [Service] field of the case page. The information on the detail is available in read-only mode.

The [Attachments and notes] tab

Detailed information about the services, attachments and links to the web resources related to the service. Read more >>>

Attachments

Use this detail to store files and links related to the service. For example, you can add a document describing the service order procedure, or a company license required for providing the service.

Notes

This detail is used to store additional text information about the services. You can edit and organize notes on the detail. If you switch to another tab of the service page, the information on the [Notes] detail will be saved.

The [Feed] tab

Messages related to the current service.

The [Cases] section

The **Cases** section is designed for managing incidents, complaints, claims and service requests received by the contact center. It enables you to register cases, track their statuses, add information about case resolution, and store customer feedback information. In addition, the section provides summary information to analyze the cases.

Views

The section has several views:

-  – It displays cases as a list of records. All list columns are described below in the context of the case page.
-  – displays charts, indicators and ratings that can be used to analyze the cases. Read more >>>

Case categories

By default, there are two case types:

- **Service request** is a case created as a part of a standard service operation. For example, a request for a new user workplace or phone setup.
- **Incident** is a case that is not a part of a standard service operation. It may cause a service disruption or reduction of service quality. For example, a request to repair hardware or restore telephone communication.

The case category is specified in the [Category] field of the case page. Use the [Case categories] lookup to create additional categories.

Filters

By default, the list only displays cases that are assigned to the current user and not closed. Cases that are not in the final status (by default, "Closed" or "Canceled") are considered "not closed". You can define final statuses in the "Case statuses" lookup.

The following quick filters are available in the section:

- [Assignee] – filters records by the [Assignee] field of the case page;
- [Show closed cases] – extends the case list with cases that are in the final status.

Case management process

Case management process consists of a number of sub-processes. Read more >>>

To process cases, use the **workflow bar** and **action panel** at the top of the case page. Advance the case workflow stage by clicking the corresponding stage on the workflow bar.

> **NOTE**
> By default, the lead management is performed by a business process. To be able to work with a case workflow in a more flexible way, disable the default business process and set up the case in the case designer.

You can change the case status using the workflow bar (Fig. 267).

Fig. 267 Case status change

You can manage activities created when processing a case via the action panel on the case page. Processing details, case management history and other required information are available on the dashboard.

The action panel enables you to:

– compose a new **email message** to the contact who submitted the case.

– schedule a task.

– post an **internal message** in the feed for the current case. This feed post will be visible to Creatio users only and will not be seen by the customer portal users. Use feed internal messages to discuss case solution with the team. Internal messages have all the functions of standard feed posts. Enter the "@" symbol followed by contact name to create a link for that contact in the post.

– record call results

– post a **message on the customer portal** for a case. By default, this message is shown to the customer portal users. When you reply to a portal message, the customer will be notified by email.

NOTE

You can set up closing the case page and transferring to the list of the [Cases] section after you modify the page and save your changes. To do this, select the [Close on save] checkbox in the [Case statuses] lookup. Read more >>>

CONTENTS

- Case lookups
- Predictive case routing
- Case FAQ

SEE ALSO

- Record pages

VIDEO TUTORIALS

- Email with Service Creatio, customer center edition

Case page

In Creatio, a case can be:

- added manually by a help-desk agent;
- submitted by a user through the customer portal;
- Created automatically, when an incoming email is received in the designated support mailbox, even if support email address is specified in the CC or BCC fields of the email.

The case number is displayed at the top of the page. The system automatically generates numbers in accordance with a specified pattern. Use the "Case number mask" system setting to customize automatic numbering of cases. This is a non-editable field.

Case profile is located on the left and contains primary information about the case.

The case workflow bar enables you to track current case status and advance case processing stages. Below the workflow bar you can find the action panel that displays activities created when processing a case, feed posts or emails.

Under the action panel you can find tabs that display other case information.

Case profile

The profile is located on the left side of the case page and contains general information about the case.

The case profile contains the following fields.

Resolution time	Case resolution deadline. This value is calculated automatically. The remaining resolution time / delay indicator is displayed to the right of the field. Read more >>> When a case is assigned a pause status (for example, "Waiting for response"), the remaining time till the response deadline is saved and the field is cleared. Further, when the case is assigned any other status, this field value is recalculated by adding the remaining resolution time to the current date. If the case is overdue, the planned resolution time remains changed.
Priority	An icon indicates the priority of the case. The field will be populated automatically for all cases registered from incoming emails if the case priority predicting model is active.

Contact	The customer who reported the case. If the [Account] field is populated, the list of contacts will display only the contacts of this account. When the user submits the case through the self-service portal, this field is automatically populated with the name of the reporter. Either the [Contact] or [Account] field must be populated
Account	The account on whose behalf the case was registered. If the [Contact] field is populated, the [Account] field is automatically populated with the account specified for this contact. Either the [Contact] or [Account] field must be populated
Category	Case category: service request or incident. When the user submits the case through the self-service portal, this field is automatically filled in according to the selected service. Configure automatic population of the category for cases registered from incoming emails.
Service	The service to be provided to achieve case resolution. The list contains all services provided by your company. When a case is submitted through the self-service portal, this field is automatically populated with the value specified by the user. The field will be populated automatically for all cases registered from incoming emails if the case service predicting model is active.
Assignee group	Group of specialists within the department who are responsible for resolving the selected problem. The field will be populated automatically for all cases registered from incoming emails if the predicting model of case assignee group is active.
Assignee	The employee who works on case resolution. Click [Assign to me] to assign yourself as an assignee for this case.
Created on	Date and time of case registration. This is a non-editable field.

NOTE

The values in the [Service], [Priority] and [Assignee group] fields on the case page are populated automatically using their respective machine learning models ("Case service prediction", "Case priority prediction" and "Case assigned group prediction"), available for editing and custom modifications in the [ML models] section.

The [Processing] tab

History

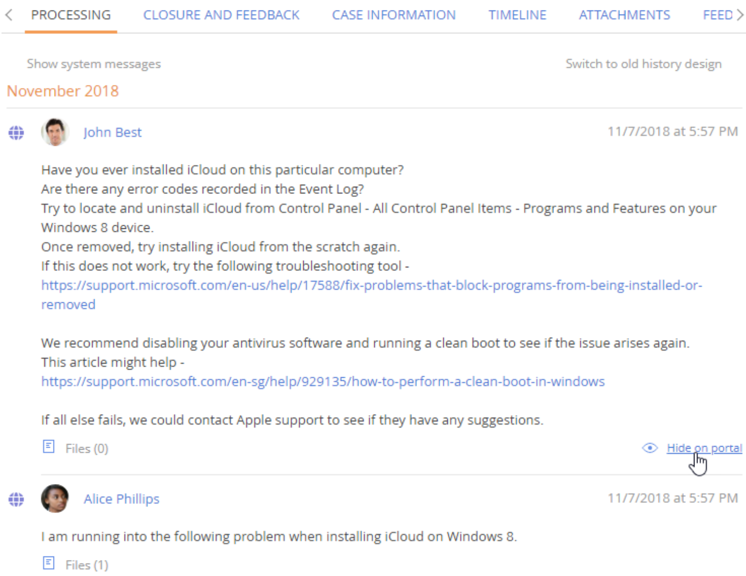
Displays the history of communications with the case customer, as well as internal communications and automatic notifications.

The **communication history** includes:

- Emails sent and received in the process of resolving the service request or incident.
- Internal notes posted by employees in the feed of this case. These posts are not displayed on the customer portal.

- Messages posted by employees and portal users on the customer portal. Click the [Hide on portal] link in the lower right corner of the message (Fig. 268) to hide it from the customer portal users. Click the [Show on portal] link to display the hidden portal message.

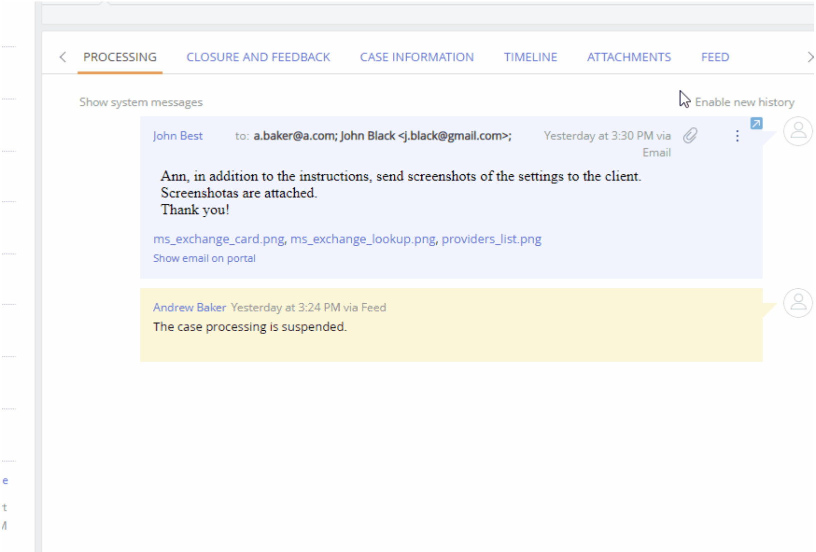
Fig. 268 Hiding a message on the customer portal



NOTE

Enable the displaying of history implemented before version 7.12.4 by clicking the [Switch to old history design] link (Fig. 269). Creatio "remembers" the choice and stores this information in the user profile.

Fig. 269 Case history in the primary application



The [History] detail also contains **system messages** that inform you about various system-wide events that are connected to the case. The system messages inform you about the following events:

- An activity connected to the case has been created.
- The title of an activity connected to the case has changed.
- The status of an activity connected to the case has changed.
- The owner of an activity connected to the case has changed.
- An activity has been disconnected from the case.
- An activity connected to the case has been deleted.
- Case subject has changed.
- Case service has changed.
- Case status has changed.
- New internal note has been added to the case.
- Case assignee has changed.
- Case feed message or comment to it has been added.
- A knowledge base article has been connected to the case.
- Assignee group has changed.

Click the [Show system messages] link to display system messages on the [History] detail.

The history displays the attachments of email and portal messages as well as the files added to the [Attachments] detail of the case. You can download the file by clicking its title.

NOTE

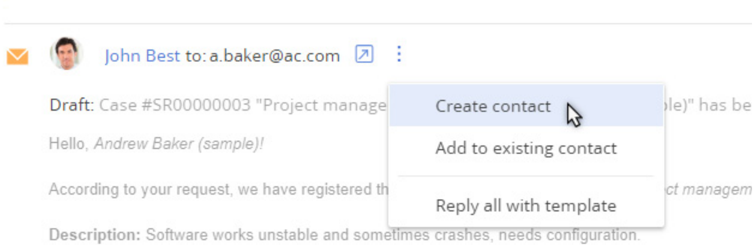
Drafts of email messages and hidden portal messages are displayed in the history in grey. You can delete email drafts right from the history by clicking the "Basket" button.

An action menu (Fig. 270) is available for processing emails from the history. With this menu, you can (depending on the context):

- reply all with template;
- create a new contact record;
- link the message to an existing contact;
- enrich the contact (the button is displayed in this case)

You can add custom actions to this menu as well.

Fig. 270 Action menu of email messages in the case history



NOTE

Use the [Email templates] lookup article to learn more about setting up the list of available templates.

To quickly process email messages, use the [Reply], [Reply all], [Reply using template] and [Forward] buttons.

The detail features for cases registered via email. It enables you to:

- populate the contact record with new data found in the email signature;
- add a new email address to the contact page;
- create a new contact based on the email and nickname of the applicant and specify it as a contact for the case.

Read more about contact data enrichment in the "How to enrich contact profile from the case page" article.

The [Closure and feedback] tab

The tab contains information gathered during the case resolution process and the customer feedback regarding the resolution.

Reason for closing	Reason for closing or canceling the case, For example, “Resolved successfully” or “No fault found”. If the field is not populated manually, it will be populated automatically, based on the case status. Default values for the [Reason for closing] field are stored in the [Default closure code] field of the [Case statuses] lookup. The field is editable at any stage of the case processing. If a case is reopened, the value in the [Reason for closing] field is cleared.
Parent case	Case that the current case is subordinate to. For example, several users can report identical cases that are caused by the crash of the same server, so all these cases will have the same parent case. On the parent case page, all subordinate cases are displayed on the [Subordinate cases] detail on the [Case information] tab.

Feedback

Information about the case customer’s feedback. The detail is populated automatically. The data are passed to Creatio after the customer evaluates the quality of service using the customer feedback scale in the case resolution notification email.

Satisfaction level	Customer’s evaluation of the quality of service delivered. This is a non-editable field.
Feedback notes	Customer's comments (customers can enter comments on the “thank-you” page displayed to them after evaluation). This is a non-editable field.

NOTE

Use the [Ability to change case satisfaction level] system operation to manage permissions to modify information in the [Feedback] block. Only users who have permission to this system operation will be able to modify the case feedback.

Declarer comments

The detail displays case resolution complaints posted by the customers on the self service portal. All published complaints will be automatically added on this detail. The records on the [Declarer comments] detail cannot be modified or deleted.

Created on	Date and time when the compliant was posted on the portal.
Message	The text of the complaint.
Email direction	Message type The detail contains only messages of the “Complaint” type.
Created by	The customer who posted the complaint.

Knowledge base articles

Knowledge base articles that are connected to the selected case. For example, the articles that describe the method of resolving the case. This information is based on the data in the [Knowledge base] section.

Once the [Add] button is clicked, a lookup window will open, where you can select one or several articles that should be connected to the case. To remove an article from the list, select the [Delete] option.

> NOTE
> Executing this action will delete the connection between the case and the article. The knowledge base article itself is not deleted.

The [Case information] tab

This tab contains detailed information on case origin, resolution deadline information and actual resolution dates, as well as customer feedback.

Topic	Short case title
Description	Case description
Source	Source of the case. For example, if a case was created as a result of a customer's phone call, case source will be "Call", and if an employee creates a case manually, the case source is "Internal". When the user submits a case through the self-service portal, the field is automatically populated with the "Self-service portal" value.

Timeframe

Detailed information about the case resolution timeframe.

Reported on	Date and time when the case was registered. This field is non-editable and is filled in automatically with the current date and time.
Resolution time	Case resolution deadline. This value is calculated automatically. The remaining resolution time / delay indicator is displayed to the right of the field. Read more >>> When a case is assigned a pause status (for example, "Waiting for response"), the remaining time till the response deadline is saved and the field is cleared. Further, when the case is assigned any other status, this field value is recalculated by adding the remaining resolution time to the current date. If the case is overdue, the planned resolution time remains changed.
Response time	Time from when the case was registered until the moment when the status of the case is changed to "In progress". This value is calculated automatically. To the right of the field, there is an overdue/remaining time indicator. Read more >>>
First resolution time	Date and time when the case was first resolved. This field is filled in automatically when the case is assigned the "Resolved" status for the first time.

Actual response time	Actual time till the service team started investigating the case. This field is filled in automatically when the case status is changed for the first time. for example, if the case status is changed to "In progress". This is a non-editable field.
Actual resolution time	Actual time for providing the reply to the customer. This field is filled in automatically when the case is assigned a resolution status (by default, "Resolved"). This is a non-editable field. The value can be modified if the case status is changed to "Resolved" again.
Closed on	Date when the case is completed. This is a non-editable field which is populated automatically once the case is assigned the "Closed" status.

Subordinate cases

The list of subordinate cases that are similar to the current case. Add subordinate records if several cases are either identical or connected to the same failure.

Once the [Add] button is clicked, a lookup window will open, where you can select one or several cases that should be connected to the current one as a subordinate. When subordinate cases are added, the [Parent case] field on their pages is automatically populated with the current case. To remove a case from the list, select the [Delete] option.

Activities

Tasks that are linked to the current case. This detail displays information from the [Activities] section. To connect an activity to a case, fill in the [Case] field on the [Connected to] detail of the activity page.

Email

Emails that are connected to the current case. To connect an email to a case, fill in the [Case] field on the [Connected to] detail of the activity page.

Calls

Phone calls linked to this case. This detail displays information from the [Calls] section. To connect a call to a case, fill in the [Case] field of the call page.

Case life cycle

The detail contains change history for primary case properties:

- Status
- Priority
- Service
- Assignee
- Assignees group

Records on the detail are non-editable and are added automatically when one of the aforementioned parameters is changed. This detail enables you to track case processing stages. This detail also enables you to track the duration of each stage of the case life cycle in the "[Duration (minutes)]", "[Duration (hours)]" and "[Duration (days)]" columns.

> NOTE
>
> The [Case life cycle] detail may contain other fields. You can configure the saving of the change history for the other fields of the case page. To do this, extend the list of fields in the life cycle object. The preliminary setup is performed by the development tools.

Data on the detail is used for calculation of response and resolution time to exclude periods when a case was inactive. Additionally, this data can be used to build diagrams that display how long the case was in different statuses.

[Timeline] tab

The tab contains the chronologically listed Creatio records linked to the case. Read more >>>

The [Attachments and notes] tab

The [Attachments and notes] tab contains additional information about the case, as well as attachments and links related to the case. Read more >>>

Attachments

Use this detail to store files and links related to the case. For example, screenshots demonstrating errors, etc.

Notes

The detail is used to store additional text information about the case. You can edit and organize notes on the detail. if you switch to another tab of the contact page, the information on the [Notes] detail will be saved.

The [Feed] tab

Feed messages linked to the case.

SEE ALSO

- How to calculate response and resolution time

Preliminary settings

Perform initial setup before working with cases.

- Register and set up a list of mailboxes for the support service. Read more >>>
- For the cases to not be registered by "junk" emails, set up "junk" case registration. Read more >>>
- Configure automatic definition of category for cases registered from incoming emails of shared email accounts to speed up classification of new incidents. Read more >>>
- Set up automatic notifications to case contacts about their case status change, contact notification rules and email templates. Read more >>>

  NOTE

  You can set up closing the case page and transferring to the list of the [Cases] section after you modify the page and save your changes. To do this, select the [Close on save] checkbox in the [Case statuses] lookup. Read more >>>

CONTENTS

VIDEO TUTORIALS

- Email with Service Creatio, customer center edition

Shared email account setup

Set up the shared email account that will be used for emailing between the service team and the users. Incoming messages from these mailboxes will be analyzed by the system to register new applications and connect them to existing ones. Additionally, the support mailbox can be used for sending case email-notifications to customers.

> NOTE
>
> In order to communicate with customers via support mailboxes, set up the synchronization with the email provider (by IMAP/SMTP protocol or MS Exchange service).

To set up the shared email account:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. Click the [Lookups] link in the [System setup] block.
3. Open the [List of mailboxes for case registration].
4. Click the [New] button.
5. Click the icon and select the mailbox added during email integration setup.
6. Enter the mailbox name, such as “1st line support”, to identify it later.
7. Repeat steps 4–6 if you are using more than one support mailbox.

As a result, all emails received on the mentioned mailboxes will be processed as basis for new incident registration.

Set up a common mailbox for the technical support team for communication with customers and sending notifications about the case. Read more >>>

How to set up the language of support service mailbox

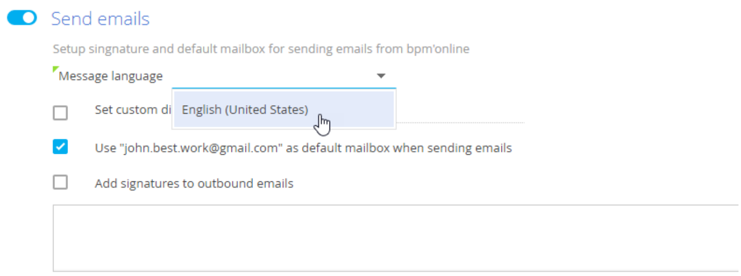
The mailbox language is set up for multilingual communications with customers. This setting has an impact upon:

- mailbox selection when sending automatic customer notifications
- email template language selection
- the language of notification sent to a customer without the preferred language specified.

You can set up the language not only for the shared support service mailbox but also for any other mailboxes used in Creatio for sending notifications.

The mailbox language is specified on the email account setting page (Fig. 271).

Fig. 271 Setup of shared support service mailbox language



You can specify only one language for one mailbox in Creatio.

SEE ALSO

- Integration with the MS Exchange service
- Integration with email services by the IMAP/SMTP protocol
- How to automatically create incidents based on incoming emails
- How to connect incoming emails to existing cases

VIDEO TUTORIALS

- Email with Service Creatio, customer center edition

“Junk” case registration setup

To avoid spending time on processing undesired emails, set up “junk” case registration so that such cases are automatically registered as “Canceled” or not registered at all. To set up registration of cases by “junk” emails:

1. Populate the [Blacklist of email addresses and domains for case registration] lookup.

   NOTE
   You can set a specific email address (or its part) or domain. The entered value type will be identified automatically. By default, the lookup contains the following values: postmaster, noreply, no-reply, mail-daemon, mailer-daemon.

2. If new cases must be created from "junk" emails, select the “Create cases from "junk" emails” system setting (located in the [“Junk” email filter] folder) and select the [Default value] checkbox for it. Clear this checkbox to disable automatic registration of “junk” cases.

   NOTE
   By default, the system does not create cases from "junk" emails.

3. To set up an automatic status for "junk" cases, go to the “Junk email filter” folder, select the “Junk Cases Default Status” system setting and select default status for junk cases in the [Default value] field, for example, “Canceled”.

SEE ALSO

- Integration with the MS Exchange service
- Integration with email services by the IMAP/SMTP protocol

- How to set up rules for binding emails to other Creatio objects automatically
- How to automatically create incidents based on incoming emails
- How to connect incoming emails to existing cases

VIDEO TUTORIALS

- Email with Service Creatio, customer center edition

How to set up automatic categorization of cases created registered from email

Speed up processing of new cases by configuring automatic identification of category for cases registered from incoming emails. You are able to assign categories for cases received from different shared email accounts. As a result, new cases will be assigned to the corresponding specialists and their teams faster.

> NOTE
> Automatic case categorization setup is performed after the shared email accounts have been configured.

To set up automatic categorization of cases

1. Enable automatic categorization by editing the [Enable the relationship between support mailboxes and the categories of processed cases] system setting and selecting the [Default value] checkbox in it.
2. In the [List of mailboxes for case registration] lookup configure connection between support service mailboxes and case categories. To do this:
   a. Select a mailbox to set connection with case categories and click .
   b. On the opened edit page, specify the value in the [Case category] field. This value will be assigned to all cases registered from this mailbox. For example, “Service request”.
   c. If you already have configured case registration from incoming emails for several mailboxes, repeat steps a and b for each mailbox.

SEE ALSO

- Shared email account setup
- How to automatically create incidents based on incoming emails

Automatic emailing setup

Creatio sends automatic emails with various notifications regarding cases. Users receive emails when their cases are registered, processed, resolved, canceled, or closed. If the case was registered by email, all recipients of the original letter will receive notifications. By default the [From] field will contain email of support service that received customer’s email. If the case was registered from another channel (portal, call, etc.), then the [From] field will contain email of the support service specified in the [Customer service Email] system setting.

The email template used for each notification depends on the case status and category. You can set up template connection to case category and status in the separate lookup [Case notification rule].

To enable messaging:

- Set up contact case notification rules. Read more >>>

- Customize the text of your email notifications by editing corresponding email templates. Read more >>>
- To allow users evaluate the quality of case resolution, specify the link to Creatio website and set up the user satisfaction scale.

The logic for sending email notifications is set up in the [Send email to contact on case status change] business process.

CONTENTS

SEE ALSO

- Shared email account setup
- How to process a case
- Customer satisfaction (CSAT)

How to set up a mailbox to send email notification

To set up automatic emailing (for 7.12.2. and earlier versions):

1. Open system designer by clicking the button.
2. Click the [System settings] link in the [System setup] block.
3. Open the [Sending emails] system setting folder.
4. In the [Customer service email] setting, specify the email address to send notifications to.
5. In the [SMTP server password] setting, specify the mailbox password.
6. Populate the [SMTP server port] and [SMTP server name or IP] system settings with values received from your email provider.
7. In the [SMTP server login] setting, specify the email address to send notifications to.
8. Populate the [Use SSL] system setting for secure connection.

NOTE

The SSL protocol provides secure data exchange. Make sure the SSL protocol can be used by your email provider.

SEE ALSO

- Set up contact case notification rules
- Setting up email templates
- User satisfaction scale setup
- Case resolution notification setup
- Configuring email accounts in Creatio
- Configuring shared mailbox

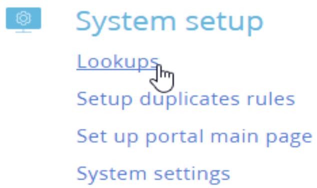
Set up contact case notification rules

If a case status is changed, the customer will be automatically notified by email. The message template is connected to the case category and status. Use the [Case contact notification rules] lookup to set up connections between the templates and case status and category.

To set up contact case notification rules (connect the template to the case status and category)

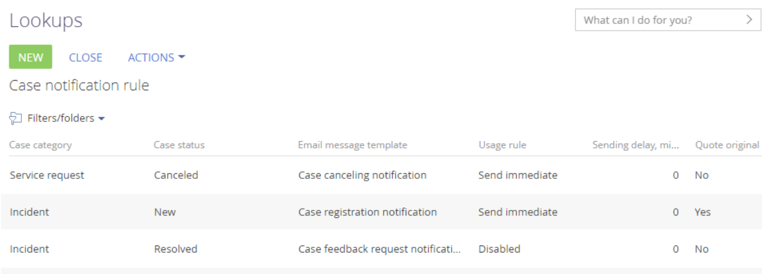
1. Open the system designer by clicking the button.
2. Click the [Lookups] link in the [System setup] block (Fig. 272).

Fig. 272 Opening the lookup list



3. In the [Lookups] section, open the [Case contact notification rules] lookup content (Fig. 273).

Fig. 273 The [Contact case notification rules] lookup content page



4. Add a new rule. Specify the case status, category, usage rule and the email notification template.

NOTE

You can configure sending delay of the notification. For example, the feedback requests can be sent after the specified time after resolving a case. This will allow the client to use the provided solution and evaluate its effectiveness. To configure sending delay of the selected notification rule, specify the “Send after a delay” usage rule and sending delay in minutes..

SEE ALSO

- How to set up a mailbox to send email notification
- Setting up email templates
- User satisfaction scale setup
- Case resolution notification setup
- Lookup content page

- Lookup property page

Setting up email templates

The text of automatic email notifications is generated according to templates. Case notification templates are available in the [Email templates] lookup. Creatio uses a separate template for each type of notification. For example, the [Case closure notification] template is used to notify the user that the case has been closed.

Creatio uses the following templates for sending **notifications to customers**:

- **"Case registration notification"** – notifies the customer that the case has been registered in Creatio and is about to be processed.
- **"Case processing notification"** – notifies the customer that the helpdesk team has started processing the case.
- **"Case resolution notification"** – notifies the customer that the case has been resolved.
- **"Case closure notification"** – notifies the customer that the case has been closed.
- **"Case canceling notification"** – notifies the customer that the case has been canceled. This may occur if a case was created by mistake.
- **"Case feedback request notification"** – notifies the customer that the case has been resolved and awaits customer feedback and evaluation of the helpdesk performance.
- **"Case update: new message received"** – notifies the customer that the case has been updated with a new message on the customer portal.
- **"Empty case email template** – used for specialized case notifications.
- **"Template - Portal user registration"** – sends an account activation link to the new customer portal user.
- **"Link for password recovery"** – sends a link to password recovery page to the customer portal user.

Creatio uses the following templates for sending **notifications to helpdesk agents**:

- **"Specifying case assignee"** and **"Case assigned to group"** templates are used to send internal notifications to employees about being appointed assignees on cases.
- **"Creating new email for case"** – notifies the assignee that the case has been updated with a new email message.

You can edit the list of available templates and their contents in the [Email templates] lookup.

To set up an email template:

1. Open the system designer by clicking the  button.
2. Open the [Lookups] section.
3. In the lookup list, select the [Email templates] lookup and click [Open].
4. In the list, select a template and click the [Edit] button.
5. In the displayed content designer window, edit the text of the email.
6. If required, add macros to the template, for example, the #Number# macro to specify the incident number in the message. To do this, click the  button and select the [Basic macro] action. If there is no required macro in the list of pre-installed macros, use the [Custom macro] action and set up the required macro.

NOTE

For users of Creatio version 7.13.2 and below, the command names are different. The command for selecting standard macros is called [Select macros], and the [Select column] command is used to create a custom macro.

SEE ALSO

- Set up contact case notification rules
- User satisfaction scale setup
- Case resolution notification setup

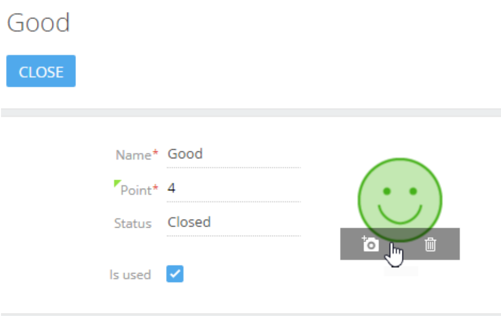
User satisfaction scale setup

You can customize the scale that is displayed in the case resolution message in the [User satisfaction levels] lookup. By default, the lookup contains a 5-point scale: "Extremely poor", "Poor", "Neutral", "Good", "Excellent". Case status in the [Satisfaction levels] lookup is determined according to the score given by the customer.

You can set up a scale with an optional number of points, for example, 3 or 7, and customize the color scheme. To add a new level to the scale:

1. Open the system designer by clicking the button.
2. Click the [Lookups] link.
3. Select the [Satisfaction levels] lookup in the list.
4. Add a new record and populate the fields:
   a. Fill out the name of the satisfaction level that is going to be displayed in the [Rating] field on the [Closure and feedback] tab of the case page.
   b. Specify the rating for the level. This rating will be used in the system for statistical calculations and customer satisfaction analysis in different sections.
   c. Select a status that will be automatically assigned to cases that receive this satisfaction score.
   d. Select the [Is used] checkbox to add the score to the email notification template.
5. Click the button. On the edit page of the satisfaction level, add an image that will display corresponding satisfaction level in the email. To do this, click the button and load the image (Fig. 274).

Fig. 274 Uploading the satisfaction level image

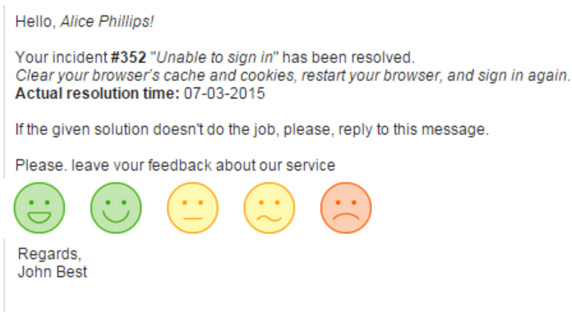


ATTENTION

Deleting base lookup values is not recommended, since this may lead to incorrect work of preconfigured business processes. Deselect the [Is used] checkbox to remove the score from the scale.

As a result, the case resolution notification will contain the customized scale for evaluating the work of the service team (Fig. 275).

Fig. 275 A user satisfaction scale in the email

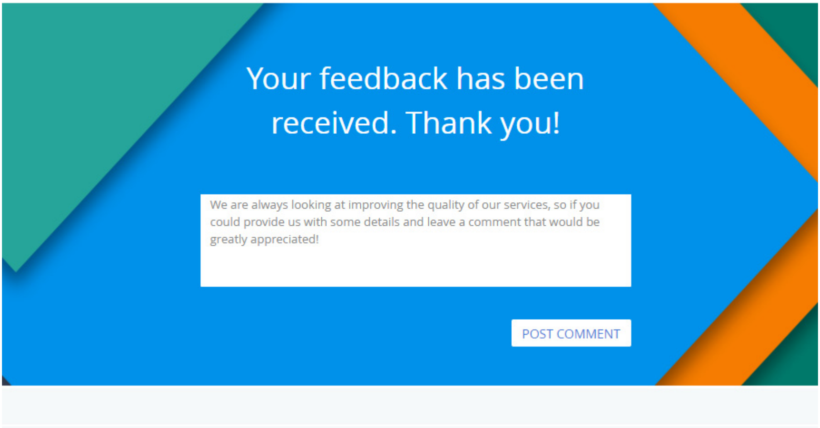


After selecting a score the case will change its status automatically. For example, the score is "Poor", the case will be reopened automatically.

The “Thank-you” page

After a customer evaluates the quality of service, they will be redirected to the special “Thank-you” page where the customers can leave additional comments (Fig. 276). Both the customer’s grade and comments will be automatically added to the [Feedback] field block on the [Closure and feedback] tab.

Fig. 276 A “Thank-you” page



The page displays a corporate logo according to the value of the [Logo - Thank you for your feedback] system setting. Corporate logo setup is covered in a separate article.

SEE ALSO

- Setting up email templates
- Case resolution notification setup

Case resolution notification setup

When a case is assigned the “Resolved” status, the user will receive an email asking to evaluate the quality of processing. If no evaluation is received, an additional evaluation request will be sent. You can manage the response waiting time before sending additional evaluation request using the **[Number of waiting days to reevaluate resolved case]** system setting.

To ensure a proper quality evaluation emailing, set up the link of Creatio website that will be used for gathering user feedback. Populate the [Default value] field of the **[Website URL]** system setting with the site URL used for Creatio access, for example http://creatio.com.

SEE ALSO

- Configuring shared mailbox
- How to calculate response and resolution time

VIDEO TUTORIALS

- Email with Service Creatio, customer center edition

How to create a case

In Creatio a case can be created in the following ways:

- Via self-service portal by a user. Read more >>>

- The system can automatically create a new case upon receiving an email sent to the specified support email address. Read more >>>
- By a contact-center employee from the communication panel based on an incoming call. Read more >>>
- By a contact-center employee from the [Cases] section record list. Read more >>>

In the first two instances, a new case will appear in the [Cases] and [Agent desktop] sections automatically. If a case cannot be created automatically, an employee can manually create a new case.

CONTENTS

How to register a case from the [Cases] section record list

To manually register a new case:

1. Go the [Cases] section.
2. Click the [New case] button. The case page will open.
3. Enter the case data.
4. Fill out the case profile:
    a. Specify the customer for this case in the [Contact] or [Account] field. One of these fields must be filled in.
    b. Select a service for the case. After you specify the service, the [Resolution time] field will be filled in.
    c. Specify the case category. The case category is determined according to the selected service.
    d. Specify the assignee or group of assignees for the case.

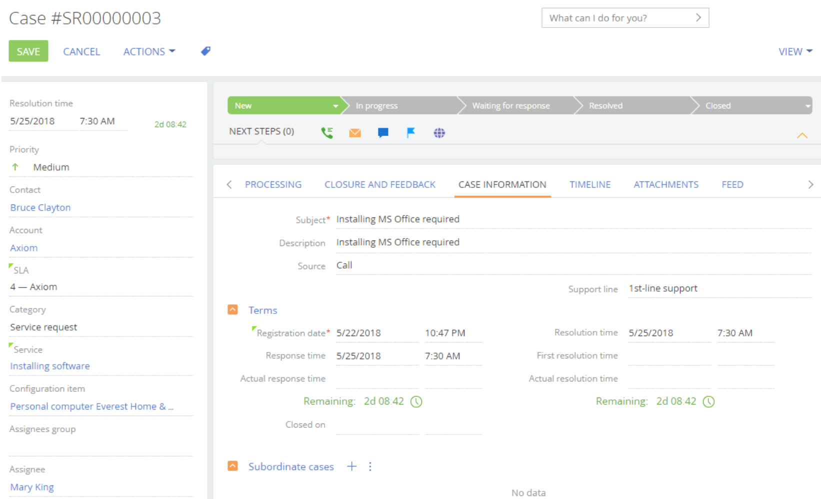
   NOTE

   If you set up the predictive case routing, the [Service] and [Assignee group] fields will be populated automatically. Read more >>>

5. Save the case.

As a result, a new Creatio case will be added Fig. 277).

Fig. 277 Example of a new case page (service enterprise product)



SEE ALSO

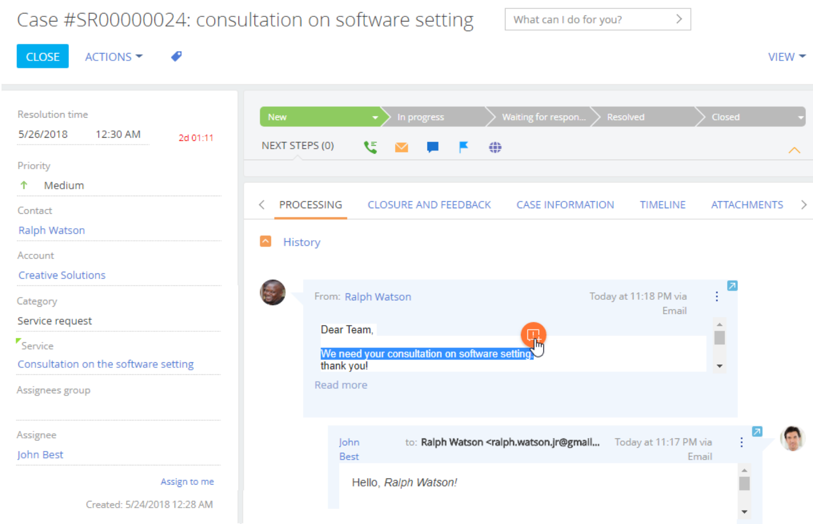
- How to create a case from an existing case communication email thread
- How to register or bind a case from the communication panel upon an incoming call
- How to connect incoming emails to existing cases and create new incidents automatically

How to create a case from an existing case communication email thread

You can create a new case based on an existing case communication thread. For example, if you need to solve an additional task concerning another service during processing a specific case. To create a case from an existing case communication email thread:

1. Open an existing case and go to the [Processing] tab.
2. Highlight a message text or portal post containing customer request. The button will appear in the top right corner of the highlighted text.
3. Click the newly appeared button (Fig. 278). As a result, a new case will be created with the following fields populated automatically: [Subject], [Description], [Source], [Contact], [Account], [Category].

Fig. 278 Creating a new case from the communication thread



SEE ALSO

- How to process a case
- How to calculate response and resolution time
- How to register or bind a case from the communication panel upon an incoming call

How to register or bind a case from the communication panel upon an incoming call

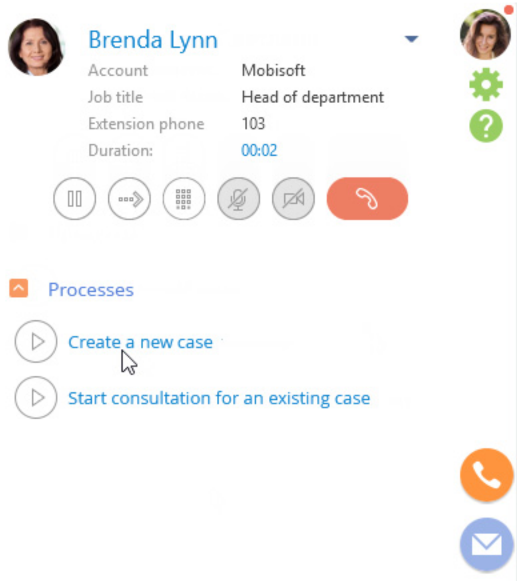
You can register cases while receiving or making phone calls. To do this, use the [Processes] block on the communication panel (Fig. 279).

NOTE

Actions in the [Processes] block are only available to users in the "CC agents" organizational role.

ACCELERATE

Fig. 279 Processing cases during a phone call



How to add a new case

Select [Create a new case] to register a new case. The case page will open. Wherein:

- If a contact is identified upon the incoming call, the case [Contact] and [Account] fields are automatically populated.
- If the contact is not defined, select it from the contact list or create a new contact.

If you create a new contact, the system will ask you to fill in the contact data manually. If you click [Yes], the contact page will open.

Consulting upon an existing case

Select [Start consultation for an existing case] to continue processing a previously created case.

- If Creatio can find the subscriber contact in the database, this contact's page will open. Go to the [History] tab, select a previously created case, and continue your consultation.
- If the contact is not defined, the page of a new contact will open. Fill in the fields and save the contact. Continue processing the case by filling in the data on a new case page.

SEE ALSO

- How to process a case
- How to calculate response and resolution time

How to connect incoming emails to existing cases and create new incidents automatically

You can increase the efficiency of your support service by automating the process of case registration. by enabling automatic case registration If an email refers to an existing case, it will be connected to that case.

Incoming email to your support team are checked in 3 stages:

1. whether the recipient's email address is in the [List of email addresses for case registration] lookup.
2. whether the recipient's email address is in the blacklist.
3. whether the email subject contains the number of an opened case.

If an email cannot be connected to existing cases, Creatio automatically creates a new case. The system identifies the contact and account of the new case based on the sender's email address. All incoming emails are connected to accounts and contacts in the same manner.

To reduce the workload of the support team, you can create a blacklist of email addresses and domains that should not be used to automatically create cases. Creatio will either ignore emails form blacklisted domains or create cases and immediately assign them the "Canceled" status.

To enable case registration by email, set up integration with email service. You will also need to:

- create a list of support service mailboxes whose incoming emails will be used for automatic case registration and linking emails to cases. Read more >>>
- specify a blacklist of email addresses and domains for "junk" case registration. Read more >>>

NOTE

The list of support service mailboxes is maintained in the "Case registration mailboxes list" lookup. The blacklist is maintained in the [Blacklist of email addresses and domains for case registration] lookup.

CONTENTS

How to automatically create incidents based on incoming emails

If an incoming email cannot be connected to an existing case, Creatiocreates a new case based on the incoming email. To enable automatic registration of cases based on incoming emails, you need to configure a number of settings.

This occurs if any of the following is true:

- The email address of the recipient is in the [List of email addresses for case registration] lookup.
- The email address from which the letter was received is in not the blacklist;
- The email subject does not contain a case number;
- The email subject contains a case number, but no corresponding case can be found;
- The email subject contains a case number, but the corresponding case is in its final state i.e., "Closed" or "Cancelled".
- If the email address from which the letter was received is in the blacklist, and if the system is configured to check the unwanted messages and automatically assign them the status specified in the [Junk case default status] lookup.

NOTE

The system identifies the case number in the subject of an incoming email according to the [Case number mask] system setting.

NOTE

Case final status can be set up in the [Case statuses] lookup.

How to Identify the contact for an automatically created case

An automatically created case is connected to the contact who sent the email and to the account specified on the contact's page. The system matches the sender's email to the communication options of existing contacts. Wherein:

- If a contact with the same email address is found, it is specified in the [Contact] field of the automatically created case. If an account is specified on the contact's page, then the automatically created incident is also connected to this account.
- If the sender's email address is not found, Creatio automatically creates a new contact with the sender's email address. The new contact is specified in the [Contact] field of the automatically created case.

  The [Preferred language] field on the page of such contact will be populated. The field will contain the same language as the one specified in the settings of the support service mailbox where the original case email was received.

NOTE

The [Automatically create new contacts for unknown email addresses] system setting enables creating a new contact when registering a case from unknown email is defined by Automatic registration of new contacts is enabled by default.

SEE ALSO

- How to connect incoming emails to existing cases
- “Junk” case registration setup

How are "junk" cases created?

Creatio analyzes all the incoming emails for auto-replies and spam, which helps to reduce the workload of support agents who initially process email messages, and increase the efficiency of their work.

You can control the system behavior when "junk" emails are received and determine whether cases should be registered based on these emails. If the sender’s email address or its domain is included in the blacklist (Fig. 280), the system will either create a case or ignore the email, depending on the value of the [Create cases from "junk" emails] system setting.

Fig. 280 The [Blacklist of email addresses and domains for case registration] lookup

Blacklist of email addresses and domains for case registration

Filter

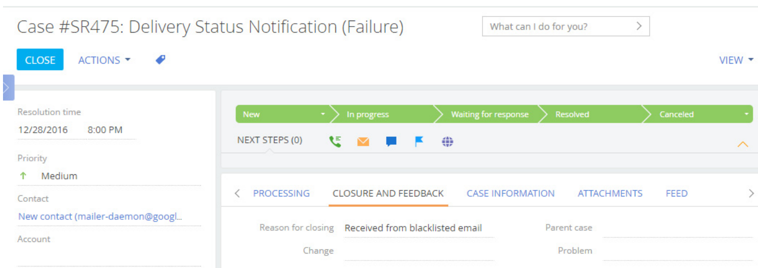
Email address or Domain	Description	Type of field	Created by	Created on
postmaster		Email contains	Supervisor	10/24/2016 10:01 PM
noreply		Email contains	Supervisor	10/24/2016 10:01 PM
no-reply		Email contains	Supervisor	10/24/2016 10:01 PM
mail-daemon		Email contains	Supervisor	10/24/2016 10:01 PM
mailer-daemon		Email contains	Supervisor	10/24/2016 10:01 PM

NOTE

The blacklist is maintained in the [Blacklist of email addresses and domains for case registration] lookup.

By default, the system assigns the “Canceled” status with “Received from blacklisted email” reason for closing for all cases created from “junk” emails. The “junk” case status can be changed in the [Junk case default status] system setting. (Fig. 281)

Fig. 281 Case registered by “junk” email



Detailed configuration of unwanted cases is described in in a separate article.

SEE ALSO

- How to automatically create incidents based on incoming emails
- “Junk” case registration setup

How to connect incoming emails to existing cases

Creatio processes emails that were received in the process of case resolution. All incoming emails regarding a certain case will be connected to it automatically. If an email is connected to a resolved or pending case, its status will be changed to “Reopened”.

The following conditions must be met in order to connect an incoming email to an existing case:

- The email address of the recipient is in the [List of email addresses for case registration] lookup.

- The subject of the email contains the case number of an existing case;
- The matching case is not in the final status.

NOTE

The system identifies the case number in the subject of an incoming email according to the [Case number mask] system setting. If a case was created with a different number mask, it will not be connected to incoming emails. For example, if the current case number mask is "SR-{0}", and the system has an open case with number "SR_2", the email that has "SR_2" in its subject will not be connected to this case. A new case will be created instead.

NOTE

The final case status can be set up in the [Case statuses] lookup.

After connecting an email to a case, the system will once again check case status. If the case is in the "Resolved" or "On hold" status, it will be changed to "Reopened".

NOTE

Case status can be set up in the [Case statuses] lookup.

SEE ALSO

- How to automatically create incidents based on incoming emails
- "Junk" case registration setup

Case management process

Case management process optimizes the support service operations and consists of a number of subprocesses:

1. Case registration
2. Notifying the assignee/assignee group about the case.
3. Automatically selecting assignee when accepting a case.
4. Processing cases from the queue.
5. Notifying the contact about case status change.
6. Notifying contacts about posting messages in the "Portal" channel
7. Automatic reopening a case and clearing the assignee when an email or a comment is received from the portal.
8. Recording and sending resolution to the contact.
9. Analyzing the case score.

Each sub-process runs independently of the others. The launch of the processes is affected only by the current case state and changes in the case.

Case management processes are available in the process library located in the System Designer

Perform initial setup before you start using the processes.

SEE ALSO

- How to create a case
- How to process a case

How to notify the assignee/assignee group about the case

Notifications are sent to the assignee/assignee group only if a case has become active and the [Assignee] and/or [Assignee group] fields are populated. Notifications are sent to the assignee/assignee group only if an active case has been assigned to an assignee/assignee group.

NOTE

A case is considered active if it is in one of the following states: "New", "In progress" or "Reopened".

Notifications are sent to the assignee if the [Assignee] field is filled in. The [Assignees group] field and be either empty or filled in.

Notifications are sent to the assignees group if the [Assignees group] field is filled in and the [Assignee] field is not. In this case, in the [To] field is automatically filled in with email addresses of all group members.

NOTE

The notification text sent to the assignee/assignees group is set up in the [Emails templates] lookup.

SEE ALSO

- How to process a case
- Automatic emailing setup
- How to connect incoming emails to existing cases and create new incidents automatically
- Configuring shared mailbox

How to process a case

The cases are processed in the [Cases] section or on the agent desktop.

NOTE

Depending on the queue settings, an agent can take any of the cases in the queue, or take only the next case in the queue. Read more >>>

NOTE

Cases are processed according to a predefined business process. By using the BPMS function, you can set up your own business process and use it to process cases from separate queues.

The cases list in the agent desktop displays only unopened cases for which you are the owner.

NOTE

You can set up closing the case page and transferring to the list of the [Cases] section after you modify the page and save your changes. To do this, select the [Close on save] checkbox in the [Case statuses] lookup. Read more >>>

CONTENTS

How to start processing a case

Select a case in the [Agent desktop] section and click the [Open] button and select the “In progress” status on the workflow bar. You can also start working with a case from the [Cases] section. Select the “In progress” status on the workflow bar.

Fig. 282 Opening a case

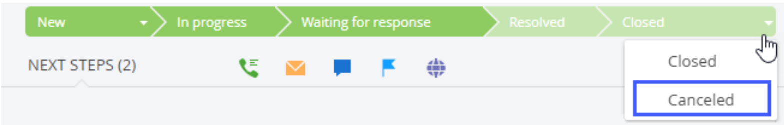
The case status will be changed to “In progress”, and the current user will be specified in the [Assignee] field. The system will send an email notification to the customer informing about opening the case and containing information about the resolution deadline.

After case resolution is completed, transfer it to the following stage using the workflow bar.

Canceling a case

If a case is created by error or if the response for this case is no longer required, cancel the case by selecting the [Canceled] option on the workflow bar (Fig. 283).

Fig. 283 Canceling a case



The case status will be changed to “Canceled”, and the customer will be notified by email.

Passing a case to a different assignee

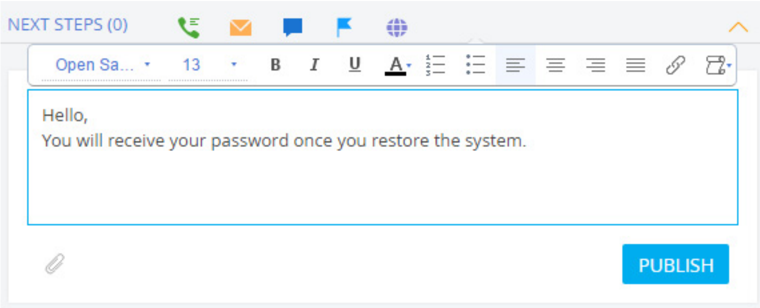
To escalate a case, change the value in the [Assignee] or [Assignee group] field.

A new assignee or an employee from the assignee group will continue processing the case.

How to communicate with the customer

Use the [Email] and [Portal message] buttons on the action panel to send replies and requests for additional information to the customer (Fig. 284).

Fig. 284 Sending a message through the customer portal

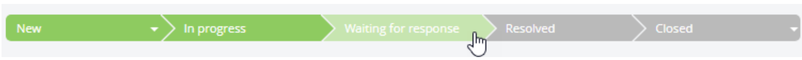


Click the  button to attach a file to an email or portal message.

If the case assignee sends a portal message, the customer will receive an email notification.

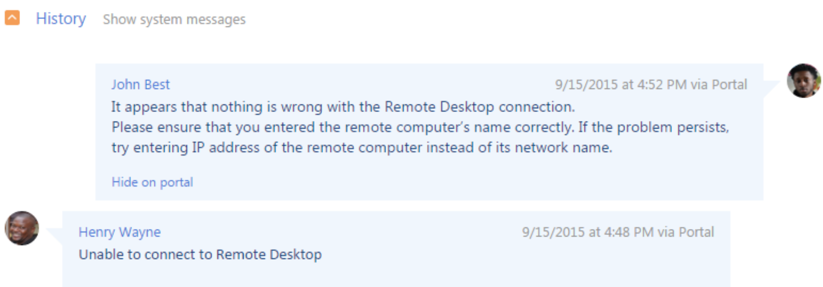
After you finish processing the case, for instance, if you send the customer a request for additional information, change the case status to “Waiting for response” (Fig. 285), which indicates that this case is waiting for a reply from the customer.

Fig. 285 Changing case status to “Waiting for response”.



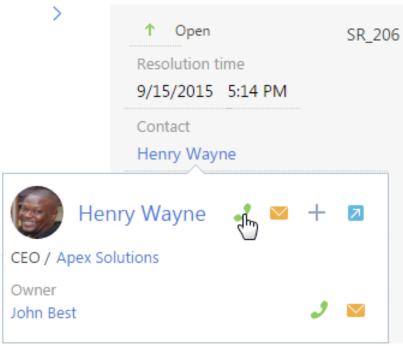
The customer can reply by email or by posting a message on the customer portal. The customer's reply will appear in the [History] detail (Fig. 286). The case will be reopened. The [Assignee] field will be cleared and the case will be returned to the processing queue.

Fig. 286 The communications history with the customer



To quickly call the customer, place the cursor on the contact's name in the case profile. If the contact has any communication options that are phone numbers, dialing options will be available on the mini page (Fig. 287).

Fig. 287 Dialing the case customer



You can also use the communication panel to dial the customer.

Resolution and feedback

After the customer is provided with the case resolution, change the case status to “Resolved”.

Fig. 288 Resolving the case

The customer will be notified by an email that the case has been resolved. The email will contain the user satisfaction scale which the customer can use to grade the performance of the contact center or helpdesk: Case status will change depending on the customer’s evaluation. To do this:

- If the user satisfaction level is "1" or "2", the case will be reopened and the [Assignee] field will be cleared.
- If the user satisfaction level is "3", "4" or "5", the case status will be changed to “Closed”.

NOTE

The connection between customer satisfaction levels and case statuses is configured in the [Satisfaction levels] lookup.

To expedite the resolution of future similar cases specify the knowledge base articles that contain the required resolution. If there are no such articles in the knowledge base, Creatio will automatically suggest creating a new article.

NOTE

By default, the process of creating a new article is not active. To activate this process delete it from the "Deactivated processes" lookup.

Automatic reopening of a case when receiving an email or a comment from the portal

Automatic reopening of a case and clearing the [Assignee] field takes place if:

1. The case in paused or resolved and not in the final state.

NOTE

Use the [Case statuses] lookup to configure incident and service request statuses. By default, the “Resolved” and “Waiting for response” statuses have the [Pause status] or [Resolved status] checkboxes selected. The [Final status] checkbox is cleared for these case statuses.

2. Users can reply to case emails or leave comments on the portal.

After receiving incoming email or a customer comment, case status will be automatically changed to “Reopened”. The [Assignee] field will be cleared. This is done to enable other employees to work with the reopened case.

NOTE

If the [Assignee group] field is not cleared all the group participants will receive a notification displayed on the agent desktop.

How to notify the contact about a message in the "Portal" feed.

A portal user receives a notification about a message in the "Portal" feed if this user has an active email.

The text of an email is configured in the [Email templates] lookup.

Creating a knowledge base article after resolving a case

After resolving the case you can create articles in the knowledge base to be used for resolution of similar cases.

By default, the [Create a new article after case resolution] subprocess is inactive. To activate the subprocess, remove it from the list of the [Disabled processes] lookup:

1. Open the system designer by clicking the button.
2. In the [System setup] section, click the [Lookups] link.
3. Go to the [Disabled processes] lookup.
4. Delete the process from the lookup.

The subprocess works as follows:

1. When resolving a case, previously created articles in the knowledge base are checked.
2. When an article is missing from the knowledge base, a user is asked if it is required to create a new one. To create a new article, select "Yes".
3. After saving an article is connected to the case.

SEE ALSO

- How to create a case
- How to calculate response and resolution time
-
- Customer satisfaction (CSAT)

Customer satisfaction (CSAT)

We have implemented a “Customer SATisfaction” (CSAT) scale, which the customers can use to grade the quality of service.

How it works

As soon as the assignee changes the status of a case to "Resolved", the customer receives an automatic email prompting them to assess the support service quality. Such notification can be sent with a certain delay. Depending on how the customer scores the contact center performance, the case status changes. If the support service quality is graded at 1–2 points, the case will be reopened; if the score is 3-5 points – the case status will be changed to "Closed". If the customer does not assess the support service, a reminder email notification will be sent.

You can customize the CSAT process.

How to configure CSAT

To set up the customer satisfaction evaluation:

- Distribute a portal license to the SysPortalConnection Creatio portal user.
- Configure the satisfaction scale and specify the rules for closing or reopening cases depending on the actual evaluation score in the **[Satisfaction levels]** lookup. Read more >>>

  NOTE

  If a case is reopened as a result of a low score point, its [Assignee] field will be cleared automatically and the case will be queued for processing. To disable clearing of the [Assignee] field, clear the [Default value] checkbox in the "Remove case assignee after case reopening" system setting.

- Edit the content of the email template that contains a request to assess customer satisfaction. Localize the template. You can do it via the **[Email templates]** –> **[Case resolution notification]** lookup. Read more >>>
- Specify the usage rule ("Send immediate" or "Send after a delay") in the **[Case notification rule]** lookup. Read more >>>
- Configure sending of a CSAT reminder if the customer has not assessed the quality of service after the first notification. The evaluation response waiting time is set in the **[Number of waiting days to reevaluate resolved case]** and **[Number of waiting days after second reminder of resolved case]** system settings. If the customer does not provide a score after the reminder, Creatio will automatically close the case after the time specified in the corresponding system setting.

Where to view CSAT results

The CSAT score and the comment that the customer leaves on the "thank-you" page are displayed on the **[Closure and feedback]** tab of the case page. General CSAT indicators are available on the **[Feedback]** tab in the **[Dashboards]** section.

Use the **[Ability to change case satisfaction level]** system operation to manage permissions for modifying information on the [Closure and feedback] tab.

NOTE

By default, employee users do not have permission to edit the case feedback, while the portal users have such permission.
We recommend granting permission to the [Ability to change case satisfaction level] system operation only to senior managers of customer support department.

SEE ALSO

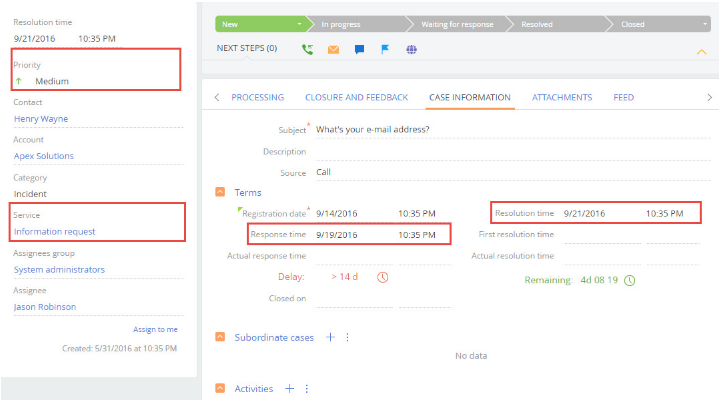
- User satisfaction scale setup
- Setting up email templates
- Set up contact case notification rules
- Case resolution notification setup

- Case page

How to calculate response and resolution time

Creatio enables you to calculate case response and resolution time. You can select the time calculation schema that suits you most and set it up according to your company's business goals. The response and resolution deadlines are calculated based in the case service, or case priority (Fig. 289). Case pages display response and resolution deadlines as well as remaining time until the resolution or the overdue time if the scheduled date has already passed.

Fig. 289 The case page with response and resolution time calculated



Response and resolution time is displayed according to the time zone set in the user profile.

CONTENTS

Response and resolution deadline calculation methods

The response and resolution deadlines are calculated base on the case, service, as well as the corresponding calendar. More information about calendar setup is available in a separate article.

You can set up contingency plans for deadline calculation using 2 pre-defined calculation strategies: by service, by case priority. One of the strategies can be used by default, and other strategies can be set as alternatives. If Creatio is unable to calculate deadline using the default strategy, it will automatically attempt its alternative strategy. If the alternative strategy cannot be used, and if it has its own alternative strategy, Creatio will use that strategy. If an alternative strategy is not specified, the deadlines will not be calculated. Use the [Case deadline calculation schemas] lookup to set the default and alternative rules. For more information on importing communication options is available in a separate article.

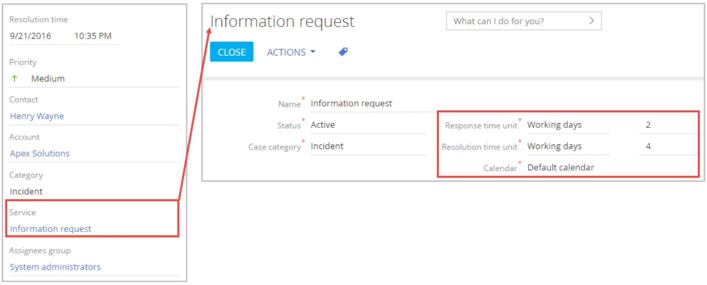
NOTE

New schemas are created with development tools in the Creatio platform

By service

This deadline calculation strategy is based on the service page data and the calendar of the service (). This strategy is preset as the default strategy.

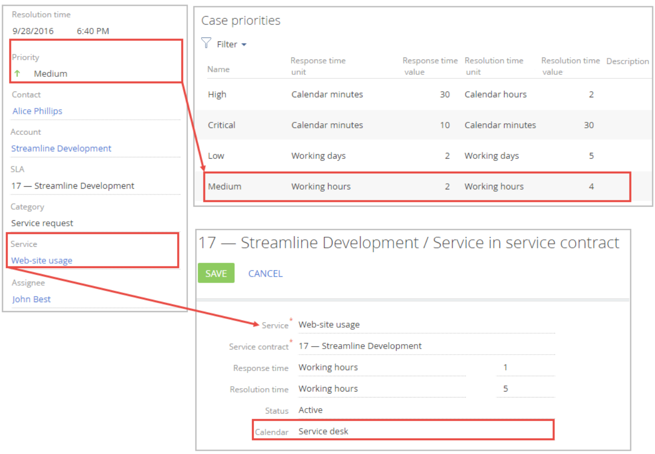
Fig. 290 Data used for calculating deadlines by service



By priority

The system uses the [Case priorities] lookup data. This strategy is based on the response and resolution deadlines set for different case priorities (Fig. 291).

Fig. 291 Data used for calculating case deadlines by priority



SEE ALSO

- Calculating response and resolution deadlines using strategies
- How to setup response and resolution time calculation
- Calculating response and resolution deadlines using calendars

How to setup response and resolution time calculation

You can set up response and resolution time in two steps:

- Set up calendars.
- Select calculation schema.

Calendar setup

The response and resolution deadline calculation accounts for holidays, weekends and work hours specified in the calendar used for the customer service. Set up calendars for correct deadline calculation. By default, one standard calendar with the following characteristics is set up in the system:

- Time zone GMT 0, without daylight saving time.
- 5-day workweek (from Monday till Friday).
- 8-hour work day (from 9:00 AM to 6:00 PM), without lunch break.
- Reduced work days and holidays are not included.

This calendar is specified as default in the [Base calendar] system setting. You can modify the standard calendar according to the schedule of support services provision of your company, or create a new one and add it to the system setting as the default one. You can also create additional calendars that take into account additional scheduling of services provision. For example, calendars of services provision with different work hours or different time zones.

> **NOTE**
> The [Base calendar] system setting must be filled in for deadline calculation to work.

The service calendar is the calendar the system used to calculate case response and resolution deadlines. In the response and resolution calculation time strategies, the system uses the following calendars:

- The service calendar is the service provision calendar specified on the service page. If the calendar is not available on the service page, the system will use the base calendar.
- By default, the calendar specified in the [Base calendar] system setting is used. The system uses this calendar if no custom calendar is specified.

Let us create a new calendar with the service provided six days a week, and Saturday being the reduced work day. The technical break is fixed, its duration is 1 hour. To create a new calendar:

1. Open system designer by clicking the button.
2. In the [Lookups] section, open the [Calendras] lookup content.
3. Click the [New] button. Specify the new calendar name and time zone.
4. Click the button and edit the workweek settings. The default week parameters match the parameters of the base calendar.
5. Set up workweek. Set the day type as “Work” for all days from Monday to Friday, “Reduced” for Saturday and “Day off” for Sunday.
6. Set up work time. Set the technical break by separating the work time into two intervals, before and after the break: 9:00 AM – 1:00 PM and 2:00 PM – 6:00 PM.
7. Specify all holidays on the [Days off] tab.

The created calendar can be set as the base one or specified on the service page.

Setting up calculation rules

The [Case deadline calculation schemas] lookup contains a list of strategies that can be used for calculating response and resolution deadlines for cases. When calculating response and resolution time, the system will use the schema set by default. If there is not enough data in the default schema, the system will use the alternative schema. If an alternative strategy is not specified, the deadlines will not be calculated. If an alternative strategy is specified, but also cannot be applied, its own alternative strategy will be used, and so on. If none of the strategies can be used, the deadlines will not be calculated.

NOTE

The response time and resolution time are calculated independently from one another. If the data in the case is sufficient for calculation based on the base resolution time calculation schema, but not sufficient for calculation of the response time, then the resolution time will be calculated based on the base schema, and the response time - based on the alternative schema.

Below is an example of setting up case deadline calculation based on the case priority. As an alternative strategy, the system will calculate the deadlines based on service. To set up deadline calculation:

1. Open system designer by clicking the button.
2. In the [Lookups] section, open the [Case deadline calculation rules] lookup content (Fig. 292).

Fig. 292 The [Case deadline calculation rules] lookup

Case deadline calculation schemas

Filter

Name	Default	Alternative schema	Description
By service in SLA	Yes	By service	
By service priority in SLA	No	By service in SLA	
By priority	No		
By service	No		
By priority in SLA level	No	By priority	

3. Select the “By priority” strategy.
4. Select the [By default] checkbox.

NOTE

The [By default] checkbox can be selected only for one schema. If you try to select a checkbox for two schemas simultaneously, only the checkbox of the schema that was selected last will be saved.

5. Specify “By service” in the [Alternative schema] field of the default strategy.

   We recommend setting up an alternative schema for each schema you use. Therefore, when calculating response and resolution time, all possible case parameters will be taken into account.

SEE ALSO

- Response and resolution deadline calculation methods
- Calculating response and resolution deadlines using calendars
- Calculating response and resolution deadlines using strategies

Calculating response and resolution deadlines using calendars

The helpdesk is in the same time zone as the customer

Data from the service calendar and base calendar is used for calculation. The system will use the calendar specified for the corresponding service.

NOTE

The [Calendars] lookup contains the list of calendars. Calendar setup is covered in a separate article.

The following parameters are set up in the service **calendar**:

- Workweek from Monday till Friday.
- Work time from 9:00 AM till 6:00 PM, technical break from 1:00 PM till 2:00 PM.
- Days off: Saturday, Sunday.
- Additional day off: May 30, 2017.
- The time zone is UTC -5.

NOTE

The deadlines are calculated in the time zone of the corresponding service calendar. The results are adjusted based on the time zone of the viewer.

Support agent and customer are in the same time zone (UTC +3).

NOTE

If the response and resolution time is specified in "calendar time" (minutes, hours or days), the service calendar does not affect the deadline calculation. If the response and resolution time is specified in workhours or workdays, the response time will be calculated from the start of the next business period (next business day, etc.). For example, if a case was at 13.00, and the response time is 1 work day, the planned response time will be set to the end of the work interval of the next calendar day.

Below are examples of deadline calculation for a case created during weekend (05/30) and a workday.

The resolution deadlines are calculated in a similar way.

Date/time when the case was registered on the portal (UTC +3)	Date/time when the case was registered on the case page (UTC +3)	Date/time when the case was registered in the service calendar (UTC -5)	Response time	Planned response in the service calendar (UTC -5)	Planned response on the portal (UTC +3)	Planned response on the case page (UTC +3)
05/02 1:00 PM	05/02 1:00 PM	05/02 1:00 PM	10 calendar minutes	05/02 1:10 PM	05/02 1:10 PM	05/02 1:10 PM

05/02 1:05 PM	05/02 1:05 PM	05/02 1:05 PM	10 work minutes	05/02 2:10 PM	05/02 2:10 PM	05/02 2:10 PM
05/01 1:00 PM	05/01 1:00 PM	05/01 1:00 PM	10 calendar minutes	05/01 1:10 PM	05/01 1:10 PM	05/01 1:10 PM
05/01 1:05 PM	05/01 1:05 PM	05/01 1:05 PM	10 work minutes	05/02 9:10 AM	05/02 9:10 AM	05/02 9:10 AM
05/02 1:00 PM	05/02 1:00 PM	05/02 1:00 PM	1 calendar hour	05/02 2:00 PM	05/02 2:00 PM	05/02 2:00 PM
05/02 1:00 PM	05/02 1:00 PM	05/02 1:00 PM	1 work hour	05/02 3:00 PM	05/02 3:00 PM	05/02 3:00 PM
05/01 1:00 PM	05/01 1:00 PM	05/01 1:00 PM	1 calendar hour	05/01 2:00 PM	05/01 2:00 PM	05/01 2:00 PM
05/01 1:00 PM	05/01 1:00 PM	05/01 1:00 PM	1 work hour	05/02 10:00 AM	05/02 10:00 AM	05/02 10:00 AM
05/02 1:00 PM	05/02 1:00 PM	05/02 1:00 PM	1 calendar day	05/03 1:00 PM	05/03 1:00 PM	05/03 1:00 PM
05/02 1:00 PM	05/02 1:00 PM	05/02 1:00 PM	1 work day	05/03 6:00 PM	05/03 6:00 PM	05/03 6:00 PM
05/01 1:00 PM	05/01 1:00 PM	05/01 1:00 PM	1 calendar day	05/02 1:00 PM	05/02 1:00 PM	05/02 1:00 PM
05/01 1:00 PM	05/01 1:00 PM	05/01 1:00 PM	1 work day	05/02 6:00 PM	05/02 6:00 PM	05/02 6:00 PM

The helpdesk is not in the same time zone as the customer

If the helpdesk and the customer are in different time zones, the dwadline calculation is different.

> **NOTE**
>
> The deadlines are calculated in the time zone of the base calendar. The results are adjusted based on the time zone of the viewer.

The following parameters are set up in the service **calendar**:

- Workweek from Monday till Friday.
- Work time from 9:00 AM till 6:00 PM, break from 1:00 PM till 2:00 PM.
- Days off: Saturday, Sunday.
- Additional day off: May 30, 2017.
- The time zone is UTC -8.

The helpdesk agent's time zone is UTC -5.

Customer is in Yekaterinburg (UTC +5)

NOTE

The current user's time zone is specified the user profile. If the time zone is not specified in the user profile, the time zone specified in the [Defaulr TimeZone] system setting. If no time zone is specified in the user profile and the [Defaulr TimeZone] system setting, Creatio server local time is used to determine the time zone.

Below are examples of deadline calculation for a case created during weekend (05/30) and a workday. The resolution deadlines are calculated in a similar way.

Date/time when the case was registered on the portal (UTC -3)	Date/time when the case was registered on the case page (UTC +3)	Date/time when the case was registered in the service calendar (UTC -8)	Response time	Planned response in the service calendar (UTC -8)	Planned response on the portal (UTC +5)	Planned response on the case page (UTC +3)
05/02 6:00 PM	05/02 4:00 PM	05/02 1:00 PM	10 calendar minutes	05/02 1:10 PM	05/02 6:10 PM	05/02 4:10 PM
05/02 6:00 PM	05/02 4:00 PM	05/02 1:00 PM	10 work minutes	05/02 2:10 PM	05/02 7:10 PM	05/02 5:10 PM
05/01 6:00 PM	05/01 4:00 PM	05/01 1:00 PM	10 calendar minutes	05/01 1:10 PM	05/01 6:10 PM	05/01 4:10 PM
05/01 6:00 PM	05/01 4:00 PM	05/01 1:00 PM	10 work minutes	05/02 9:10 AM	05/02 2:10 PM	05/02 12:10 PM
05/02 6:00 PM	05/02 4:00 PM	05/02 1:00 PM	1 calendar hour	05/02 2:00 PM	05/02 7:00 PM	05/02 5:00 PM
05/02 6:00 PM	05/02 4:00 PM	05/02 1:00 PM	1 work hour	05/02 3:00 PM	05/02 8:00 PM	05/02 6:00 PM
05/01 6:00 PM	05/01 4:00 PM	05/01 1:00 PM	1 calendar hour	05/01 2:00 PM	05/01 7:00 PM	05/01 5:00 PM
05/01 6:00 PM	05/01 4:00 PM	05/01 1:00 PM	1 work hour	05/02 10:00 AM	05/02 3:00 PM	05/02 1:00 PM
05/02 6:00 PM	05/02 4:00 PM	05/02 1:00 PM	1 calendar day	05/03 1:00 PM	05/03 6:00 PM	05/03 4:00 PM
05/02 6:00 PM	05/02 4:00 PM	05/02 1:00 PM	1 work day	05/03 6:00 PM	05/03 11:00 PM	05/03 9:00 PM

05/01 6:00 PM	05/01 4:00 PM	05/01 1:00 PM	1 calendar day	05/02 1:00 PM	05/02 6:00 PM	05/02 4:00 PM
05/01 6:00 PM	05/01 4:00 PM	05/01 1:00 PM	1 work day	05/02 6:00 PM	05/02 11:00 PM	05/02 9:00 PM

SEE ALSO

- Response and resolution deadline calculation methods
- How to setup response and resolution time calculation

Calculating response and resolution deadlines using strategies

Let's take a look at how response and resolution deadline calculation strategies affect actual case deadlines. In our example, customer and support service are in one time zone.

NOTE

More information about response and resolution deadline strategies can be found in a separate article.

NOTE

If the response and resolution time is specified in “calendar time” (minutes, hours or days), the service calendar does not affect the deadline calculation. If the response and resolution time is specified in workhours or workdays, the response time will be calculated from the start of the next business period (next business day, etc.). For example, if a case was at 13.00, and the response time is 1 work day, the planned response time will be set to the end of the work interval of the next calendar day.

Calculating response and resolution deadlines using the “By service” strategy

Only the parameters configured on the service page and the service calendar are taken into account when calculating response and resolution deadlines **by service**. Case priority is not taken into account.

CASE

The following settings are specified for the “Consultations on the software setting” service:

- Response time unit: 1 working hour.
- Resolution time unit: 3 working hours.
- Service calendar: 5-day workweek (from Monday to Friday), business hours are from 9:00 AM to 6:00 PM, no lunch break.

As a result, response and resolution deadlines for all cases connected with the “Consultations on the software setting” service will be calculated in the same way, regardless of all other case parameters.

For cases received on Monday, 10:00 AM, the deadlines will be calculated in the following way:

- Response deadline: Monday. 11:00 AM (registration time + response time unit).
- Resolution deadline: Monday. 1:00 PM AM (registration time + resolution time unit).

Calculating response and resolution deadlines using the “By priority” strategy

Only the case priority and the service calendar are taken into account when calculating of response and resolution deadlines **by priority**. Case service is not taken into account.

CASE

The following settings are specified for critical priority in the [Case priorities] lookup:

- Response time unit: 30 working minutes.
- Resolution time unit: 2 working hours.

Service calendar: 5-day workweek (from Monday to Friday), business hours are from 10:00 AM to 6:00 PM, no lunch break.

As a result, response and resolution deadlines for all cases of “Critical” priority will be calculated .

For cases of “Critical” priority, received for this service on Monday, 10:00 AM the deadlines will be calculated in the following way:

- Response deadline: Monday. 10:30 AM (registration time + response time unit).
- Resolution deadline: Monday. 12:00 PM AM (registration time + resolution time unit).

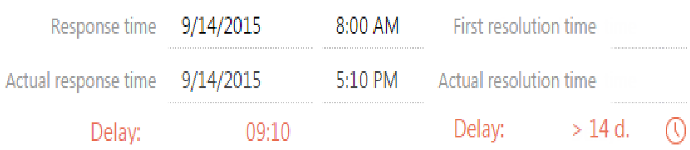
SEE ALSO

- Response and resolution deadline calculation methods
- How to setup response and resolution time calculation
- Calculating response and resolution deadlines using calendars

Overdue/remaining time indicators

On the case page, there are special indicators that show the progress in processing the case. They are available next to the [Scheduled response time] and [Scheduled resolution time] fields (Fig. 293).

Fig. 293 Overdue/remaining time indicators



The indicator appearance depends on the current case status and its compliance with the deadlines.

NOTE

The time displayed by the indicators is always calculated in calendar units (minutes, hours, days).

Depending on the timely resolution of the case:

- Prior to the deadline, the indicator is green and displays the remaining time.
- After the deadline, the indicator is red and displays the overdue time.
- If the time until deadline exceeds 14 days, the indicator appears as “> 14 d“.
- If the overdue time exceeds 14 days, the indicator appears as “> 14 d“.

Depending on the case status:

- If the actual time is filled in (for example, the case is resolved), there are two options:
  - If the actual value is less than the planned value (the case has been processed within the planned time), the indicator is hidden.
  - If the actual value exceeds the planned value (the case is overdue), the indicator is displayed but the clock is stopped.

- If the actual deadline is not filled in:
  - The indicator is visible and the countdown is on for active cases (in the “open”, or “in progress” status).
  - The indicator is not visible for paused cases (cases that are awaiting customer’s response). When the case processing resumes, the indicator is displayed and keeps counting.

  NOTE

  The checkbox for the final status, as well as for the pause status, is selected in the [Case statuses] lookup.

SEE ALSO

- Case page
- Service page
- How to setup response and resolution time calculation

Dashboards in the [Cases] section

The **[Analytics]** view contains summary data on the section: charts, metrics, ratings and reports.

NOTE

More information about working with dashboards and dashboard setup can is available in the corresponding articles.

Case analytics for the quarter

This tab displays the cases by quarter statistics.

Monthly overdue	The diagram displays the number of cases with overdue response or resolution time.
Cases sources	The diagram displays the number of cases by case sources.
Case categories	The diagram displays the number of cases by categories.
Registered and closed cases by month	The diagram contains closed cases in relation to created cases.

SEE ALSO

- Dashboards

Case lookups

The article covers lookups related to working with cases.

CONTENTS

The [Case statuses] lookup

This lookup is used to manage statuses that a case can be assigned with during processing. This lookup is used on the case page and on the [Cases] detail.

You can edit case status values directly in the list. To specify possible next statuses, as well as additional case status parameters, use the case status page. Click the button to open the case status page.

Case status page

Name	Case status name, that is displayed in the [Status] field, for example, "In progress".
Description	Additional information about the case status, that cannot be specified in other fields.
Is final	Indicates that cases in this status have finished processing. By default, the final statuses are "Cancelled" and "Closed". Closed or cancelled cases cannot be assigned any other statuses.
Is resolved	Indicates that a solution or an answer has been sent to the user. By default this checkbox is selected for the "Resolved" status. If a case is assigned this status, the timer for the resolution deadline stops.
Is paused	Indicates that cases in this status are suspended for some reason, usually because a response or an action from the user is expected. By default, this checkbox is selected for the "Pending" status. The resolution timer is paused for cases that have this status.
Button caption	The caption of the button that changes the case status to the current one. This button is displayed in the list of the [Cases] section as well as on the case page.
Close on save	If this checkbox is selected, then, whenever the user saves a case in this status, the case page will be automatically closed.

The [Service levels] lookup

The [Support levels] lookup contains a list of support packages like: "Basic", "Business", "Premium". The lookup is used on the service agreement page. For each level you can set case priorities and response and resolution deadline values for each priority. To set the priorities and corresponding time values, use the [Priority in Support level] detail. Click the button to open the case status page.

[Priority in Support level] detail

Response and resolution deadline values by case priority in the Service package are sown on the detail (Fig. 294). These values are used in the calculation of the response and resolution deadlines according the "By priority in SLA level" strategy in the [Case deadline calculation rules] lookup.

Fig. 294 The [Priority in Support level] detail


PRIORITY IN SUPPORT LEVEL

Priority in Support level

Case priority	Response time unit	Response time value	Resolution time unit	Resolution time value
Low	Working days	1	Working days	3
Medium	Working hours	3	Working days	1
High	Calendar hours	1	Calendar days	1
Critical	Calendar minutes	30	Calendar hours	3

To add a record on the detail, press the + button, specify a lookup record in the [Priority] field, specify the time units in which case response time is measured in the [Response time unit] field and set the time for response in the [Response time value] field. Set the resolution time value in the similar way.

NOTE

The “Working days” time unit is not converted in working hours. If 1 working day is set as response deadline and the case was registered before the working day started, then the end of this working day will be the actual response deadline. If the case was registered during the working day, then the response deadline will be the end of the next working day.

The [Case deadline calculation rules] lookup

The lookup is used for setting up the rules of response and resolution deadline of the case. The lookup contains 2 strategies of deadline calculation. One strategy with [Default] attribute or a few strategies in the sequence set in the lookup could be used for calculation. The deadline is calculated according to the default strategy. If the case does not contain the necessary data for a strategy, the system will attempt to use its alternative strategy. Strategies and examples of calculating deadline are described in more detail in the article.

Name	The name of the deadline calculation strategy.
Notes	Additional information, Here you can give a brief description of the strategy logic.
Handler	The handler used to check if the case matches the strategy. Handlers are configured by the developer.
Default	An attribute that determines the first strategy to be used in the deadline calculating. If you set this attribute for a particular strategy, it will be removed for previous default strategy.
Alternative schema	The strategy that will be used to calculate deadlines, if the system did not find the data to calculate the deadlines using the previous strategy.

The [Blacklist of email addresses and domains for "junk" case registration] lookup

The [Blacklist of email addresses and domains for case registration] lookup is used to form a list of domains, addresses and groups of addresses, that send spam mailing, auto-replies and internal mailings to the support service. Fill the lookup to prevent the support operators from handling cases created from the unsolicited emails.

For example if the support service email is listed on the company website, it can receive a lot of spam emails. The system will check if the sender's address of the incoming letter matches the values listed in the lookup:

- If the sender's address is listed in the black list, then the message will be marked as spam. Cases from this address can be registered in this state or not registered at all. This depends on the [Create cases for junk emails] setting.
- If no matches are found, a new case will be registered on the incoming message.

By default, the lookup contains the following values commonly used in the bulk emails: postmaster, noreply, no-reply, mail-daemon, mailer-daemon.

Email address or Domain	Email address, fragment of address or domain, the letters from which should be marked as spam. For example, this can be “no-reply" as a fragment of an address, “www.hotmail.com” or “hotmail.com” as a domain, and “example@yahoo.com” as an email address.
Notes	Description of the reasons for adding an address or domain in the black list.
Type of field	The type of field to be checked. For example, “Email contains” of “Domain”. Filled automatically based on “Email address or Domain” column data. If the field contains the "@" and "." characters, then the system will treat that as an email. If the field contains the "." character, then the system will treat that as a domain. If the field contains only letters and numbers, then the system will treat that as a part of an email address (“Email contains”).

VIDEO TUTORIALS

- System settings and lookups

Predictive case routing

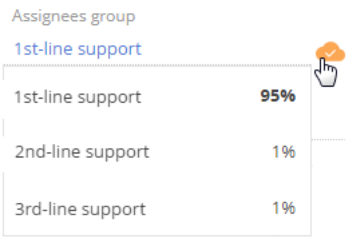
Using predictive case routing in the [Cases] section enables saving operators’ time at the initial case processing and assigning the corresponding support team. The [Service] and [Assignee group] field prediction is performed in the background mode upon case registration based on an email.

> NOTE
>
> You can also enable the case priority prediction. To do this, activate the corresponding model in the [ML models] section.

To see the prediction, open the case page and click the button next to the necessary field, for example, [Assignee group] Fig. 295).

> NOTE
>
> The predicted value is saved in the field only after you save the case page.

Fig. 295 Certain prediction on a case page



The training process of the assignee group prediction model

The machine-learning model for predicting the assignee group is activated by default, but requires training. The training for the machine-learning model is launched automatically. Upon reaching the quality metric lower limit (50%), the model instance is saved in Creatio and starts working. If the prediction accuracy after model training is lower than 50%, the model instance is sent for retraining.

In this case, the assignee group field value is not predicted. The machine-learning model training process takes 30 days in the base configuration of Creatio. You can set up a different retrain period in the [Machine learning models] section.

Assignee group prediction

The machine learning model checks emails and cases to collect frequently used words and phrases in the email body. A collection of words and phrases that are most frequently used for case resolutions and replies via email by each assignee group is formed for each trained machine-learning model instance. No confidential data (email addresses, email bodies, contact and account data, case resolution history, etc.) is stored in this collection. When Creatio compares the data from a new case to the collection of words and phrases, a prediction of the [Assignee group] field data takes into account all possible probabilities. If Creatio generates a certain prediction, the [Assignee group] field is populated automatically.

The prediction accuracy depends on the amount of collected data, used for machine learning model training. The use of constantly updated historical data in the training enables you to achieve the prediction accuracy of more than 90%.

NOTE

Predictive analysis in Creatio enables you to train models on collections containing up to 75,000 historical records. If a collection contains more than 75,000 records, the service will randomly select 75,000 records from the collection to train the machine-learning model.
We recommend to use at least 20,000 historical records to achieve the quality metric lower limit of 50%

Case FAQ

CONTENTS

- What happens to a case that was not evaluated?
- How do I disable case re-evaluation request?
- How do I disable reopening cases by emails?
- Why can't I escalate a case?
- Why the searching for similar cases is disabled for me?

Why doesn't the list display all cases even when scrolled down?

By default, the list displays only open cases with the "New", "In progress", "Pending", "Resolved" or "Reopened" statuses. To display closed and canceled cases, select the [Show closed cases] checkbox.

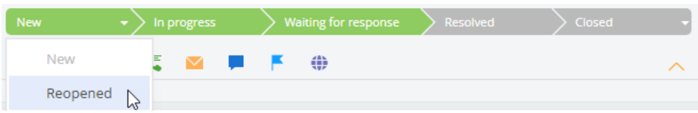
Also, the list may not display all cases due to the current custom filter settings (Fig. 296). To remove the quick filter, click the × button on the right.

Fig. 296 Using the quick filter example

Why was the case reopened?

Paused cases and cases being resolved (in the "Pending", "Resolved" status), will be automatically reopened in case a new message from the case customer is received on the self-service portal or an incoming email-message with the case number in its subject has been received. You can also reopen a case manually by selecting the "Reopened" status on the workflow bar (Fig. 297).

Fig. 297 Reopening a case manually



Why after reopening a case, the [Assignee] field is cleared?

After receiving a new email or message on the self-service portal for a paused and resolved case (in the "Pending", "Resolved" status), the case will be reopened. The [Assignee] field will be cleared, and the case will be transitioned to the queue for processing. This will ensure that the case customer receives a response to their case as soon as possible, regardless of the agent's workload, or their presence in the workplace at the time of receiving a case from the customer.

Why can't I attach an email or publish a message for a case in a final stage?

A case in a final stage is a case that was fully processed. This case cannot be re-opened or resolve again. Incoming emails will not be attached to this case. If at any point a user asks an additional question about a closed or canceled case, you need to register a new case and specify the closed case as its parent case.

Case feed is accessible for the support team regardless of its status. Service team member can manually connect any incoming and outgoing message to the case in the final stage or send the email from the case page.

In what cases and why does the system send automatic notifications to contacts?

By default, automatic notifications are sent to case contacts in 2 instances:

- when a new comment is posted on the self-service portal;
- when the case status is changed (registered, pending, resolved, canceled, etc).

Sending automatic notifications to case contacts is described in a separate article.

Automatic notifications are not sent when:

- the case contact profile does not contain email address;
- the mailbox for automatic notifications is not set up.

How do I add new case notifications?

To add new or change existing **case status change** notification, do the following:

1. Set up an email template: Read more >>>
2. In the [Case contact notification rules] lookup, create new or edit an existing rule and connect it to the created email template. Read more >>>

For any **other notifications** you need to create a business process by which emails will be sent and specify the email template.

What happens to a case that was not evaluated?

If customers do not assess the support service quality after receiving a message about case resolution, they will receive an additional evaluation request in a few days. If no evaluation is received after the additional request, the case will be closed automatically. The evaluation response waiting time is set in the **[Number of waiting days to reevaluate resolved case]** and **[Number of waiting days after second reminder of resolved case]** system settings.

How do I disable case re-evaluation request?

Case re-evaluation request is made, if the first request went unanswered. Reevaluation requests are made by the "Reevaluate case level request process" (the ReevaluateCaseLevelRequestProcess schema of the Case package) business process. Deactivate this business process, and the re-evaluation requests will not be sent anymore.

How do I disable reopening cases by emails?

To disable reopening cases by incoming emails, you must disable the following business processes:

- "Run process: Reopen case and notify assignee on receiving an answer regarding the case" (the RunSendNotificationCaseOwnerProcess schema of the CaseService package);
- "Reopen case and notify assignee on receiving an answer regarding the case" (the SendNotificationToCaseOwner schema of the CaseService package);
- "Send email to case contact after adding a portal message" (the CasePortalMessageHistoryNotificationProcess schema of the Portal package).

Why can't I escalate a case?

The [Escalate] action is available only in the Creatio service enterprise product. In the Creatio customer center you can reassign the case. To do this click the button in the [Owner] field and select an employee who will continue processing of the case.

Why the searching for similar cases is disabled for me?

The [Search for similar cases] action is available only in the Creatio service enterprise product. In the Creatio customer center you can attach the knowledge base article to the case and assign a parent case.

SEE ALSO

- Preliminary settings
- How to create a case
- Case management process
- How to process a case
- How to connect incoming emails to existing cases and create new incidents automatically

The [Knowledge base] section

The **Knowledge base** section represents an electronic library of documents that are used by employees need every day. For example, here you can store the answers to frequently asked questions, rules and regulations, document templates and advertising materials. You can use this section to quickly find, discuss and evaluate articles.

> ATTENTION!
> While adding new knowledge base articles within the main Creatio application, the portal users are automatically granted the right to read these articles. If necessary, you can change permissions.

Views

The section has several views:

- – displays knowledge base articles as a list of records. All list columns are described below in the context of the knowledge base article page.
- – displays charts, indicators and ratings that can be used to analyze the knowledge base articles.Read more >>>

CONTENTS

Knowledge base article page

The knowledge base article page consists of the field group containing general data, and several tabs.

General data

General information about the article.

Title	Knowledge base article title.
Type	Knowledge base article type, for example, “Rules and regulations” or “FAQ”.
Modified by	User who last edited the article. This is a non-editable field.
Modified on	Date and time of the last modification of the knowledge base article. This is a non-editable field.

The [General information] tab

The [General information] tab contains text input area and additional areas for the article tags and comments.

Resolution	Page area where you can enter and format the article text. The name of this area is not displayed on the page.

Comments area

The bottom part of the tab contains the comments area. Functionality of this field is identical to that in the [Feed] section of the system. Knowledge base article comments are displayed in the [Feed] section and on the communication panel.

The [Attachments] tab

Use this detail to store files and links related to the knowledge base article. For example, on this detail you can add accompanying documents or useful links related to the article. Read more >>>

The [Connected to] tab

The tab details display records that are connected to the current service.

Cases

List of cases that were resolved with the help of this article. from the [Cases] section.

If you click the [Add] button, a lookup window will open, where you can select one or several cases that should be connected to the knowledge base article To remove a case from the list, use the [Delete] option.

SEE ALSO

- The [Feed] section

Analytics in the [Knowledge base] section

The **Analytics** view contains: diagrams, metrics, rating lists and reports.

> NOTE
>
> More information about working with dashboards and dashboard setup can be found in the corresponding articles.

SEE ALSO

- Analytics

The [Feed] section

The **Feed** section displays messages posted by you and other users. The section lists all messages posted in objects (such as contacts and activities) as well as in channels that you are following. You can use the **Feed** section to post messages in any of channels that are available to you.

Views

The following views are available:

- – feed. Displays the feed messages as a list. Read more >>>
- – channels. Displays the list of channels. Read more >>>

CONTENTS

The [Feed] view

The **Feed** view displays the following messages:

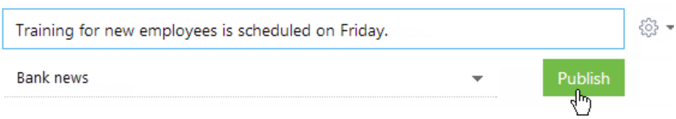
- Messages posted in channels that the current user is following.
- Messages posted in objects that the current user is following.
- Messages posted in the feed of current user's contact.
- Messages posted with a reference to the current user.
- Messages that contain comments posted with a reference to the current user.

Adding messages to the feed

To add a message to the feed, you can use the **Feed** tab of the **Feed** section that is available on the channel page, sections record page, as well as the communication panel.

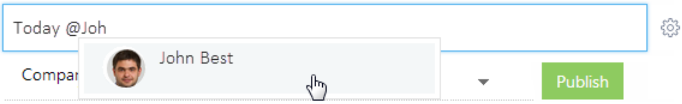
To post a message, enter its text and click the [Publish] button (Fig. 298).

Fig. 298 Adding a post



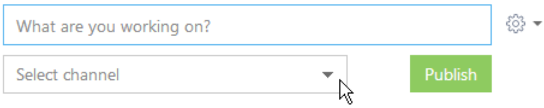
If you would like to mention another user in the message, type "@" symbol and start typing a contact name. The system displays a list of found records from which you can select the desired (Fig. 299). After publishing a message, the mentioned user will receive a notice that appears on the communication panel. Mentioned contact name will be displayed as a link, by clicking which a contact page will be opened.

Fig. 299 Mentioning a user in the feed



When posting a new message in the Feed section or on the Feed tab of the communication panel, you will need to select a message channel. Your message will be displayed in the feed of all users who follow the selected channel. For example, you can post general updates in the "Company news" channel, while the messages that deal with recruitment can be posted in a custom "HR" channel. You can select the channel in the special field (Fig. 300).

Fig. 300 Selecting a channel when posting



NOTE

When posting messages on the section record pages, the message channel is defined automatically. The channel name corresponds to the section name and the name of the particular record that the message is related to (for example, "Contact John Best").

Displaying messages

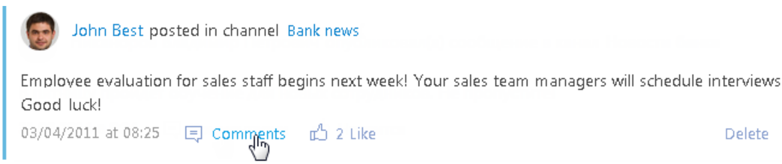
If new messages are added to the feed by other users, a button will be displayed at the top of the feed, showing total number of new messages. Click this button to display the messages.

The color of the vertical line to the left of the message varies depending on the section it is posted in.

The list of messages in the feed can be sorted by date of the message or by date of its last comment (latest messages are displayed at the top of the list). To change the sort order, use the menu.

Comments can be added to the posted messages. To add a comment for a message, click the [Comments] button under the message (Fig. 301), enter the text of the comment and click the [Comment] button. A notice about your comment will be sent to the person who posted a message. The notice will appear on the communication panel.

Fig. 301 Commenting a post



The following buttons are available below the posted message:

[Comments] – show/hide comments for a message. If a message has no comments, then a field for entering a comment will appear when you click the [Comments] button.

[Like]/[Unlike] – mark the message you like. This button displays total number of users who liked the message. To remove the like, click the [Unlike]. You can also give your like to a comment. A notice about your like will be sent to the person who posted a message. The notice will appear on the communication panel.

[Edit]– click this button to edit your message. The button is available for the author of the message or comment.

[Delete] – click this button to delete your message. The button is available for the author of message/comment, system administrators and users who have access to system operation "Permission to delete messages and comments".

NOTE

If a message or comment length exceeds certain limit, only the first part of the message will be displayed. To see the text of the message or comment in full, click the [Read more] button.

Working with the feed in system sections

The section record page (for example, the contact or activity page) contains the **Feed** tab on which the messages related to the current object are displayed. For example, the account page displays messages connected to this account.

Posting messages in the object feed is done in the same manner as posting messages in the [Feed] section.

The [Actions] button of the record page contains additional actions used to subscribe or unsubscribe a user to messages related to the current section record. Once a user is subscribed, all messages related to this record will be displayed in the user feed.

The [Follow the feed] action is available if the user is not following the current record feed. The [Unfollow the feed] action is available if the user is following the feed messages.

When creating a message in the system object feed (for example, the contact's feed) or when adding a comment to such message, you automatically follow this object's feed.

The [Channels] view

The [Channels] view displays the list of channels added to the system. You can open the [Channels] view by clicking the button in the [Feed] section.

The channels are used to group messages by subject. For example, the "Company news" channel can be created for the messages that contain common information about company events.

Any posted message belongs to a particular channel. The message channel is assigned automatically (for example, when adding a message on the Feed tab of the section record page) or manually (when posting a message in the Feed section or on the Feed tab of the communication panel).

Users can follow the channels they are interested in. For example, if you are subscribed to the "Company news" channel, your feed page will display messages posted in this channel.

CONTENTS

Channel page

The channel page consists of the field group containing general data, and several tabs.

Common data

General information about the channel.

Channel name	Name of the channel. This is a required field.
Channel image	The image that is used to visually identify the channel messages in the feed, for example, a channel logo. Click the button to add a new image by using the standard file selection window. Click the button to remove the image.
Description	Additional information about the channel.

The [Follow] button is used to subscribe to the current channel, and the [Unfollow] button is used to unsubscribe from it. The Unfollow button is unavailable if the given user does not have permission to unsubscribe from the channel.

The [Channel properties] tab

Information about the owner of the channel and the access rights that are configured for the channel.

Owner	Employee user who created the channel. This non-editable field is filled in automatically when creating a new channel.
Channel created on	The date when the channel was created. By default, this field is filled in with the current date. This is a non-editable field.
Permission to post entries	[All users can post] – set the option to allow posting messages for any user who has the view permission for this channel.
	[Only users with edit permission for this channel can post] – select this option if you want to allow to post messages only for those users who have the permission to edit the channel. You can set up access rights to the channel by selecting the [Set up access rights] action of the channel page.

Followers

The **Followers** detail contains the list of users whose feeds display messages of the selected channel.

The toolbar of the **Followers** detail contains the additional buttons.

[Add] – add a user or user group to the detail by selecting the corresponding menu command.

[Actions] – select the [Enable unfollowing] or [Disable unfollowing] commands to allow the selected users to unsubscribe from the channel or disable this option correspondingly.

The [Feed] tab

The **Feed** tab on the channel page contains the list of posts of the current channel.

[What are you working on?] – post a message in the channel. Enter the message text in the field and click the [Publish] button. The field is available only for users who have the permission to post messages in the selected channel.

The [Dashboards] section

The **Dashboards** section displays data from different sections of the system. We recommend you use this section to analyze and plan the work of each employee, each department and the company as a whole.

The functionality of this section is similar to that of the **Analytics** view in the system sections, and is described in the “Dashboards” chapter.

SEE ALSO

- Analytics

VIDEO TUTORIALS

- Analytics in Creatio. Working with dashboards.

The [Queues] section

The [Queues] section enables you to manage calls and case processing sequence. Increase the efficiency of your contact center by creating queues tailored to your company specific features, customer's history and cases priority.

The [Queues] section provides contact center or support team supervisors with the instruments to efficiently manage incoming and outgoing communications. Customization enables you to plan for a constant flow of cases, define priorities and assign employees. Although typical queue elements are cases, you can set up queues for other system objects, such as accounts and contacts.

After the queues have been set up, the agent desktop will display the list of records for processing. The content of the list depends on the following:

- the object the queue is created for;
- queue population type (static or dynamic);
- queue display type (regular or blind).

Default queue objects are – "Contact", "Account", "Case", or you can set up queues for other objects. A list of the queue objects can be found in the [Queue objects] lookup. The content of all queues for each object will be displayed on a separate tab on the agent desktop. For example, cases are displayed on the [Cases] tab of the agent desktop.

Queues can be populated manually or automatically. STATIC queues are populated manually and are commonly used for campaigns with a set timeframe and target audiences, such as limited-time promotional offers. DYNAMIC queues are filled in automatically as the records are created or modified in the system. Such queues are a good option, e.g., for prioritizing the CC incoming cases. The type of queue population is determined when a queue is created.

You can also control whether the agents can choose which record to take next. When working with Open queues, agents can choose which record to take next. The order of the records depends on the record sorting rules on the agent desktop. Agents who work with blind queues can take only the next record in queue. In a blind queue an agent can take next record only after processing the previous one.

Queues with one display type (open or closed) can be created for one object.

CONTENTS

SEE ALSO

- The [Agent desktop] section
- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- How to process cases from incoming calls on the agent desktop

How to create and populate a dynamic queue

Dynamic queues are populated automatically. The queue will be populated with records that match a specific filter condition. For example, dynamic queues can be used to process new cases that have not yet been assigned a responsible.

Let's take a closer look at how to create and populate dynamic case queues. To create a dynamic queue for cases where resolution deadline is today or falls within the nearest three days: To do this:

1. Go the [Queues] section.
2. Open the [Queues setup] view.
3. Specify the name of the queue in the opened window.
4. Select the priority for the queue. The queue priority influences the display order of the queue elements on the agent desktop.

   NOTE

   Learn more about elements sorting order on the agent desktop from a separate article.

5. Select a system object in the [Queue type] field. In our case it is “Case”. You can customize queue objects in the [Queue objects] lookup by clicking the [Queue sorting setup] action in the [Queues] section. After saving the queue you cannot change its type.

   NOTE

   The selected object defines the queue type - regular or blind.

6. Select the "In progress" queue status.

   NOTE

   The agent desktop displays only active queues. The status of active queues is “In progress”. By default, the status is "Active".

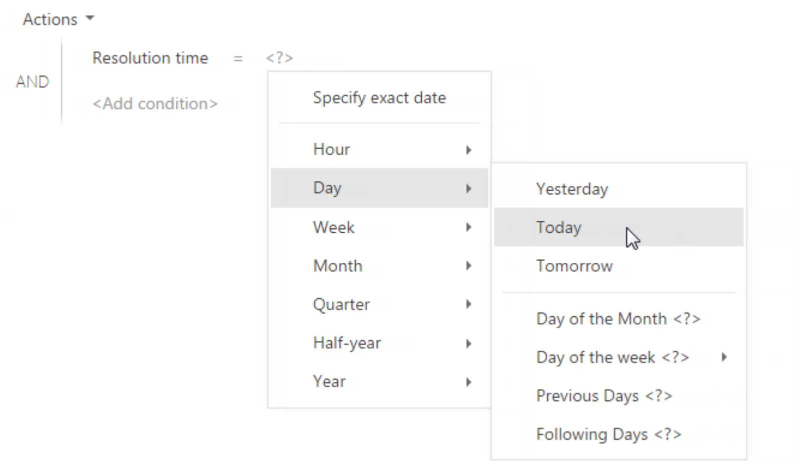
7. Select a business process in the [Process] field. The selected business process will be run each time an agent takes an element from the queue. Select the “Agent desktop: Queue cases processing” business process for cases.

   NOTE

   To be able to use a process in a queue, add two global parameters to it: “queueelementId” and “entityRecordId” with the "Unique identifier” type. The record ID from the ([Queue element] object) is passed to the “queueelementId” parameter, and the contact/case/application record ID is passed to the “entityRecordId” parameter.

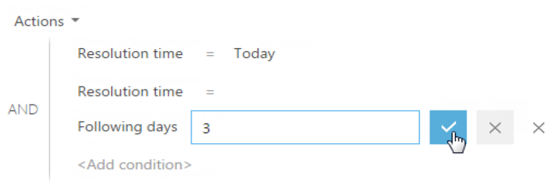
8. Select the [Automatically by filter conditions] option in the [Queue population type] field group on the [Queue population] tab.
9. Specify the filter conditions in the filter area.
   a. Click the [Add condition] link and select the [Resolution time] column in the opened window. Select the value of the condition: "Day -> Today”(Fig. 302).

Fig. 302 Setting up the "Resolution time = Today" filter condition



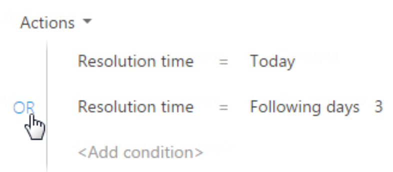
b. Add another filter condition: "Resolution time = Following 3 days" ().

Fig. 303 Setting up the "Resolution time =Following 3 days" filter condition



c. Select the "OR" logical operator (Fig. 304).

Fig. 304 Selecting the "OR" logical operator



ATTENTION

If you do not specify the filter condition for a dynamic queue, the queue elements will not be displayed on the agent desktop.

10. To form a list of agents to process objects from the queue, go to the [Team] tab. Click the [New] button and select the required employees. The selected contacts can process the content of the queue from the agent desktop.

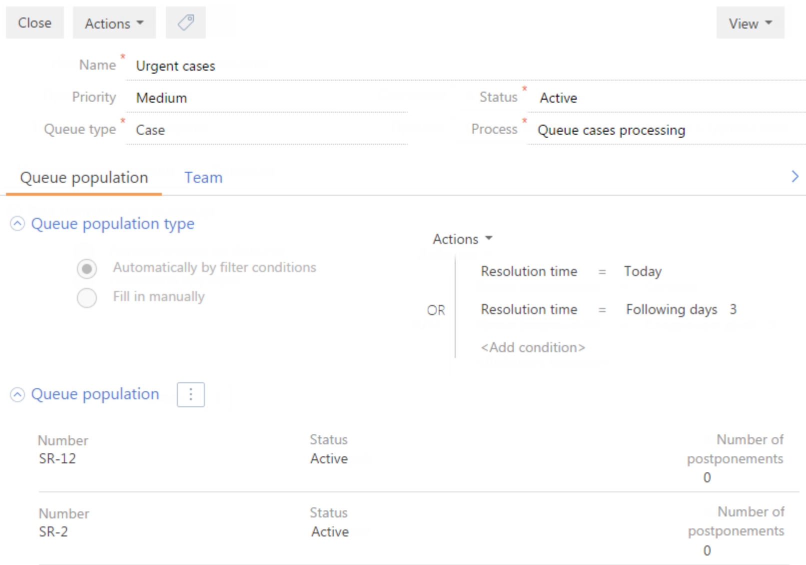
ATTENTION

Only those agents who have the [Active] checkbox selected on the [Team] tab can process the queues. By default, this checkbox is selected for all contacts on the detail. You can clear the checkbox for certain agents. In this case the queue elements of the queue will not be displayed on the agent desktop for these agents.

11. Save and close the page.

To view the content of the queue, select the [Fill queues] action from the action menu of the [Queues] section. Open the queue record. All applications in the current queue will be displayed on the [Queue population] detail (Fig. 305). The data is available in read-only mode.

Fig. 305 Dynamic queue page



SEE ALSO

- How to create and populate a static queue
- How to set up a regular or a blind queue on the agent desktop
- How to sort queue elements on the agent desktop by the object columns
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- How to process cases from incoming calls on the agent desktop
- The [Agent desktop] section

How to create and populate a static queue

The content of static queues is formed manually and is not updated automatically. The static queues can be used for cold calls to a predefined group of contacts to inform them about events.

Let's look closer at an example of creating and populating the static queues for the cold calls to the new customers. To do this:

1. Go the [Queues] section.
2. Open the [Queues setup] view.
3. Specify the name of the queue on the new page, for example, “New customers”.
4. Select the priority for the queue. The queue priority influences the display order of the queue elements on the agent desktop.

   NOTE

   Learn more about elements sorting order on the agent desktop from a separate article.

5. Select a system object in the [Queue type] field. In our case it is “Contact”. You can customize queue objects in the [Queue objects] lookup by clicking the [Queue sorting setup] action in the [Queues] section. After saving the queue you cannot change its type.

   NOTE

   The selected object defines the queue type - regular or blind.

6. Select the "In progress" queue status.

   NOTE

   The agent desktop displays only active queues. The status of active queues is “In progress”. By default, the status is "Active".

7. Specify a pre-configured business process in the [Process] field. The selected business process will be run each time an agent takes an element from the queue.

   NOTE

   For queues by “Contact”object it is necessary to create a business process in Creatio on the agent desktop.To be able to use a process in a queue, add two global parameters to it: “queueelementId” and “entityRecordId” with the "Unique identifier” type. The record ID from the ([Queue element] object) is passed to the “queueelementId” parameter, and the contact/case/application record ID is passed to the “entityRecordId” parameter.

8. Select the [Fill in manually] option on the [Queue population] tab in the [Queue population type] fields group.
9. Go to the [Queue population] detail, to populate the queue. From the [New] button menu, select the [New folder] option and specify the pre-configured folder in the[Contacts] section for example, ”New customers” As a result, thecontacts, who are included in the selected folder will be added to the queue content. You can edit the content of the static queue by adding or deleting the elements manually. Theagent desktop will display the queue content on the [Contacts] tab.
10. To form a list of agents to process the queue, go to the [Team] tab. Click the [New] button and select the required employees. The selected contacts can process the content of the queue from the agent desktop.

    ATTENTION

    Only those agents who have the [Active] checkbox selected on the [Team] tab can process the queues. By default, this checkbox is selected for all contacts on the detail. You can clear the checkbox for certain agents. In this case the queue elements of the queue will not be displayed on the agent desktop for these agents.

SEE ALSO

- How to create and populate a dynamic queue

- How to set up a regular or a blind queue on the agent desktop
- How to sort queue elements on the agent desktop by the object columns
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- How to process cases from incoming calls on the agent desktop

How to set up a regular or a blind queue on the agent desktop

The way how the agents will take the data from the queue for processing is determined by the queue type.

By default, the queues are **regular**. This means that an employee can determine the order of processing of records.

You can set up **blind** queues to have the agents process queue elements in a specific order. You can set up blind queues to have the agents process queue elements in a specific order.

This means that all case queues can either be regular or blind. Same applies to contact and account queues.

To set up a blind queue for cases:

1. Go the [Queues] section.
2. Open the [Queues setup] view and add a new element.
3. Select the [Queue sorting setup] action in the [Queues] section. The [Queue objects] lookup will open.
4. Select the "Case" object at the top and click the [Edit] button.
5. Select the [Blind queue] checkbox in the opened window and click [OK].

SEE ALSO

- How to create and populate a dynamic queue
- How to create and populate a static queue
- How to sort queue elements on the agent desktop by the object columns
- The [Queues] section
- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- The [Agent desktop] section

How to sort queue elements on the agent desktop by the object columns

You can customize the display order of the queue elements by applying sorting by one or several columns of the queue object. For example, you can configure the cases to display in the ascending order of the registration date. The queue priority also influences the record sorting.

The sorting order of queue elements on the agent desktop is as follows:

1. By queue priority (if an agent works with several queues with the same queue object).
2. By sorting parameters specified in object. The parameters configuration applies to all queues generated by the current object.

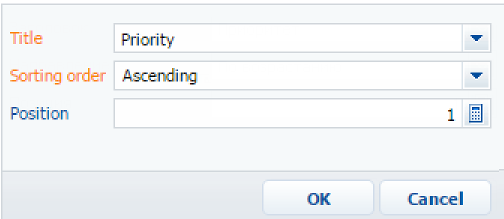
   NOTE

   Learn more about elements sorting order on the agent desktop from a separate article.

To display cases with a high priority that were created earlier on the home page, you need to first set up the sorting conditions for the cases by priority and then by registration date. To do so:

1. Go to the [Queues] section.
2. Open the [Queues setup] view and add a new element.
3. Select the [Queue sorting setup] action in the [Queues] section. The [Queue objects] lookup will open.
4. Select the "Cases" object at the top.
5. Click the [New] button at the bottom. In the new window, select the cases column for sorting. In this case, it is the [Priority] column.
6. Select the "Ascending" sorting order to display elements of a higher priority first (the [Case priorities] lookup should contain the following values: "1. Critical", "2. High", "3. Medium”, etc.).
7. Specify the sorting position. This value determines the order in which the sorting is executed by more than one column. In the field specify a whole integer number, for example, “1, 2, 3...”. The sorting is performed by the column with a higher position. Specify the "1" position for the [Priority] column (Fig. 306).

   Fig. 306 Example of a queue object column

8. Add one more object column in the queue: [Title] – "Registration date", [Sorting order] – "Ascending", [Position] – "2".
9. Close the [Queue objects] lookup.

   As a result, all the cases on the agent desktop Thus, the applications with critical priority will be processed first, then - the high priority applications, etc. Thus, taking this into account, the earliest records among those of critical priority will be processed first.

SEE ALSO

- How to create and populate a dynamic queue
- How to create and populate a static queue
- How to set up a regular or a blind queue on the agent desktop
- The [Queues] section

- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- The [Agent desktop] section

Agent work load management

- The contact center in agent desktop agent page, the supervisor can identify which queue elements are going to be processed.
- Distribute the current workload between the agents by assigning the agents to specific queue elements. Involve additional agents to work with the queues. Delegate cases from one agent to the other or cancel handling the case by a particular agent.
- Join the contact center team: take cases and other queue elements, return the elements that were closed incorrectly back to the corresponding queues, manually close the queue elements that do not require processing.

  NOTE

  Any user who has access to the [Queues] section can perform all operations as the contact center manager.

CONTENTS

- Monitoring a contact center
- How to control particular queue progress
- How to control current workload of an agent
- How to plan agent workload
- How to coordinate the agent work

SEE ALSO

- Agent desktop overview
- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- The [Agent desktop] section

Monitoring a contact center

The key element of agent workflow management is the ability to monitor the total workload of the contact center. When monitoring all outgoing calls and incoming cases in a single list, the supervisor can quickly identify the cases that require attention.

Use the [Queues] section to view all incoming cases, contacts and accounts in a single list if they were added to the static queues or are within the dynamic queues according to the filter settings.

The list displays key information about the queue content. You can manage the information displayed using the standard [View] menu > [Select fields to display] menu.

Queue	The queue which the element belongs to. Click the queue name to open the set up page of the current queue.
Agent	The agent who processed the queue element or was assigned by the contact center manager to handle the queue element.
Status	Current status of the element in a queue: "Not processed" – the agent has not started working with the element. Assigning the agent does not change the status of the element in the queue. "In progress" – the agent has started working on the element by clicking the [Take it] button. "Processed" – the agent has finished working with this element. The elements in this status are not displayed unless the [Show processed] checkbox is checked.
Date of next handling	The field displays the date when this element is scheduled for processing if the agent postponed the processing of this element.
Number of postponements	Number of times the element was returned to the queue by clicking the [Back to queue] button.
Case, Account, Contactetc.	The main fields of the queue object. The "primary display columns" of the queue object. The primary display column contains the case number for the "Cases" queue object or the contact full name for the "Contact" queue object. If you add other objects to the [Queue objects] lookup, their primary display columns will be displayed in this field too. Click the queue element name to open the corresponding record page.

NOTE

Use columns setup to display fields of queue objects in the list. For example, you can add the [Case subject] field to the list of the [Queues] section.

The [Queues] section displays information about queue elements that are being processed, elements that were taken by an agent and postponed and those that were not taken. When sorting elements by the [Agent] or [Status] column, the contact center manager can view the current status of the operations.

SEE ALSO

- How to create and populate a dynamic queue
- How to create and populate a static queue
- Agent desktop overview
- The [Agent desktop] section

How to control particular queue progress

To monitor the progress of particular queues, the contact center manager can quickly display data for particular queues. For example, the queues filter can be used to analyze calls to customers for one or several product promotions.

To view particular queue items, filter the records using the [Queue] filter:

1. Go to the [Queues] section.
2. In the [Queues] view, click [Queue] and select the [Add queue] option.
3. Select the required queue in the opened lookup.

   The selected queue will be added to the filter conditions. The content of this queue will be displayed in the list. If you add multiple queues to the filter, all elements from the selected queues will be displayed.

You can view the progress for specific queues by displaying the total number of their elements. To view the queue elements:

1. In the [View] menu, select the [Set up summaries] command.
2. Select the [Display number of records] checkbox.

To display processed elements, select the [Show processed] checkbox. Only processed elements from the selected queues will be displayed in the list, for example, closed cases or completed calls.

To view which queue elements are in the process, sort the elements by [Agent] or [Status] column.

SEE ALSO

- How to create and populate a dynamic queue
- How to create and populate a static queue
- Agent desktop overview
- The [Agent desktop] section

How to control current workload of an agent

To view the current workload of an agent, filter the elements by the agent in the [Queues] section. The filter enables you to view the current workload for one or several agents regardless of which queues they work with.

To filter the case by an agent:

1. Go to the [Queues] section.
2. Select the [Add agent] option from the [Agent] filter.
3. Select the required agent in the opened lookup.

   The list will display queue elements that are being processed by the selected agent and those elements assigned to that particular agent. If you add several agents to the filter, the list will display queue elements processed by all of the selected agents.
4. To view processed cases, check the [Show processed] checkbox.

   As a result, processed queue elements, such as closed cases, will be displayed in the list. for example, the cases with the "Closed" status.

The contact center manager can then monitor which cases the agent is currently processing and which the agent has already processed.

SEE ALSO

- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop
- The [Agent desktop] section

How to plan agent workload

To plan which queue elements will be processed next by the agents, display the items from the selected queues in the same order as they are shown on the agent desktop To do this:

1. Go to the [Queues] section.
2. Use the queue filter to display the required elements in the list.
3. Select the [Agent view] checkbox.

The queue elements will be displayed in the same order as they are shown on the agent desktop As a result, the contact center manager can view the order in which the elements will be processed.

If the [Agent view] checkbox is selected, the list in the [Queues] section will display all elements from the blind queues and in the order in which they will be processed.

SEE ALSO

- Managing records displayed in the agent desktop via regular and blind queues
- Sorting records on the agent desktop
- Processing cases from a regular queue in the agent desktop.
- Processing cases from a blind queue in the agent desktop

How to coordinate the agent work

The contact center manager can assign and reassign agents manually or cancel low priority elements.

To assign agents;

1. Go to the [Queues] section.
2. Select the queue element that must be assigned to a particular agent in the list.
3. Select the [Assign agent] option from the [Actions] menu.
4. Select an agent from the list.

The selected agent will be assigned to the queue element. The elements assigned to the agent will be displayed in the agent desktop After assigning the agent, the item will not be displayed in the agent desktopagent desktop

The [Calls] section

The **Calls** section contains the history of incoming and outgoing calls performed by Creatio users. Records are automatically added to the section every time you receive or make a call using the communication panel. Use the section tools to view detailed information about each call, as well as to build charts and generate analytical reports.

> ATTENTION!
> By default, the section is not displayed on the side panel but can be added to the workplace. You can find more detailed information about the workplace settings in a separate chapter.

Setting up integration with telephony

To be able to receive and make calls in Creatio, you need to set up integration with telephony. Read more >>>

Views

The section has several views:

- – call list. It displays calls as a list of records. All list columns are described below in the context of the call page.
- – call analytics. It displays charts, indicators and ratings that can be used to analyze calls.

Toolbar

All calls are registered automatically in Creatio, that is why the possibility to add calls manually is not available in the section. Here you can view the information about a call, update it or delete the call.

Also, you can play back a recorded call for the external calls.

[Play] – click to play back a recorded call.

[Stop] – click to stop playing back a recorded call. By default, playback stops automatically when the record is over.

> NOTE
> The playback of calls is available in Creatio for integration with Webitel and Oktell.

NEXT

- Call page
  - Common data
  - The [General information] tab
  - The [Timing details] tab
  - The [Attachments and notes] tab
  - The [Feed] tab
  - Additional columns

SEE ALSO

- Phone integration setup
- Managing calls

Call page

The call page consists of the field group containing general data, and several tabs.

Common data

General information about the call.

From	Phone number from which the call was made. This is a non-editable field.
To	Phone number to which the call was made. This is a non-editable field.
Call direction	Indicates whether the call is incoming or outgoing.
Created by	User who receives an incoming call or makes an outgoing call.

The [General information] tab

The [General information] tab contains information about the date and time of the call, results and information about system objects that the call is connected to.

Start date	Start date and time of the call. This is a non-editable field.
End date	End date and time of the call. This is a non-editable field.
Contact	Individual with which the call is connected. The field is filled in with the name of the contact that has been identified by the system by the phone number. When you fill in the [Contact] field, the [Account] field will automatically be filled in with the name of the account specified on the contact page. This is a non-editable field.
Account	Company that the call is connected to. The field is filled in with the name of the account that has been identified by the system by the phone number. This is a non-editable field.
Redirected from agent	Employee user that transferred the call. This is a non-editable field.

The [Timing details] tab

The [Timing details] tab contains information about duration and other timing details of the call.

Duration	Call duration specified in seconds. This is a non-editable field.
Time to connection	Time taken to answer the phone, in seconds. This is a non-editable field.
Conversation time	Conversation duration excluding connection time, in seconds. This is a non-editable field.
On hold time	Time the call is on hold when transferring, in seconds. This is a non-editable field.

The [Attachments and notes] tab

Additional information about the call.

Attachments

Use this detail to store files and links related to the call. For example, here you can attach a file with the recorded call.

Notes

The [Notes] detail is used to store additional text information about the call. You can edit and organize your lead notes on the detail. If you switch to another tab of the call page, the information on the [Notes] detail will be saved.

The [Feed] tab

The [Feed] tab displays messages related to the invoice.

Additional columns

The section contains additional columns that are not displayed on the article page, but can be displayed in the section.

Caption	Caption for the call. The caption is generated automatically. It consists of the values of the [Call direction] and [Start] fields: For example, "Incoming": 12.02.2014 3:26 PM".
Number	Subscriber telephone number who received or made the call.
Activity	Activity that the call is connected to.
Transferring number	Phone number from which the call was transferred to another number.
Number being transferred	Phone number that the call was transferred to.

Portal

Creatio portal is a component that provides a way to open up various parts of your system to external users and customers (e.g., partners, contractors, stakeholders or even teams within your company).

The portal eases your administrative load by freeing up various communication channels (e.g., phone or email), and deflects incoming requests by empowering external users to "help themselves" with incidents, service requests and other types of inquiries on their own.

In Creatio, a portal is a custom branded workplace with different permissions for various types of users. A single interface creates a one-stop-shop for both your employees and external users, provides familiar configuration tools (e.g., business processes, access permissions), and creates a subset of Creatio with refined and curated content and available functionality.

Through a portal, external users can access selected Creatio sections and their associated data. Additionally, they can view, edit, or create records or add notes and attachments in sections.

Creatio portal can help you to facilitate long-term relationships with partners, contractors, stakeholders, and customers, and is designed for various use cases and business scenarios.

Business scenarios and use cases

Creatio portal is suitable for a variety of use cases, the most common being:

- **Customer self-service, e.g., in technical support**. Add a self-service channel for your customers and focus the time and expertise of your support agents on higher-value activities. Empower your customers to submit support cases and track the resolution progress directly on the portal. Open up access to knowledge base articles and help them find answers quickly. Service many customers at once without queues and any additional loss in productivity.
- **Communications with internal and external customers, e.g., an HR portal**. Several external employees and contractors who do not actively use the main Creatio application can communicate with the HR personnel through the portal - create applications, submit them for approval and track their progress. An HR portal can act as a central hub for all the important company documents and policies that are in the public domain.

Creatio portal is provided in two configurations to suit the most common use cases - **self-service** and **customer portal**. They can complement each other.

> NOTE
> The list of sections available in Creatio portal depends on its configuration.

Self-service portal

Available in	Service Creatio, customer center and enterprise editions; and Financial Services Creatio, customer journey edition

The **self-service portal** can act as a primary means of supporting users or as an extension of your support service. On the self-service portal, users can find answers to their questions in the knowledge base, create and track the progress of their support cases or communicate with the support staff via the feed. Unlike support agents, self-service capabilities and information are available to your customers 24/7. The self-service portal configuration enables you to add the following sections to the portal:

> NOTE
> You cannot add custom sections to the self-service portal.

- **The [Portal Cases] section**, where portal users can register support cases on their own, as well as track the case resolution progress and communicate with support employees.

  The [Portal Cases] section mirrors the [Cases] section in the main Creatio application. You can choose which fields and details from the [Cases] section are displayed in the [Portal Cases] section via the Section Wizard.
- **The [Portal Knowledge base] section**, where portal users can receive reference information, search for answers to frequently asked questions, find rules and regulations, templates or advertising materials.

Customer portal

Available for	All Creatio products

The **customer portal** configuration provides portal capabilities to all Creatio products and is designed for process automation, e.g., providing services, confirming applications and service requests, etc. Add custom sections to the portal to automate any internal process - all custom logic in these sections will be available to the portal users. Configure business processes and cases on the portal to automate mundane administrative tasks. For example, customer portal users can:

- **Initiate processes**, e.g., create applications, requests, etc.
- **Participate in processes**, e.g., approve requests.

You can add up to three custom sections on the customer portal. Custom sections are configured via the Section Wizard and are added to the "Portal" workplace.

NOTE

Custom sections are created from scratch with no or minimal connection to base Creatio sections. Learn more about creating custom sections on the portal in a separate article.

The customer portal configuration in Creatio bank customer journey enables you to add the [Applications] and [Contracts] sections to the portal. Additionally, you can add the [Documents] section if your Creatio product supports it.

NOTE

You can use the self-service and customer portal together to set up a support service channel and add up to 3 custom sections on top.

Portal licensing

In Creatio, the portal functionality is licensed separately.

Depending on the **portal edition**, the license names are as follows:

PORTAL EDITION	LICENSE NAME
Customer portal	Creatio customer portal
Self-service portal	Creatio self-service portal

NOTE

Learn more about licensing users in the "Software licensing" and "License distribution" articles.

Portal functions:

- Managing the portal workplace and sections.
- Managing portal users.
- Maintaining data integrity by managing access permissions to the main Creatio application sections for external users (partners, contractors, stakeholders or customers).
- Setting up the portal main page to reflect the nature of your brand.

CONTENTS

Getting started with Creatio portal

Creatio portal is available for both on-site and cloud and cloud deployment options. Before you dive into the more advanced portal functionality, we recommend that you have a look at what the default portal functions have to offer.

Creatio portal is **available out-of-the-box**; no additional settings are required.

Optional setup:

1. Set up **sections** available on the portal. You can add up to 3 custom sections on the portal. Please note that you can only add custom sections if you use the "customer portal" configuration. You can find more details about different portal editions and their features in the "Portal" article. Section adding guide is available in the "Set up portal sections" article.
2. **Customize the portal**. Personalize the portal to reflect your brand:
   - Upload your **logo**. The logo is displayed on the main page and the login page.
   - **Provide customer support contact options**.
   - Add **graphs** and other **analytics** to the portal main page.

   Learn more in the "Portal customization" article.
3. **Set up roles and access permissions**. You can group multiple portal users into "portal organizations", and assign administrators for these organizations from among portal users. Additionally, you can set up access permissions the data available on the portal. Learn more about access permissions on the portal in the "Access permissions on the portal" article.
4. **Set up user authentication methods**. There are multiple ways you can add new portal users to Creatio: manually, by importing from Excel, by synchronizing with LDAP, via SSO (Single-Sign-On), via an invitation email, by setting up an independent authentication method. Learn more about adding portal users and the needed setup in the "Users and permissions on the portal" article.

First login

Users can access the portal via an invitation email or by signing up independently (if you enable an independent authentication method). To access the portal, you need to have a portal user account. You can create a portal user account in several ways, see "Portal users" for details. If you need to create only one account, you can do it manually in the Creatio primary application.

To **create a portal user** in the Creatio application:

1. Go to System Designer -> **[System users]**.
2. Click [Add] -> **Portal user**.
3. Select a **contact**, populate the **login** and **password** fields.
4. **Save** the changes.

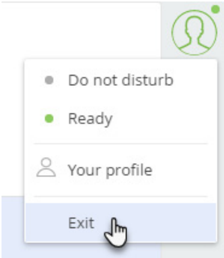
As a result, Creatio will create a new portal user, add them to the **"All portal users" role** and provide them with a **portal license**.

> **NOTE**
> The name of the portal license consists of the portal configuration and the main application deployment method, e.g., "Creatio self-service portal cloud" or "Creatio customer portal on-site".

The main application and the portal have two different authorization pages. To **log into the portal**:

1. Log out of the main Creatio application (Fig. 307).

   Fig. 307 Logging out of the main Creatio application



2. Add /login/SSPLogin.aspx to the application URL in your browser. Example of a link: mysite.creatio.com/login/SSPLogin.aspx. You will be redirected to the portal home page. Study the functionality and move on to the following setup steps.
3. Enter you login credentials and click [Login].

SEE ALSO

- Users and permissions on the portal
- Portal customization
- Set up portal sections

Users and permissions on the portal

Creatio enables you to manage portal users, group them, send email notifications and assign access permissions. In general, portal users are managed in the [System users] section where they are grouped in the "All portal users" organizational role.

You can manage portal users individually or use portal user groups, such as portal organizations.

A portal organization is a group of portal users who are connected to one account. Organizations enable you to manage your customers' employees. You can select portal administrators from users in your organization. Administrators can create and delete users, assign permissions and invite new users to the portal.

Creatio lets you configure which data and functions are available for portal users. You can assign portal user permissions in several ways:

- For the "All portal users" parent role. All portal users in this role will obtain the same access permissions.
- For each user separately.
- For a portal organization. Users will inherit the permissions of their organization.
- For user groups. You can create subordinate organizational roles in the "All portal users" role, and configure access permissions for them. To set up different access permissions within a single organization, add several functional roles and assign different access permissions.

Learn more about portal permissions in the "Access permissions on the portal" article.

Listed below are a few common business cases of portal setup.

A portal for users without organizations

This is the simplest structure. Individual portal users are created in Creatio. Access permissions can be configured:

- For each user separately.
- For all users (by configuring permissions for a parent role).
- For user groups (if subordinate organizational roles are created).

Setup procedure:

1. Create users:
    - Add portal users. Read more >>>
    - Enable "Self-registration". Read more >>>
2. Sending email invitations. Read more >>>
3. Configure access permissions for portal users. Read more >>>

A portal with organizations and the same access permissions for all users

In this structure, portal users are connected to an account, i.e., are grouped in an organization. You can configure access permissions for each organization individually. Users inherit the permissions form their organization, which means that you do not need to configure permissions for each user separately.

Setup steps:

1. Set up the organizational structure:
    - Create organizations and users in Creatio. Read more >>>
    - Assign portal administrators. Read more >>>

- Create portal users on the portal (by the portal administrator). Read more >>>

2. Sending email invitations. Read more >>>
3. Configure access permissions for portal users.
    - Configure access permissions on the Creatio side. Read more >>>
    - Configure access permissions on the portal (by the portal administrator). Read more >>>

A portal with organizations and the different access permissions for all users

You can create separate roles within a portal organization and configure their permissions. For example, create functional roles for the main and regional office managers and connect users in an organization with one of these functional roles. Users inherit the permissions from their functional role, which means that you do not need to configure permissions for each user separately.

Set up a portal with organizations, and different groups of permissions in a single organization:

1. Set up the organizational structure:
    - Create organizations and users in Creatio. Read more >>>
    - Assign portal administrators. Read more >>>
    - Create portal users on the portal (by the portal administrator). Read more >>>
2. Sending email invitations. Read more >>>
3. Configure access permissions for portal users.
    - Configure access permissions on the Creatio side. Read more >>>
    - Configure access permissions on the portal (by the portal administrator). Read more >>>

CONTENTS

ACCELERATE

Portal users

Portal users are grouped in the "All portal users" organizational role.

You can create individual portal users or group them into an organization by connecting them to a specific account. Learn more in the "Add portal users" article.

NOTE

Users can register on the portal independently. For more information, please refer to the "User self-registration on the portal" article.

To enable a new user to log in to the portal for the first time, send them an email invitation. The invitations are sent to the email specified in the user's contact record. Learn more about invitations in the "Sending a portal invitation" article.

If a portal user loses their password, it can be securely recovered. Learn more about password recovery in the "Password recovery setup" article.

NOTE

The portal enables you to create an organizational structure for various business cases. Learn more in the "Users and permissions on the portal" article.

CONTENTS

Add portal users

You need to create a portal user account for each portal user. Each portal user account must be linked to a contact.

Company employees can manage your portal users through the primary application, while the portal administrators can do it through the portal. This article will cover managing portal users through the primary application.

NOTE

You can find instructions for the portal administrators in the "Portal administrators" article.

In the primary application, the portal users can be registered by system administrators or users who have permission to the "Manage portal users" (CanAdministratePortalUsers) system operation. The latter is a good option when company portal users are created by an employee who is not supposed to have access to other employee accounts.

You can add the following types of portal users:

- Individual portal users, without an organization. In this case, you would need to register each user. Read more >>>
- Portal organization users. You can add portal organization users "en mass". Read more >>>

NOTE

You can import portal users via LDAP integration or Excel import. For more information, see "LDAP integration and user authentication in Creatio" and "Import users from Excel" articles.

To restrict certain users from accessing the portal, deactivate them. For more information, see "Deactivate users".

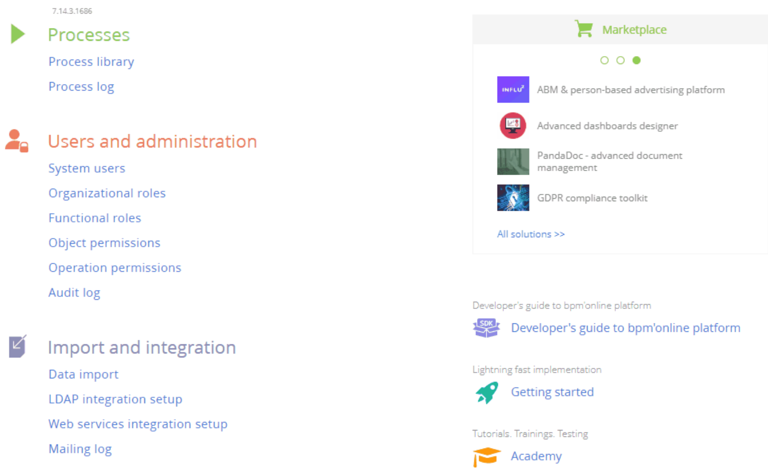
Add individual portal users

You need administrator privileges to be able to add portal users. For more information, see "Add a system administrator user".

To add a portal user account:

1. Click -> [**Organizational roles**].
2. In the tree-like organizational structure to the left of the list, **select the "All portal users" role**. The area to the right of the roles tree will show the page of the selected role.
3. Go to [**Users**] tab —> [**Users**] detail —> + —> [**Add new**].
4. Populate the new user page (Fig. 308). For more on adding users, see "Add a regular user".

Fig. 308 Creating a new user



NOTE

If a contact record for the new portal user does not yet exist, you can add it during this step. Click in the [Contact] field, then click [New] in the lookup window that pops up. Populate the contact page that opens. After you save the contact page, you will return to the new user page, with the [Contact] field populated with the newly created contact

Add users as part of a portal organization

To link portal users to an organization, add the organization record first.

All users in an organization automatically inherit any permissions assigned to that organization. This lets you set up access permissions only once – for an organization, and assign these permissions by including new users in the organization.

Depending on the user permissions, there are several ways you can create an organization and add users to it.

- Users with system administrator permissions can create organizations from the page of organizational roles. Read more >>>
- Users with permissions to the “Manage portal users” (CanAdministratePortalUsers) system operation can create organizations from the account pages. Read more >>>

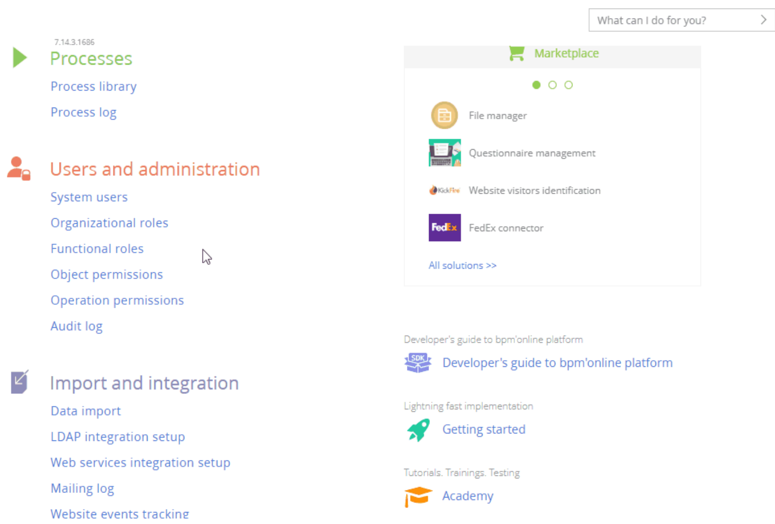
Add users to a portal organization from the organizational role page

Adding organizations in this manner is available only for system administrators. For more information, see “Add a system administrator user”.

1. Click —> [**Organizational roles**] —> “**All portal users**”.
2. Go to the [**Organizations**] detail —> + —> select an account for the new organization in the [**Account**] field (Fig. 309). Use search string in the account lookup window to find the needed account by its name.

   If necessary, modify the organization’s name in the [Name] field.

   Fig. 309 Adding a portal organization from the organizational role page



NOTE

If an account record for the new portal organization does not yet exist, you can add it during this step. Click in the [Account] field, then click [New] in the lookup window that pops up. Populate the account page that opens. Creatio will prompt you to create a contact for the new account. After you save the account page, you will return to the new organization page, with the [Account] field populated with the newly created account.

3. Save the page. Go to the [**Organizations**] detail and click the needed organization. The organization page opens.
4. On the [**Portal users**] detail:

- Click + and select [**Add existing contacts**] to **add an existing contact**. Select the contacts in the pop-up window (Fig. 310).
- Click + and select [**Add new contacts**] to **add a new contact**. Enter the email addresses of the new users, use spaces or commas to delimit the addresses. Creatio automatically validates any entered email address. Click [Create portal users].

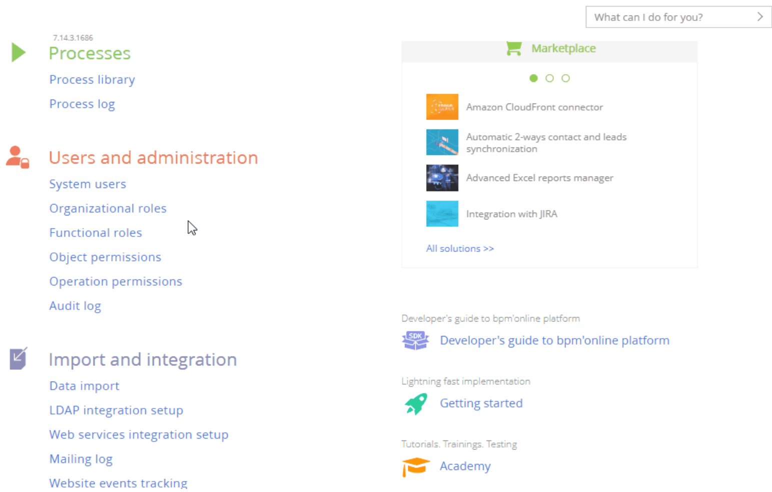
  Creatio will locate the contacts with matching email addresses or create a new contact for each address that does not match any existing contacts. For any new contacts, the [Full name] field will contain email address text, minus the "@" character and email domain name.

5. Creatio will prompt you to send email invitations to the new portal users. You can choose to send the invitations later by closing the prompt.

NOTE

Learn more about the invitation setup in the "Sending a portal invitation" article.

Fig. 310 Adding users to a portal organization from the organizational role page



As a result, the users will be added to the organization and automatically inherit any permissions assigned to that organization. Learn more about access permissions in the "Access permissions on the portal" article.

Add users to a portal organization from the account page

Users with permission to the "Manage portal users" (CanAdministratePortalUsers) system operation can add a portal organization from the corresponding account page. Use this option if you do not have permission to access the [System users] section.

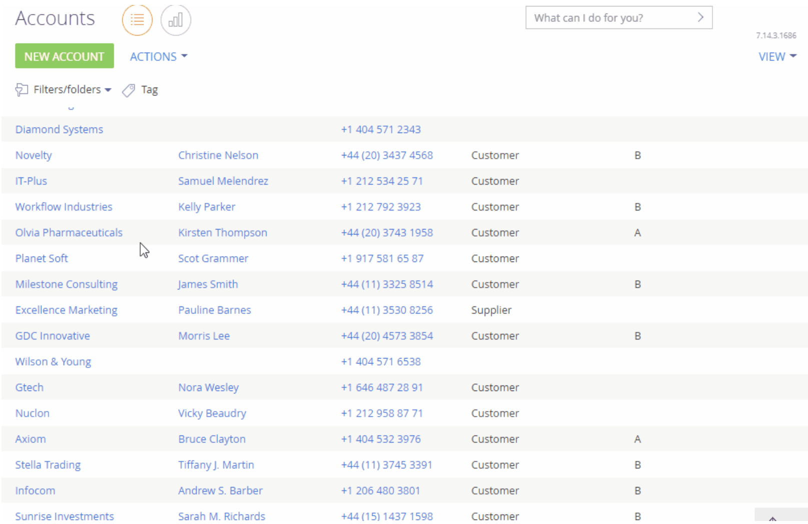
1. Open the account page —> click the [**Contacts and structure**] tab —> go to the [**Portal users**] detail.
2. Click [**Create organization**]. The button is available only of the account is not already linked to a portal organization.

NOTE

If you try to add portal users by clicking + before you create a portal organization, you will be prompted to create a portal organization.

3. Select "All portal users" in the [**Parent role**] field (Fig. 311).

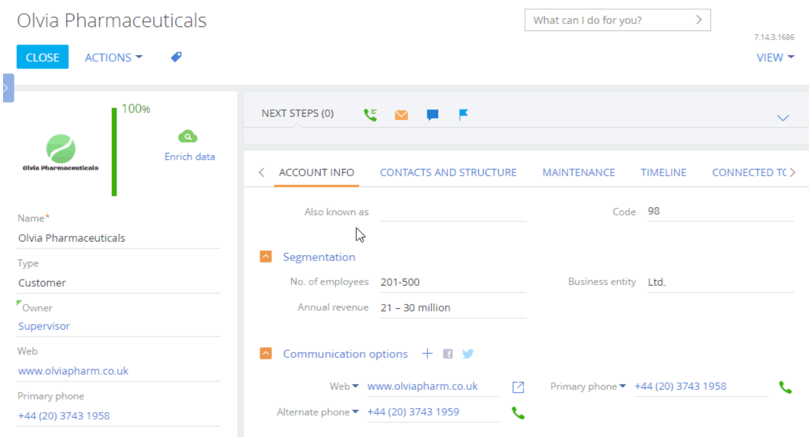
Fig. 311 Adding a portal organization from the account page



4. Save changes. As a result, a new organization will be added and become available on the page of the "All portal users" role.

   - If the **contact record already exists**, go to the [**Portal users**] detail —> + —> [**Add existing contacts**] to add a new contact. Select the contacts in the pop-up window (Fig. 312).

Fig. 312 Adding users to a portal organization from the [Portal users] detail



- If the **contact record does not exist**, go to the [**Portal users**] detail —> + —> [**Add new contacts**]. Enter portal user email addresses and click [Add users].

5. Creatio will prompt you to send email invitations to the new portal users. You can choose to send the invitations later by closing the prompt.

NOTE

You can also add portal users to an organization from the [Contacts] detail. Select several contacts in the detail's list, click ⋮ and select [Add portal users].

As a result, the users will be added to the organization and automatically inherit any permissions assigned to that organization. Learn more about access permissions in the "Access permissions on the portal" article.

NOTE

Portal administrators can also add new portal users within their organization. More information is available in a separate article.

Deactivate users

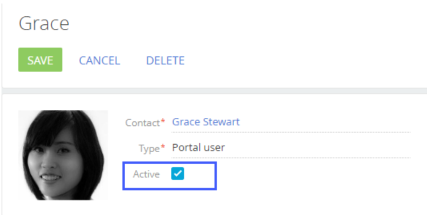
To restrict a portal user from accessing the portal, deactivate the corresponding portal user account.

Deactivate a portal user from the user page

1. Click —> [**System users**]. Open the user page.

2. Clear the [**Active**] checkbox an save the changes (Fig. 313).

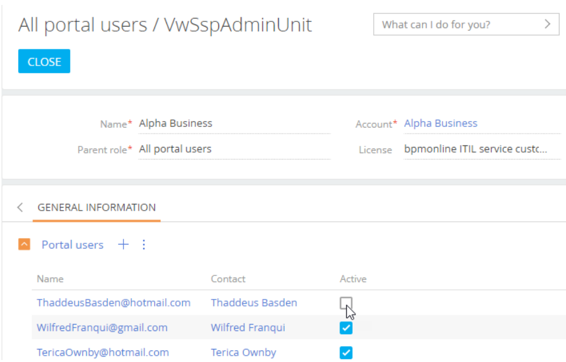
Fig. 313 Add individual portal users



Deactivate a portal user from the organization page

1. Click —> [Organizational roles] —> “All portal users”.
2. Go to the [Organizations] detail and click the needed organization. Locate the user to deactivate.
3. Clear the [Active] checkbox an save the changes (Fig. 314).

Fig. 314 Deactivating a portal user in an organization



As a result, the user will be suspended and will not be able to access the portal. You can reactivate a user at any time.

SEE ALSO

- Sending a portal invitation
- Password recovery setup

Sending a portal invitation

To enable a new user to log in to the portal, you will need to send them an email invitation. The invitations are sent to the email specified on the contact page of the portal user. You can customize the invitation by modifying the corresponding email template.

You can send invitations in the following cases:

- When creating portal users.

- At any moment after the portal users have been created.

NOTE

Portal users who are administrators of portal organizations can also send invitations. More information is available in a separate article.

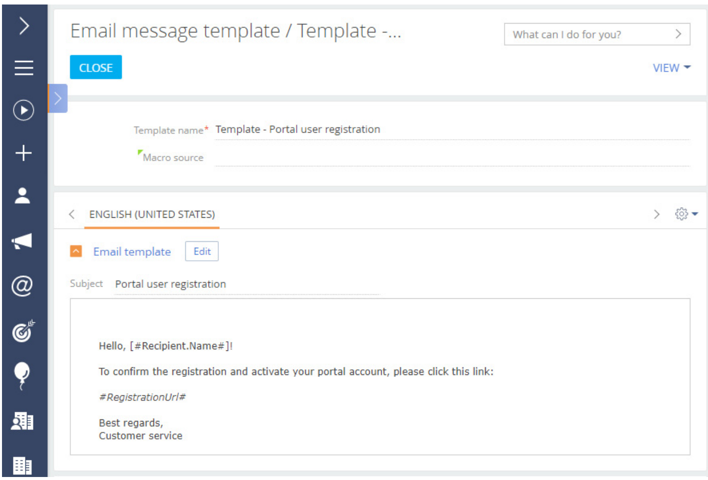
ATTENTION

Sending invitations requires mailbox integration. Learn more in the "Working with emails" article.

Set up portal invitations

1. Set up a mailbox for sending portal user invitations and password recovery emails. Specify the mailbox address in the **"SSP registration mail box"** ("SSPRegistrationMailbox") system setting. More information is available in the "User self-registration on the portal" article.
2. If necessary, set up preferred languages for the portal user contacts and localized templates. By default, the users will receive notifications in English. If the [Culture] field on the user page contains language other than English, and notification templates are available in that language, the user will receive localized notifications. Read more in the "User profile article.
3. Customize the email text. To do this, edit the invitation email template: open —> [Lookups] —> [Email templates] —> [Open content] —> "**Template - Portal user registration**" (Fig. 315). Edit this template to customize the email text and layout, add localized versions.

Fig. 315 Email template for notification about portal user registration



Send portal invitations

The following options are available for sending invitations:

- Send the invitation right after adding a new portal user by clicking [Send invitation]. Read more in the "Add portal users" article.

- Send an invitation to specific users at any time. To send invitations:

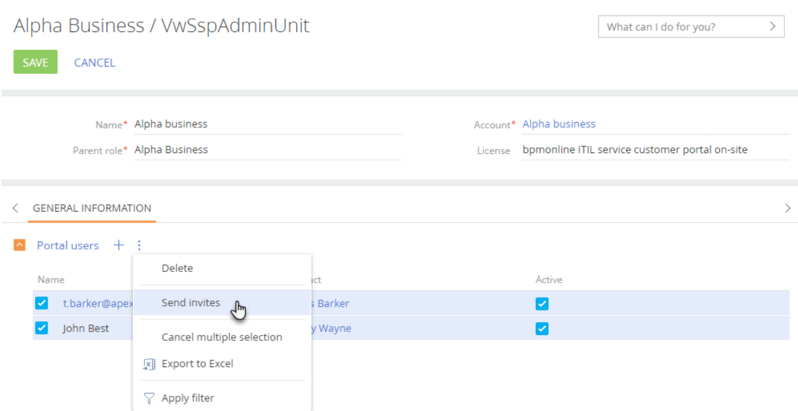
1. Select the needed users in the list of the [**Portal users**] detail.
2. Click ⋮ —> [**Send invites**] (Fig. 316).

   Portal administrators can send invites in a similar way, read more in the "Portal administrators" article.

   ## NOTE

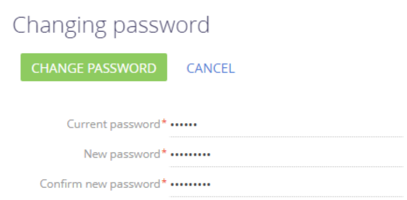
   If a user clicks the portal link in the invitation email and does not specify any password, the password will be generated automatically. The link in the invitation email works only once. A portal administrator should send another portal invite to any users who do not specify their password on the first login.

   Fig. 316 Sending portal invites



After clicking the link in the portal invitation email, the user is redirected to the page where they need to create their password (Fig. 317).

Fig. 317 Creating a password on the first login



NOTE

You can add a password recovery link on the portal login page. Read more in the "Password recovery setup" article.

SEE ALSO

- Add portal users

- User self-registration on the portal
- Password recovery setup

User self-registration on the portal

Enabling the self-registration for portal users helps save time and automates several functions of the portal administrator. The setup procedure consists of several required and optional steps.

Required:

- Make sure that there is a Creatio **portal system user** with the least permissions. Read more >>>
- Set up portal **user licensing** at self-registration. Read more >>>
- Set up **sending notifications** about portal user registration and password recovery. Read more >>>

Optional:

Edit the registration and password recovery **email templates**. Read more >>>

Portal system user

A separate Creatio user account (one with minimal access permissions) is required for the correct self-registration of portal users, password recovery and receiving case feedback. By default, it is the **SysPortalConnection** user. Please make sure that you do not delete this user, and do not modify this user's access permissions and licensing. Otherwise, user self-registration on the portal might be unavailable.

If you face any issues when performing self-registration, check the settings of the system user.

1. **The [Contacts] section** has a record connected to the portal system user.
2. **The [System users] section** has a portal system user record.
3. The current portal license is assigned on the [Licenses] tab on the **user page**.

NOTE

The name of the portal license consists of the portal configuration and the main application deployment method, e.g., "Creatio self-service portal cloud" or "Creatio customer portal on-site".

To change the portal user account:

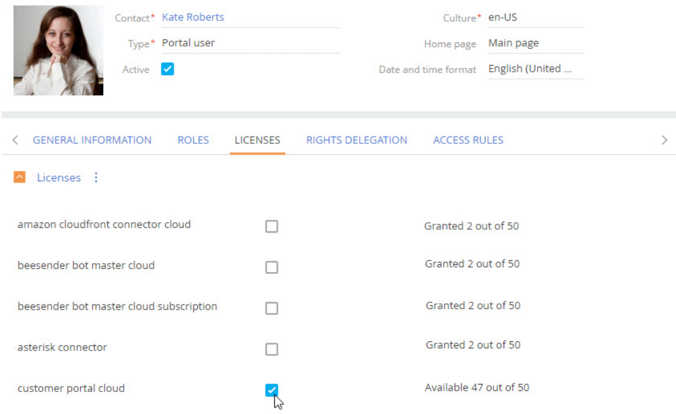
1. **Add a user** in the [Users and roles management] section. Click -> [System users] -> [New] ->"Portal user". Please do not specify the "Supervisor" or an employee user who works in the main Creatio application.
2. Assign a **portal license** on the [Licenses] tab.
3. **Configure** minimal **access permissions** for the new user in the [Object permissions] section. See the "Object permissions" article for more information.
4. Specify the new system user in the web.config file. Read more in the "Set up automatic user licensing of portal users during registration" article.

Set up automatic user licensing of portal users during registration

For the portal users to automatically obtain a portal license during registration:

1. Go to System Designer -> **[System users]**.
2. Open the **portal system user page**. By default, the portal system user is SysPortalConnection.
3. On the **[Licenses]** tab, select a checkbox next to the portal license (Fig. 318).

Fig. 318 Assigning a portal license to the system user



4. In the license manager, **verify that there are unassigned portal licenses** to provide for the self-registered portal users. Licenses will be assigned automatically. Learn more about licensing in the “License distribution” article.

NOTE

The name of the portal license consists of the portal configuration and the main application deployment method, e.g., “Creatio self-service portal cloud” or “Creatio customer portal on-site”.

Additional on-site settings

For applications deployed on-site, in addition to the steps above, it is necessary **to edit** the **Web.config** file located at [Root directory of the Creatio application]\Terrasoft.WebApp\:

1. In the **SspUserRegistrationLicPackage** parameter, specify the product name, where the licenses should be applied. For example:

```
<add key="SspUserRegistrationLicPackage" value ="creatio Customer
Portal On-Site" />
```

2. Make sure that the **UserManagementSauName** and **UserManagementSauPassword** parameters contain the system user login and password. New portal users will receive the permissions of the user specified in the configuration file.

Set up notifications for portal users

To send invitations or confirmation emails to portal users, configure a mailbox for portal notifications. To do this, you need to synchronize a mailbox with Creatio.

NOTE

Learn more about mailbox synchronization in the “Configuring email accounts in Creatio”.

To set up notifications for portal users

1. Go to System Designer -> **[System settings]**.
2. Open the **"SSP registration mail box"** (code "SSPRegistrationMailbox") system setting.
3. In the [Default value] field, **specify a mailbox** that will be used to send notifications to the portal users.

Set up email templates

You can customize the templates for email notifications that the portal users receive after registration or when recovering their passwords. Use the **[Email templates]** lookup to customize existing email templates or create new templates. By default, Creatio uses the following templates for email notifications:

- **"SSP invite template (US)"** - an invitation to the portal.
- **"Template - Portal user registration"** - portal user registration confirmation.
- **"Link for password recovery"** - password recovery link.

NOTE

Learn more about email templates in the "Configuring email templates" article.

To determine which template will be sent to a user, Creatio uses the following system settings:

- "SSP invite template" (PortalInvitationEmailTemplate);
- "Confirmation email template for portal user registration" (PortalRegistrationEmailTemplate);
- "Password reset email template for portal user" (PortalRecoveryPasswordEmailTemplate).

To locate these system settings, click -> System Designer -> **[System settings]**.

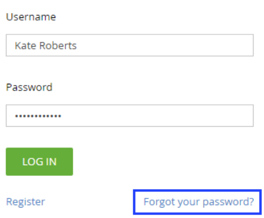
SEE ALSO

- Add portal users
- Access permissions on the portal

Password recovery setup

If a user is unable to log in to the portal, they can request the administrator to send another invite or use the password recovery function (Fig. 319).

Fig. 319 Password recovery



After clicking [**Forgot password**] on the login page, the user will receive an email with a password recovery link.

To customize the password recovery email template:

1. Click —> [Lookups] —> [Email templates] —> "**Link for password recovery**".
2. Edit the template.

   The "Link for password recovery" template must contain the #RecoveryLinkUrl# macro, which will be replaced with the corresponding link in an email that the portal user will see.

   NOTE

   The email template for password recovery notifications is determined by the following system setting: "Password reset email template for portal user". Make sure that an existing valid template with the #RecoveryLinkUrl# macro is specified in this system setting.

SEE ALSO

- Sending a portal invitation
- User self-registration on the portal

Access permissions on the portal

Since portal functionality lets external users access Creatio data, managing access permissions for portal users becomes paramount. You can choose which of your business data is available on the portal, and make sure that any sensitive and confidential information is safe out of external users' reach.

Access permissions on Creatio portal are designed according to the **"least access" principle**. This means that the portal users are generally prohibited to perform any action that they do not have explicit permission to.

Default portal user permissions

By default, all portal users have the following access permissions:

- Permission to read articles in the [Portal Knowledge base] section. When regular Creatio users add new knowledge base articles, the portal users are automatically granted permission to read these articles.
- Permission to view the portal main page.
- Permission to change the password on the user profile page.
- Permission to access the folder area in the portal sections,
- Permission to post, edit and delete comments in the feed. Users can also "like" other users' comments.
- For the Creatio service products, the users of the self-service portal also have permission to create records in the [Portal Cases] section. The users can only see their own records.

Just like with regular users, you can manage two types of access permissions: object permissions and system operation permissions.

- **Object permissions** let you manage access to sections, details, and lookups, as well as their separate records and columns. Read more >>>
- **System operation permissions** let you manage portal user access to specific functions, such as Excel export. Read more >>>

Managing access permissions for portal users

In general, managing access permissions for the portal users is the same as managing access of regular users, with the same array of administrative tools and mechanics. Read more in the "User profile article.

The specifics are as follows:

- Portal users make a separate type of Creatio user accounts that belong to the "**All portal users**" organizational role.
- In addition to the regular object permissions, the data available for portal users is limited by the [**List of objects available for portal users**] lookup. Only the objects included in the lookup are accessible via the portal UI.

Note that the list of sections available for portal users also depends on the portal configuration. For example, the [Portal cases] section is not available in the "Customer portal" configuration. See the "Portal" article for more information on the portal configurations.

Whenever a portal user attempts to access specific data, Creatio checks permissions in the following order:

1. **Availability on the portal.**

Is the object that contains the requested data included in the "List of objects available for portal users" lookup? If it's not - the user will not be able to access the data, regardless of other permissions.

2. Object operation access.

   Does the user have permission to create/read/update/delete data in the object? If not, the user will not be able to perform it (e.g. read or edit data), regardless of other permissions.

3. Record access.

   Does the user have permission to access the object record that contains the needed data? If certain records are restricted, the user will not be able to access them (e.g. read or edit particular support cases, knowledge base articles, etc.), regardless of other permissions.

4. Column access.

   Does the user have permission to access the column that contains the needed data? If certain columns are restricted, the user will not be able to access the data stored in these columns (e.g. read or edit case assignee, knowledge base author, etc.), regardless of other permissions.

Each step represents a separate object permission level that you can set up.

ATTENTION

The "All portal users" role has a set of default permissions that enable the users to work with the base portal sections. If you add new sections and other functions on the portal, be sure to update the portal user access permissions.

Object permission levels

Object operation permissions enable you to grant access to create/read/update/delete operations for all data in an object. For example, you can enable creating new articles in the [Knowledge base] section for the portal users by configuring the corresponding operation permissions for the "Knowledge base" object. See "Managing object operation permissions" for detailed instructions.

Record permissions enable configuring portal user access to separate records: separate support cases, knowledge base articles, requests, etc. For example, portal users should be able to see their own cases, as well as cases created by their colleagues within the same organization.

Note that unless you grant record permissions specifically, portal users will be able to access only the records that they created. You can set access to records in several ways:

- Set up default permissions that apply to each new record, based on its author.
- Share the record with the portal users through "Actions" on a record page.
- Use business processes to allocate permissions.

Column permissions manage access to specific fields of a record (e.g., the "Satisfaction level" field in a case record). Configuring column permissions will determine:

- whether a corresponding field will be visible on the record page;
- whether the record will be available for displaying in the section grid.

See "Managing column permissions" for detailed instructions.

You can grant these permissions to each portal user separately (which would not be very efficient) or to a portal user role, such as the "All portal users" role.

Organizational structure and portal organizations

Similar to regular Creatio users, you can group portal users by assigning them various organizational and functional roles. If you assign permissions to a role, they will apply to all users of that role.

By default, all portal users in Creatio belong to a single "**All portal users**" role. The access permissions that you assign to this role will apply to all portal users.

You can group and segment your portal users by adding subordinate roles to the "All portal users" role. These roles will automatically obtain all access permissions from their parent role. You can also grant additional permissions to each of the subordinate roles. For example, portal users from different locations may have different access permissions. Read more >>>

Portal organizations are special types of portal user roles. They are used for managing employees of your customers. You can link such portal organizations to existing accounts in Creatio. Read more >>>

CONTENTS

SEE ALSO

- Managing organizational roles
- Managing functional roles
- Users and permissions
- Object permissions
- Portal configurations
- Managing object operation permissions
- Managing record permissions
- Managing column permissions
- Portal users

Managing portal user roles

Use the organizational structure roles to manage portal user permissions and quickly grant access to objects, records or columns to multiple users as per your business needs.

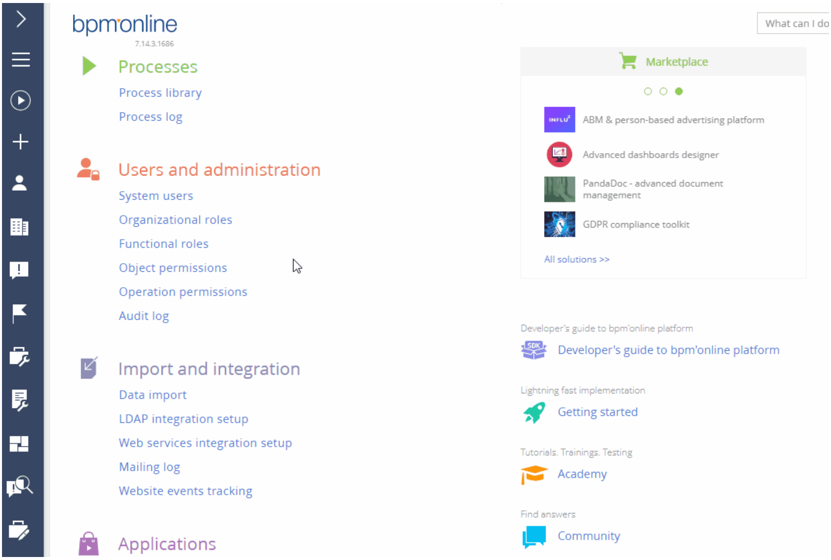
Add portal user roles

You can add organizational roles for portal users in the same way as for regular users. Learn more about how to add roles to the organizational structure for Creatio users in the "Managing organizational roles" article.

> **NOTE**
> Only system administrator users can access organizational and functional role sections in Creatio. To enable a regular user to create and configure portal organizations as well as manage portal users, make sure you grant them permissions for the "Manage portal users" (CanAdministratePortalUsers) system operation. Read more >>>

For example, you can create a "London" organizational role to manage permissions separately for London-based portal users (Fig. 320). Note that portal user roles must be subordinate to the "All portal users" parent role.

Fig. 320 Adding a portal user role



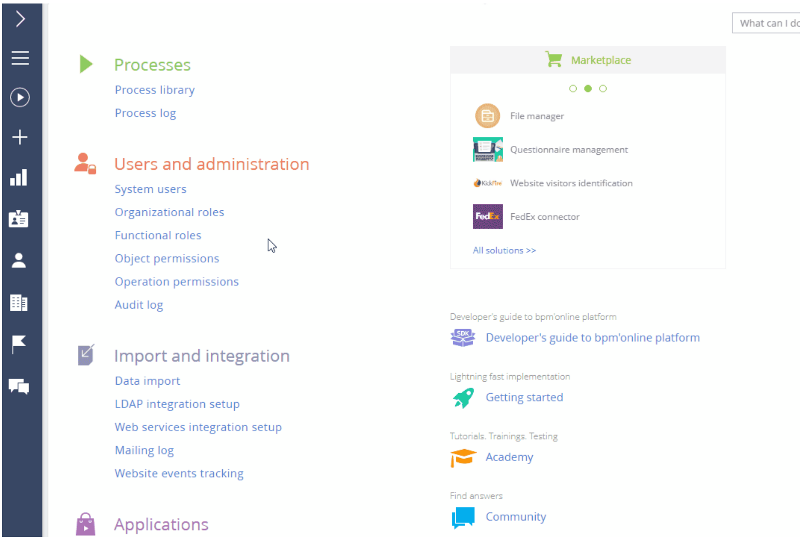
As a result, the users of the "London" organizational role will inherit the permissions configured for the "All portal users" role. You will be able to assign additional permissions, which will be specific to all portal users with the "London" role.

Assign a role for a portal user

You can assign portal users to organizational roles similarly to assigning regular users corresponding roles. Learn more about how to add roles to the organizational structure for Creatio users in the "Assign a user role" article.

For example, you can assign portal users to the "Toronto" organizational role (Fig. 321). Note that you can only assign portal users to the roles that are subordinate to the "All portal users" role.

Fig. 321 Assigning organizational roles for portal users



As a result, the user of the “Toronto” organizational role will inherit the permissions configured for the “Toronto” role, as well as any permissions configured for its parent “All portal users” role.

SEE ALSO

- Add portal users
- Managing organizational roles
- Managing functional roles
- Assign a user role
- Managing access permissions for portal users

Setting up access permissions for portal users

Although you can grant permissions to specific portal users, the most efficient way would be to assign permissions to portal user roles.

- Assign common permissions to the “All portal users” role.
- Add subordinate organizational roles to the “All portal users” role to differentiate permissions between different groups of portal users.
- Link roles to customer accounts – to manage employees of your customers.

Grant permissions to the portal section data by assigning object permissions. See the “Object permissions” article for more information. You can manage portal user access on three levels:

- **Object operation permissions** – ability to view, add, edit and delete data in an object.
- **Record permissions** – ability to view, edit, and delete specific records in objects.
- **Column permissions** – ability to view, edit and delete data in specific columns.

ACCELERATE

ATTENTION

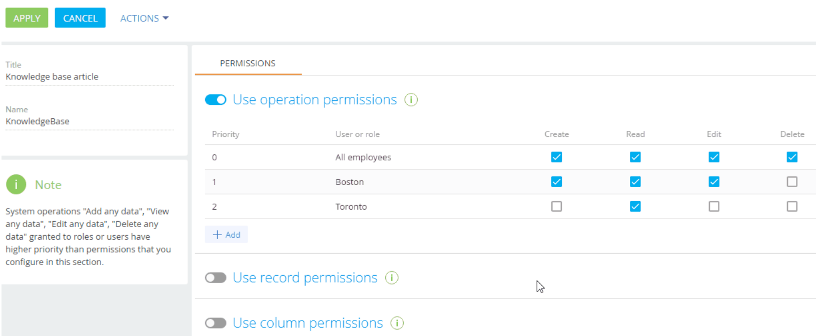
Before you start setting up access permissions for portal users, make sure that the corresponding objects are listed in the "List of objects available for portal users" lookup. If they are not – none of the object data will be available for the portal users.

Set up object operation permissions on the portal

You can manage general access permissions to a section, detail or lookup on the portal by setting up object operation permissions for the portal user roles. Setting up permissions for portal users is similar to that of regular users. Read more in the "Managing column permissions" article.

For example, you can set up permissions for working with the "Knowledge base article" object for all portal users (Fig. 322).

Fig. 322 Managing object operation permissions on the portal



As a result, all portal users (regardless of role) will be able to create new and edit existing articles in the [Knowledge base] section, but will not be able to delete them.

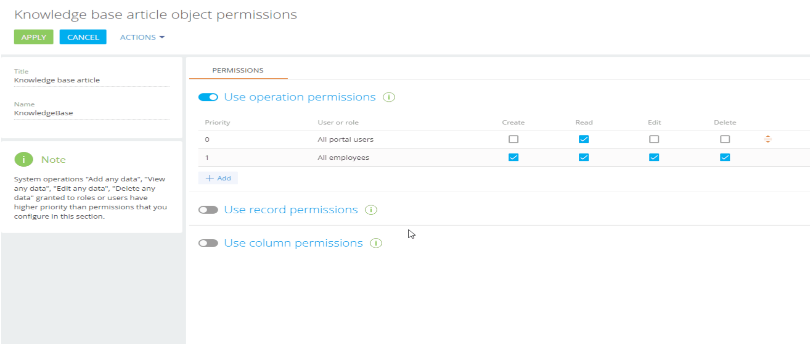
Set up record permissions on the portal

You can manage portal use access to specific records in the portal sections, details, and lookups. If you enable record permissions in an object, all object records will become unavailable for portal users, unless specific permissions exist for each specific record.

Creatio can automatically grant permissions to each record in an object, based on the record author. You will need to define which permissions to assign. Setting up permissions for portal users is similar to that of regular users. Read more in the "Managing column permissions" article.

For example, you can set up separate permissions to knowledgebase articles created by portal users that belong to different organizational roles subordinate to "All portal users", e.g. Boston and Toronto (Fig. 323).

Fig. 323 Managing record permissions on the portal



As a result, the portal users from Boston will be able to read the knowledge base articles created by portal users from Toronto, but the portal users from Toronto will not be able to read the knowledge base articles created by portal users from Boston.

ATTENTION

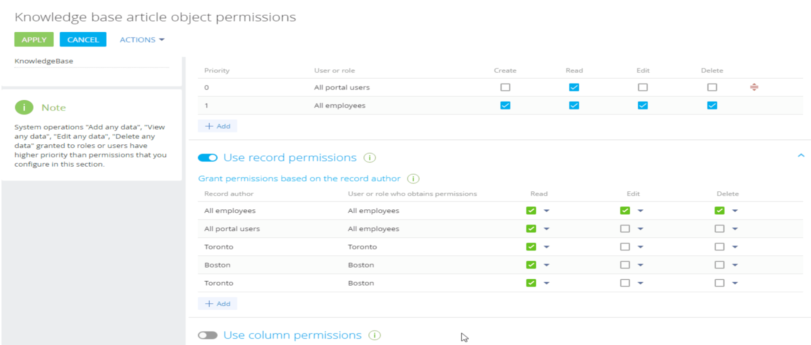
Before you set up record permissions in an object, make sure that portal users have access to corresponding object operations.

Set up column permissions on the portal

You can manage portal user access to specific columns in sections, details, and lookups by setting up column permissions for the needed portal user or role. Setting up permissions for portal users is similar to that of regular users. Read more in the “Managing column permissions” article.

For example, you can hide the [Code] column from users in Toronto, while displaying it for users in Boston. (Fig. 324).

Fig. 324 Managing column permissions on the portal



As a result, the users of “Toronto” will not be able to read the “Code” column on the knowledgebase article pages, while the users of “Boston” will see value in this column, but will not be able to edit it.

ATTENTION

Before you set up column permissions in an object, make sure that portal users have access to corresponding object operations and records.

SEE ALSO

- Managing object operation permissions
- Managing record permissions
- Managing column permissions

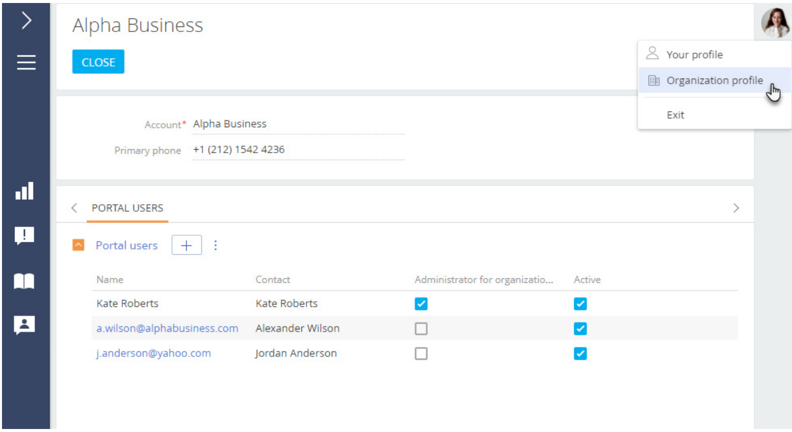
Portal administrators

You can grant portal administrator privileges to portal users in an organization.

These portal administrators will have several additional permissions within their organization:

- **Access to the portal organization profile**. The organization profile page (Fig. 325) enables managing the organization information (name and phone number), as well as the list of portal users.

  Fig. 325 Portal organization profile page

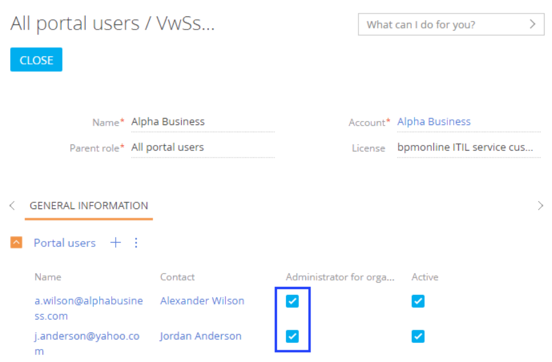
  

- **Adding users**. Read more >>>
- **Sending invites**. Read more >>>
- **Set up permissions**. Read more >>>

To promote a portal user to portal administrator:

1. Click —> [**Organizational roles**] —> "**All portal users**".
2. Go to the [**Organizations**] detail and click the needed organization. The portal organization page opens.
3. Select the [**Administrator for organization on the portal**] checkbox for the users who must be made administrators (Fig. 326).

Fig. 326 Promoting portal users to portal administrators



Portal administrators can promote other users as well.

NOTE

If you do not appoint a portal administrator for an organization, regular system administrators will need to add, invite and deactivate portal users of that organization. For more information, see "Add a system administrator user".

Add portal users

Portal administrators can invite new users to the portal. Potential users receive an email invitation with a one-time link that they can use to access the portal for the first time and set up their password.

NOTE

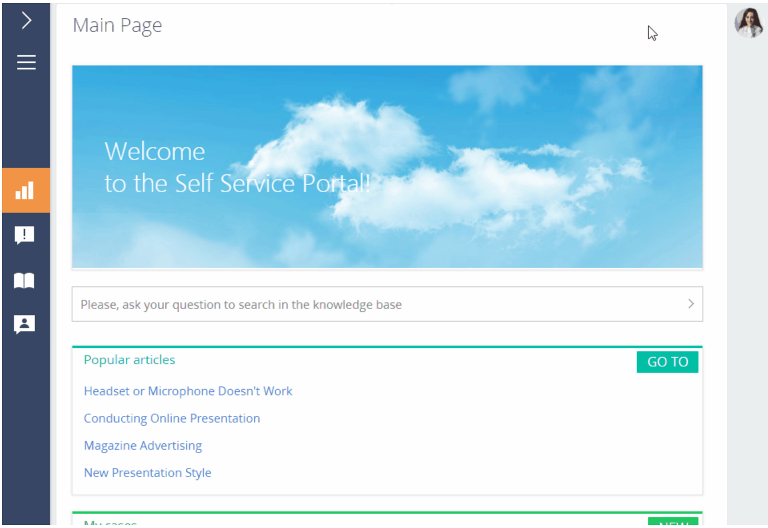
You need to set up email integration, as well as specify a valid mailbox in the "SSP registration mailbox" (SSPRegistrationMailbox) system setting. Learn more in the "Working with emails" and "User self-registration on the portal" articles.

To add new portal users:

1. Click your profile picture in the top right —> [**Organization profile**].
2. Go to the [Portal users] detail —> click + —> **enter the email addresses** of the users to invite. Creatio automatically validates any entered email address. Click [**Create portal users**] (Fig. 327).

   If Creatio matches the entered email addresses to any existing contacts, it will add portal users linked to those contacts. If no matching contacts are found, they will be created automatically, based on the email addresses. For any new contacts, the [Full name] field will contain email address text, minus the "@" character and email domain name.

Fig. 327 Adding portal users by a portal administrator



3. Creatio will prompt you to send email invitations to the new portal users. You can choose to send the invitations later by closing the prompt.

As a result, new portal users will be added on the portal. To log in to the portal for the first time, the users will need to click the link in the invitation emails. Once on the portal, each user will be able to set a password.

Send invites to portal users

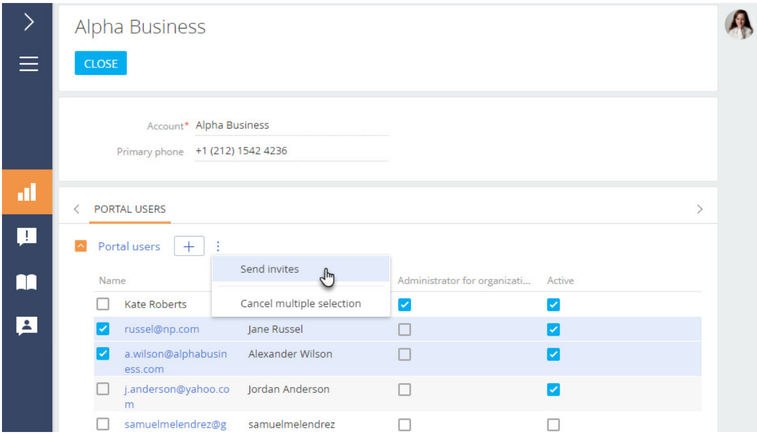
Administrators can send invites to portal users of their organization.

> **NOTE**
> More information is available in the "Sending a portal invitation" article.

If a new portal user forgets to set their password after the first login, the administrator will need to re-send the invite. To promote a user:

1. Select the needed users in the list of the [Portal users] detail.
2. Click ⋮ —> [Send invites] (Fig. 328).

Fig. 328 Sending a portal invitation



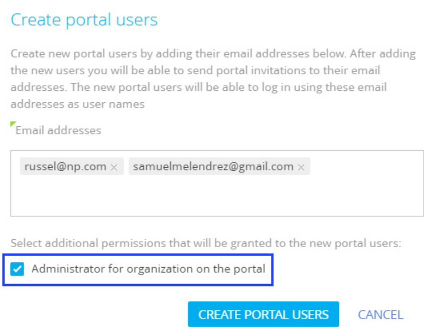
Set up permissions

Portal administrators can grant permissions to other portal users within the same organization. Users can be assigned any of the organizational roles that are subordinate to the corresponding portal organization. To promote a user:

1. Click your profile picture in the top right —> [**Organization profile**].
2. Go to the [**Portal users**] detail —> click + —> enter email addresses of the users to invite.
3. In the user registration window, **select the roles** to assign to the invited users (Fig. 329). Click [**Create portal users**].

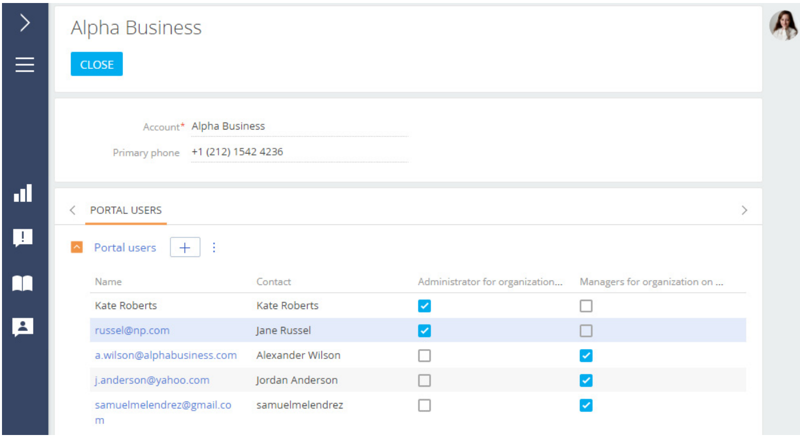
   In this example, the users will obtain all permissions of the portal administrator, as well as permissions assigned to the "Portal managers" role.

Fig. 329 Assigning permissions to the new portal users



Portal administrators can assign roles to existing users. The list of available roles is shown on the [Portal users] detail (Fig. 330).

Fig. 330 Portal user roles

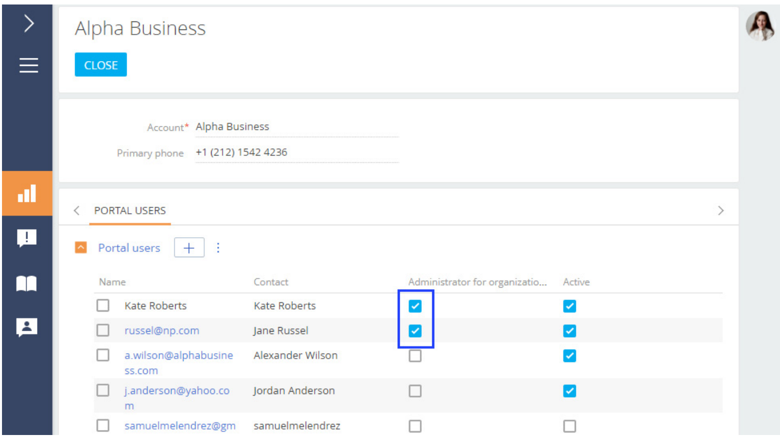


Promote a user to a portal administrator

You can grant portal administrator privileges to any user within a portal organization. To promote a user:

1. Click your profile picture in the top right —> [**Organization profile**].
2. Go to the [**Portal users**] detail, select [Administrator for organization on the portal] checkbox (Fig. 331).

Fig. 331 Assigning portal administrator privileges



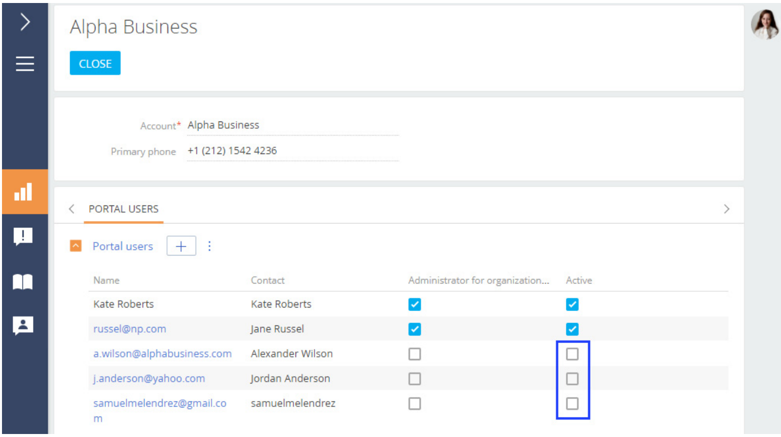
Deactivate users

To restrict a portal user from accessing the portal, deactivate the corresponding portal user account.

To deactivate a portal user.

1. Click your profile picture in the top right —> [**Organization profile**].
2. Go to the [**Portal users**] detail —> clear the [**Active**] checkbox next to the users who must be deactivated (Fig. 332).

Fig. 332 Deactivating portal users



As a result, the user will be suspended and will not be able to access the portal. You can reactivate a user at any time.

SEE ALSO

- Portal users

ACCELERATE

Portal customization

Personalize the portal to reflect your brand:

- Set up the portal login page. Read more >>>
- Set up the portal main page. Change the banner, add charts and custom widgets. Read more >>>

CONTENTS

SEE ALSO

- Users and permissions on the portal
- Set up portal sections

Set up the portal login page

The **login page** allows portal users to authenticate on the portal by entering their login credentials or by authenticating via an alternative method. The main application and the portal have separate login pages. These pages share a number of settings.

For example, the login page URL for an application "https://mysite.creatio.com" will be as follows:

- **Creatio application**: https://mysite.creatio.com/Login/NuiLogin.aspx
- **Portal**: https://mysite.creatio.com/login/SSPLogin.aspx

By default, https://mysite.creatio.com is the main application login page. However, you can change it to be the portal login page. Read more >>>

We recommend adding the following assets to the portal login page:

- **Corporate logo** – you can add different logo images for the main application and portal login pages. Read more >>>
- Support **phone numbers** and **links** to any additional resources, which are displayed both on the main application and portal login pages. Read more >>>

CONTENTS

Change the default login page

If you use the portal to actively communicate with customers, you can set **the portal login page** as the default one. This is most useful if self-registration is the primary method of user authentication on your portal.

Cloud settings

If you use a cloud-based version of Creatio, contact our support and have our team configure Single Sign-On on your site via a remote connection.

On-site settings

If you use an on-site version of Creatio, perform the following settings in the Creatio configuration files:

1. Modify the **Web.config** file located in [Creatio root folder]\Terrasoft.WebApp\.
2. Change the value from **NuiLogin.aspx to SSPLogin.aspx**. For example:

```
<authentication mode="Forms">
<forms loginUrl="~/Login/SSPLogin.aspx" protection="All" timeout="60"
name=".ASPXAUTH" path="/" requireSSL="false" slidingExpiration="true"
defaultUrl="ViewPage.aspx?Id=4e342d5e-bd89-4b79-98e2-22e433122403"
cookieless="UseDeviceProfile" enableCrossAppRedirects="true" />
</authentication>
<defaultDocument>
<files>
<add value="SSPLogin.aspx" />
</files>
</defaultDocument>
```

3. Save changes.

Set up the logo

You can replace the default image on the login page with your logo. To do this:

1. Go to System Designer -> **[System settings]**.
2. Open the **"SSP Logo"** system setting.
3. Delete the old logo by clicking the **[Clear value]** button.
4. Click **[Select file]** and choose the logo. Recommended image size: **37x274 pixels**. If you upload a larger image, it will be scaled to down match these dimensions. The recommended image format is **PNG**. Other standard image formats supported by your browser are also available.
5. Save changes.

NOTE

The logo on the login page is a cached item, so the user needs to clear the browser cache and refresh the page in order to see the changes.

Set up contact options and links

You can display contact options on the login page, e.g., sales department or customer support contacts, as well as any additional resources. These data will be displayed both on the main application and on the portal login pages.

Add contact options

To **add contact options** to the login page:

1. Go to System Designer -> **[Lookups]**.
2. Open the **[Communication Options for Login Page]** lookup.
3. In the opened window, click the **[New]** button.
4. Specify the **name** of the contact option, e.g., "Support" and add a **phone number**.
5. Click **[OK]**.
6. If you need to add multiple contact options, repeat steps 3-5 for each contact option.

Add links

To **links** to the login page:

1. Go to System Designer -> **[Lookups]**.
2. Open the **[Useful links for login page]** lookup.
3. In the opened window, click **[New]**.
4. Specify the **name** of the link, e.g., "Official website" and add a **URL**.
5. Click **[OK]**.
6. If you need to add multiple links, repeat steps 3-5 for each link.

If user self-registration is not required, you can **remove the "Register" button on the portal login page**:

- For **applications deployed on-site**, change the ShowPortalSelfRegistrationLink parameter in the Web.config file to:

```
<add key="UseStaticFileContent" value="false" />
```

- For **applications deployed in the cloud**, please contact Creatio support.

SEE ALSO

- Set up the portal main page
- Logo customization

Set up the portal main page

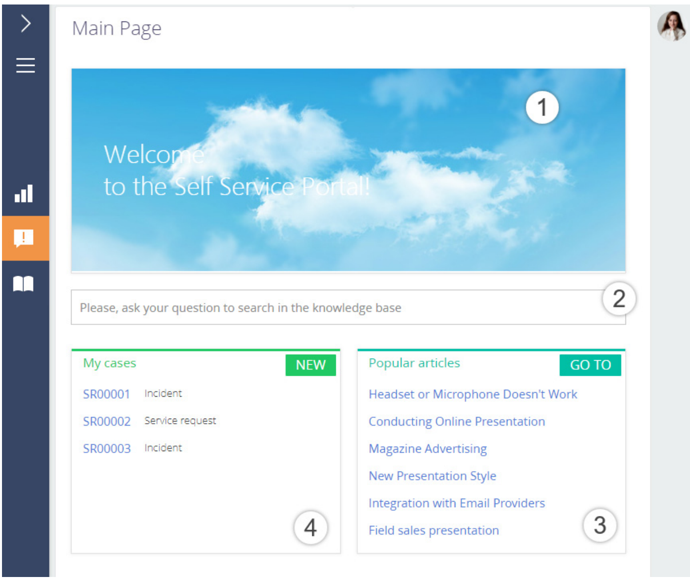
The portal main page provides quick access to the most up-to-date information and common actions on the portal. You can configure the main page, e.g., add the list of currently open cases and configure widgets, e.g., the knowledge base article search.

NOTE
All portal users have default permissions to read the main page data.

Default portal main page contains the following elements (Fig. 333):

- Banner (1)
- Knowledge base search string (2)
- A list of popular knowledge base articles (3)
- A list of cases submitted by the portal user (4)

Fig. 333 Self-service portal main page



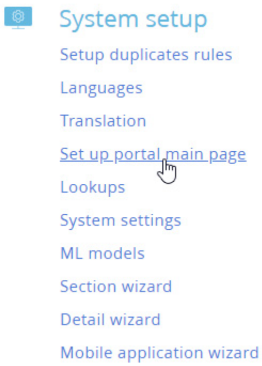
The main page is displayed right after the first authorization by default. You can choose to display a portal section as a start page, e.g., the knowledge base. This is done via the "**Portal start page**" system setting.

NOTE
If you change the portal start page, the changes will only affect new portal users. To apply changes to existing portal users, change the value of the [Home page] field on the user page manually.

The setup of the portal main page is performed by **a system administrator** in the Creatio application.

To **locate the system setting**: click -> System Designer -> **[Portal main page setup]** (Fig. 334).

Fig. 334 Locating the portal main page setup area

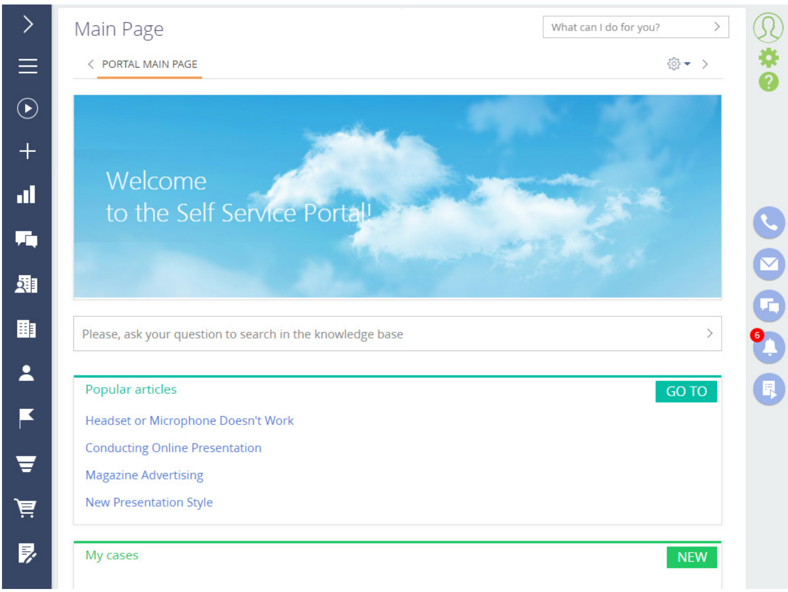


NOTE

You can set up the portal main page only if you have permission to perform the "Access to portal main page setup module" (CanManagePortalMainPage) system operation. To set up system operation permissions, use the [Operation permissions] section.

As a result, the portal main page setup area will open (Fig. 335).

Fig. 335 Portal main page setup



Here you can **set up**:

- The banner. Read more >>>

- Custom lists. Read more >>>
- Graphs and other analytics. Read more >>>

Access permissions to portal main page elements

When configuring the portal main page, **remember to set up the portal user access permissions**. In Creatio, the portal user access rights are limited and comply with the "least access" principle, which means that users are prohibited to perform any action that they do not have explicit permission to. If the main page contains the information that the user does not have the permission to read, this information will not be displayed for such users. For example, if the main page contains a chart based on the [Contacts] section data, the users without permission to read the "Contact" object data will not be able to view this chart.

Therefore, when you configure the portal main page:

- First, consider the default permissions the portal user is granted. For example, you can set up the list of knowledge base articles liked by the current portal user, so the list will be displayed on the portal main page.
- If you want to supplement the portal main page with dashboards containing the data that portal users have no permission to read, set up the corresponding permissions in the [Object permissions] section. Learn more in the "Access permissions on the portal" article.

Set up portal main page banner

You can display your image on the portal main page. It can be a banner that conveys the style and spirit of your company. The banner is configured as a separate **web page**. To display your banner, create a separate web page on your website similar to the default banner on the portal.

To do this:

1. Click -> System Designer -> **[Set up portal main page]**.
2. Click -> **[Edit]**.
3. Double-click the **"Website with image"** block.
4. Specify the **title**, the **page URL** and **styles** (optional).
5. Save changes.

Set up custom widgets on the portal main page

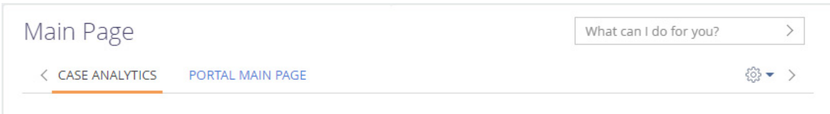
To make it more convenient for the users, the portal main page displays lists of their records in the main portal sections. For the customer portal the list includes the popular knowledge base articles, while the self-service portal displays the knowledge base articles and customer cases. These lists are configured by developer means via the "Widget" dashboard tile. Additionally, you can add **custom lists** with your own sorting, e.g., a list of user requests. However, such lists will not have **the [Go to] button**. These lists are configured similarly to the "List" dashboard tile in the main Creatio application. Learn more in the ""List" dashboard tile" article.

> NOTE
> Similar to the base dashboard tiles, you can add the custom widget dashboard tile to the main page using the developer means. Learn more about adding a custom widget in the development guide.

Set up several tabs of the portal main page

You can add several tabs on the main page to display additional data, e.g., case stats (Fig. 336).

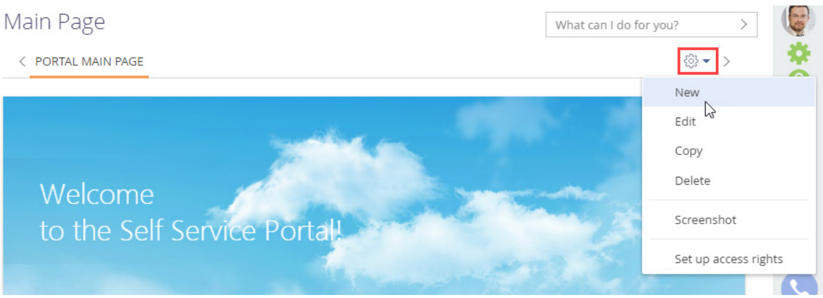
Fig. 336 Tabs on the portal main page



To **add a new tab** on the portal main page.

1. Click -> System Designer -> **[Set up portal main page]**.
2. Click -> **[New]** (Fig. 337).

Fig. 337 Adding a new tab on the page



3. The process of **setting up portal tab contents** is similar to that of **dashboard tabs**. A detailed guide on setting up dashboard tabs is available in the "Dashboard tabs" article.

   NOTE
   All portal users have default permissions to read the new tab data. If necessary, you can change the access permissions in the [Object permissions] section.

As a result, additional tabs will display on the portal main page. You can **navigate** the tabs by clicking their titles.

NOTE
The tabs are displayed in alphabetical order. After authorization, the first tab in the list will be opened by default. Take into account the wording used in the tab titles.

Note that the tab area is not displayed on the portal page, if there is only one tab in it.

SEE ALSO

- Portal users
- Set up portal sections

Set up portal sections

You can customize portal sections by configuring them in the **Section Wizard** in the main Creatio application. Section management capabilities are different depending on the portal configuration:

- If you use the **self-service portal**, you can modify the existing portal sections without the ability to add new sections.
- If you use the **customer portal**, you can add up to 3 custom sections.

You can use additional objects for configuring section details, lookup fields, etc. The number of available objects depends on the portal configuration and is governed by the license conditions. On the self-service portal, you can add up to 25 objects to a page, and on the customer portal - up to 125. If the number of objects used on the section's record page exceeds these limits, the portal will switch to "read-only" mode.

NOTE

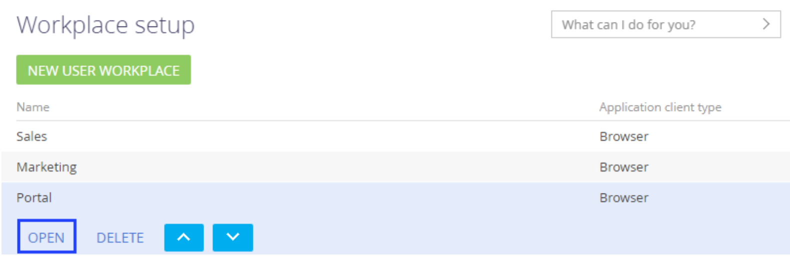
More information about the types of sections in different portal configurations is available in the "Portal" article.

Set up the portal workplace

The list of sections displayed on the portal is configured in the [Portal] workplace in the main Creatio application.

1. Open the **System Designer** by clicking in the top right corner of the application window.
2. Click **[Workplace setup]**.
3. Find the **"Portal"** workplace, select it and click [Open] (Fig. 338).

Fig. 338 Editing the "Portal" workplace



A list of available sections will open (Fig. 339). From here, you can add an existing system section to the portal, create

and add a new custom section, or edit an existing portal section:

- Add an existing section
- Edit an existing portal section
- Add a new section

Add an existing section

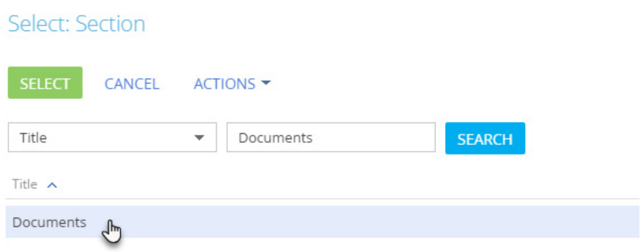
The ability to display existing sections (and the number of sections) on the portal depends on the licensed portal configuration.

To add an existing section to the portal:

1. Click: System Designer -> "Workplace setup" -> "**Portal**" -> [Open].

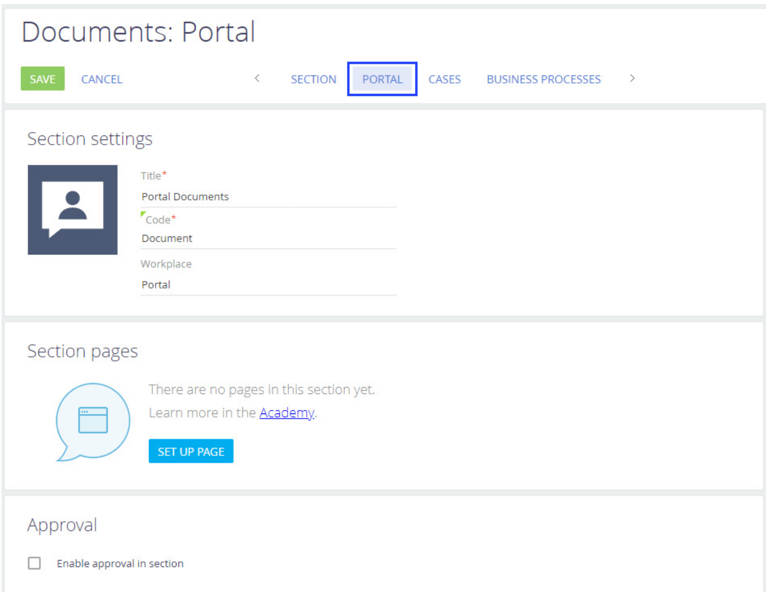
2. On the [Sections] detail, click: + -> select the section -> [Select] (Fig. 339).

Fig. 339 Selecting a section to add to the portal



The Section Wizard will open, and you will be able to set up the properties of the portal version of the section on the **[Portal]** tab (Fig. 340).

Fig. 340 Section Wizard page for adding a section to the portal



3. The **[Title]** field is populated automatically with the name of the section that is visible to portal users. You can specify a different title to display on the portal, if necessary.

4. The **[Code]** field is populated automatically and cannot be edited. The [Code] field contains the section code (unique name of the section object) for developers to use.

5. You can change the standard **section icon**, which will be displayed in the side panel on the portal.

   To change the section icon, hover the cursor over the current icon and click . We recommend using a white icon on a transparent background. Image format - PNG or SVG, size - 38x38 px.

6. Set up the portal section **fields and pages**. To do this, click [Set up page]. The setup is similar to the section page setup in the primary application and is covered in the "Configure section pages" article.

   NOTE

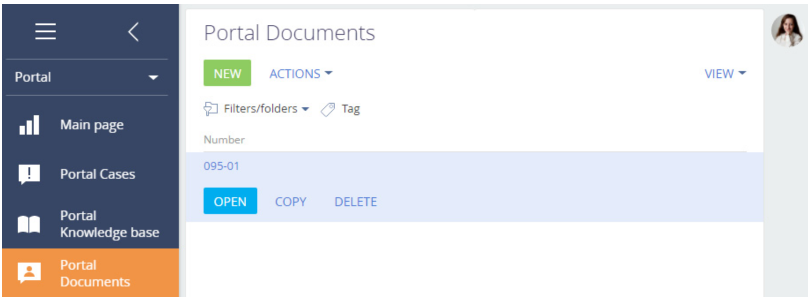
   Access permissions to fields and details added to the portal page are granted to users automatically when editing portal sections in the Section Wizard. To enable a user to access a new portal section, make sure that the necessary object is managed by records and the portal user has sufficient object permissions. Learn more about access permissions on the portal in the "Access permissions on the portal" article.

7. Select the **[Enable approval in section]** checkbox to enable approval functions in the section. For more on configuring approvals, see the "How to set up approvals" article.

8. Save the changes in the Section Wizard.

As a result, the section will become available on the portal (Fig. 341).

Fig. 341 The [Documents] section on the portal



Add a new section

Adding new custom sections to the portal is only available in the customer portal configuration.

NOTE

More information about the types of sections in different portal configurations is available in the "Portal" article.

To add a custom section to the portal:

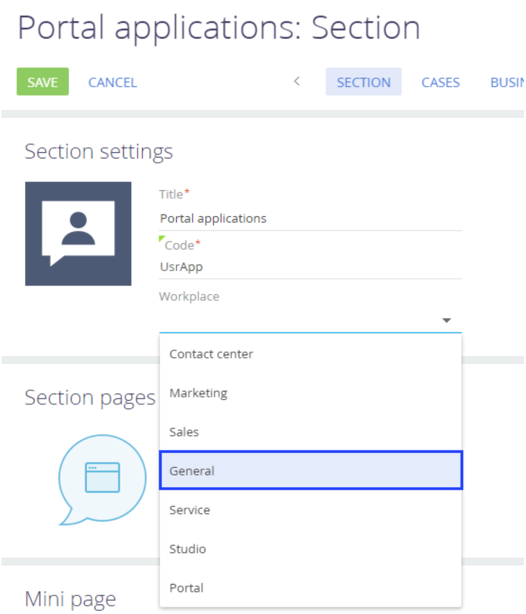
1. Create a new section in the main application using the **Section Wizard**. Learn more about adding and configuring a new section in the "How to create a section" article.

   In the main properties of the section, specify any workplace of the main application, e.g., "General" in the [Workplace] field (Fig. 342).

   NOTE

   Please do not specify the "Portal" workplace, because a new section is created in the main application and only then added to the "Portal" workplace.

Fig. 342 Main properties of a new section



2. Click: System Designer -> “Workplace setup” -> “**Portal**” -> [Open]. Learn more about editing the “Portal” workplace in the “Set up the portal workplace” article.
3. Add the new section to the “Portal” workplace. The process is described in the “Add an existing section” article.
4. Save the changes in the Section Wizard.

NOTE

Access permissions to fields and details added to the portal page are granted to users automatically when editing portal sections in the Section Wizard. To enable a user to access a new portal section, make sure that the necessary object is managed by records and the portal user has sufficient object permissions. Learn more about access permissions on the portal in the “Access permissions on the portal” article.

As a result, a new custom section (created in the main b application) will be added to the portal.

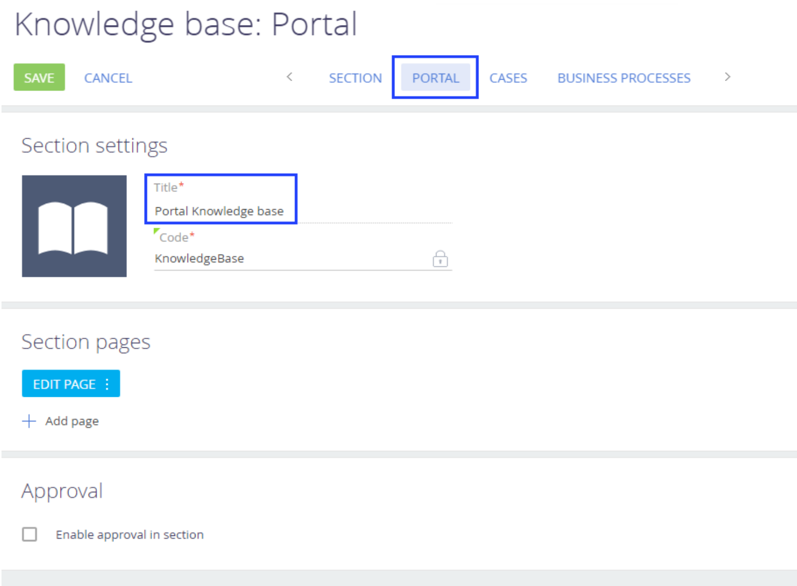
Edit an existing portal section

While working with a portal section, you may need to change the set of fields or details on the record page. To do this, you will need to edit the “portal version” of the section page. For example, to add two new fields to the section page:

1. Click: System Designer -> “Workplace setup” -> “**Portal**” -> [Open]. Learn more about editing the “Portal” workplace in the “Set up the portal workplace” article.
2. Click the name of the section, e.g., [Portal knowledge base] -> [Section wizard].

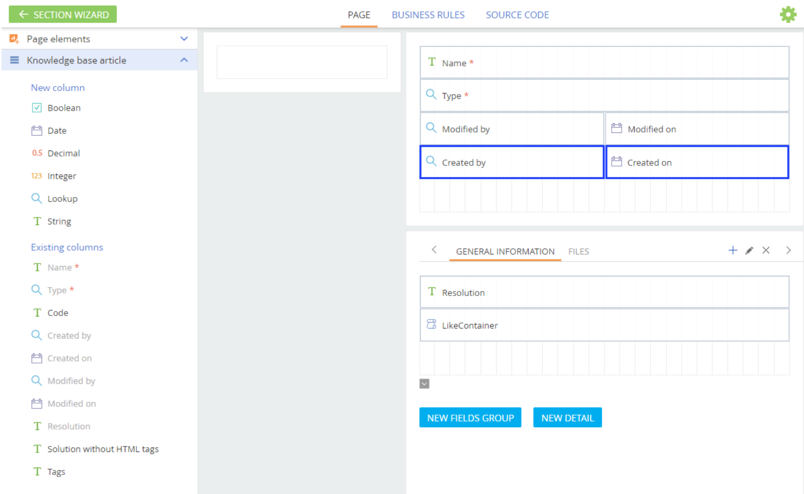
The [Portal] tab of the Section Wizard will open, and you will be able to set up the properties of the portal version of the selected section.

Fig. 343 The [Portal Knowledge base] section in the Section Wizard



3. Click [Edit page]. The Page Designer opens.
4. Edit the page, e.g., add new fields (Fig. 344). For more on setting up the section page fields, see the “How to set up page fields” article.

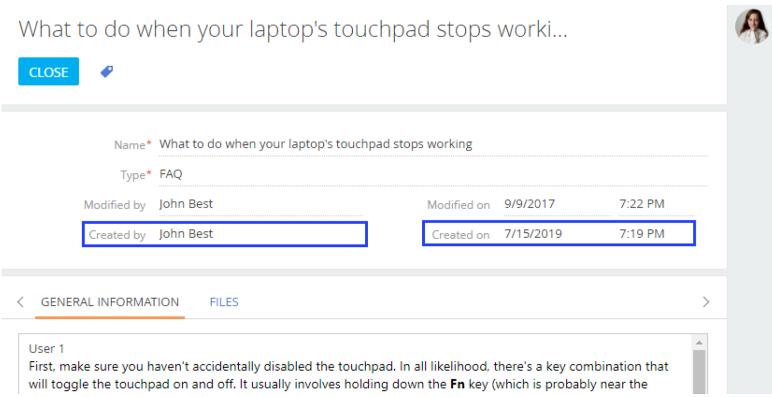
Fig. 344 Adding the [Created by] and [Created on] fields to the [Portal knowledge base] record page.



5. Save the changes in the Section Wizard.

As a result, the new fields will be added to the record page on the portal (Fig. 345).

Fig. 345 New fields on the [Portal knowledge base] section record page



SEE ALSO

-
- Portal customization

Portal user's guide

On the portal, users can find answers to frequently asked questions, use reference information and other materials that are published in the Portal Knowledge base, as well as register cases to the support on their own or receive prompt answers to their questions from company employees in the feed. Portal users can participate in other (custom) processes, e.g., agreeing requests, providing services, etc.

NOTE

Learn more about Creatio portal editions and their features in the "Business scenarios and use cases" article. The examples provided in this article may be specific to certain portal editions (self-service portal or customer portal).

This guide covers the workflows of portal users.

1. Portal registration, login and password management Portal user registration, login and password management – guides for all portal user registration-related procedures. The article also contains guides on how to log in to the portal and change/recover a portal user password.
2. Working with the portal main page Portal main page – description of the various functions available on the portal user's home page.
3. Working with the portal knowledge base Portal Knowledge base – description of the reference information resource available for portal users. The article also describes different ways of searching for information in the Portal Knowledge base.
4. Working with the portal Cases – description of the primary communication channel between portal users and the support service. The article covers all case-related operations, including case registration, cancellation, customer feedback, etc.
5. Working with the portal list Working with lists on the portal – the article covers how to set up column layout in the portal section lists. You can also find instructions on setting up groups for filtering records in the list.

CONTENTS

Portal registration, login and password management

To start working with the portal, you need to register as a portal user and go through the authorization procedure.

There are several ways you can register as a user on the portal:

- Users can register on the self-service portal **on their own**.

NOTE

Creatio system administrators must enable and set up self registration on the portal. Learn more about the setup in the "User self-registration on the portal" article.

- **Creatio system administrators can register portal users** in the primary application.

NOTE

The corresponding settings are covered in the "Portal users" article.

How the portal users can register on their own

When the users register on the portal on their own, Creatio adds necessary licenses and access permissions automatically.

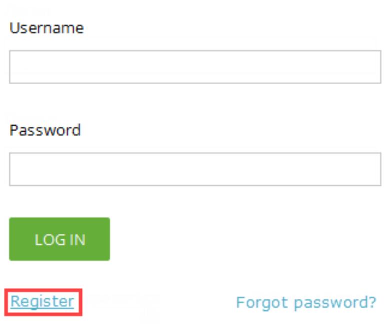
To register on the portal:

1. Open portal access URL in a web browser. As a rule, the portal access URL includes the application login URL followed by "SSPLogin.aspx" ().

   `https://045451-crm-bundle.creatio.com/Login/SSPLogin.aspx`

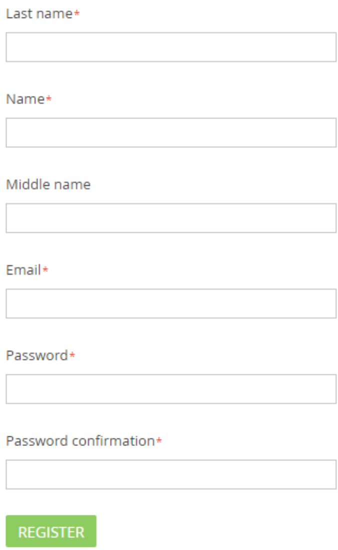
   Creatio administrator can provide you with the portal access URL if needed.
2. Click the [Register] link on the authorization page (Fig. 346).

   Fig. 346 How to register on the portal

3. On the displayed page, enter the required registration data and click the [Register] button (Fig. 347).

Fig. 347 Registration form



4. An email with an activation link will be sent to the email address you entered. Follow the link to confirm the registration.
5. After confirming the registration, you can log in using your registration data. Your email address serves as your username.

How to access the portal

You first need to authorize to access the portal.

1. Switch to the portal authorization page. Enter the portal access URL that you received from your system administrator into the web browser address string. Learn more about the portal access URL in the "How the portal users can register on their own" block of this document.
2. On the authorization page:
   - If you are already registered, enter your username and password on the login page and click [Login]. After you enter the portal, you will be redirected to the portal main page.
   - If you aren't registered on the portal and you do not have a username and a password, you need to register on the portal through the self-registration procedure or contact the Creatio administrator.

How to manage passwords

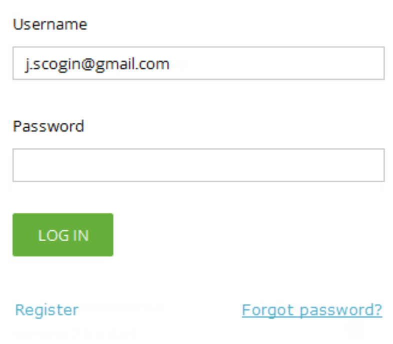
You can change or recover your password.

How to recover a portal password

If you forgot your password to access the portal:

1. Go to Creatio login page and enter your username (email address specified during the registration) in the [Login] field, then click the [Forgot your password?] link. (Fig. 348).

Fig. 348 Password recovery



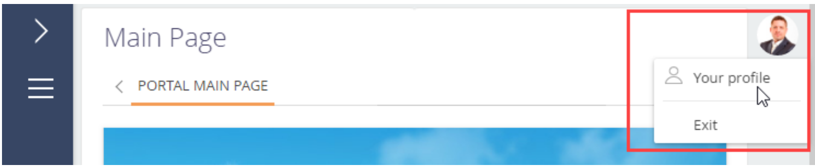
2. An email with a link will be sent to the specified email address. After clicking this link, a special page for entering a new password will open.

How to change the password

To change the current password:

1. Enter the portal, click the user portrait icon in the top right corner of the application and select [Your profile] (Fig. 349).

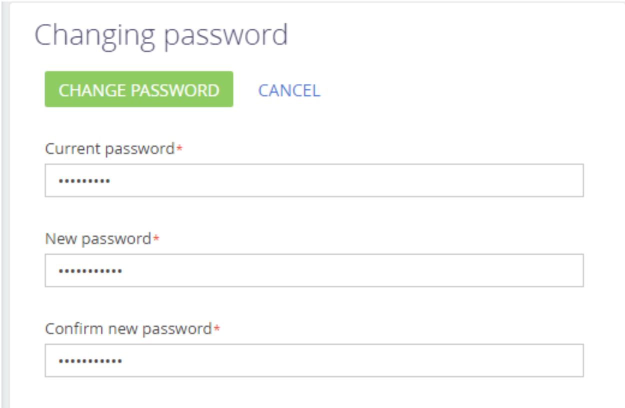
Fig. 349 Opening the user profile



NOTE
You can also open the user profile by selecting the [User profile] menu option in the portal main menu.

2. Click the [Change password] button. Enter the current password, then enter the new password and confirm it (Fig. 350).

Fig. 350 Password recovery



3. After clicking the [Change password] button your password will be changed.

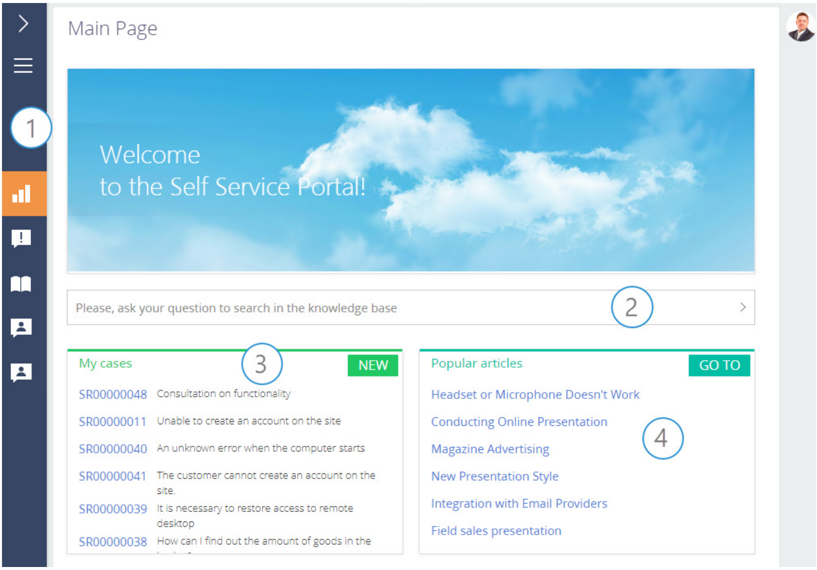
SEE ALSO

- Working with the portal main page
- Working with the portal knowledge base
- Working with the portal Cases

Working with the portal main page

Once logged in, you will be redirected to the portal main page. The main page is designed to provide quick access to the most up-to-date information and common operations (Fig. 351).

Fig. 351 Portal main page



NOTE

Portal main pages can have several tabs, with different widgets and information on each. If several tabs are configured on the portal main page, the user will be redirected to the first tab in the tab area.

On the main page, you can access a list of the most popular knowledge base articles and search for the information you need, as well as go to other portal sections.

The navigation panel (1) is displayed on the left side of the portal page. Use it to switch between different portal sections and the portal main page.

At the top of the default main page, you can see a “banner” – an image you can customize to display a greeting, a company name, etc.

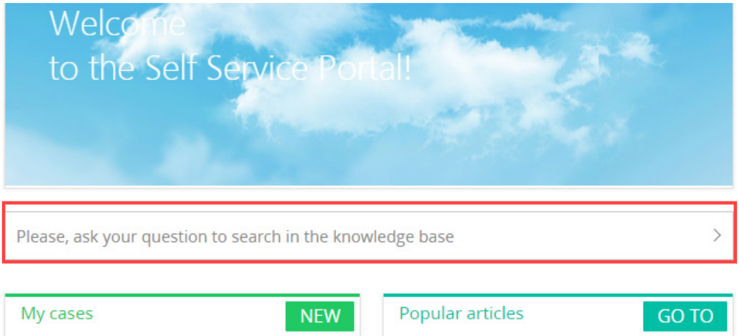
By default, the portal main page also contains:

- Knowledge base search string to look for answers to your questions (2).
- The list of available records. For example, your portal cases (3).
- A list of popular knowledge base articles (4).

Knowledge base search string

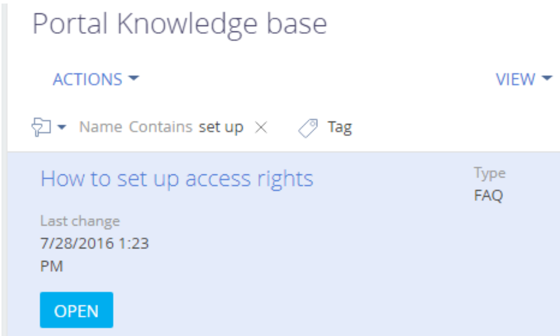
You can search for answers in the portal knowledge base by using the **search string** (Fig. 352), which is available on the portal main page by default

Fig. 352 Knowledge base search string



Enter the searched text in the search string and click > or press the ENTER keyboard key. As a result, the [Portal Knowledge base] section will open. The records in the section will already be filtered according to the criteria you have set up. The text that you have entered will be placed between two percent signs – % to enable searching by text selection (Fig. 353).

Fig. 353 Knowledge base article search

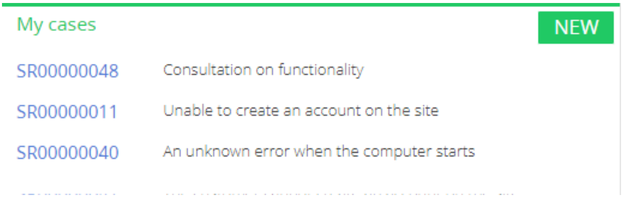


By default, Creatio searches knowledge base articles by their titles only.

List of portal cases (for service products)

The "My cases" block contains all your cases sorted in the descending order by registration date, i.e. the new cases are displayed at the top of the list (Fig. 354). Click [New] to submit a new support case.

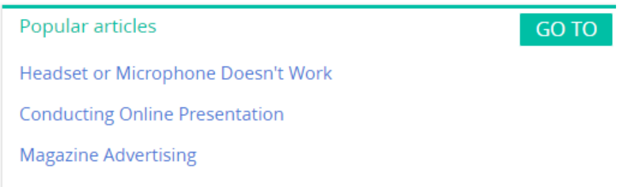
Fig. 354 The [My cases] widget



The list of popular web site articles

The "**Popular articles**" block contains a list of knowledge base articles positively evaluated by users. The articles are sorted in the descending order by the number of "likes" ([Like] button clicks), so popular articles are displayed at the top of the list. Click [Go to] (Fig. 355) to open the [Portal knowledge base] section.

Fig. 355 The [Popular articles] widget



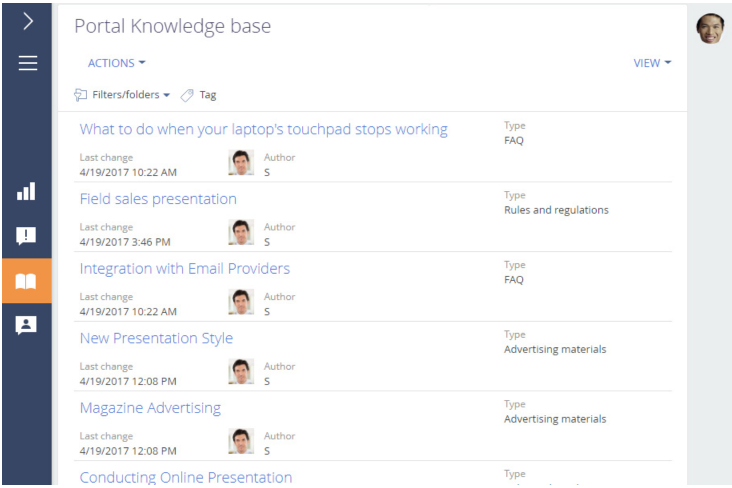
SEE ALSO

- Portal registration, login and password management
- Working with the portal knowledge base
- Working with the portal Cases
- Working with the portal list

Working with the portal knowledge base

The knowledge base is a storage of reference information. For example, here you can store the answers to frequently asked questions, rules and regulations, document templates and advertising materials. Here you can find the information you need and leave your comments to the published materials (Fig. 356).

Fig. 356 The [Portal Knowledge base] section



CONTENTS

Knowledge base article page

The knowledge base article page consists of a number of fields containing article general data, as well as [General information] and [Files] tabs.

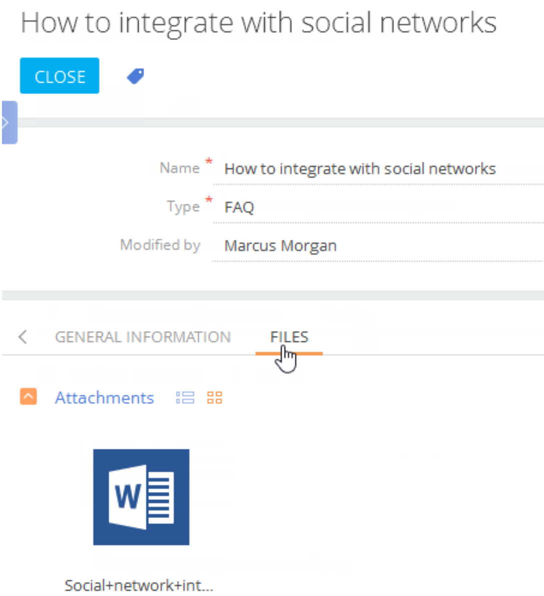
Field	Description
Account name	Knowledge base article title.
Type	Knowledge base article type, for example, “Rules and regulations” or “FAQ”.
Modified by	User who last edited the article.
Modified on	Date and time of the last edition of the knowledge base article.

The **[General information]** tab contains the article text area and comment area.

Portal users can leave comments to the knowledge base articles. To do this, type the text in the box at the bottom of the page and click [Publish].

Use **[Files]** tab to access attachments and links related to the knowledge base article. For example, from this detail you can download documents or take advantage of the useful links connected to the article (Fig. 357).

Fig. 357 The [Files] tab of the [Knowledge base] section



How to find an article in the knowledge base

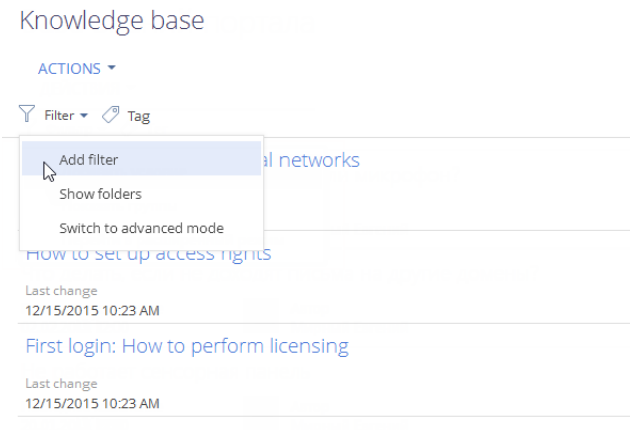
Search functions in the portal knowledge base include:

- Knowledge base search widget on the portal main page. Learn more how to do this, in the "Knowledge base search string" article.
- Configure the filters in the [Portal Knowledge base] section. The setup procedure is described below.
- Knowledge base article tags. Assign a tag or a set of tags to any knowledge base article and filter section records by tags. You can find an example of tagging records in the "How to tag records on the portal" article.

Setting up filters in the [Portal Knowledge base] section

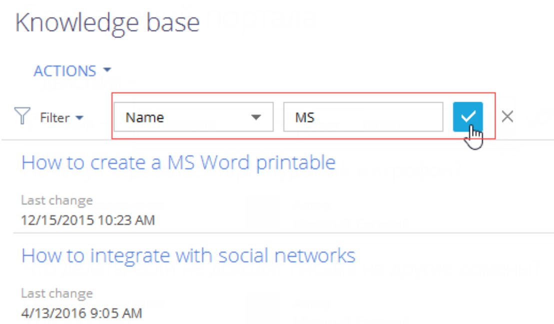
1. Open the [Portal Knowledge base] section.
2. From the [Filter] menu, select the [Add filter] option (Fig. 358).

Fig. 358 Accessing filters in the [Portal Knowledge base] section



3. To search articles by title, select the [Name] field, enter the title of the article or a part of it and click ✓ (Fig. 359).

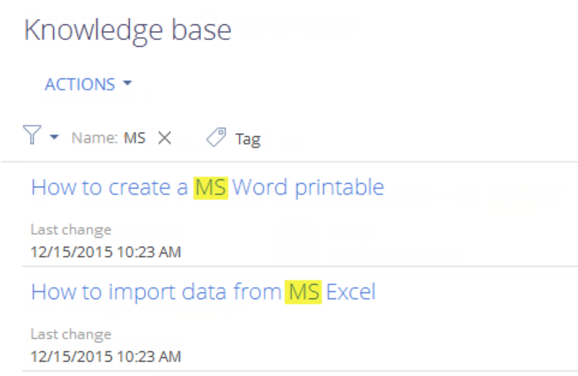
Fig. 359 Searching for an article by its title in the [Portal Knowledge base] section



After you click ✓, the knowledge base will display only the articles that match the filter (Fig. 360).

4. To disable a previously configured filter, click × .

Fig. 360 Searching for an article in the [Portal Knowledge base] section by a part of its title



NOTE

You can set up filter by any field in the [Portal knowledge base] section. For example, add a filter by the [Date] field to view all articles created during certain period.

SEE ALSO

- Working with the portal Cases
- Working with the portal main page
- Working with the portal list

Working with the portal Cases

The [Portal Cases] section is available in service products by default. Here, you can submit support tickets (i.e., “cases”), track their resolution progress and communicate with support staff.

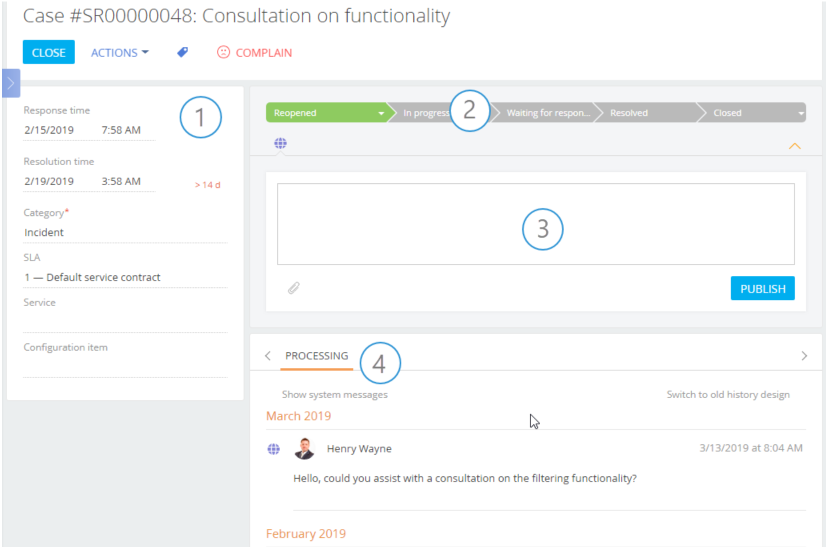
CONTENTS

- Case page on the portal
- How to submit a case from the portal
- How to manage cases on the portal
- How to communicate with support staff via portal messages
- How to leave case feedback on the portal

Case page on the portal

Portal case pages consist of case profile (1), workflow bar (2), message panel (3) and the [Processing] tab (4) (Fig. 361).

Fig. 361 Case page on the portal



The case page contains a [Complain] button for passing your service-related comments and notes to the support, even for closed cases. Click this button to open a new window for publishing comments and notes.

The case number and its subject are displayed at the top left of the page. The number is generated automatically, based on the specified template. Case subject is also generated automatically, based on the selected service and case category.

On the left side of the page, you can find a **case profile** (1) with general information about the case.

At the top right of the page, there is a **workflow bar** (2) that shows current stage of the case processing.

Enter detailed case information in the **message panel** (3) below the workflow bar to converse with the staff regarding the case resolution. You can attach files to your messages.

Case profile

General case information.

Response time	Case response deadline, representing the time limit between the case registration and the moment the case processing starts. The deadline is calculated automatically and depends on the selected service. This is a non-editable field. An indicator of the remaining/overdue time is displayed to the right of the field.
Resolution time	A deadline for resolving the case. The deadline is calculated automatically and depends on the selected service. This is a non-editable field. An indicator of the remaining/overdue time is displayed to the right of the field.

Category	A case can have one of the following categories: service request, incident or consultation (this category is available only in Financial Services Creatio, customer journey edition). Once the record is saved, this field becomes non-editable. The field is populated automatically, when a service is specified.
Service agreement	The field is available only for **Service Creatio, enterprise edition**. The service agreement that stipulates the conditions of case resolution. Once the record is saved, this field becomes non-editable. When a new case is created, the proper service agreement is selected automatically.
Service	The service, which facilitates the case resolution. For **Service Creatio, enterprise edition**, only services provided under the user's service agreements are available.
Configuration item	The field is available only for **Service Creatio, enterprise edition**. The primary configuration item, which is related to the case (e.g., the component in which an issue occurred). In this field, you can enter one of the configuration items connected to the case contact, their department or case account.

Service agreement selection

The field is available only for **Service Creatio, enterprise edition**

Case service agreement is determined by selecting the agreement with the highest priority. The service agreement priorities are as follows:

1. Contact service agreement (portal user is specified as the service object of the agreement).
2. Department service agreement (portal user's department is specified as the service object of the agreement).
3. Account service agreement (portal user's account is specified as the service object of the agreement).

If only one service agreement with the highest priority is found, it will be automatically specified in the [Service contract] field. If several agreements with the same priority have been found, the [Service agreement] field will not be populated, and you will need to select one of the available service agreements manually. If there are no records that match the conditions, the field will be populated with the default service agreement.

The [Processing] tab

Feedback

This field block displays information about case rating and reason for closing.

Satisfaction level	Service level grade given by the user after the case is resolved.
Feedback notes	Additional comments.

The [Feedback] field block becomes available after a case is assigned the “Resolved”, “Closed” or “Canceled” status. Case author will receive an email notification, prompting them to grade the customer service level and leave feedback.

History

The detail contains the communication history of the case. The history includes:

- Emails sent and received in the process of resolving the service request or incident.
- Messages posted by employees and portal users on the customer portal. Messages that contain attachments are marked with the icon. The first attachment is shown as a link in the lower left corner of the message. Click the [Read more] link to view other attachments.

SEE ALSO

- How to submit a case from the portal
- How to manage cases on the portal
- How to communicate with support staff via portal messages
- How to leave case feedback on the portal

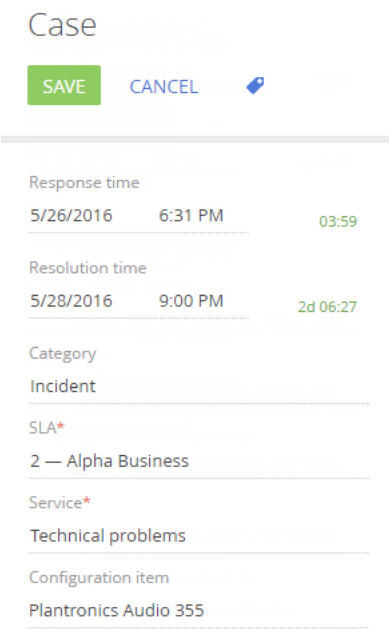
How to submit a case from the portal

There are two ways to submit a case – you can either go to the [Portal Cases] section and click the [New case] button (Fig. 362) or click [New] on the portal main page, in the "My cases" block.

Fig. 362 Adding a new case

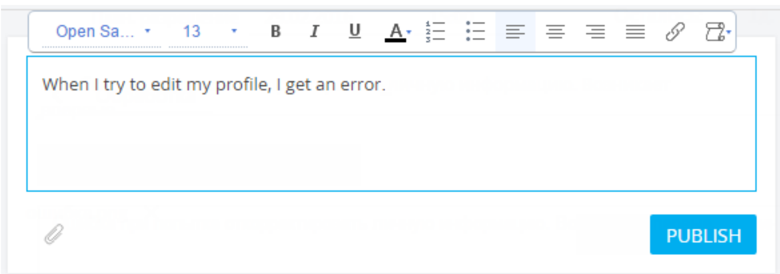
A new case page will open, where you can enter the case information in the corresponding fields (Fig. 363).

Fig. 363 Populating case fields



1. The [Service agreement] field (available only for **Service Creatio, enterprise edition**) will be populated automatically in accordance with the service agreement. If you have multiple service contracts, you can manually select the necessary service contract.
2. In the [Service] field, select the service that your request is related to. The service you choose determines the case category as well as response and resolution deadlines (Fig. 363).
3. Enter all necessary details in the message panel (Fig. 364).

Fig. 364 Message panel



4. You can attach a file to illustrate, clarify or supplement the information on your case. To do this, click under the message entry form and select the file. You can attach several files to a case. The attached files are displayed as hyperlinks (Fig. 365).

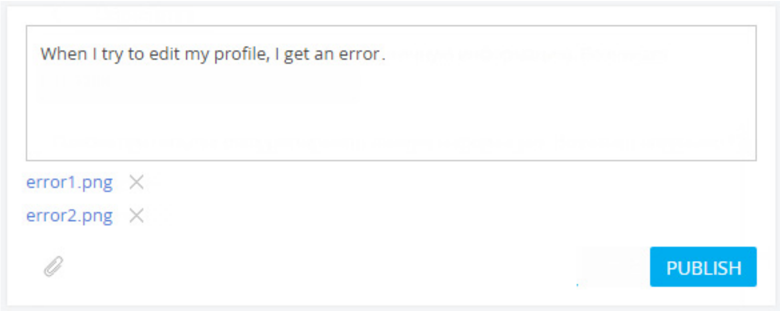


Fig. 365 A file attached to a case

5. When ready, click [Submit] (Fig. 366).

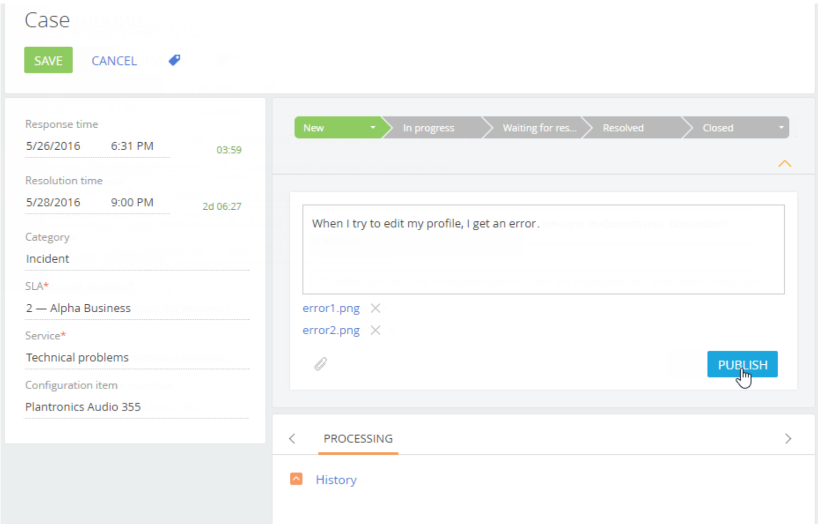


Fig. 366 Submitting a case

As a result, the case is saved and a unique number is assigned to it automatically.

SEE ALSO

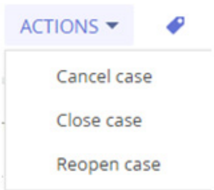
- How to manage cases on the portal
- How to filter records on the portal
- How to communicate with support staff via portal messages
- How to leave case feedback on the portal

How to manage cases on the portal

You can manage the case status from the case page on the portal. The following case management actions are available in the [Actions] menu for portal users (Fig. 367):

- Cancel case
- Close case
- Reopen case.

Fig. 367 Case actions that you can perform on the portal



Canceling a case on the portal

If a case was created by mistake, or if the response for this case is no longer required, you can cancel the case. To do this, select the [Cancel case] option from the [Actions] menu.

The support team member will see the following case changes in the primary application:

- The case status changes to “Canceled”;
- The ''Canceled by user” value is set in the [Reason for closing] field;
- The [First resolution time], [Actual resolution time] and [Closed on] fields are populated with the date and time when the case was canceled on the portal.

Closing the case on the portal

Portal users can close their cases if the solution has been provided but a support engineer has not yet closed the case. To close a case on the portal, select the [Close case] option from the [Actions] menu.

The support team member will see the following case changes in the primary application:

- The case status changes to “Closed”;
- The ''Closed by user” value is set in the [Reason for closing] field;
- The [Closed on] field is populated with the date and time when the case was closed on the portal.

Reopening the case on the portal

You can reopen cases that have the “Resolved” and “Waiting for response” status if the provided solution did not resolve the case issue.

To do this, select the [Reopen case] option from the [Actions] menu.

The support team member will see that the case status has changed to “Re-opened”.

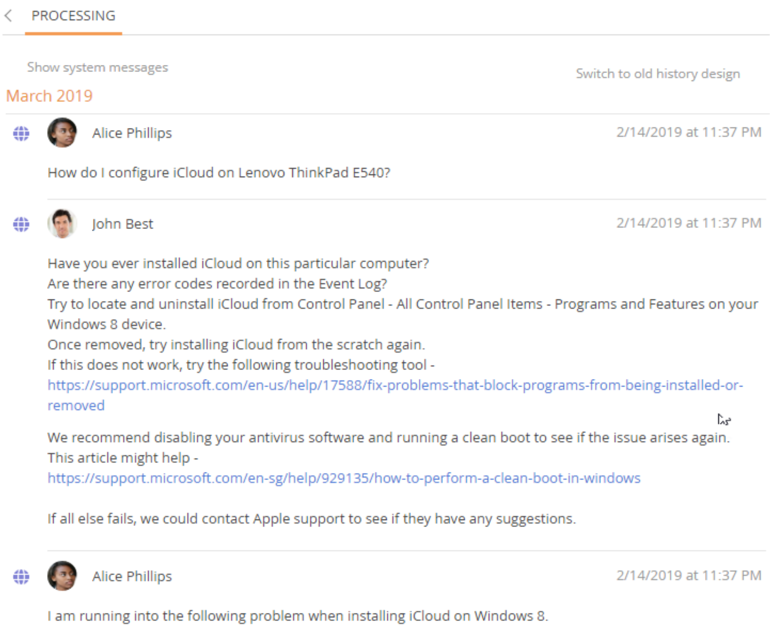
SEE ALSO

- How to communicate with support staff via portal messages
- How to leave case feedback on the portal

How to communicate with support staff via portal messages

While a case is being processed, you can communicate with the support team members using the chat functions available on the case page. You will be notified by email when you receive a message concerning your case. The history of case processing is displayed in the [Processing] tab of the case page (Fig. 368).

Fig. 368 Communication history on the case page

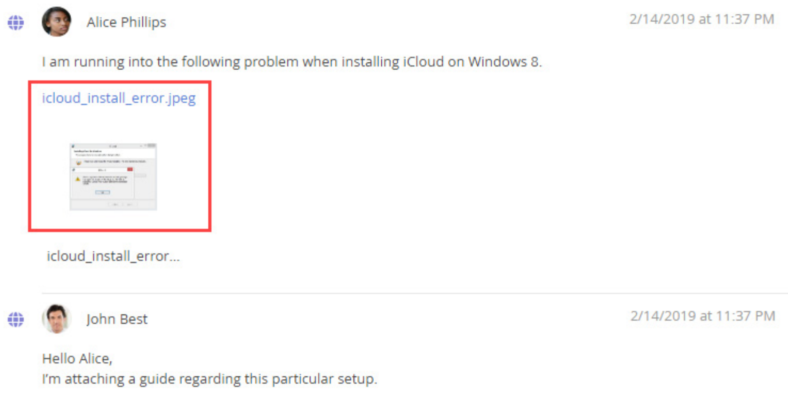


This tab is used as a communication channel between the users and the support team members involved in the case resolution. By default, you can add comments to the posts that are not assigned with the "Closed" status.

To post a message, populate the corresponding fields and click the [Send] button.

Attach a file to the message if necessary. Files sent during the conversation are displayed as links, and clicking the links initiates opening the files (Fig. 369). To download an attachment, click its title.

Fig. 369 An attached file in the case processing history



SEE ALSO

- Case page on the portal
- How to submit a case from the portal
- How to manage cases on the portal
- How to leave case feedback on the portal

How to leave case feedback on the portal

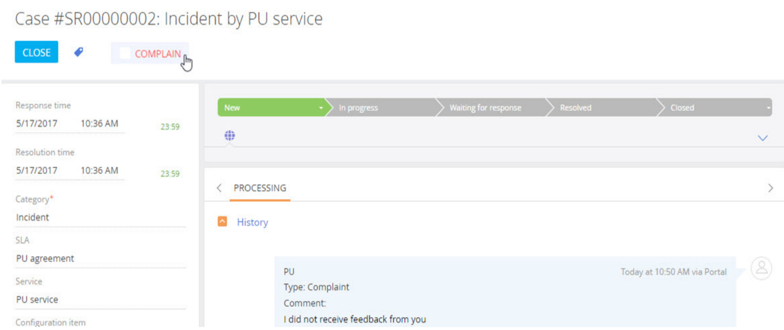
You can evaluate the quality of service provided for your case at any stage of its life cycle.

Case processing results can be used to evaluate the service satisfaction. For this, populate the [Feedback] detail fields of the case page. The [Feedback] field block becomes available after a case is assigned the "Resolved", "Closed" or "Canceled" status. Case author will receive an email notification to fill out the feedback fields.

If during the processing of your case, you receive comments or notes, you can easily pass them on to the support team. To schedule a bulk email:

1. Open the case page on the self-service portal.
2. Click the [Complain] button in the top left corner of the case page (Fig. 370).

Fig. 370 The [Complain] button on a case page



3. In the opened window, enter your feedback.
4. Click [Complain].

A comment with the "Complaint" type will be displayed in the communication history on the case page. This will draw the attention of the support team to the case and improve the quality of service.

Unlike usual comments, you can leave complaints on resolved and canceled cases.

SEE ALSO

- Working with the portal main page
- Working with the portal knowledge base
- Working with the portal Cases
- Working with the portal list
- Filters

Working with the portal list

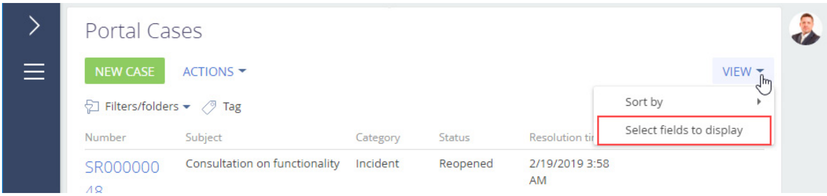
The data on the portal are represented in the list view. A list contains records, each one having a group of fields. You can choose which information will be displayed in each section list.

> **NOTE**
> More information about Creatio section lists is available in a Record lists article.

How to set up displaying of information in the portal sections

You can choose which information is displayed in each section list. To set up lists, use the [View] menu (Fig. 371).

Fig. 371 List setup menu of the [Portal cases] section



CASE

Add case response time information to the list of the [Portal Cases] section.

1. Go to the [Portal Cases] section.

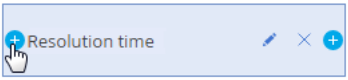
NOTE

The [Portal Cases] section is available in service products by default.

2. In the [View] menu, select the [Select fields to display] command.

3. Select the column, whose information you want to display and click ⊕ (Fig. 372).

Fig. 372 Adding the [Resolution time] column to the list



4. A column selection window opens. Choose the “Response time” in the drop-down list and click the [Select] button.

5. Adjust column width if needed. To do this, drag its border with your mouse.

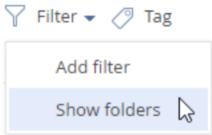
Fig. 373 Changing a column width

6. Save the new settings.

How to group records on the portal

Use folders to segment records on the portal. Select [Filter] > [Show folders] to view folders in the current section Fig. 374).

Fig. 374 Opening the folder tree



NOTE

More information about Creatio folders is available in the Folders article.

You can create a custom folder structure, as well as set up rules for populating the folder contents. Deleting a folder will not result in deleting the records contained in it.

Section folders have a tree-like structure. A folder position in the structure does not affect its properties: if a record is included in one of the subordinate folders, it does not necessarily mean it is included in the parent folder.

To create a **root folder**, select the [All] folder and click the [New folder] button.

To create a **subordinate folder**, select a parent folder and click the [New folder] button.

CASE

View all unresolved service requests in the [Portal cases] section.

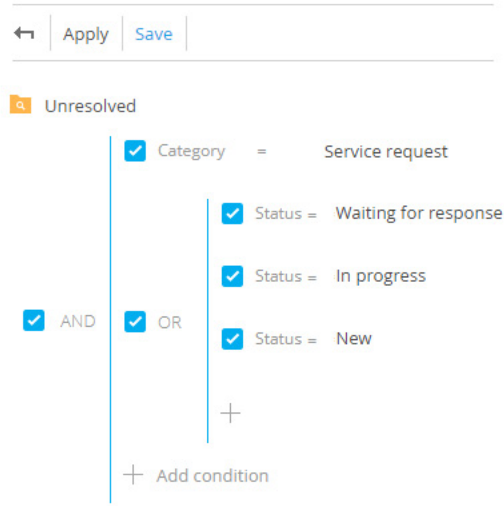
1. Go the [Portal Cases] section.

NOTE

The [Portal cases] section is available in service products by default.

2. In the [Filter] menu, select the **[Show folders]** option.
3. Click the **[Add folder]** button.
4. Enter the folder name and click [OK] in the opened window.
5. Set the following filter conditions: “Case category = Service request”:
   a. Click <Add condition>.
   b. In the opened window, select the “Case category” column.
   c. In the filter setup area, click <?>. In the opened window, select the needed value for the selected column, in this case “Service request”.
6. Add another condition: “Status=New; In progress; Waiting for response”.
7. Alternatively, you can add three separate conditions and group them using “OR” logical operator to group cases in one of the mentioned statuses:
   a. Holding down the CTRL key, select the filter conditions to group.
   b. From the [Actions] menu, select the **[Group]** option. As a result, the selected conditions will be combined in a separate group with the corresponding operator.
   c. Set “OR” as the logical operator for the newly created group by clicking the operator name.
8. Click the [Save] button (Fig. 375).

Fig. 375 Saving a folder filter



NOTE

Use the advanced filter mode to set up filters. More information about Creatio advanced filter mode is available in the Advanced filter article.

How to filter records on the portal

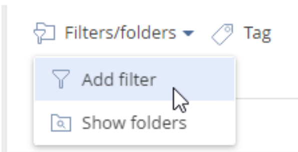
Use filters to search records in section lists.

NOTE

More detailed information on filters is available in the Filters article.

To set up filtering conditions for the list records, use the **[Add filter]** command in the [Filters/folders] menu (Fig. 376).

Fig. 376 Adding filter



CASE

In the [Portal cases] section, find the case by its number.

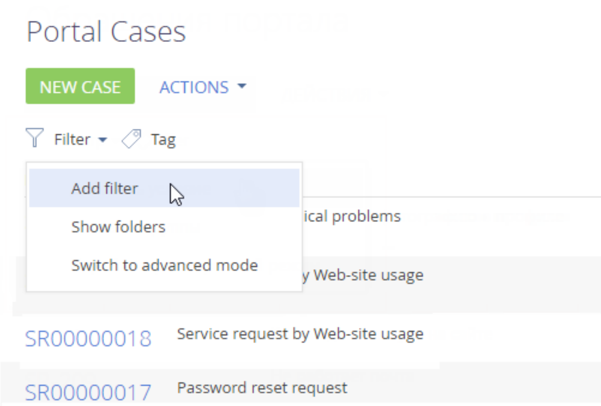
1. Go the [Portal Cases] section.

NOTE

The [Portal cases] section is available in service products by default.

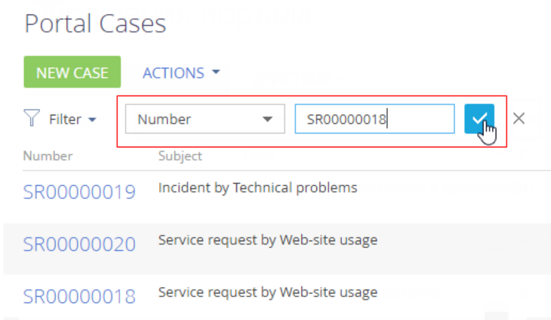
2. In the [Filters/folders] menu, select the [Add filter] option (Fig. 377).

Fig. 377 A standard filter in the [Portal Cases] section



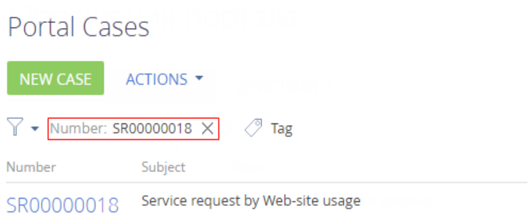
3. To search a case by its number, select the [Number] field from the list, enter the case number and click ✓ (Fig. 378).

Fig. 378 Search for a case by number



Then, the page will display only the records that match the configured filter (Fig. 379). To disable a previously configured filter, click the × button.

Fig. 379 A standard filter applied to the [Portal Cases] section



How to tag records on the portal

To quickly search for information by keywords, you can assign a tag or a set of tags to any record on the portal.

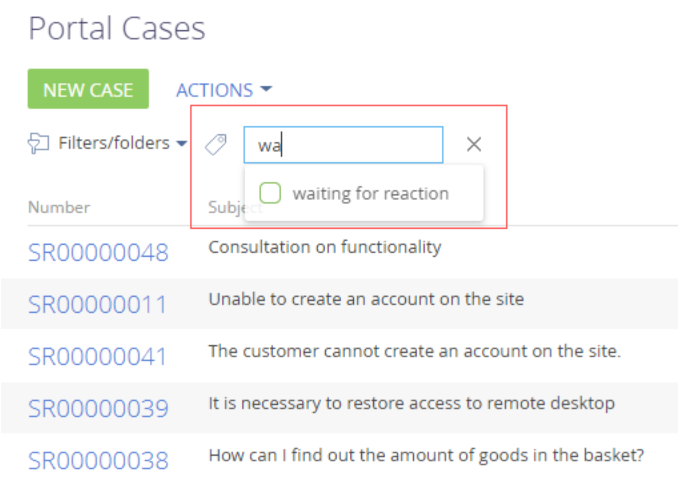
For example, in the [Portal Cases] section, you can tag cases waiting for reaction and filter them by the assigned tag.

NOTE

The [Portal Cases] section is available in Creatio service products by default.

Records are tagged manually. To create a tag and then tag a case, go to the record page and click . To filter records in the section by tags, use the filtering area (Fig. 380).

Fig. 380 Tag filter in the [Portal Cases] section



NOTE

For more details on how to use filters, please see the Tags article.

SEE ALSO

- Portal registration, login and password management
- Working with the portal main page
- Working with the portal knowledge base
- Working with the portal Cases

System designer

System designer comprises the Creatio configuration tools. It enables you to:

- Create and edit sections, set up section and page properties via the Section Wizard.
- Create and edit details via the Detail Wizard.
- Set up the system appearance by uploading your corporate logo, changing the color of the section panel, setting up workplaces for different types of users.
- Import Excel data.
- Generate your company’s organizational structure, add users, set up functional roles and access permissions.
- Set up reports and indicators based on the information from Creatio sections to obtain analytical data.
- Set up custom integrations with third-party REST-services.
- Configure the mobile version of Creatio via the Mobile Application Wizard.
- Access the development tools in the advanced settings area.

To open the System Designer, click in the top right corner of the application or click the [System Designer] link on the Creatio home page.

Processes

Process management tools.

Process library	Opens the [Process library] section where you can edit your existing process diagrams and create new ones. From here, you can access the process designer. To use this section, the user must have permission to the “Access to "Process design" section” system operation.
Process log	Opens the [Process log] section for managing running processes (“process instances ”) and viewing statistics on completed processes. To access this section, the user must have permission to the “Access to "Process log" section” system operation.

NOTE

Detailed descriptions of business process management are available in the Creatio business process documentation.

Users and administration

Tools for registering users, distributing access rights and auditing the system operations.

System users	Opens the [Users] section where you can set up the structure for your company, register users and sort the employees by role. Read more >>> To access this section, the user must have permission to the “Manage user list“ (CanManageUsers) system operation.
Organizational roles	
Functional roles	

Object permissions	Opens the [Object permissions] section where you can set access permissions to system objects, e.g., to sections or lookups, as well as separate columns and records in these objects. For example, you can change the permissions to edit or delete records in the "KnowledgeBase" object. Read more >>> To access this section, the user must have permission to the "Access to "Access rights" workspace" (CanManageAdministration) system operation.
Operations permissions	Opens the [Operations permissions] section where you can set up user rights and roles for different system operations. For example, you can set up your workplaces or Excel import parameters. Read more >>> To access this section, the user must have permission to the "Access to "Access rights" workspace" (CanManageAdministration) system operation.
Audit log	Opens the [Audit log] page containing information about the events that occur in the system, for example, user authorization, modifying the user role structure, modifying access rights to objects. Read more >>> To access this section, the user must have permission to perform the "View "Audit log" section" (CanViewSysOperationAudit) system operation.

Import and integration

Import and data synchronization features.

Data import	Opens the import setup window that you can use to import records from an Excel file to your system. Read more >>> To access the import setup window, the user must have permission to perform the "Excel import" (CanImportFromExcel) system operation.
LDAP integration setup	Opens the LDAP integration page that you can use to register users in Creatio automatically as they sign in to a domain, and to enable domain authorization. Read more >>> To access the integration setup page, the user must have permission to the "Access to "Access rights" workspace" (CanManageAdministration) system operation.
Web services integration setup	Opens the [Web services] section, where you can add and set up new integrations, including the parameters for connecting to the web service and calling its methods. Read more >>> To access this section, the user must have permission to the "Access to "Configuration" section" (CanManageSolution) system operation.
Mailing log (available in Marketing Creatio and CRM-bundle).	Opens the [Mailing log] section that contains information about bulk email preparation and execution steps. Read more >>> All users can access this section by default.

Website events tracking (available in Marketing Creatio, bank sales and CRM-bundle).	Opens the [Website events] section used to track all user actions on your website, and to set up the website events tracking service. Read more >>> To access this section, the user must have permission to the "Website events tracking" (CanManageEventTracking) system operation.

Applications

Extension management.

Installed applications	Opens the [Installed applications] section that enables you to manage installed marketplace applications. Read more >>> To access this section, the user must have permission to the "Access to "Configuration" section" (CanManageSolution) system operation.

System setup

User tools for Creatio configuration setup.

Setup duplicates rules	Opens the list of rules for finding and deleting duplicate records. Read more >>> To access the duplicates search rules page, the user must have permission to the "Access to "Duplicates rules setup" (CanManageDuplicatesRules) system operation.
Languages	Opens the list of available interface languages. Read more >>> To access this section, the user must have permission to the "Access to "Languages" section" (CanManageLanguageSection) system operation.
Translation	Opens the [Translations] section where users can localize the interface and other system elements. Read more >>> To access this section, the user must have permission to the "Access to "Translation" section" (CanManageTranslationSection) system operation.
Set up portal main page	Use to edit the main page of the self-service portal. Read more >>> To access this section, the user must have permission to the "Access to portal main page setup module" (CanManagePortalMainPage) system operation. Please note that the portal functionality is licensed separately.
Lookups	Opens the [Lookups] page that enables you to set up values for different lookups: "Job titles", "Industries", "Activity categories", etc. Read more >>> To access this section, the user must have permission to the "Access to "Lookups" section" (CanManageLookups) system operation.
System settings	Opens the [System settings] section where you can modify global (system-wide) settings. System settings include the base currency, email settings, etc. Read more >>> To access this section, the user must have permission to the "Access to "System settings" section" (CanManageSysSettings) system operation.

Section Wizard	Opens the Section Wizard, where you can create and set up your own sections in Creatio. Read more >>> To access this section, the user must have permission to the “Access to "Configuration" section” (CanManageSolution) system operation.
Detail Wizard	Opens the Detail Wizard that allows you to create and set up new details in Creatio sections. Read more >>> To access this section, the user must have permission to the “Access to "Configuration" section” (CanManageSolution) system operation.
Mobile Application Wizard	Opens the Mobile App Wizard that allows you to configure your Creatio mobile application. Read more >>> To use the Mobile Application Wizard, the user must have permission to the “Mobile app setup” (CanManageMobileApplication) system operation.

Set up view

Additional tools for setting up Creatio interface.

Workplace setup	Opens the page where you can set up the structure of workplaces to be available on the side panel. Read more >>> To access the workplac setup page, the user must have permission to the “Access to workplace setup” (CanManageWorkplaceSettings) system operation.
Logo customization	Opens the page that allows you to change the logos displayed in the application. Read more >>> You can customize the logo only if you have permission to perform the "Logo customization changes" (CanManageLogo) system operation.
Color customization	Opens a separate page that enables you to change the color of the side panel. Read more >>> You can customize the color only if you have the right to perform the "Access to color customization" system operation (CanManageSectionPanelColorSettings).

Admin area

Developer tools for setting up Creatio configuration.

Advanced settings	Opens a separate workplace containing a set of developer tools to configure Creatio. To access this section, the user must have permission to the “Access to "Configuration" section” (CanManageSolution) system operation.

NOTE

Detailed descriptions of the developer configurations can be found in the Creatio platform development documentation (SDK).

NOTE

Operation permissions are granted in the [Operation permissions] section in the System Designer.

CONTENTS

VIDEO TUTORIALS

Integration with web services

Creatio can integrate with custom REST web services. You can set up web service integration, including web service connection parameters and methods in the [Web services] section of the [Studio] workplace. Alternatively, you can open this section by clicking the [Web service integration setup] link of the System designer.

> NOTE
>
> The complexity of the setup procedure largely depends on how the web service itself is implemented and documented. Most common web service integrations do not require programmer background.

The general setup procedure is as follows:

1. Study the documentation for the REST services that you need to use for resolving your business task and develop a deep understanding of how they are called. Read more >>>
2. For each of the web services:
   a. Set up web service properties, including its URI in the [Web services] section. Read more >>>
   b. Add HTTP methods that Creatio can call to trigger web service functions and set up their parameters. Read more >>>
3. Implement calling of the integrated web services as part of your BPMN business processes. Read more >>>

More information on web service integration setup is available in separate business process integration articles.

SEE ALSO

- Studying Web service documentation
- Setting up general properties of the web service
- Setting up web service methods
- [Call web service] business process element

Section Wizard

Use the Section Wizard to create new custom sections or customize existing sections.

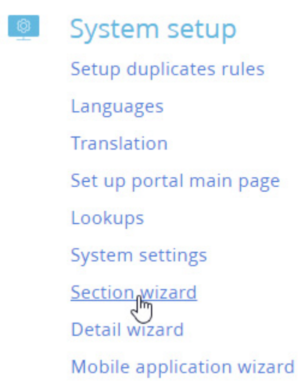
You can customize section base properties, record pages, business rules and cases.

> ATTENTION!
> All changes made to the Creatio configuration via the Section Wizard are saved in the package specified in the “Current package” system setting. If the package is unavailable for the current user or no package is specified in the “Current package” system setting, Creatio will prompt to select another package from the list when you open the Section Wizard. Use the [Configuration] section to manage packages and the [System settings] section to manage system settings.

> NOTE
> All customizations made to the Creatio configuration via the Section Wizard, such as adding new objects or columns to the existing objects, are applied when you save changes in the Section Wizard.

To **add a new section** via the wizard, open the System Designer by clicking the button in the top right corner of the application window. Click the [Section Wizard] link in the [System setup] block (Fig. 381).

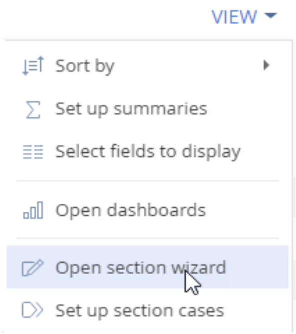
Fig. 381 Adding a new section



> ATTENTION!
> You can open the Section Wizard only if you have access to the [Access to “Configuration“ section] system operation.

To **modify an existing section**, open it and select the [Open Section Wizard] option from the [View] menu (Fig. 382).

Fig. 382 Editing an existing section



Section Wizard includes:

- **Section** general properties page, where you can set up section title, icon, enable mini pages and customize other general properties of the section. Read more >>>
- **Page** Designer, where you can customize layout of section record pages: add or modify page fields, widgets and tabs, their titles, properties and position. Read more >>>
- **Source code** page, where you can view and edit the section page source code. Source code editing is performed by developers only. Read more >>>
- **Mini Page** Designer. You can set up mini pages used for adding, editing or previewing section records without opening their pages. The designer is available if mini pages are enabled in the section main properties. Read more >>>
- **Business rule** configuration page, where you can customize the section business logic, e.g., make different fields visible, required, editable or filter lookup values based on different conditions. Read more >>>
- **Case** Designer that can be used to manage the sequence and contents of steps in section cases. Read more >>>
- **Business process** setup page for customizing business processes that the users can run by the section records. Read more >>>

NOTE

Case Designer and Process Designer are described in the “Business process setup” documentation.

CONTENTS

- How to create a section
- How to configure section pages
- How to configure section mini pages
- How to set up the start of the business process for any section record
- Section Wizard FAQ

SEE ALSO

- Setting up the business rules
- Case Designer
- Process Designer

VIDEO TUTORIALS

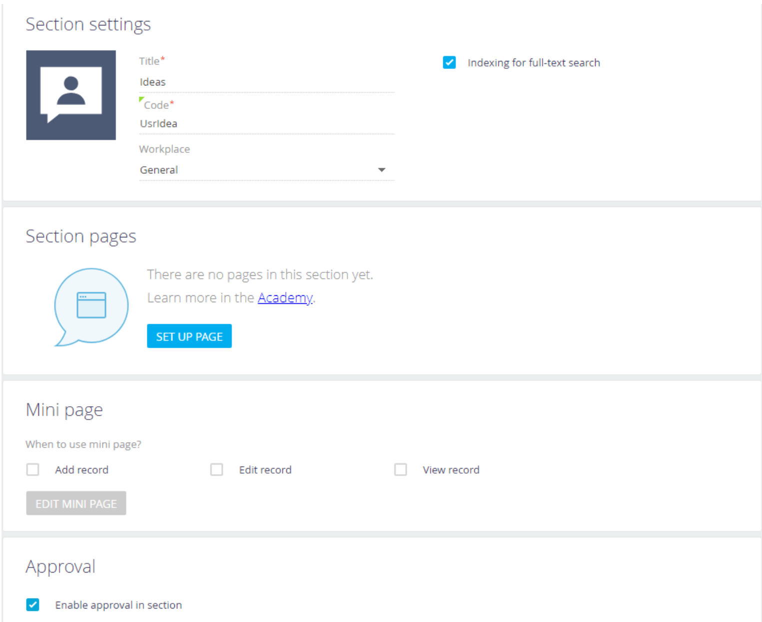
- Section Wizard

How to create a section

To add a new section:

1. Open the System Designer by clicking the button in the top right corner of the application window. Click the [Section Wizard] link in the [System setup] block.
2. Populate the primary properties of the new section (Fig. 383).

Fig. 383 Section base properties



- In the **[Title]** field, enter the section name.
- In the **[Code]** field, enter the section code (unique name of the section object) for developers to use. For example, if you are creating a custom section named [Ideas], the code can be "UsrIdeas". The section code can only contain integers and Latin characters. After saving or switching to edit mode, the field becomes grayed-out.

NOTE

The section code must contain a prefix, which identifies the author of the configuration changes. The prefix is specified in the “Prefix for object name” system setting. By default, the “Usr” prefix is used.

ATTENTION

Please make sure that you DO NOT USE any of the following prefixes: “Base,” “Sys”, “Vw” or suffixes: "InFolder", "Lcz", "Settings”. Otherwise, you will not be able to import the section records from Excel.

- Select the **[Indexing for full-text search]** checkbox, if you want to display the section data in the global search results.

NOTE

If you have configured the duplicate search rules or the section, the [Indexing for full text search] checkbox will be selected automatically and will not be editable.

NOTE

If you have enabled indexing for a section that already contains records, the data will be displayed in the search results only after the section records have been indexed (indexing may take some time).

3. Replace the standard **section icon** displayed in the application side panel. Hover the cursor over it and click . Upload a new image. We recommend using a white icon on a transparent background. Image format - PNG or SVG, size - 38x38 px.
4. When adding a new section, select a workplace in the **[Workplace]** field. A section can later be included in other workplaces. One section can belong to several workplaces.

NOTE

This field is not displayed for the existing sections. You can manage the workplaces using the System Designer. Detailed information about configuring workplaces is available in a separate article.

5. Select the **[Enable approval in section]** checkbox to enable approval functions in the section. Read more >>>
6. Proceed to section page setup. More information about adding and setting up pages is available in a separate article.

NOTE

You can also save the section and edit the section page later. When saving, a base edit page will be created for the section. In the [Section pages] area, the [Set up page] button will be changed for [Edit page], a + button that enables adding pages to section will appear.

7. To use **mini pages** in the section, select the corresponding checkboxes. You can set up mini pages for adding, editing and viewing section records. For more information on mini pages, please refer to separate article. Read more >>>

SEE ALSO

- How to configure section pages
- How to configure section mini pages
- How to set up the start of the business process for any section record

VIDEO TUTORIALS

- Section Wizard

How to configure section pages

You can manage edit pages via the [Section pages] block of the Section Wizard.

- For a **new section**, the block contains a [Set up page] button. When you click it, a record edit page is added and you can proceed with its setup.
- For existing sections with **one edit page**, the block displays the [Edit page] button. When you click it, you switch to the page edit options.

- For existing sections with **several edit pages**, the block displays the list of configured pages. To switch to editing these pages, click the corresponding page name.

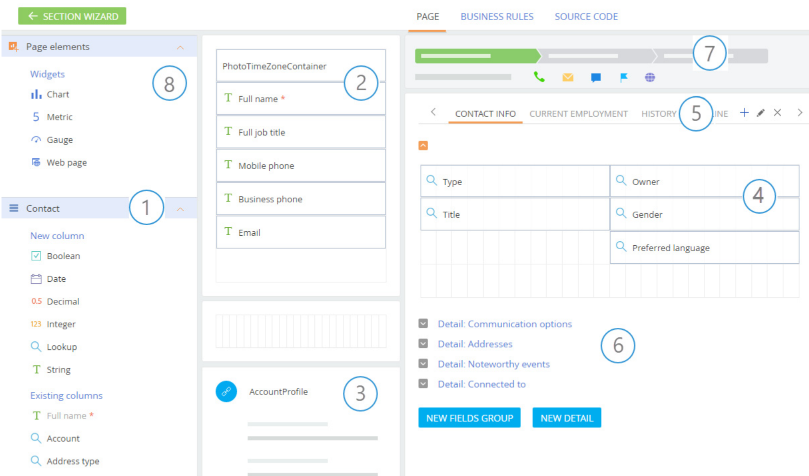
You can configure the list of section page fields and tabs via the Page Designer, which is a part of the Section Wizard. You can switch to the Page Designer once the section main properties are set.

NOTE

You can quickly proceed to customizing an existing section page by selecting the [Open Page Designer] option from the [View] menu on any section page.

The Page Designer consists of a number of blocks (Fig. 384).

Fig. 384 Page Designer



(1) – The page elements area contains the elements that you can add to the page: new fields, existing fields and widgets.

(2) – Record profile setup area.

(3) – Connected record profile setup area (non-customizable).

(4) – Field setup area.

(5) – Tab setup area.

(6) – Setup area for details and field groups.

(7) – Workflow bar and action panel placeholders.

(8) – Tools for adding dashboards on record pages.

NOTE

Workflow bar is displayed on the section page if the corresponding case is set up for the section. Setting up cases is described in the business process setup guide. Read more >>>

By default, the new section page contains a record profile and the [Attachments and notes] and [Feed] tabs. The rest of page content blocks must be configured.

The record page layout is pre-configured and cannot be changed. However, you can configure the contents of each page block, e.g., position of tabs, details and groups of fields. You can rearrange the existing connected record profiles if there are more than one of those.

Page setup includes:

- Setting up tabs Read more >>>
- Setting up fields Read more >>>
- Setting up page details and field groups Read more >>>

After you create the first section page, you will be able to add other pages that will be displayed in the [Add page] menu. Read more >>>

CONTENTS

- How to set up page tabs
- How to set up page fields
- How to set up page details and field groups
- Setting up multiple section pages

SEE ALSO

- Record pages
- Dashboards on a record page
- How to configure section mini pages
- Section Wizard FAQ

VIDEO TUTORIALS

- Section Wizard

How to set up page tabs

You can set up tabs and their contents by using the tab settings (Fig. 385). You can also add new tabs, edit existing ones, and manage the order in which they are displayed on the page.

Fig. 385 Page tab setup area

To **add a new tab** on the page, click the + button of the tabs setup window. In the opened window, enter a caption for the new tab and click the [Save] button.

To **rename a tab**, click the button in the right part of the tab area.

To **modify tab content**, add a folder and drag the required fields from the [New column] and [Existing columns] areas. You can also add details to a tab in this manner.

To **change tab position**, hover the cursor over a tab title and drag it to the required place.

To **delete a tab**, open it and click the button to the right side of the tab area.

SEE ALSO

- How to set up page fields
- How to set up page details and field groups

How to set up page fields

You can add and hide fields, modify their width and position on the page, multi-line text fields can change their height as well. You can set up fields both in the record profile and page tabs.

NOTE

The connected record profile fields are pre-configured and cannot be modified.

How to add an existing column to a page

To add an existing column to the page, drag it from the **[Existing columns]** area to the required place of the section page. The areas where you can drag the field are highlighted. The columns that are already added to the page do not disappear from the column selection field, but they are colored in pale gray.

To delete a field from the page, highlight it and click ✕.

ATTENTION

Removing a field from the page will not delete the corresponding column from the section object. You can delete an object column through the [Configuration] section only. You can delete only the columns that were created by you and only if they have not been added to any other pages. Base columns, such as "Id", "Created by", etc., cannot be deleted.

How to add a new column to a page

When populating information on pages, use different types of fields. For example, to specify the full name of a contact, use a text field; to specify the amount of invoice - use a decimal numeric field. Below is the list of available types of data fields:

Text fields (String) can contain letters, numbers and other characters. Use these fields to enter any arbitrary information. Most of the text fields are editable. Text field may be a single line of text, for example, the [Full name] field on the contact page. Use multi-string text fields for entering long texts, such as the [Result details] field on an activity page.

Numeric fields, such as [Opportunity amount] can only contain numbers. There are two types of numeric fields in Creatio: **integer** fields, e.g., the number of product items in stock and **decimal** fields, for example, the [Budget] field on opportunity page.

NOTE

If you use a field of "integer" type on the page, the analytical data that are generated based on the values of this field will be displayed rounded up to integers. If you need to analyze average values, use the "Decimal" type.

Date fields are necessary for registering calendar information, e.g., for paying the invoice.

Lookup fields enable you to select values from a list that was created manually or imported. The values available in the list are stored in the corresponding "lookups", such as the [Cities] and [Activity types] lookups. Depending on the number of lookup data, the field can be populated either from the list or from the pop-up window.

Boolean fields can contain one of the two logic values: "Yes/No". Examples of Boolean fields include the [Remind owner] and [Remind author] fields on the activity pages. A Boolean field cannot be required.

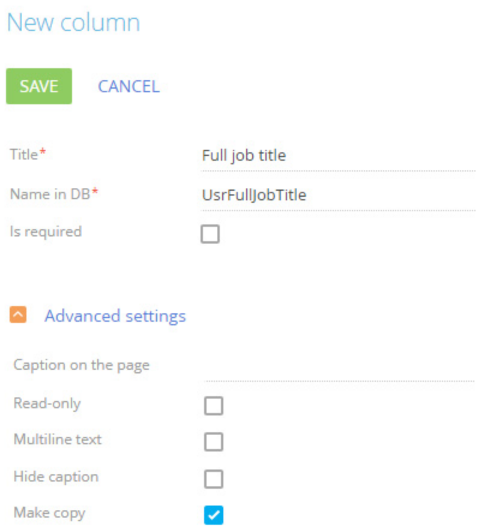
To add a new column to the section, select the type of column to add in the **[New column]** area and drag it to the page.

ATTENTION!

When you add a new field to a section, the corresponding column is added to the section object.

In the opened window, specify the field parameters (Fig. 386). The set of available parameters may differ depending on the type of the field.

Fig. 386 Example of setting up the [Full job title] lookup field parameters on an employee page



Common parameters for all column types

1. In the **[Title]** field, enter the field caption that will be displayed in the section list and on the record page, provided that the [Caption on the page] field is empty. The field title remains in the database and is displayed on all section record pages.

   NOTE

   If you need to use a different field title on a specific section record page, populate the [Caption on the page] field. More details about the [Caption on the page] field are available further in this article.

2. In the **[Name in DB]** field, enter a unique name for the corresponding column in the Creatio database table. The column name cannot contain non-Latin characters and spaces. Creatio will warn you if a column with the same name already exists. Custom field names must contain a prefix. The prefix is specified in the "Prefix for object name" system setting. By default, the "Usr" value is specified in the system setting.
3. Select the **[Is required]** checkbox if the new field must be populated before the page can be saved. This checkbox is not used for fields of the "Boolean", "Integer" and "Decimal" types.

You can also apply column advanced settings:

1. The **[Caption on the page]** field is used to make a field title of a specific section record page different from field titles in other sections.

   NOTE

   If the [Caption on the page] field is not populated, Creatio will use the title, specified in the [Title] field.

2. Select the **[Read-only]** checkbox if the new field must be grayed out when the page opens.
3. Select the **[Hide caption]** checkbox if you need to hide the field title on the record page.
4. Select the **[Make copy]** checkbox if you need to copy the value of this field when the entire record is copied. If a column contains values that must be unique for each record (such as invoice number, for example), do not select this checkbox for this column.

Parameters for the “String” column type

If a field must store more than one string of text, select the **[Multi-string text]** checkbox. Multi-string text fields have variable height and are designed for entering larger volumes of text. The checkbox is available only when creating a “String” (text) field. If the checkbox is selected, text field height can be modified.

Parameters for the “Lookup” column type

Depending on whether there is a required lookup in the system or you need to create a new one, select the **[Select existing lookup]** or **[Add new lookup]** option.

- When adding an **existing lookup**, select the lookup object in the [Lookup] field. The records in the lookup object will be available for selection in this field. Any object can be used as a lookup object.
- When adding a **new lookup**, enter the caption and code for the lookup object. The lookup code must contain a prefix. The prefix is specified in the “Prefix for object name” system setting. By default, the “Usr” value is specified in the system setting.

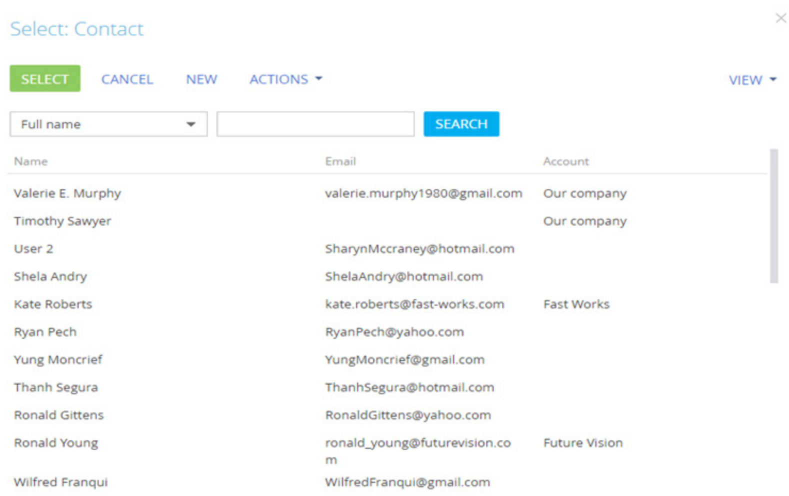
  NOTE

  After you save the changes in Section Wizard, a new lookup will automatically be registered in Creatio and bound to the package where the wizard saves changes. The lookup name will match the one that you indicate in the [Title] field. You can view and modify the lookup content via the [Lookups section].

Set up the lookup view.

- If the **[List]** display method is selected, the lookup values in this field will be selected from a drop-down list.
- If the **[Pop-up window]** display method is selected, clicking on the lookup field opens the lookup window (Fig. 387), where the users will be able to filter, edit or delete existing records, as well as add new ones.

Fig. 387 Lookup value selection window



Select the **[Cascade connection]** checkbox under [Advanced settings], if you need to delete the connected records of the current object when deleting a record from the object specified in a [Lookup] field. For example, if when deleting a contact you need to delete its addresses, then in the "Contact address" object of the "Contact" column (which is used to connect a contact and an address) you need to select the [Cascade connection] checkbox.

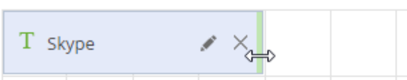
Editing page field size and position

After adding a field, you can change its location on the page. To change field display order, simply drag a field to the desired location. To adjust column width, place the mouse cursor on the left or right border of the field, and when the border turns green, grab and pull it in the desired direction (Fig. 388).

NOTE

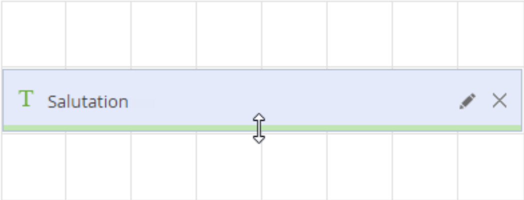
The width of the profile fields is fixed and cannot be changed.

Fig. 388 Changing the field width



You can also adjust the height of multi-line fields (Fig. 389).

Fig. 389 Changing the field height



SEE ALSO

- How to set up page tabs
- How to set up page details and field groups

How to set up page details and field groups

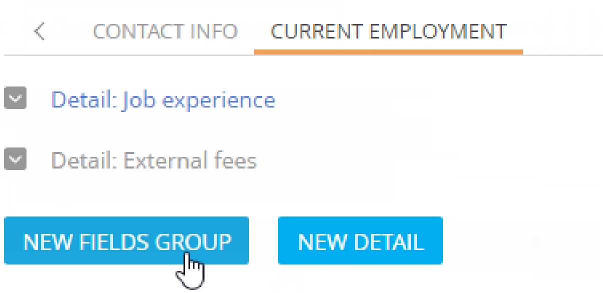
The Section Wizard enables you to add and delete groups of fields and details to a page, arrange their order, edit the names of field groups and configure detail connections.

How to add field groups on a page

Page fields can be combined into groups. For example, the record of the [Accounts] section contains the [Categorization] field group used to categorize companies by various parameters.

To add a new field group, open the tab where it should be located, and click the [New fields group] button in the lower part of the page (Fig. 390).

Fig. 390 Adding a field group on a tab



In the opened window, enter a field group name and click the [Save] button.

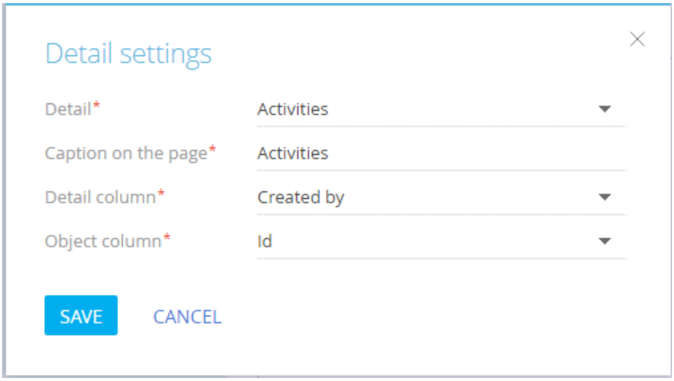
As a result, the empty field setup area will be added on the tab. Add the required fields using the new and existing columns areas.

Field groups can be renamed, deleted and moved the same way as tabs.

How to add a detail on a page

To **display an existing detail on a page**, open the tab where the detail should be located, and click the [Add detail] button in the lower part of the page. The detail connection setup window will open (Fig. 391).

Fig. 391 Setting up detail connection



In the **[Detail]** field, select the detail you want to add to the page from the drop-down list.

In the **[Detail column]** field, select the column of the object by which it will be connected to the object of the current section. For example, the [Activity] object can be connected to the [Contact] object by the [Author], [Owner] or [Contact] columns. If the object can be connected to the object of the current section only by one field, the field is populated automatically.

In the **[Object column]** field, select the section object column by which a detail object will be connected to the field. For example, the [Activities] detail of the [Contact] object is connected by the [Id] column. Thus, only activities connected to the current contact are displayed.

As a result, a new detail will be added to the page. This detail will display the list of records of the object specified in the [Detail] field. In the example on Fig. 391, the [Activities] detail was added to display activities whose [Author] field corresponds to a detail selected in the [Contacts] sections.

To change **the binding settings** of a detail or to **edit the detail title** displayed on the record page, click the button.

NOTE

Modifying a detail title on a page via the [Caption on the page] field will affect only current section.

To **delete a detail**, select it and click the button.

NOTE

The detail wizard is used to add and set up new details.

SEE ALSO

- Detail wizard
- How to set up page fields
- How to set up page tabs
- How to configure section mini pages

- How to set up the start of the business process for any section record

VIDEO TUTORIALS

- Detail wizard

Setting up multiple section pages

You can set up several edit pages for a section, for example, separate pages for different contact types.

How to add section pages

To add edit pages to section:

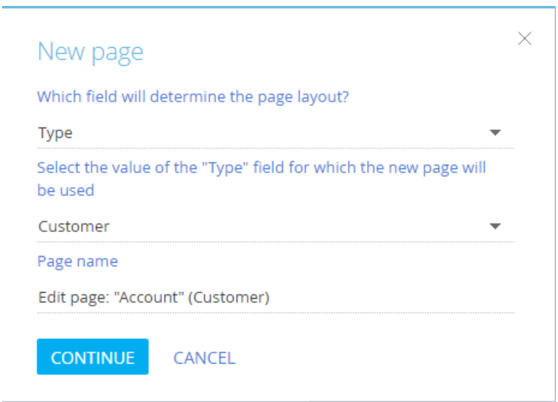
1. After you set up the first page, click the + button in the **[Section pages]** area.
2. Populate the fields in the opened window(Fig. 392):
    - **[Which field will determine the page layout?]** – select the field, whose values will determine which page should be used for each record. For example, in the [Accounts] section, you can set up different edit pages fro different types of accounts: customer, partner, supplier, competitor, etc.
        - If lookup columns have already been added to the section, they will be available in the drop-down list of this field.
        - If the section has no lookup columns, a new [Type] lookup field will be automatically added in the section.
    - **Select the value of the "..." field for which the new page will be used** – the value of the lookup field specified at the previous step. You can specify which page to use for each value in the lookup.

NOTE

For new sections, populate the corresponding lookup with values in advance to have the needed values for the [Select the value of the "..." field for which the new page will be used] field. Read more >>>

- **[Page name]** – the name of the new section page. For example, "Edit page: "Partner".

Fig. 392 Window for adding a new edit page

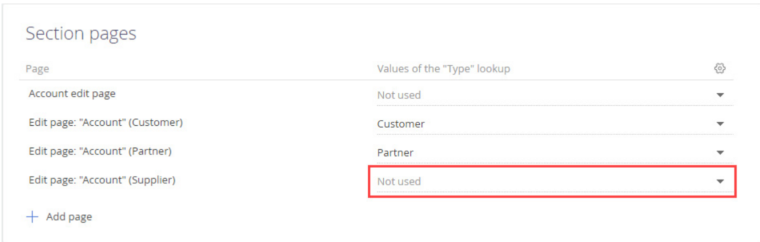


3. Click the [Continue] button. The Content Designer page will open.
4. Configure the added page. Setting up additional section pages is performed similarly to setting up the first page.

How to delete a section page

To stop using the configured page in the section, delete the value in the [Values of the “...” lookup] column in the [Section page] area. After you delete the data, the field will be automatically set to the “Not used” value. The page will be saved, but will not open for users (Fig. 393).

Fig. 393 The [Accounts] section edit page, which is not used



How to modify the column that determines the page view

To modify the column that determines the page view:

1. In the [Section pages] area, click the button in the right top corner of the page list (Fig. 394).

   Fig. 394 Changing the column that determines the page type

2. In the opened window, select the new lookup field.

   After you change the column, the [Values of the “...” lookup] field value will be set to “Not used” for all edit pages configured earlier.
3. Specify the selected lookup values that will use the configured edit pages.

SEE ALSO

- How to set up page fields
- How to set up page tabs
- How to set up page details and field groups

How to configure section mini pages

Mini pages enable you to add and edit section records, as well as preview them without having to open the complete record page. Configuration is performed in the Section Wizard.

NOTE

For more information on mini pages, please refer to the separate article. Read more >>>

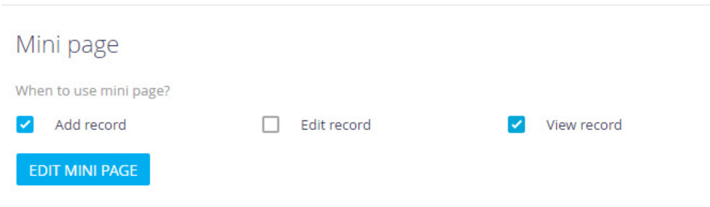
To configure a mini page for a custom section:

ATTENTION

Please note that the example below refers to a custom case. The [Requests] section was created by custom means, it is not included in the base Creatioconfiguration.

1. Go to Section Wizard from the [Requests] section: [View] –> [Open Section Wizard].
2. Select an option when you want to use the mini page (Fig. 395):
   - [Add record] – the mini page will open when the user clicks the [Add] button in the section. The user can then open standard record page from the mini page.
   - [Edit record] – to edit the existing records (adds an “edit” button to the mini page). Enable editing by clicking the button at the top right corner of the mini page.
   - [View record] – to view the main information about the record without opening the record page (mini-page will open when you hover your cursor over the record link shown in a list).

Fig. 395 Enabling mini pages for adding and viewing section records



NOTE

Adding and configuring mini pages are only available in the sections containing a configured edit page.

3. Click the [Edit mini page] button.
4. Select the mini page mode. E.g., to set up a mini page for adding records, select [Add mode].
5. Click the [Edit mini page] button to switch to Mini Page Designer.

NOTE

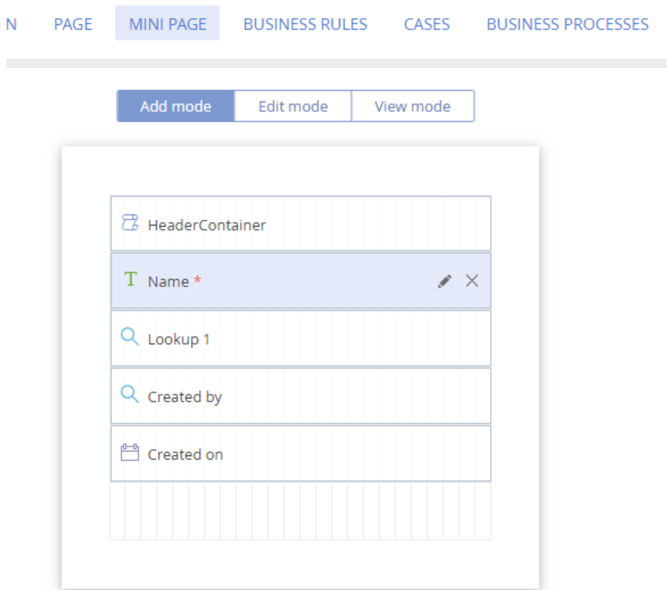
The HeaderContainer element at the top of the field setup area of the Mini Page Designer is non-editable and is used for the correct display of the mini page caption.

6. Drag the necessary columns from the column selection area (the left part of the page) to the field setup area (Fig. 396). Click to modify column properties.

NOTE

Working with column properties on mini pages is similar to that of the regular section page. Read more >>>.

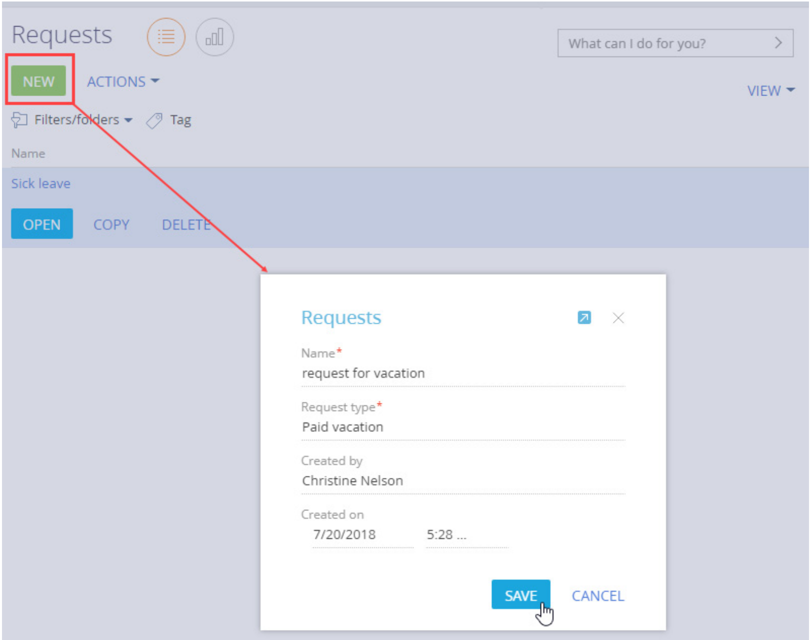
Fig. 396 Columns of the mini page for adding a section record in the [Requests] section



7. Click the [View mode] button and set up the fields that must be displayed in the mini page used to preview records.
8. Click the SECTION WIZARD button to return to the Section Wizard.
9. Save the changes.

As a result, a mini page will open in the section when clicking the [New...] button (Fig. 397). When a cursor is hovered over the section record link in any list, the preview mini page will pop up.

Fig. 397 Mini page for adding a section record in the [Requests] custom section



SEE ALSO

- How to create a section
- How to configure section pages
- How to set up the start of the business process for any section record
- Section Wizard FAQ

VIDEO TUTORIALS

- Section Wizard

How to set up the start of the business process for any section record

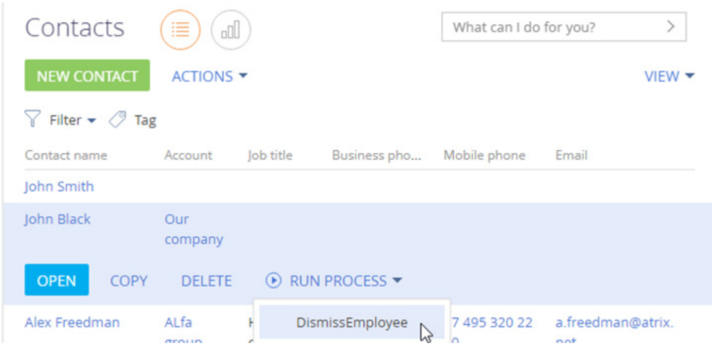
The start of the business process can be set up for any section record or detail.

NOTE

Setting up business process for detail records is covered in the separate article. Read more >>>

As a result, the [Run process] button will appear on the record page. Clicking the button will open a menu with available business processes (Fig. 398).

Fig. 398 Running a process for the record of the [Contacts] section



CASE

Set up the start of the employee dismissal process for the [Contacts] section records.

To set up:

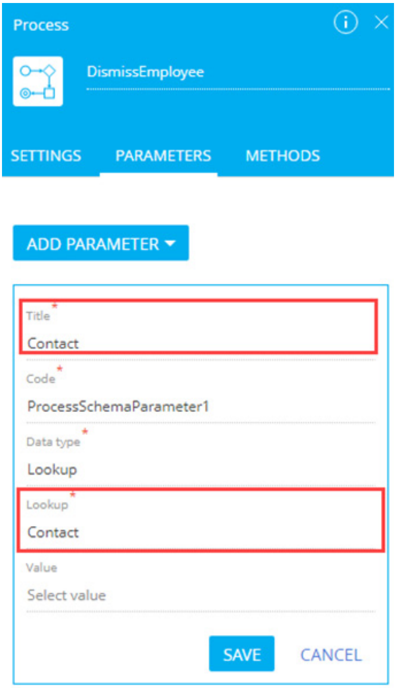
1. Check if the necessary process is available in the process library. If the necessary process is not available in the library, create it via the Process Designer.

NOTE

Working with the Process Designer is described in the BPMS documents. Read more >>>

2. To connect with the records for which it will be executed, a business process requires unique Id of that record. Using the **Process Designer**, set up a process parameter, where Creatio will be passing the record Id.
   a. Open the business process in the [Process library] section (in this case – "Dismiss employee"). The Process Designer will open in a new tab of your browser.
   b. Select the [Parameters] tab in the process properties area and add a parameter for passing the record Id to this process (in our case it will be a contact). To do this, click the [Add parameter] button and select "Lookup". Fill in all fields as given on the sampleFig. 399.

Fig. 399 Adding a process parameter



c. Save changes on the [Parameters] tab and save the business process.

3. Connect the process with a section record for which it will be launched. Configuration is performed in the **Section Wizard**. To do this:

   a. Click the [View] button in the [Contacts] section and select the [Open Section Wizard] command. Section properties page will be opened.

   b. Open the [Business process] tab. Click the + button on the [Run business process from section] detail. The window of the business process launch settings will be opened.

   c. Select the necessary process in the [Which process to run] field.

   d. To start the process for separate section records, select the “For selected record” radio button.

NOTE

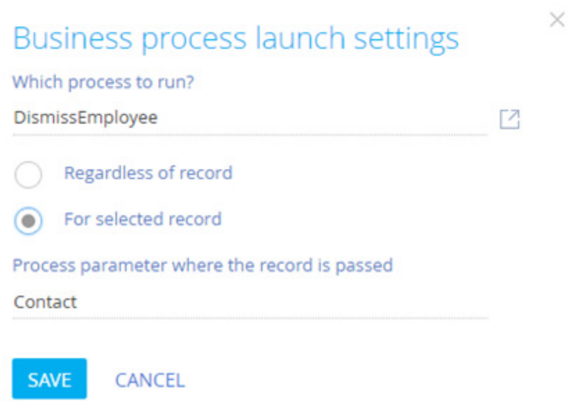
If you select the “Regardless of record” radio button, the process will not be connected to a specific record. This type of launch can be used for example for the process of the new employees registration.

   e. Specify the parameter name that you configured in previous step in the [Process parameter where the record is passed] field. (a “Contact”, in our case) (Fig. 400). Save the changes.

NOTE

If the process already has a parameter that matches the launch settings of the configured process, it will be selected automatically. If there are two or more parameters, then select the corresponding parameter from the list.

Fig. 400 Configuring the launch of a business process



f. Save all changes in the [Contacts] Section Wizard.

As a result, you will be able to launch the employee dismissal process for any record of the [Contacts] section (Fig. 398).

SEE ALSO

- Record pages
- How to create a section
- Section Wizard FAQ

Section Wizard FAQ

- What is the maximum number of sections that can be added to the system?
- How do I delete a custom section or detail?
- How do I connect a detail to a section?
- How to configure section cases

What is the maximum number of sections that can be added to the system?

There are no restrictions on the number of sections that can be created in the system. It is recommend to weigh the need of creating a new section carefully, to avoid a decline in system performance in the future.

How do I delete a custom section or detail?

To delete a custom section or detail in Creatio, you need access to the system configuration tools and its database.

> **ATTENTION**
> Before delete custom detail/section, unlock the corresponding detail/section in the SVN storage.

First, delete the database records. Use the following script to delete a detail:

```
DECLARE @Caption nvarchar(max);
SET @Caption = 'ToDelete';
DECLARE @UId UNIQUEIDENTIFIER;
select @UId = EntitySchemaUId from SysDetail
where Caption = @Caption
delete from SysDetail where EntitySchemaUId = @UId
```

Replace the "ToDelete" value with the detail schema name, which you can view in the [Advanced settings] of the System Designer. After deleting data from the database, delete the custom detail schema in the [Configuration] section. The [Advanced settings] in the System Designer allow to delete the object of the deleted detail.

> **NOTE**
> If a section was created based on the object that must be deleted, this section must be deleted first.

The section deletion process is similar to deleting a detail, but more records must be deleted from the database. Use the following script:

```
DECLARE @UId UNIQUEIDENTIFIER;
DECLARE @ModuleEntityUID UNIQUEIDENTIFIER;
DECLARE @ModuleID UNIQUEIDENTIFIER;
DECLARE @Name NVARCHAR(max) = 'ToDelete';
select @UId = UId from SysSchema where Name Like @Name
select @ModuleEntityUID = Id from SysModuleEntity where
SysEntitySchemaUId = @UId
select @ModuleID = Id from SysModule where SysModuleEntityId =
@ModuleEntityUID;
delete from SysModuleInWorkplace where SysModuleId = @ModuleID;
delete from SysModule where Id = @ModuleID;
delete from SysModuleEdit where SysModuleEntityId = @ModuleEntityUID;
delete from SysModuleEntity where Id = @ModuleEntityUID;
delete from SysDetail where EntitySchemaUId = @UId;
delete from SysLookup where SysEntitySchemaUId = @UId;
delete from [Lookup] where SysEntitySchemaUId = @UId;
```

Please note that the "ToDelete" value must be replaced with the custom section schema name. After deleting database records, delete section custom schemas in the [Configuration] section (localted under [Advanced settings]) in the following order:

1. ToDeleteFile
2. ToDeleteInFolder
3. ToDeleteInTag
4. ToDeleteTag
5. ToDeleteFolder

6. ToDelete

How do I connect a detail to a section?

To connect a detail to a section, you need to go to the [Page] tab in the Section Wizard and click the [New detail] button. In the detail connection window, in the [Detail column] field, select the column of the object by which it will connected to the object of the current section. For the [Contacts] section, for example, that will be the [Contact] column. In the [Object column] field, select the section object column used for connecting detail records to section records. In most cases, this is the [Id] column.

How to configure section cases

Setting up cases is performed via Case Designer. Enter the Section Wizard and click [Cases] tab or enter the section click the [View] button and select [Set up section cases] option. More information about the case management is available in a separate article.

NOTE

Configure main properties of the section before you start configuring cases.

VIDEO TUTORIALS

- Section Wizard

Detail wizard

To add new details or edit existing ones in the sections, use the detail wizard. Also the launch of business processes for the detail records can be setup here. The details that were created using the detail wizard can be added to the sections using the section wizard.

NOTE

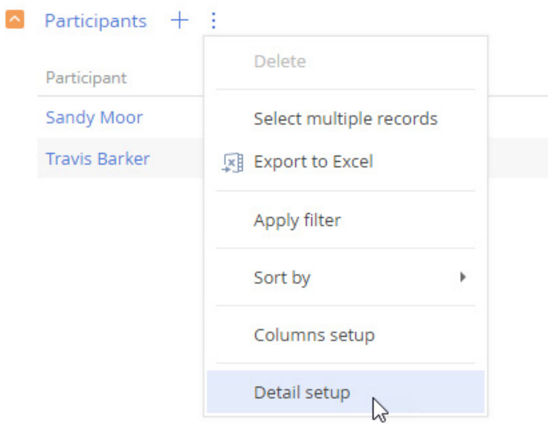
Modifications made to the Creatio configuration when working with the detail wizard are stored in the package specified in the "Current package" system setting. By default, the [Custom] package is used.

Start the wizard

To add a new detail using the detail wizard, open the system designer and click the [Detail wizard] link in the [System setup] block.

To modify an existing detail, select the [Detail setup] option in the detail menu (Fig. 401).

Fig. 401 Opening a detail for editing



ATTENTION!

You can open the detail wizard only if you have the right to perform the [Access to "Configuration" section] system operation.

In the detail wizard you can perform:

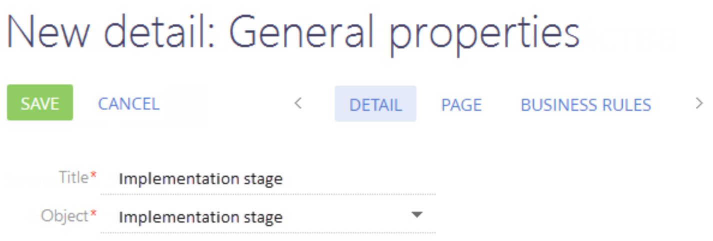
- Setting up main detail properties
- Setting up detail edit page
- Setting up the start of the business process for any section record.

CONTENTS

How to configure detail properties

On the [Detail] tab of the detail wizard, define the general properties of the detail, for example, the [Caption] and [Object] of the detail (Fig. 402).

Fig. 402 – Main properties of the detail



NOTE

If the object of the detail does not exist in the system, it can be added using the [Configuration] section. Read more >>>

SEE ALSO

- How to configure detail page
- How to set up the start of the business process for detail record

How to configure detail page

The set up of the edit page of the detail record is performed in the detail page designer (Fig. 403). If there is a page for the selected object, you can just edit it.

ATTENTION!

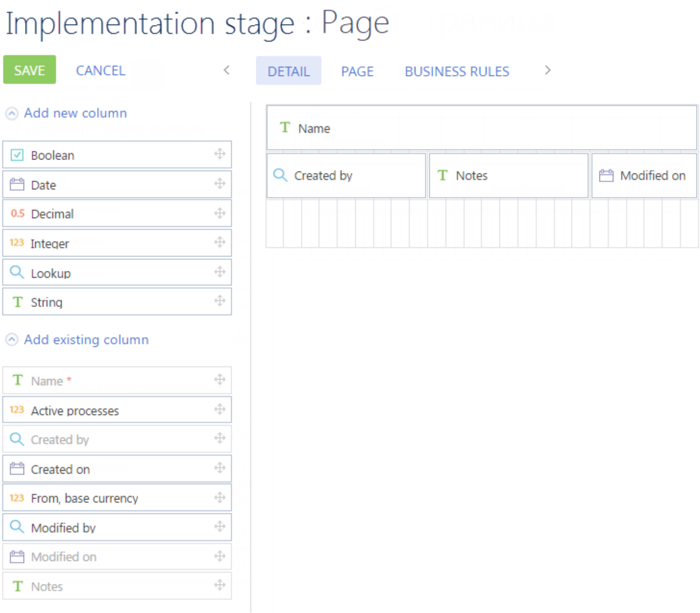
If the detail contains pages for records of various types, you can edit them using the detail wizard. To do this, select the needed type in the [Page] wizard step.

Detail page designer (Fig. 403) has three blocks:

- Use the [Add new column] block to add columns that are missing within the detail object.
- Use the [Add existing column] block to add columns that exist within the object.
- Use the right area of the wizard to edit page layout.

To add fields on the detail page, drag the corresponding columns and drop them into the right area of the wizard. Modify their width and place them in the right order. In a separate window, specify the caption of each field and set the other field parameters if needed.

Fig. 403 – Detail page wizard



ATTENTION!

When you add a new detail for any section, it is important to add a column to connect the detail to the section.

After setting up the detail page, save the detail. Once you saved the settings, you can add the detail to a new section or an existing one using section wizard.

SEE ALSO

- How to configure detail properties
- How to set up the start of the business process for detail record

How to set up the start of the business process for detail record

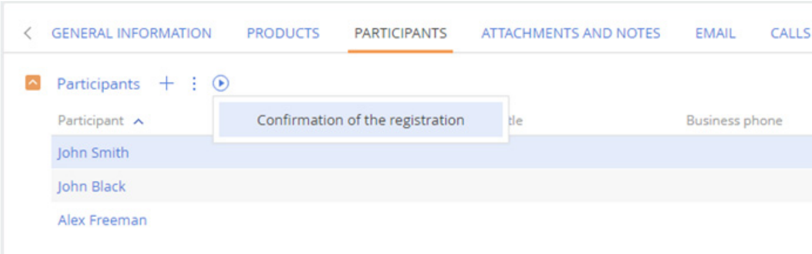
The start of the business process can be set up for the records of any section or detail.

NOTE

The start of business process for section records is described in the separate article. Read more >>>

Once the setup is done, the button will be displayed once you click on a record of the detail with configured business process. You can select which process to run for the selected record in the button menu (Fig. 404).

Fig. 404 Launch of the process for the [Participants] detail record of the activity page



CASE

Set up the start of the business process of confirmation the registration of activity participants for the [Participants] detail of the activity page.

To set up the start of the business process for a detail record:

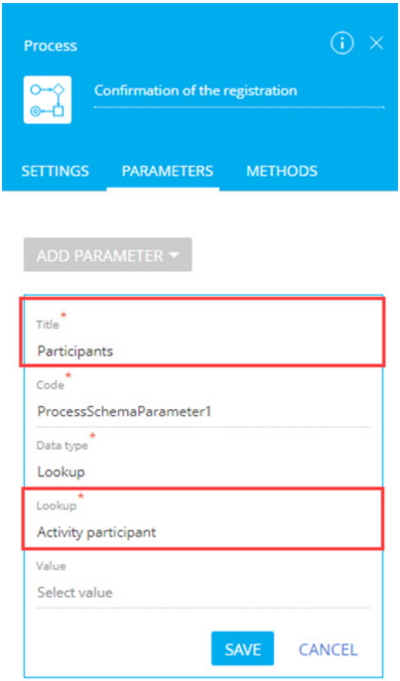
1. Check if the necessary process is available in the process library. If the necessary process is not available in the library, create it via the process designer.

NOTE

Working with the process designer is described in the BPMS documents. Read more >>>

2. To connect with the records for which it will be executed, a business process requires unique Id of that record. Using the **process designer**, set up a process parameter, where Creatio will be passing the record Id.
   a. Open the business process in the [Process library] section (in this case it is the registration confirmation request). The process designer will open in a new tab of your browser.
   b. Select the [Parameters] tab in the process properties area and add a parameter which Id will be passed to this process (in our case it will be an activity participant). To do this, click the [Add parameter] button and select "Lookup". Fill in all fields as given on the sampleFig. 405.

Fig. 405 Adding a process parameter



c. Save changes on the [Parameters] tab and save the business process.

3. Connect the process with a detail for records of which it will be launched. Configuration is performed in the **detail wizard**. To do this:

   a. On the activity page, go to the [Participants] tab. In the [Participants] detail menu select the [Detail setup] option. The detail setup page will be opened.

   b. Open the [Business process] tab. Click the + on the [Run business process from detail] detail. The window of the business process launch settings will be opened.

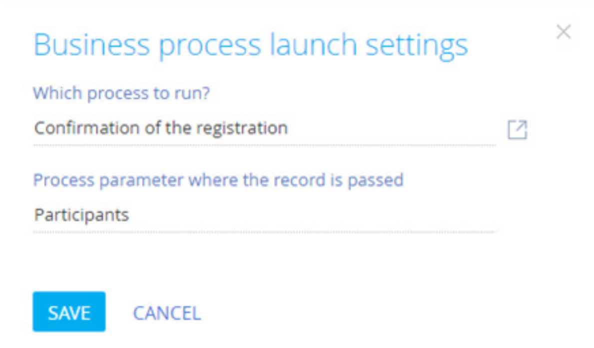
   c. Select the necessary process in the [Which process to run] field.

   d. Specify the parameter name that you configured in previous step in the [Process parameter where the record is passed] field In our case it is an "Activity participant" (Fig. 406). Save the changes.

NOTE

If the process already has a parameter that matches the launch settings of the configured process, it will be selected automatically. If there are two or more parameters, then select the corresponding parameter from the list.

Fig. 406 Configuring the launch of a business process



e. Save all changes in the detail wizard.

As a result, you will be able to launch the registration confirmation process for one or multiple records of the [Participants] detail (Fig. 404).

To launch the process for the one record of the detail, click on the corresponding record and launch the process with the button.

To launch the process for more than one record select records with the [Select multiple records] command in the actions menu and launch the process.

SEE ALSO

- How to configure detail properties
- How to configure detail page
- Section Wizard

VIDEO TUTORIALS

- Detail wizard

Setting up the business rules

The business rules enable configuring the behavior of fields of the page or detail by custom tools. Using business rules, the following field behavior can be configured:

- Enabling or hiding fields;
- Locking or unlocking fields for editing;
- Making fields required or optional for filling;
- Filtering the lookup fields depending on the values in other fields.

CONTENTS

How to go to the business rule configuration

You can configure business rules via the section wizard or detail wizard. Click the [Business rules] button on the control panel, then to go to the business rule configuration of the current page or detail (Fig. 407).

Fig. 407 Opening business rule configuration in the section wizard

A list of business rules configured for current page or detail will open. It will contain the base business rules and custom business rules, including the hard-coded business rules.

NOTE

If a hard-coded business rule was not recognized by the section wizard, then the name of this business rule will contain the message "(Incorrect rule)". The rule will be executed, but it cannot be opened or disabled in the section wizard. You only will be able to delete this rule with custom tools.

Select the business rule to edit or create the new one. Setting up the business rule is performed on the business rule edit page.

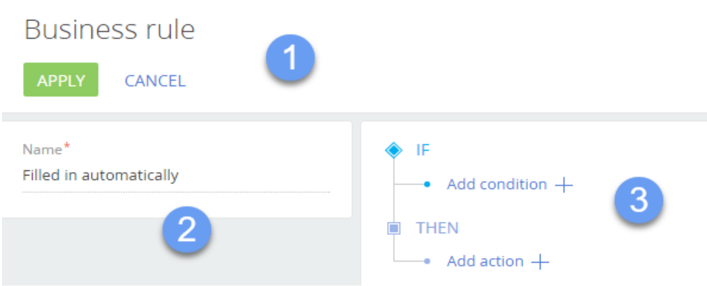
SEE ALSO

- Business rule edit page
- How to add a condition for executing a business rule
- How to add a business rule action

Business rule edit page

The business rule edit page consist of several blocks(Fig. 408): the toolbar (1), the profile (2) and the business rule designer (3).

Fig. 408 Business rule edit page



The toolbar of the business rule edit page

The action area of the business rule edit page has two buttons:

- [Apply] – applies current changes made in the business rule designer, closes the designer and returns to the [business rules] step.

  ATTENTION

  The business rule will be added to the list after you click the [Apply] action, but it will not be effective immediately for the field. Save all changes in the wizard to enable the business rule.

- [Cancel] – closes the designer discarding all changes and opens the [Business rules] list.

Business rule profile (2)

The profile contains the [Name] field. A business rule name is automatically generated each time the rule is saved by clicking the [Apply] action. The value in the [Name] field cannot be edited.

If there are several edit pages in the section, then the profile area will also contain a block for selecting the pages on which the business rule will be effective.

Business rule designer area (3)

The business rule designer enables you to create conditions for executing a business rule action.

Business rule conditions

The conditions for execution of business rules are combined using common logical operators: "AND" / "OR".

> NOTE
>
> The logical “AND” operator is used if the rule must be executed only if all conditions are met. Apply the “OR” logical operator if the rule must match at least one of the conditions.

> NOTE
>
> A business rule can have only one logical operator, which applies to all conditions of the business rule.

A condition for executing a business rule usually consists of three parts: the left side, the type of comparison and the right side of the condition. More information about conditions in the business rules can be found in the specific chapter.

The actions of the business rule designer

The following four actions are available for Creatio business rules:

- [Show field on the page] – displays the specified field when the conditions are met and hides the field if the conditions are not met.
- [Make field required] – indicates that field is required when the conditions are met. The business rule will not be executed if the field is specified as required on the [Page] step of the section wizard.
- [Make field editable] – indicates that the field is editable if the conditions are met. The field will not be available for editing if the conditions are not met.
- [Add field value filter] – filters the values in the specified lookup column depending on the value of another column.

ATTENTION!

The [Add field value filter] action is always performed and does not require conditions.

SEE ALSO

- How to go to the business rule configuration
- How to add a condition for executing a business rule
- How to add a business rule action

How to add a condition for executing a business rule

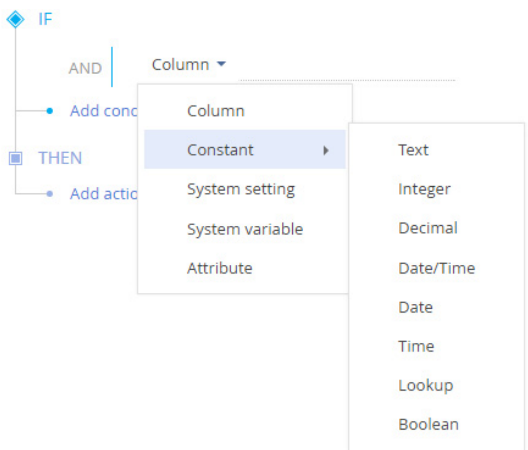
To add a condition for executing a business rule:

1. Click the [Add condition] button in the [IF] condition block. After that, the left side of the condition will be added. Specify the type (Fig. 409) and the value of the left side of the condition. A table describing the possible types of values of the left-hand side of the condition:

Field	Record field. The title of the record column is selected as the value.
Constant	The value of the following types: text, integer, decimal, date and time, date, time, lookup, Boolean.
System setting	You can specify a system setting in the [IF] block of a business rule. More information about system settings is covered in a separate article. Be sure to specify the system setting code (and not its localizable title) as a value. Business rules work only with system settings that have [Cached] checkbox selected.
System variable	You can specify a system variable in the [IF] block of a business rule. Available variables: “Current time”. “Current date”. “Current Time and Date”. “Current user”. “Current user contact”. “Current user account”.

Attribute	The attribute value (for example, a virtual column). This option is intended for developer customization and requires development tools.

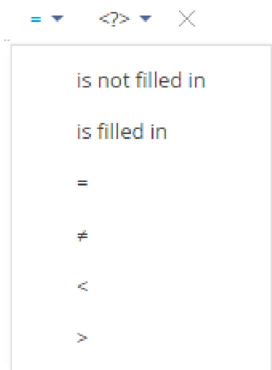
Fig. 409 Specification of the left side of the condition



The input fields of the comparison type and the right-hand side of the condition will be displayed after specifying the value of the left-hand side of the condition.

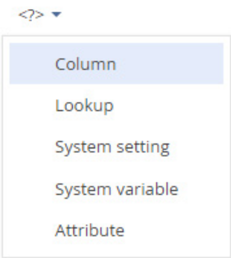
2. Specify the comparison type from the drop-down list (Fig. 410).

Fig. 410 Select the comparison type values



3. Select the type of right side of the condition (Fig. 411).

Fig. 411 Selecting the type for right side of the business rule condition

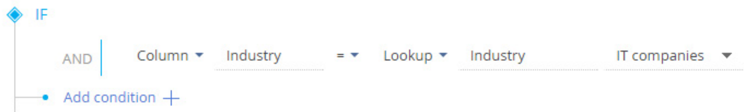


ATTENTION

The types of values available in the drop-down list depend on what type of the condition is currently selected.

4. 4. Select or enter the value of the right side of the condition (Fig. 412).

Fig. 412 An example of the business rule condition



NOTE

Apply and save business rule, and refresh the section page in the browser for the changes to take effect.

SEE ALSO

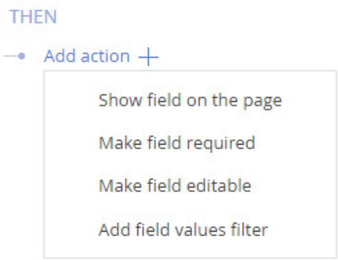
- How to add a business rule action
- Business rule edit page

How to add a business rule action

To add a business rule action:

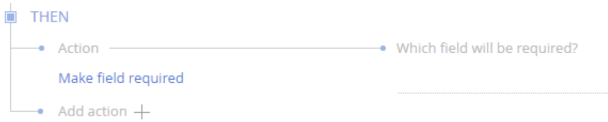
1. Press the [Add action] button in the [THEN] condition block. Select the corresponding action type from the drop-down list (Fig. 413).

Fig. 413 Selecting an action for the business rule



2. Select the field name to which the action will be applied (Fig. 414).

Fig. 414 The name of the field to which the action will be applied



NOTE

For the [Add field valued filter] action, specify the field whose values will be filtered and a column to filter values by. The field to filter values by (right side of the condition) is configured only by values compatible with values of the field in which the filtration is performed (left side of the condition).

3. Apply and save business rule, and refresh the section page in the browser for the changes to take effect.

SEE ALSO

- How to add a condition for executing a business rule
- Business rule edit page

Configuring email templates

You can add contents to Creatio emails manually or use customizable email **templates**. Templates are especially useful when sending emails as part of business processes or when configuring automatic notifications.

There are two types of email templates in Creatio:

- **Common email templates**, including email notification templates. These templates are used in business processes, cases, approvals and common correspondence. Common email templates can be localized – Creatio will send the message in the user's preferred language if the corresponding translation is available for the corresponding template. Common email templates are stored in the [Email templates] lookup. In this article, we will cover how to create common templates.
- **Marketing email templates** are used in Marketing Creatio. Unlike common templates, marketing email templates support dynamic content, which enables you to personalize your emails for different segments of your bulk email audience. All bulk email information is stored in the [Email] section. Read more on how to work with the marketing emails in the Marketing Creatio documentation.

Email templates are created in the **Content Designer**. It is a WYSIWYG HTML editor that can create content with texts or images, as well as other elements supported by email clients. These elements are grouped in "**content blocks**" that you can add and arrange on a template page using drag&drop. For example, a content block can consist of a piece of text, a button or a table with contact data. These blocks are stored in the [Content block library] lookup.

There are several ways you can open the Content Designer:

- From the **[Email] section page** (available in Marketing Creatio products). To do this, go to the [Email] section, open an email with the "Planned" and click [Edit] on the [Template] tab.
- From the **email template** page. To do this, find the [Email templates] lookup in the [Lookups] section of the System Designer, open any of its records and click [Edit] on the [Email template] detail.
- From the **[Send email] element** in the Process Designer. The Content Designer opens when you click either or , depending on how you create the email body: using custom means or ready-made templates.

  NOTE

  Learn more about the Content Designer in the "Content Designer" article (available in the Marketing Creatio product).

How to create an email notification template

To create an email template using the Content Designer:

- Make a template in the Creatio base language. Read more >>>
- Add translations of the template to the corresponding Content Designer tabs. As a result, whenever a user's preferred language is known, Creatio will be sending notifications in that language to the user. Read more >>>

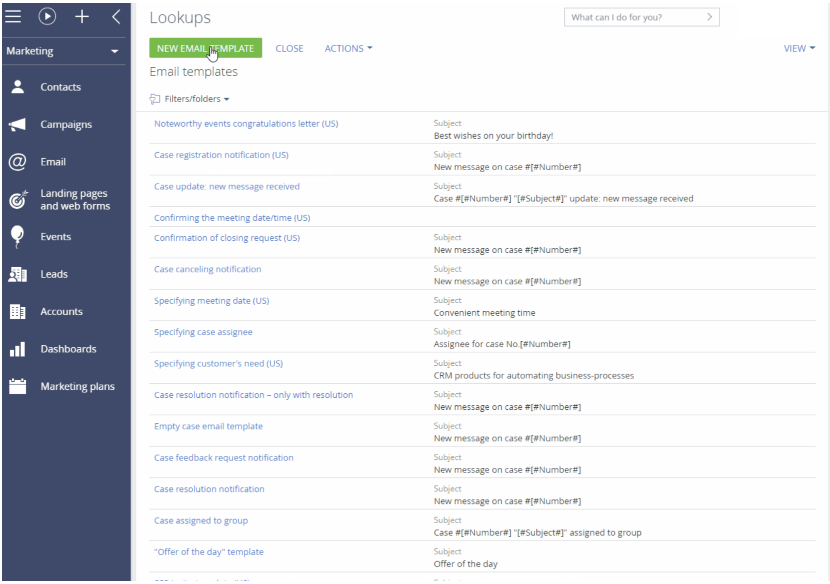
  CASE

  In this article, we will cover creating a template of an email notification about the date/time of a meeting.

How to configure a template in Creatio base language

The templates of email notifications used in Creatio are stored in the [Email templates] lookup. To create a new template (Fig. 415):

Fig. 415 Configuring a template in Creatio base language



1. Open the **[Email templates]** lookup. You can do it either from the [Lookups] section of the System Designer or from the "Studio" workplace.

   NOTE

   To work with the [Lookups] section, you need permission to perform the [Access to "Lookups" section] system operation.

2. Click the **[New email template]** button.
3. On the opened page, specify the template name, e.g., "Confirming the meeting date/time" and select "Activity" in the [Macro source] field, since you will need to use data from the [Activities] section in your template macros.
4. Click the **[Edit]** button next to the [Emil template] block to open the Content Designer.

   NOTE

   The template contains one [English (United States)] tab by default. If you want to use the same layout for all localizations, start with configuring the template on this tab. When you start adding localization tabs, you will be able to copy the settings to the new tabs.

5. Populate the **[Email subject]** field.
6. In the block library, find the content block named "Text" and drag&drop it to the Content Designer working area.

7. Replace the sample text in the content block with the text that you need to send to the customer.
8. Use template macros to personalize the notification. **Basic macros** enable adding data bound to the email sender and recipient, e.g., full name, title, etc. Use **custom macros** to add information about the object specified in the [Macro source] field (in our example, "Activities") to the email template.

   NOTE

   In emails with localized templates, macros take the recipient's preferred language into account. For example, if a contact's preferred language is English, such contact will receive an English version of the template. All data displayed in the text via macros will also be in English, regardless of which language was originally used to specify this data in Creatio.

   NOTE

   If no object was specified in the [Macro source] field, Creatio will notify you that you need to specify an object after you select the [Custom macro] command.

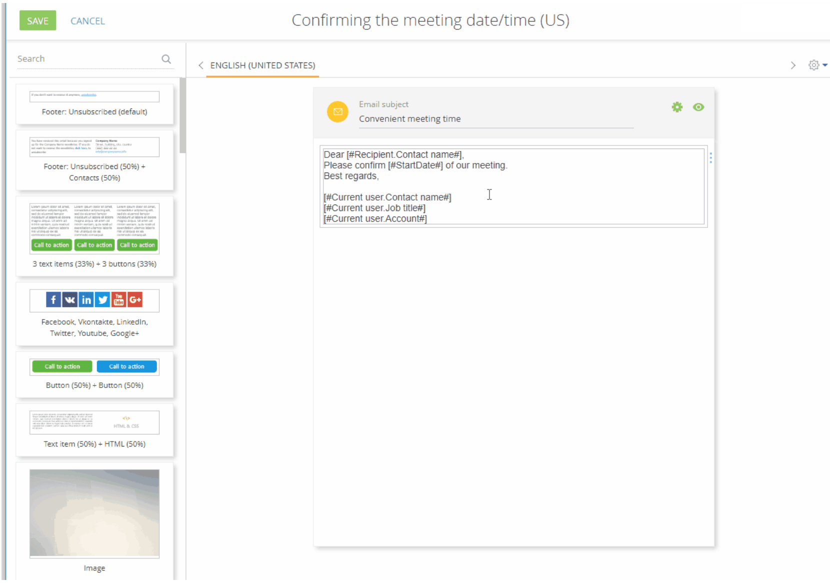
9. Save the template.

How to add localizations to email templates

To ensure that your recipients receive notifications in their preferred language, configure localization for the corresponding template. Translations are stored on separate Content Designer tabs. Creatio will use the translation that corresponds to the language specified in the [Preferred language] field on the contact page. If this field is not populated, Creatio will send notifications in the language specified in the "Default language for messages" (DefaultMessageLanguage) system setting. Learn more how to determine the language when sending email notifications in the "Setting up sending localized emails" article.

To add localizations to a template (Fig. 416):

Fig. 416 Adding localization to an email template



1. Open a template in the Content Designer.
2. Click on the right side of the Content Designer working area. A menu with a list of languages will open. Select a template language you want to add.

   ## NOTE

   The list of email template languages is stored in the [Customer languages] lookup. The menu displays active languages only (the ones, where the [Is used] checkbox is selected in the lookup). If there are no active languages in Creatio yet or you want to add a tab with the language that has not been activated, select the [Add language] menu option and select a new language from the lookup. The [Is used] checkbox for this language will be selected automatically.

3. After you select a language, Creatio will prompt you to copy the content of an existing template to the new tab. Copying existing template will help you save time on creating the layout of the localized template. As a result, a new tab with the copied contents will appear in the template working area.

   If you need to add several languages to a template, repeat steps 1 and 2 for each language. As a result, several tabs for creating emails in the selected languages will be displayed on the template page.

4. Use the Content Designer to add or modify the localized content on each new tab.
5. To preview how your email will actually look for the recipients, use the preview mode. To do this, open the template in the Content Designer, click the tab with the localization you want to preview and click in the right top corner of the working area.

NOTE

The preview mode displays the template in the language of the currently selected tab. . To preview another language, select the necessary tab before opening the preview mode.

6. Save the changes.

NOTE

When you copy a localized template, all its translations will be copied as well.

SEE ALSO

- Setting up sending localized emails
- The [Email templates] lookup
- Content Designer

The MS Word printables setup

You can use the MS Word printables to create documents based on the section records. For example:

- printables of the [Contracts] section can be used to print contracts;
- in the [Contacts] section you can print contact summaries;
- printables of the [Activities] section can be used to print out emails, minutes of meetings, etc.

Creating a printable involves several steps:

1. Registration of a new printable in the [Printables] lookup. At this stage you need to define a section where the new printable will be used. Besides that, it is necessary to create a list of data columns that will be used in the printable.
2. Downloading a printable template and editing it in MS Word. Here you can set up print form appearance: page layout, text formatting, tables, etc.

To edit the printable template in MS word, you will need to install the Creatio plug-in for MS Word.

CONTENTS

Installing Creatio plug-in for MS Word

Select Creatio plugin for MS Word depending on whether your MS Word application is 32 or 64 bit.

32-Bit MS Word installed on the 64-bit Windows:

- Download Creatio plug-in for 32-bit MS Word

64-Bit MS Word installed on the 64-bit Windows:

- Download Creatio plug-in for 64-bit MS Word

NOTE

You can determine whether your system is 32 or 64 bit using the Microsoft instructions.

ATTENTION

For proper installation of the plugin unpack the archive with installation files. If the installation is started directly from the archive, the archiver application can cause failures in the work of the installer.

Before installing the Creatio plug-in for MS Word, make sure that your computer runtime environment meets the plug-in software requirements.

Runtime environment requirements

Operating system (32-bit and 64-bit editions are supported):

- Windows 7 or higher

ATTENTION!

The installation wizard will check whether the .NET Framework is installed, which is necessary for the plug-in to work. You can download .NET Framework free from the Microsoft website.

Software application of the plug-in:

- MS Word 2010;
- MS Word 2013;
- MS Word 2016;
- MS Word 2019;

ATTENTION!
MS Word 2003 and MS Word 2007 are not supported.

Creatio MS Word plug-in Installation procedure

1. Make sure that the MS Word application installed on your computer is closed.
2. Launch the Creatio MS Word Report Designer.exe.

You can also install all necessary applications separately. To do this:

1. Install the following applications required for running the plug-in:
   - Primary Interop Assemblies Redistributable (setup file: PIARedist.exe);
   - WCF Data Services (setup file: WcfDataServices.exe);
   - Visual Studio Tools for Office Runtime Redistributable (setup file: vstor_redist.exe).

   These files are supplied along with Creatio. You can also download them from the Microsoft website.
2. Install the Creatio plug-in for MS Word (setup file: Creatio MS Word Report Designer.msi) supplied along with Creatio.

VIDEO TUTORIALS

- Setting up MS Word printables in Creatio

Registering the MS Word printable

A new printable is added within several steps. The first step is registering a new printable in the [Printables] lookup.

NOTE
To register a new printable in Creatio, the user must have permissions to perform the "Access to "Lookups" section" system operation, i.e. Be able to access and . System administrators are able to perform this operation by default, and can grant access to other users. Learn more about access rights in "The [Operation permissions] section" article.

Then you will need to determine the data that will be included in the printable by selecting corresponding columns of system objects. You can add simple data, such as a name of the selected contact or a date of the activity, as well as table data, such as a list of tasks connected to an account. Boolean fields, such as the [Do not use phone] checkbox, can also be added to the printable. Use special macros to set up the visual appearance of the boolean field values in the print form. Working with macros is covered in the Development Guide.

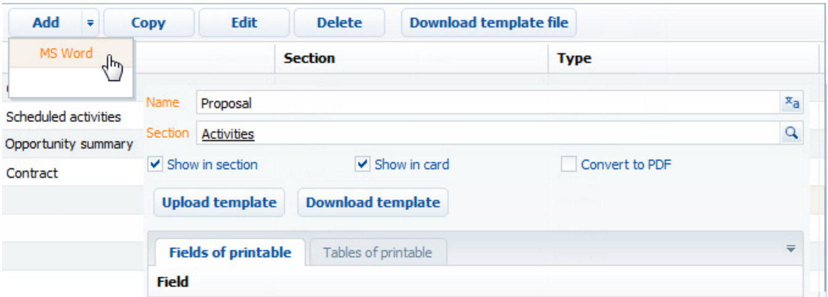
1. Registering a printable

To register a printable:

1. Open the system designer and click the [Lookups] link in the [System setup] navigation block.

2. Open the [Printables] lookup.
3. Select the [MS Word] command in the [Add] button menu (Fig. 417).

Fig. 417 Adding an MS word printable



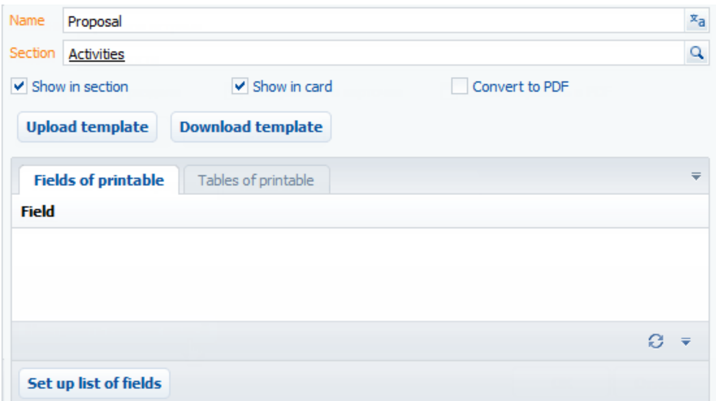
4. Enter the name of the printable.
5. Select the section where the printable should be available. For example, to add an activity printable, specify the [Activities] section.
6. Select the [Show in section] and/or [Show in card] checkboxes.
7. Save the printable card.

2. Adding data to a printable

To add data to a printable:

1. In the MS Word printable card, click the [Set up list of fields] button (Fig. 418).

Fig. 418 Configuring the list of fields for the printable



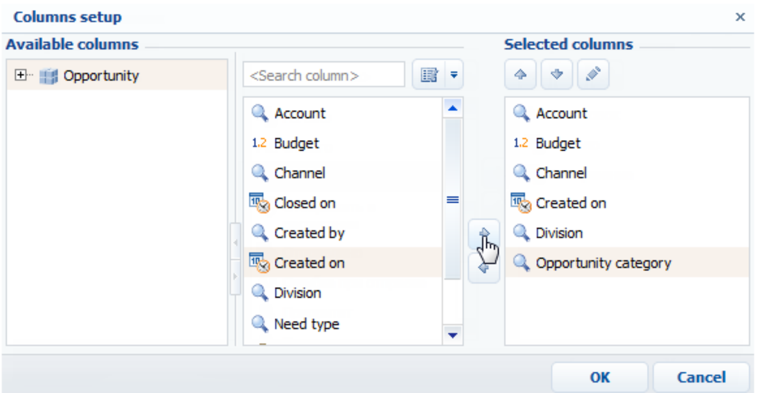
2. In the [Available columns] area of the opened window, select an object whose columns should be added to the printable. For example, to add information about an activity, select the

"Activity" object. Select the "Contact" object in order to add information about a contact connected to the activity.

As a result, in the central part of the window, a list of columns for the selected object will be displayed.

3. Double-click a column in the columns area to add it in the [Selected Columns] area. You can also add a column by selecting it in the columns area and clicking the button. For example, to display an owner name in the printable for minutes of a meeting, you should add the [Owner] column (Fig. 419).

Fig. 419 Adding columns to the printable



4. Add all necessary columns to the [Selected columns] area and click [OK].
5. Save the printable card.

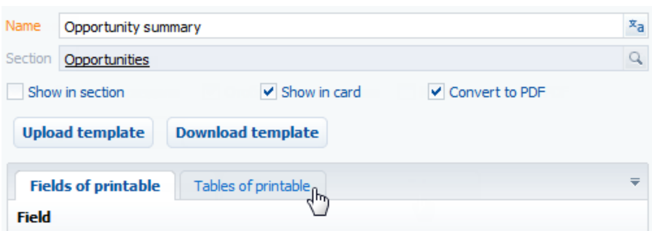
As a result, the list of fields for the printable will be created from the selected columns.

3. Adding the table data to a printable

You can also add data that will be used for creating tables in the printable. To do this:

1. In the MS Word printable card, go to the [Tables of printable] tab (Fig. 420).

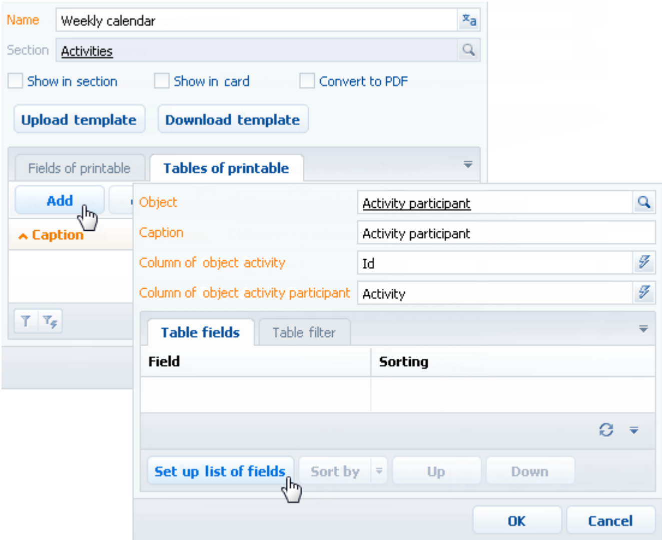
Fig. 420 Switching to the [Tables of printable] tab



2. Click the [New] button.

3. Populate the table data card (Fig. 421):

Fig. 421 Adding table data to the printable



a. In the [Object] field, select an object whose data will be used to create a table. For example, select the "Activity participant" object to add a table containing the list of the minutes activity participants.

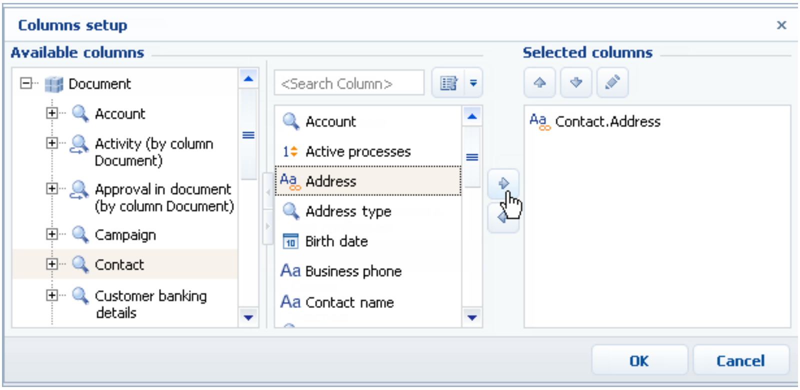
b. Specify the title to identify this table. Fields of this table will be added to a group with the specified name.

c. Select the [Hide the table if it is empty] checkbox if necessary.

4. Click the [Set up list of fields] button (Fig. 421).

5. Set up the list of columns for the table (Fig. 422).

Fig. 422 Setting up table columns



a. In the [Available columns] area, select an object whose columns should be added to the table. As a result, a list of columns for the selected object will be displayed in the central part of the window.

b. Double-click a column in the columns area to add it in the [Selected Columns] area.

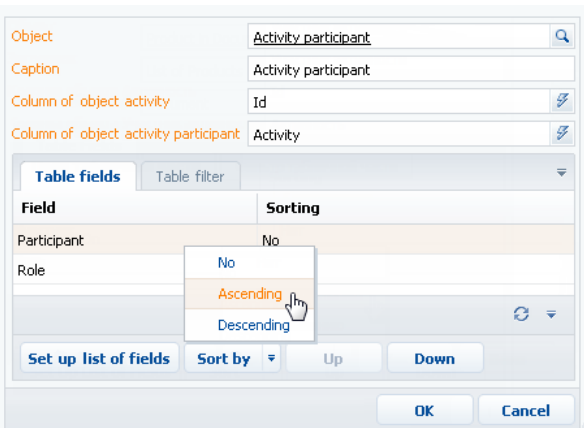
   You can also add a column by selecting it in the columns area and clicking the button.

c. Add all necessary columns to the [Selected columns] area and click [OK].

d. If necessary, use the and buttons to define the order of columns in the table.

6. If necessary, specify the sorting of records:

Fig. 423 Sorting table records in the printable

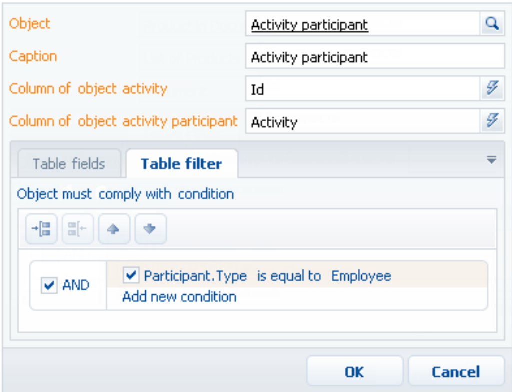


a. Select a column that should be used for sorting.

b. In the menu of the [Sort] button, select the order direction ("Ascending" or "Descending"). For example, you can sort a list of activity participants in the alphabetical order.

7. If necessary, go to the [Table filter] tab and create the filter whose conditions will define which records will appear in the table. For example, you can specify the company employees only (Fig. 424).

Fig. 424 Filtering records in a table



8. Save the table data card.

   As a result, the printable can contain data that can be used for creating tables with multiple rows. Each record on the [Tables of printable] tab is a separate table that can be added in the printable template.

SEE ALSO

- Setting up templates for MS Word printables

Setting up templates for MS Word printables

You can customize the visual appearance of a printable by editing the standard MS Word template.

Click the [Download template] button in the [Printables] lookup window or the [Download template] button in the printable card in order to download the printable template.

The Creatio printable builder plug-in for MS Word must be installed in order to work with the printable templates. To upload the customized file to the system, click the [Upload template] button in the [Printables] lookup window or in the printable card.

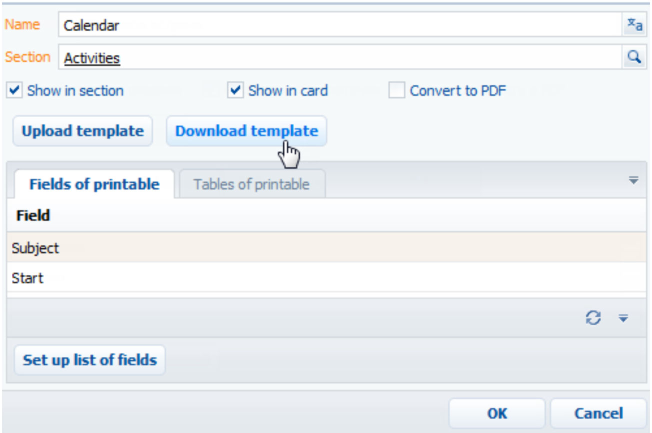
> NOTE
> You can use macros to set up printables. More information about the base macros can be found in the separate article. More information about custom macros and adding them to the printables can be found in the Developing Guide.

Saving the MS Word printable template

1. Open the system designer and click the [Lookups] link in the [System setup] navigation block.

2. Open the [Printables] lookup.
3. Select a printable from the list and click the [Download template file] button (Fig. 425).

Fig. 425 Downloading the MS Word printable template

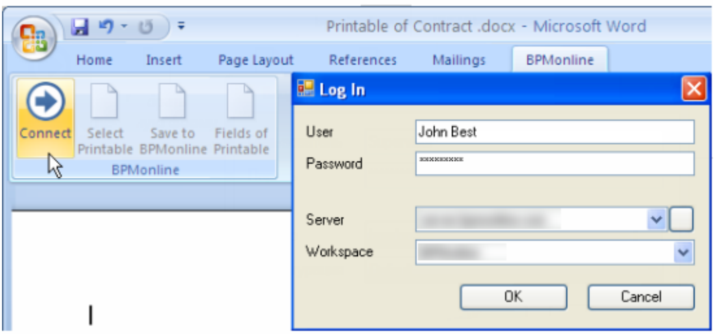


As a result, a MS Word template of the printable will be downloaded.

Editing the MS Word printable template

1. Open the downloaded template file in MS Word.
2. Click the [Connect] button on the Creatio plug-in toolbar (Fig. 426).
3. Log in to the system with your Creatio credentials.

Fig. 426 Connecting the MS Word printable plug-in to Creatio



As a result, a list of columns for the selected printable will be displayed in the right part of the MS Word window.

Adding fields to the template

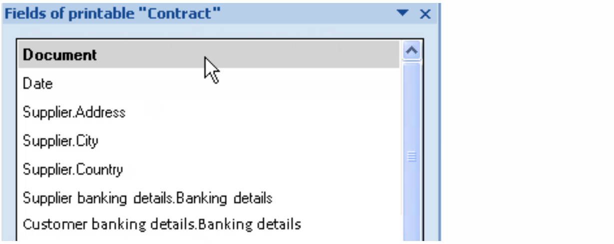
Prior to adding fields to a template, you should create a list of fields of the printable in the printable card. You can add fields to a printable after its registration.

In the template, the printable fields are represented as the MS Word fields. When the printable is generated, the field will contain data from the corresponding system record. The list of available fields is displayed in the [Fields of printable...] window (Fig. 427).

Quick adding of all fields to a template

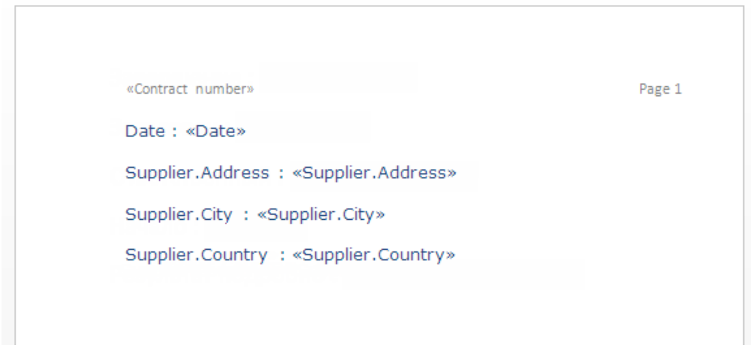
To add all fields to a template, drag a group of fields to the template page (Fig. 427).

Fig. 427 Adding a field group to a template



As a result, all fields and names of the corresponding Creatio columns will be added to the template in the following format: "Column name: Field" (Fig. 428).

Fig. 428 A printable template with a field group added

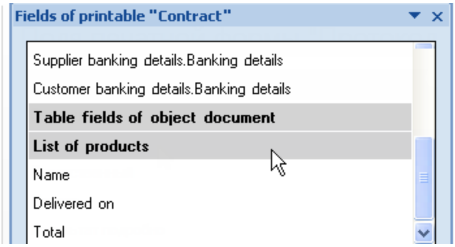


You can use standard MS Word tools to customize the added fields.

Adding individual fields to a template:

1. To add data to the template, drag the corresponding field on the page (Fig. 429).

Fig. 429 Adding one field to the printable template



2. As a result, a field will be added on the page. When the printable is generated, the field will contain data from the corresponding system record in Creatio.
3. Add all other necessary fields as well as the text in the printable (Fig. 430).

Fig. 430 A printable with the added fields and static text

4. Save the printable template.

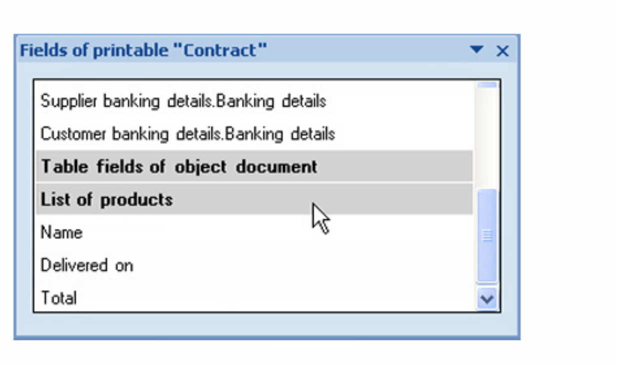
Adding table data to a template

Prior to adding tables to a template, add the table data on the [Tables of printable] tab of the printable card.

Quick adding of a table to a template

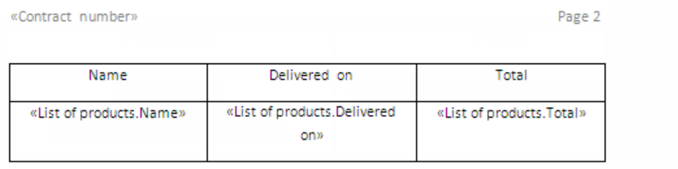
To add all table columns to a template, drag a group of table fields to the template page (Fig. 431).

Fig. 431 Adding all table columns to the template



As a result, the template will contain the table with all columns from the selected group. Titles of table columns will correspond to the titles of columns in Creatio.

Fig. 432 A printable template with the built-in table

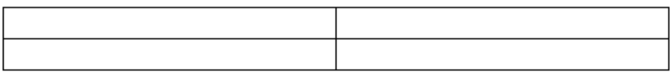


You can use standard MS Word tools to customize the added table. The text in titles of the table columns can be edited. Fields placed in table cells determine the data that will be displayed in the column.

Add individual columns:

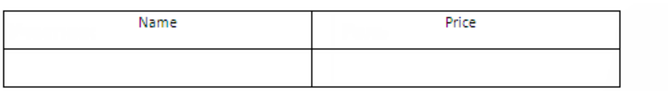
1. Add a simple table with the required number of columns on the template page. Each column must comprise a title and one row (Fig. 433).

   Fig. 433 Adding a table to the template manually

2. Enter the text of the column titles (Fig. 434).

   Fig. 434 A table with static titles of columns

3. Drag a column title to an empty cell of the table which should display the data from this column (Fig. 435).

Fig. 435 A table with fields added

Name	Price
«List of products.Name»	«List of products.Total»

4. Set up the template visual appearance by placing the table in the right part of the file (Fig. 436).

Fig. 436 Setting up template visual appearance

Supplier: «Supplier»

Address: «Supplier.City», «Supplier.Address»

Phone: «Supplier.Primary Phone»

«Supplier Banking Details.Banking Details»

Customer: «Account»

Address: «Account.City», «Account.Address»

INVOICE # «INVOICE NUMBER»

«Date»

#	Product	Unit	Quantity	Price	Discount	Tax	Amount
1.	«Product in Invoice.Product Name»	«Product in Invoice.Unit of Measure»	«Product in Invoice.Quantity»	«Product in Invoice.Price»	«Product in Invoice.Discount Amount»	«Product in Invoice.Tax Amount»	«Product in Invoice.Total»

Total Amount: «Currency.Symbol» «Amount»

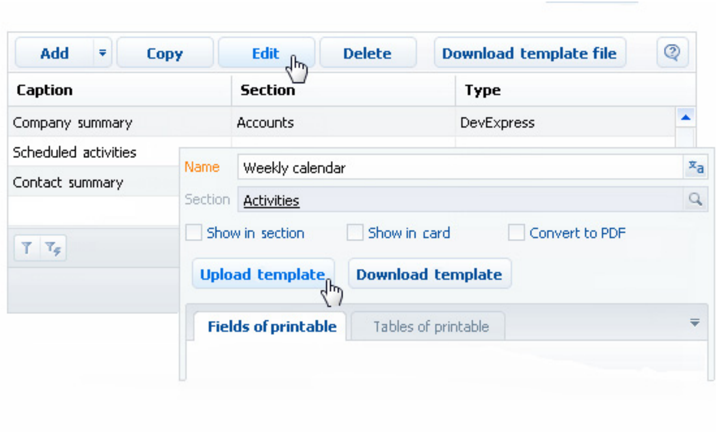
5. Save the printable template.

   In the generated printable, fields of the table will contain data from Creatio. Number of rows in the table will correspond to the quantity of records.

Uploading an updated template to Creatio

1. Open the system designer and click the [Lookups] link in the [System setup] navigation block.
2. Open the [Printables] lookup.
3. Double-click the printable whose template you want to upload.
4. In the opened printable card, click the [Upload template] button (Fig. 437).

Fig. 437 Downloading the MS Word printable template



5. Select the previously saved template.
6. Save the printable card.

   As a result, a new template will be used the next time a printable is generated.

SEE ALSO

- Registering the MS Word printable

Printable FAQ

- Which file formats are supported by Creatio printables?
- I have installed the Creatio plug-in for MS Word. What is next?

Which file formats are supported by Creatio printables?

The printables are used for generating printed documents based on the data from section records. By default, printables are generated in .DOCX format for MS Word. You can also choose to generate PDF documents. To change the format, open the needed printable in the [Printables] lookup and select the [Convert to PDF] checkbox.

I have installed the Creatio plug-in for MS Word. What is next?

The Creatio plug-in for MS Word is used for editing templates for printables. Before you can use the plug-in, go to the [Printables] lookup and add a new printable (or open an existing MS Word printable). Click the [Download the template] button and save the template file. Open the template file in MS Word and use the Creatio plug-in options to connect to Creatio with your regular Creatio login credentials. Template editing options will become available in MS Word. When you are done editing the template, use the [Upload template] button in the [Printables] template to upload the modified template.

VIDEO TUTORIALS

- Setting up MS Word printables in Creatio

Workplaces setup

The sets of sections displayed on the Creatio side panel for different user groups (roles) are called workplaces. You can set up any workplace by creating a list of sections that are necessary for the users in their everyday work. The sections that are not included in it will be hidden from the main application menu.

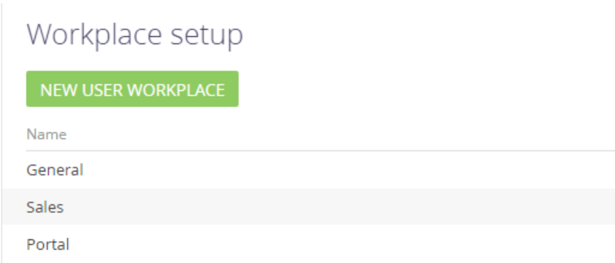
The list of available workplaces may vary depending on the user group. For example, a [Communications] workplace may include [Activities], [Calls] and [Feed] sections to be available for all system users, and a [Supervisor] workplace may include [Process log] and [Dashboards] sections to be available for the system administrators group only.

Access to the workplaces does not affect the access to the system. The full set of Creatio sections, including the sections not included in any workplace, will still be available on the application home page.

To access the **workplaces setup**

1. Open the system designer by clicking the button at the top right corner of the application window.
2. Click the [Workplace setup] link in the [Set up view] navigation block (Fig. 438).

Fig. 438 The workplace list



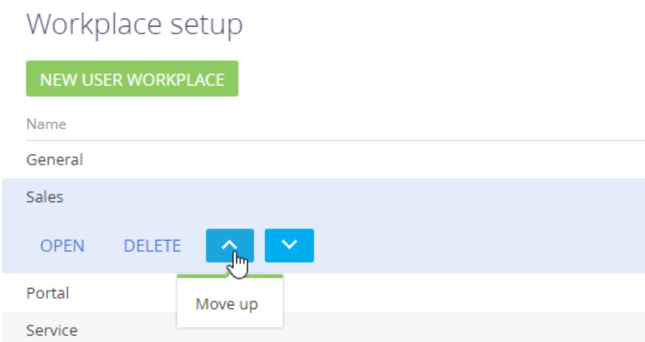
You can:

- view the list of available workplaces
- add or modify workplaces
- configure workplace settings
- Provide access permissions to the workplace for different functional and organizational user rioles.

How to Set up the workplace list

To set up a sequence of workplaces, select the required record and move it up or down by clicking the or buttons (Fig. 439).

Fig. 439 Changing the workplace position in the list

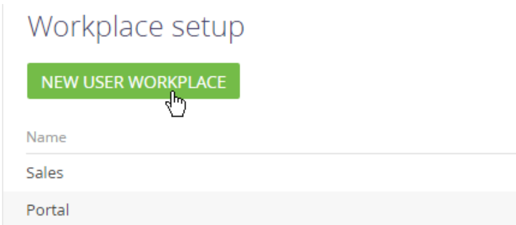


How to set up workplace

Workplace setup page is used to add a new workplace or edit an existing one.

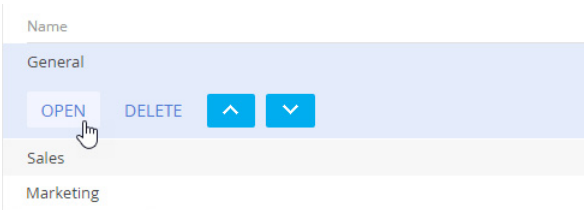
To **add a new workplace**, use the [Add user workplace] button (Fig. 440).

Fig. 440 Adding a new workplace



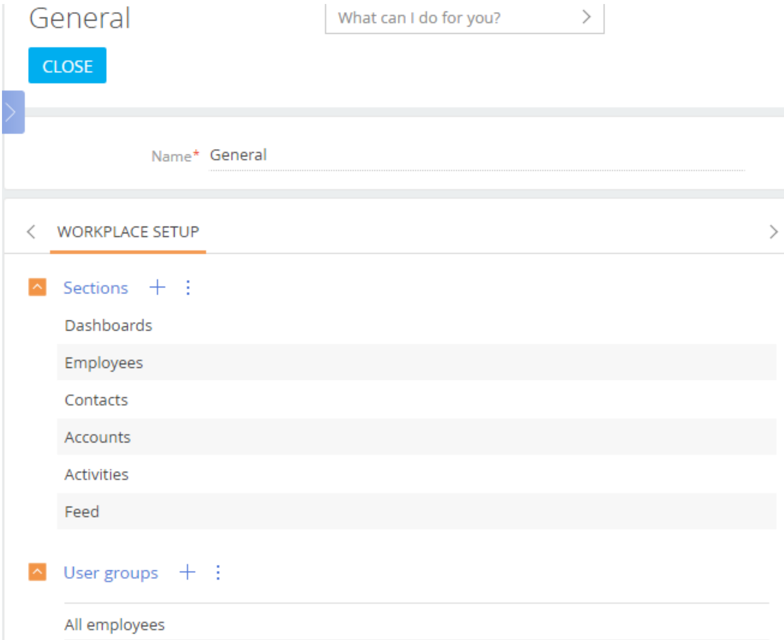
To **edit an existing workplace**, select it in the workplace list and click [Open] (Fig. 441).

Fig. 441 Editing a workplace



The workplace setup page (Fig. 442) will open.

Fig. 442 The workplace setup page



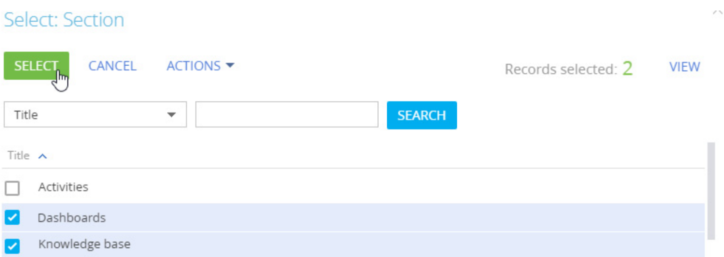
The [Name] field contains the name of the workplace, for example, "Main".

How to set up sections in the workplace

You can set up a list of section in the workplace via the toolbar on the **Sections** detail.

Click the + button on the detail toolbar to open the window (Fig. 443) that is used to add sections to workplace.

Fig. 443 Adding sections to a workplace



In the window, select the needed sections and click [Select].

To remove a section from a workplace, select the required record in the block and click [Delete] in the ⋮ button menu.

The sequence of the records in the **Sections** detail is the sequence in which the sections will be displayed in the side panel of the application. To move the required detail record up or down, select it and click the or buttons.

NOTE

Sections configuration is preformed in the section wizard

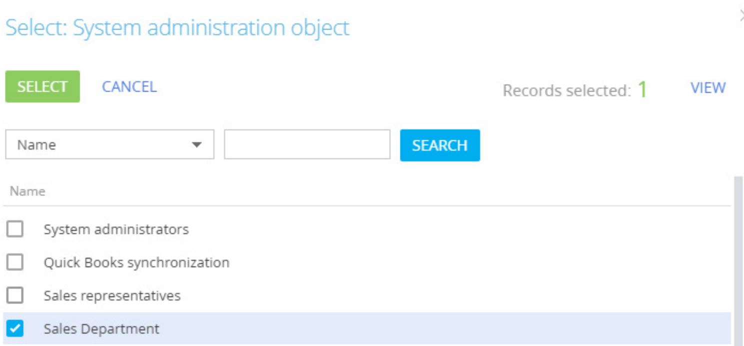
How to set up user roles that need to access the workplace

Organizational and functional user roles that need to access the workplace are displayed on the **User groups** detail.

To set up access to the workplace:

1. Go to the [User groups] detail toolbar and click the + button. A window with functional and organizational user roles will be opened (Fig. 444).

   Fig. 444 To set up access for user groups to the workplace:



   NOTE

   A list of functional and organizational user roles can be configured in the “Users and administration” group of the system designer.

2. Select the roles you need and click the [Select] button. Selected roles will be added to the User groups] detail of the workplace.

As a result. All users of the selected roles will have access to the workplace.

NOTE

The changes will be applied after the user logs in the next time.

SEE ALSO

- Creatio interface

Logo customization

You can replace Creatio logo on the login page and at the top of application pages with a custom logo (Fig. 445).

Fig. 445 Custom logo displayed on the Creatio main page

To upload a custom logo, open the system designer by clicking the button in the top right corner of the application window. Then click the [Logo customization] link in the [Set up view] block.

ATTENTION!
You can customize the logo only if you have permission to perform the "Logo customization changes" (CanManageLogo) system operation.

Login page logo	This logo is displayed on the login page. Recommended image size: 61x310 pixels. The image is saved in the "Logo" (LogoImage) system setting.
Main page logo	This logo is displayed on the main page and on the system designer page. Recommended image size: 37x274 pixels. If you upload a larger image, it will be scaled. The image is saved in the "Logo in main menu" (MenuLogoImage) system setting.
Upper panel logo	This logo is displayed in the top right corner of the section pages. Recommended image size: 27x127 pixels. If you upload a larger image, it will be scaled. The image is saved in the "Upper panel logo" (HeaderLogoImage) system setting.

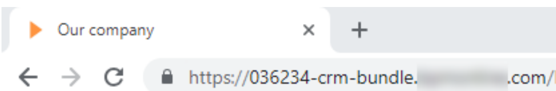
Recommended image format for uploaded logos is PNG. Other standard image formats supported by your browser are also available (apart from SVG).

ATTENTION!
The logo settings are applied to all Creatio users.

NOTE
The logo on the login page is a cached item, so the user needs to clear the browser cache and refresh the page in order to see the changes.

You can change the product name on a browser tab. For this, change the default value in the “Product name” system setting. For example, specify “Our company” instead of “Creatio” (Fig. 446). If your custom name contains any special characters, they must be specified as an html-code.

Fig. 446 Example of changing a product name on a browser tab



When working in Creatio, you may notice a few images unrelated to your corporate logo:

- Creatio loading screen image displayed when you log in to the system. This image cannot be edited or deleted.
- Creatio and Excel logos displayed on the column matching page during import from Excel. These images are used to distinguish Creatio and Excel columns. You can modify these images using development tools.
- Image on the browser tab (favicon). For Creatio applications deployed in the cloud, the favicon is not editable. For on-site applications, this image can be replaced in the website root and resource directory.

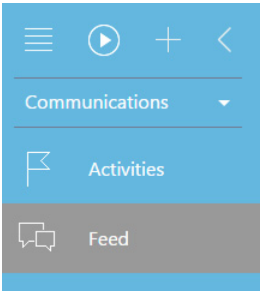
SEE ALSO

- Additional configuration of the self-service portal

Color customization

On the color customization page, change the color of the side panel in Creatio (Fig. 447).

Fig. 447 Example of side panel color scheme



To start the customization, open the system designer by clicking the button in the top right corner of the application. Then click the [Color customization] link in the [Set up view] block.

ATTENTION

You can customize the color only if you have the right to perform the "Access to color customization" system operation (CanManageSectionPanelColorSettings).

Section panel background	Main background color of the section panel. The value is saved in the "Section panel background" system setting (SectionPanelBackgroundColor).
Text in section panel	Main color of all section headings in the section panel. The value is saved in the "Text in section panel" system setting (SectionPanelFontColor).
Selected section background	Background color of the selected section in the section panel. The value is saved in the "Selected section background" system setting (SectionPanelSelectedBackgroundColor).
Text in selected section	Heading color of the selected section in the section panel. The value is saved in the "Text in selected section" system setting (SectionPanelSelectedFontColor).

The system also saves the default color settings. If necessary, you can restore them by clicking the corresponding button.

ATTENTION

The color settings are applied to all users of the system.

SEE ALSO

- Logo customization

The [Lookups] section

The [Lookups] section is designed to manage Creatio lookups. For example, in this section, add cities, edit account types, activity categories and other lists that are used in the system. You can also edit existing lookups and register the new ones in this section.

To access the section, open the system designer by clicking the button in the top right corner of the application. In the [System setup] block, click the [Lookups] link.

> ATTENTION!
> You can set up access rights to this action using the [Access to "Lookups" section] system operation.

SECTION TOOLBAR

When a lookup is selected in the section, on the top of the standard options, some additional options are available:

- [Open content] – opens a page for editing the content of a lookup.
- [Open settings] – opens a page for editing the lookup settings specified when registering a lookup.

> ATTENTION
> When you edit the content of lookups, do not delete basic content, as this can lead to incorrect operation of pre-configured business processes.

CONTENTS

VIDEO TUTORIALS

- System settings and lookups

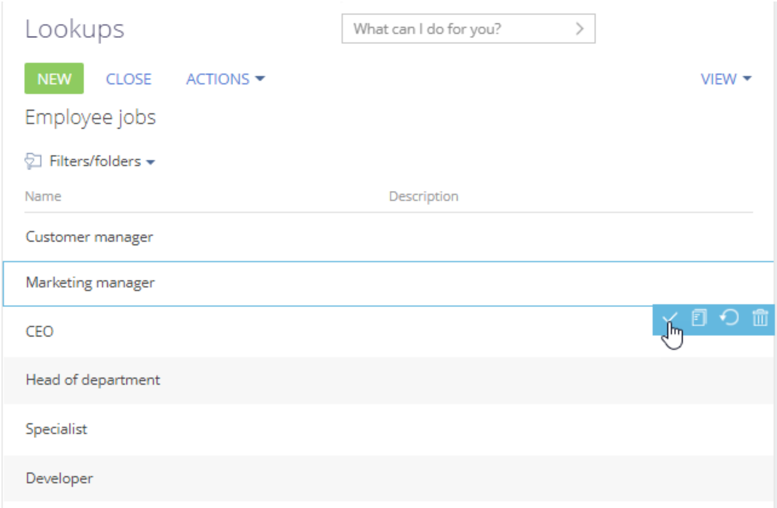
Lookup content page

A special window is used to view and edit lookup records. To open this page, select a lookup in the list and click the [Open content] button.

Most system lookups are standard and contain only the [Name] and [Description] fields. Certain custom lookups have record edit pages.

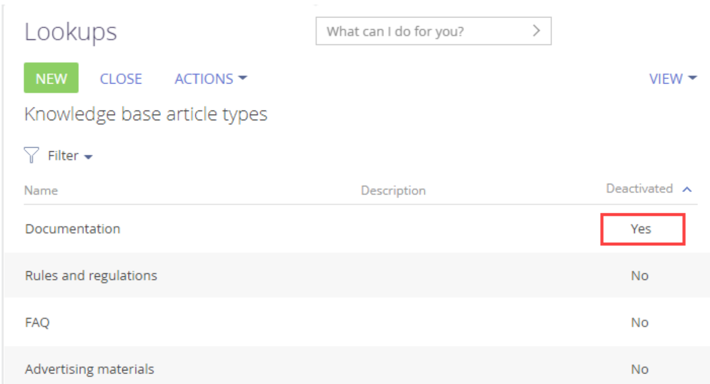
You can modify the content in the most lookups in the editable list(Fig. 448).

Fig. 448 Saving changes in a lookup list of records



You can deactivate lookup values to prevent the users from selecting these values in the future (Fig. 449). Deactivated values will not be available for selection in the corresponding lookup fields. All existing records where an inactive lookup value had been previously set will remain unchanged. Lookup record deactivation is disabled by default. You can enable it for specific objects in the [Configuration] section. More information about enabling lookup record deactivation can be found in the "Record deactivation" article of the Development guide.

Fig. 449 Example of a deactivated lookup value



SEE ALSO

- Creating and registering lookups
- Lookup settings page

- Description of lookups

VIDEO TUTORIALS

- System settings and lookups

Lookup settings page

Use the lookup settings page to add or change settings of existing lookups. To open this page, select a lookup in the list and click the [Open settings] button.

Name	Lookup name
Object	Object that contains the structure of lookup content. For example, in the registration card of the [Cities] lookup, the “City” object is specified in this field. The lookup of this field contains items of the “Object” type.
List page	Page schema used for editing the content of the lookup. If this field is not populated, the standard lookup content page will be used.
Description	Description of the lookup, e.g., its purpose and function.

SEE ALSO

- Lookup content page
- Creating and registering lookups
- Description of lookups

VIDEO TUTORIALS

- System settings and lookups

Description of lookups

This chapter describes the non-standard lookups used in Creatio.

CONTENTS

VIDEO TUTORIALS

- System settings and lookups

The [Currencies] lookup

The lookup is available in Marketing Creatio, Sales Creatio, enterprise edition, Sales Creatio, commerce edition; Sales Creatio, team edition; Financial Services Creatio, sales edition; Financial Services Creatio, customer journey edition; Financial Services Creatio, lending edition and CRM bundles.

This lookup contains a list of currencies used in mutual payments with customers, partners, suppliers, and the like.

Name	[Name] – indicate the name of the currency, for example, “US Dollar” or “Euro”.
Code	Specify a banking code that is used for a specific currency, for example, US dollar code is 840.
Short name	Shortened currency name, such as “USD” or “EUR”.
Symbol	Currency symbol, such as “$” or “€”.
Ratio	Specify the currency amount for which the exchange rate will be calculated (for example, 1, 10, 100).
Description	Additional information about the currency.
Show currency sign	Choose the appropriate option from the drop-down list. Choose [on the left] or [on the right] options to display the sign before or after the amount.

[Exchange rate] detail

Information about exchange rates is stored on the [Exchange rate] detail.

Start	The starting date for the exchange rate. The start date of a new exchange rate is considered the end date of the previous exchange rate.
Exchange rate	Value of the base currency in relation to that of the conversion currency. Enter a value according to the currency ratio, specified in the currency card. The value for the base currency in the exchange rate card must be set to “1”.
End	The ending date for the exchange rate. Filled automatically with the starting date of new exchange rate. This is a non-editable field.

NOTE

The base currency is used to calculate the financial performance indicators, for example, it can be “US Dollar”. Use the “Base currency” system setting to select a certain base currency.

SEE ALSO

- Working with currencies

The [Accounts in external resources] Lookup

This lookup contains a list of accounts that are used to collect information in external web-resources, such as social networks.

Name	Used for identification in the list of user accounts.
User	Select a system user from lookup. If you add a corporate account, you can leave this field empty.

Type	Select a social network or email service for the user account.
User login	User account name in external resource.
Public	Select this checkbox to grant access to this account to other users. This is relevant for corporate user accounts.
Description	Additional information about the user account.

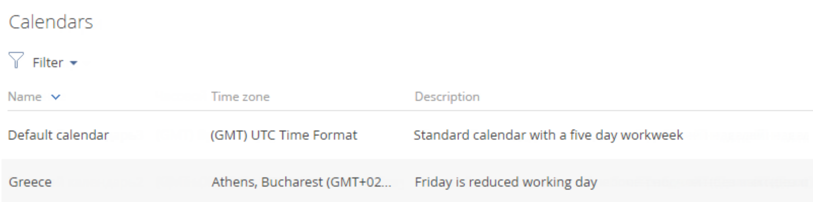
The [Calendars] lookup

The lookup is available in Sales Creatio, enterprise edition; Service Creatio, enterprise edition; Service Creatio, customer center edition; Financial Services Creatio, customer journey edition and CRM-bundles. The [Calendars] lookup is not bound to organizational and functional roles of Creatio users.

Use the [Calendars] lookup (Fig. 450) to set up different calendar types used by helpdesk as per customer service agreements in Service Creatio, enterprise edition; Service Creatio, customer center edition and Financial Services Creatio, customer journey edition products. If your customers and helpdesk staff are scattered across different timezones, using a proper calendar will help streamline case processing. The lookup is used for populating the service page in Service Creatio, customer center edition and Financial Services Creatio, customer journey edition while in Service Creatio, enterprise edition it is used to populate the service agreement page.

In Sales Creatio, enterprise edition, you can use the [Calendars] lookup to set up different types of calendars for planning sales reps' visits to customers. The lookup is used by the Field force and Pharma applications (they are available in Creatio marketplace) when populating the contact (doctor) page.

Fig. 450 The [Calendars] lookup



By default, the lookup contains default UTC calendar with a five day working week.

When you create a new calendar the working week settings are inherited from a default calendar. Also you can copy one of previously configured calendars. In this case, all settings, except the data on the [Days off] tab will be inherited in the new calendar.

To add a new blank calendar, click the [Add] button. Fill the fields in the added list string:

- Specify the calendar name. This is a required field.
- Select a time zone from the lookup. This is a required field. The time zones are selected from the corresponding system lookup that is connected to Windows regional settings.

  ATTENTION

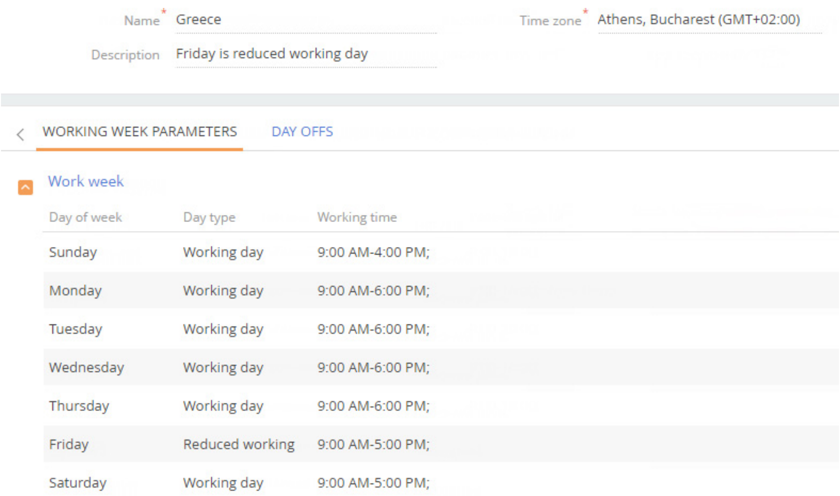
  It is not recommended to add and to delete records in [Time zones} lookup.

- [Description] – specify any additional information about the calendar.

To configure the calendar press th . button. The calendar page will open (Fig. 451).

ACCELERATE

Fig. 451 Calendar page



Specify work days, work time and days off on the [Work week parameters] and [Day offs] tabs.

To edit an existing calendar, select it and click the button.

The [Work week parameters] tab

On the [Work week parameters] tab, you can:

- Set the first and last days of the work week
- Specify the type of each of week days (work day or day off)
- Set work hours

The weekday names and order cannot be edited. You can specify the work hours for each work day separately.

Work time

Specify working hours for each work day. By default, the work hours are copied from the base calendar. Working hours intervals are set up only for working days. You can specify multiple intervals, for example, “09:00 – 13:00” and “14:00 – 18:00”. To add the working interval click the button. All intervals will be sorted chronologically after adding.

NOTE

When you change the day type from “Working day” to “Day off” the working time will be hidden but not deleted. If you change the day type back from “Day off” to “Working day”, the working time will become available in the field again.

NOTE

To specify round-the-clock work set the interval from 0:00 AM till 11:59 PM.

After specifying an interval, click the button to confirm it.

The [Days off] tab

You can specify all holidays on the [Days off] tab.

Click the + to add a day off. Set the day parameters: [Date], [Day type] and [Working time] for reduced working day. Use the calendar control in [Date] field to specify a date. Click the ✓ button.

NOTE

Passed holidays or reduced working days cannot be added or deleted.

The [Email templates] lookup

The [Email templates] lookup is used to create email templates for business processes and customer communications. You can use these templates for bulk emails in Marketing Creatio and CRM-bundles.

Template name	The title of a template. The field is required. In localized templates, the template name is followed by abbreviations of the used languages.
Macro source	Creatio object (section or detail), whose fields will be used in the template as macros. For example, specify the “Contact” object as a macro source for using the sender’s full name and job title in the text.

Template area

The template displays the template text If the template is localized, different tabs are used to display its text in different languages.

The button in the top right area of the template enables adding new language tabs.

Each tab contains:

- the [Edit] button, which is used for opening the content designer;
- the [Subject] field. This field value is automatically populated in the [Subject] field of the message page, when you select a bulk email (in Marketing Creatio) or a lookup template.

SEE ALSO

- Configuring email templates
- Setting up sending localized emails

VIDEO TUTORIALS

- System settings and lookups

Creating and registering lookups

You can create and register your own lookups in Creatio and populate the fields of a new or existing section with necessary data.

The lookup creation and registration process depends on whether Creatio already contains an object which needs to be linked to the lookup or not.

- If Creatio does not contain the necessary object when you add a new lookup field to the page, the lookup will be created and registered automatically upon saving section wizard. The lookup object will also be created.

NOTE

Lookup registration means adding a new lookup to the [Lookups] section, where it can be populated with values.

- If Creatio does not contain the object, you need to create it and afterwards register its lookup. You can create objects manually via built-in developer tools.
- If Creatio contains the object, you need to register a corresponding new lookup in the [Lookups] section.

Creating lookups via section wizard

A lookup is created automatically upon selecting the [Add new lookup] option when you add a new lookup field in **section wizard**.

CASE

The [Requests] custom section has been configured in Creatio. Add a field displaying the request type to the request page. The field will be populated from a lookup.

To implement the case:

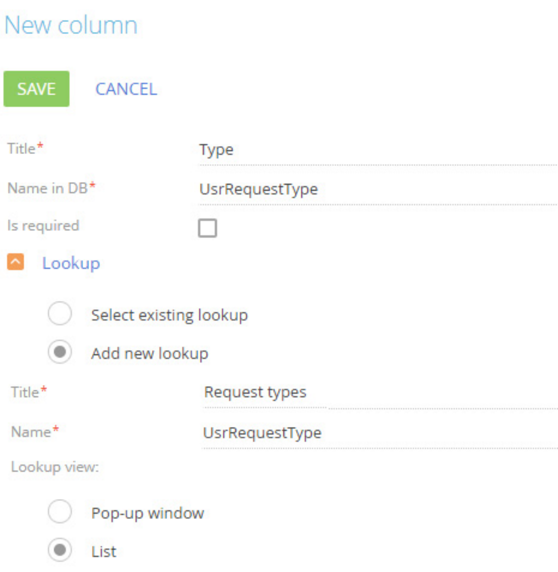
1. In the [Requests] section, open a record and click the **[View]** —> **[Open section wizard]**.
2. Set up the necessary field in page designer:
    a. On the left side of the page, select the [Lookup] column in the [New column] selection area and drag it to the record page.
    b. In the opened window, populate the required fields. If you want your lookup field to be required, select the [Is required] checkbox.

NOTE

Detailed information about "Lookup" column parameters is available in a separate article. Read more >>>

    c. In the [Lookup] field group, select the **[Add new lookup]** option and specify the title and name of the lookup you want to create (Fig. 452). The [Title] field corresponds to the lookup title in Creatio and the object title, while the [Name] field corresponds to the object name and table name in the database.

Fig. 452 Creating a new lookup



d. Click the [Save] button.

3. Save the changes in the section wizard.

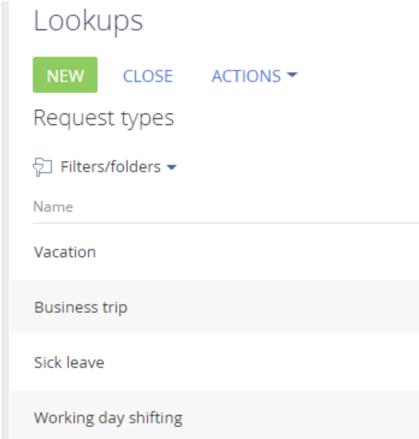
As a result, after you save the changes in section wizard, the created lookup will automatically be registered in Creatio and bound to the package where the wizard saves changes.

After that, you need to populate the lookup and specify the request types. To do this:

1. Open system designer by clicking the button in the left top corner of the application and select the **[Lookups]** link in the [System setup] block.
2. Find the created [Request types] lookup via the quick filter by title and **open its content**.
3. To create the request types in the lookup, click the [New] button (Fig. 453).

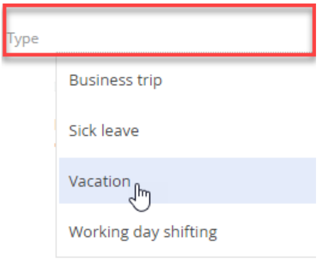
ACCELERATE

Fig. 453 The [Request types] lookup population



As a result, you will be able to use the lookup information from the created [Request types] lookup when populating the [Type] field on the request page (Fig. 454).

Fig. 454 The [Type] lookup field



Registering a lookup if there is no object in Creatio

If you want to register a lookup for the **object which does not exist** in Creatio yet, you will have to create this object first. Custom object (entity) schema creation is covered in a separate development guide article. Read more >>>

NOTE

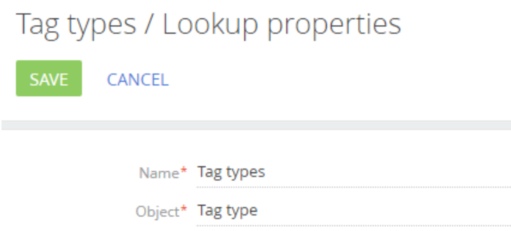
If you need a lookup to populate a new field, the section wizard will create a new object and register a lookup automatically upon adding the field. If you select the "Add new lookup" option, the lookup and its object will be created automatically, and the lookup will be registered in Creatio.Read more >>>

Registering a lookup if Creatio contains the object

If you want to register a lookup for an **existing object** in Creatio, do the following:

1. Open system designer by clicking the button in the left top corner of the application and select [Lookups] in the [System setup] block.
2. Click the [New lookup] button and specify the lookup name and the object containing the lookup data structure (Fig. 455).

Fig. 455 – Registering a lookup for the existing object



NOTE

Detailed information about the lookup properties is available in a separate article. Read more >>>

As a result, the lookup will be registered and populated with the data in correspondence with the object structure.

SEE ALSO

- Lookup content page
- Lookup settings page
- How to configure section pages

The [System settings] section

The [System settings] section is designed for managing global Creatio settings. For example, here you can assign a color for the section panels, select the base currency for calculating the Creatio financial indicators, specify parameters for sending emails, etc.

With the help of system settings, you can also specify default values for various fields when new records are created, like a default activity status, for example.

To access the section, open the system designer by clicking the button in the top right corner of the application. Click the [System settings] link in the [System setup] block.

CONTENTS

VIDEO TUTORIALS

- System settings and lookups

The system setting page

To register a system setting, use the system setting page.

Name	The [Name] field shows the name of the system setting.
Type	System setting field type. The type of field defines the method of filling in the value of system setting. This field is editable while adding a new system setting and is non-editable for the previously registered records. The list of available field types is provided below.
Default value:	Use the this field to set the value for the system setting. For example, you can set the "Not Started" value for the activity default status, or "5 minutes" value as an interval for notification check. The method of filling in the [Value] field depends on the type of system setting. For example, activity default status can be selected from the [Activity statuses] lookup, while the interval for notification check is specified as an integer number.
Code	The code is used for the unique designation of the system setting to identify it in the system. The field value can consist of Latin letters and numbers only and must not contain spaces.
Cached	Select the [Cached] checkbox if the value of the system setting changes relatively rarely and thus must be calculated only once per user session. Examples of cached system settings could be the main menu logo or login page or base currency settings. Examples of non-cached system settings could be the date of last duplicate search the number of knowledge base article, because it must be updated each time a new article is created.
Personal	Select this checkbox to have the system setting be configured for the current user individually. For example, the date of last synchronization with Google Contacts.

Allow for portal user	Select this checkbox to make the system setting available for the portal users.

NOTE

If a cached system setting is changed, its new value will be used only after the next user logs in to the system.

Field types

List of possible values for the [Type] field on the system setting page.

String (50 characters)	Text, up to 50 characters.
String (250 characters)	Text, up to 250 characters.
String (500 characters)	Text, up to 500 characters.
Unlimited length string	Unlimited length text.
Encrypted string	Text data that must be stored encrypted in the database.
Date/time	Date and time.
Date	Date only
Integer	Numeric data with no decimals.
Decimal	Numeric data with two digits after the dot.
Money	
Boolean	System setting can have one of the two values: “On” (checkbox is selected) or “Off” (checkbox is cleared).
Lookup	Data that is selected from a predefined list of values. The source of values for this type of field is a separate object that has been created earlier. After you select this option, select the object to be used as a source of values for this system setting.
BLOB	This system setting allows you to upload an image.

VIDEO TUTORIALS

- System settings and lookups

System settings description

Provided below is the list of system settings available in Creatio.

Common

[Base personal calendar] (BaseUserCalendar) – sets the default calendar.

- This system setting is used in Service Creatio, customer center edition and Financial Services Creatio, customer journey edition if another calendar is not specified on the service page.

- This system setting is used in Service Creatio, enterprise edition if another calendar is not specified on the service page in the service agreement or on the service agreement page.

Type: lookup. Default value: Default calendar.

[Configuration version] (ConfigurationVersion) – current workspace version. Type: text (50 characters).

[Caption for communication options block on login page] (LoginPageCommunicationBlockCaption) – contains the caption for the login page block that contains the communication options. Type: text (50 characters).

[Caption for useful links block on login page] (LoginPageLinksBlockCaption) – contains the caption for the login page block that contains the links. Type: text (50 characters).

[Notification monitor] (RemindingsCheckInterval) – sets the frequency of checking for new notifications. The value of this system setting is specified in milliseconds (ms). Type: integer. Default value: 300000 ms (5 minutes).

[Number of records in Excel export batch] (ExcelExportBatchSize) – changing this value affects the speed of exporting large numbers of records to Excel and the amount of memory used.

[SysProcessLog archiving records count] (ProcessLogArchivingRecordsCount) – specifies the number of records of the [Process log] section that will be archived at a time according to the frequency of log records archiving, which is specified in the [SysProcessLog archiving frequency minutes] system setting. Type: integer Default value: 500.

[Logo] (LogoImage) – contains the logo displayed on the login page. Creatio logo is displayed by default, but you can upload a different image. PNG is the recommended image format. Type: image.

[Upper panel logo] (HeaderLogoImage) – contains the image displayed at the top of Creatio pages. Creatio logo is displayed by default, but you can upload you can upload a different image. PNG is the recommended image format. Type: image.

[Logo in main menu] (MenuLogoImage) – contains the image that will be displayed at the top of the page of the Creatio main menu (opens by default upon first login). Creatio logo is displayed by default, but you can upload a different image. PNG is the recommended image format. Type: image.

[Product name] (ProductName) - sets the header of the browser tab with the opened Creatio application. Type: text (250 characters). Default value: Creatio.

[Case email body maximum length] (EmailBodyForCaseMaxLength) – sets the maximum number of characters from email, that will be displayed in the [Description] field of the case, created automatically from that email. Type: integer. Default value: 600 characters.

[Maximum number of records to import from Excel] (MaxImportExcelRecordCount) – limits the maximum number of records that can be imported from an Excel file. Type: integer. Default value: 2000.

[Maximum number of process item repetitions] (MaxProcessLoopCount) – limits the maximum number of times the same process item can be run during a process. Type: integer. Default value: 100.

[Attachment max size] (MaxFileSize) – sets the maximum size of a file that can be added to the [Attachments] detail in system sections. The value of this system setting is specified in megabytes (MB). Type: integer. Default value: 10 MB.

[Minimum characters necessary to filter list] (StringColumnSearchMinCharCount) – determines the minimum number of characters that will be sufficient to filter records in the drop-down list of the lookup field. When you type the needed value directly in the lookup field (without opening the lookup), a drop-down list opens, containing the values that match the characters entered. The minimum number of characters sufficient to display the drop-down list is defined by this system setting. Type: integer. Default value: 3.

[Display pop-up window message] (ShowBrowserPopupWindowToolbars) – enables or disables browser toolbars in the Creatio pop-up windows. In Creatio, pop-up windows are used in system setup window to open designers, pages, lookup windows, etc. Type: Boolean. Default value: "Off".

[Process log archiving period (days)] (ProcessLogArchivingPeriod) – specifies the number of days after which a new process record is archived. Type: integer. Default value: 30 days.

[String column filter] (StringColumnSearchComparisonType) – sets the type of search operator used to filter the records in lookup fields. Type: integer. Default value: 1. The setting can have one of two values:

0 – searched record must begin with the specified string.

1 – searched record must contain the specified string.

[SysProcessLog archiving frequency minutes] (ProcessLogArchivingFrequencyMinutes) – specifies the archiving frequency in minutes. Type: integer. Default value: 5 minutes.

Business processes

Creatio can use custom business processes in place of the out-of-the-box business processes. The following system settings that determine whether custom or OOTB processes run in different circumstances.

[Process of adding invoice based on order] (CreateInvoiceFromOrderProcess) – process that starts when selecting the "Add invoice based on order" command on the order page. Type: lookup. Default value: Adding invoices based on order Found in all Creatio products where the [Invoices] and [Orders] sections are available.

[Process of adding order based on opportunity] (CreateOrderFromOpportunityProcess) – process that starts when selecting the "Add order based on opportunity" command on the opportunity page. Type: lookup. Default value: Add order based on opportunity. The setting is available in Sales Creatio, enterprise edition, sales commerce and CRM-bundles.

[Corporate sale process] (OpportunityManagementProcess) – process that starts when selecting the "Run corporate sales process" command on the opportunity page. Type: lookup. Default value: Corporate sale. Available in all Creatio products containing the [Opportunity] section.

How to send emails

The following system settings are available in Sales Creatio enterprise, Service Creatio enterprise, Service Creatio customer center, Financial Services Creatio customer journey and Service Creatio CRM bundle.

[Customer service email] (SupportServiceEmail) – contains the email address that receives automatic notifications of new cases created on the self-service portal. It is also used to send notifications to customers about the status of their case. Type: text (250 characters).

[Website URL] (SiteUrl) – web page URL that automatically opens to the user upon providing service quality feedback on the case. Type: text (250 characters).

[SMTP server login] (SmtpUserName) – full email address used to send customer notifications about case statuses. Type: Unlimited length string.

[SSP registration mail box] (SSPRegistrationMailbox) – email address used to send notifications about self-service portal registration. Type: lookup.

[SMTP server password] (SmtpUserPassword) – password of the email specified in the [SMTP server login] system setting. Type: Unlimited length string.

[SMTP server name or IP] (SmtpHost) – SMTP server coordinates used to send the outgoing emails. To populate this setting, please see your mail provider's documentation. Type: Unlimited length string.

[SMTP server port] (SmtpPort) – SMTP server port used to send emails. To populate this setting, please see your mail provider's documentation. Type: integer.

[Use SSL] (SmtpEnableSsl) – used for the support of the Secure Sockets Layer protocol. For more information on using SSL protocol please see your mail provider's documentation. Type: Boolean.

[Logo - Feedback value not found] (ImageRaitingNotFound) – sets the logo on the web page that opens after a user evaluates the quality of service The logo is displayed if the settings of the rating range are incorrect. Standard logo is displayed by default, but you can upload a custom one. PNG is the recommended image format. Type: image.

[Logo - Case not found] (ImageCaseNotFound) – sets the logo on the web page that opens after a user evaluates the quality of service. The logo is displayed if the case number is invalid or if this case was deleted. Standard logo is displayed by default, but you can upload a custom one. PNG is the recommended image format. Type: image.

[Logo - Feedback has been already received] (ImageRaitingAlredyExist) – sets the logo on the web page that opens after a user evaluates the quality of service. The logo is displayed if the case is closed or if the case [Rating] field is already populated. Standard logo is displayed by default, but you can upload a custom one. PNG is the recommended image format. Type: image.

[Logo - Thank you for your feedback] (ImageThanksForRaiting) – sets the logo on the web page that opens after a user evaluates the quality of service Standard logo is displayed by default, but you can upload a custom one. PNG is the recommended image format. Type: image.

Bulk email

The following settings are available in Marketing Creatio.

[Turn on logging for webhooks] (EnableWebHooksLogging) – specifies whether to log recipient responses in Creatio. The log4net tool is used for logging. The log can be used by developers for debugging. Type: Boolean. Default value: “Off”.

[App external URL that is used to receive webhooks] (WebhooksApplicationUrl) – URL for receiving responses from the bulk email recipients (must be accessible from the Internet). Populate this system setting, if the Internet traffic is routed via a firewall. Type: text (500 characters).

[App external URL used for bulk email unsubscribe queries] (UnsubscribeApplicationUrl) – URL for receiving requests to unsubscribe from bulk emails (must be accessible from the Internet). When a recipient unsubscribes, a parameter with the “unsubscribe” key is added to this address. For example, if the value of the system setting is “http://www.site.com/unsubscribe” then the actual unsubscribe link is “http://www.site.com/unsubscribe?key=0123456789”. Populate this system setting if the Internet traffic is routed via a firewall. Type: text (500 characters).

[Interval for stats collection in bulk email, hrs] (BulkEmailHourlyStatisticPeriod) – period displayed in the Opens/clicks chart of the [Email totals] tab on the bulk email page. Specified in hours. Type: integer. Default value: 48.

[Test email recipient] (TestSendingBulkEmailContact) – contact, whose data will be substituted in the test emails as values for macros when running the [Send test email] action of the [Email] section. Type: lookup.

[Unsubscribe user from all bulk email] (UnsubscribeFromAllMailings) – specifies whether to select the [Do not use Email] checkbox automatically for the contacts, who have unsubscribed from bulk email. Type: Boolean. Default value: “On”.

[Time period (days) to update bulk emails statistics] (MandrillStatisticUpdatePeriodDays) – determines the period, during which the final response is recorded for each contact, who participated in a bulk email. Any responses received from the contacts after the period is over will not affect the bulk email statistics. The value is specified in days. Field type: integer. Default value: 30.

[Website to redirect unsubscribed] (RedirectUnsuscribersTo) – URL, where users are redirected automatically, after they unsubscribe from a bulk email. Type: text (500 characters).

[Check interval for bulk email with "In progress" status, min] (MandrillShedulerTimeStep) – determines how often Creatio checks whether all due bulk emails have been launched. The value of the system setting is specified in minutes. Field type: integer. Default value: 1.

["Domain list" field default name in Email] (GoogleAnalyticsTrackingDomains) – a list of URLs, whose statistics will be tracked with Google Analytics. The values are entered separated by commas. Type: text (250 characters).

[Enable option "System email"] (SystemEmailIgnoreUnsubscribeFromAllMailings) – used to show/hide the [System email] checkbox on the [Parameters] tab of the bulk email page. This checkbox enables using the [Email] section for sending "system emails" – non-marketing notifications. System emails ignore the "Do not use email" checkbox value on the contact's [Communication channels] tab. Field type: Boolean. Default value: "true".

[Prevent to send duplicated emails to recipients with the same address] (PreventDuplicatesSending) – if enabled, Creatio will identify duplicate email addresses in bulk email audiences and will send only one email per unique address. The contact for whom the email will be personalized is selected randomly among those with duplicate email addresses. Type: Boolean. Default value: "Off".

Approving procedure

[Send email message if approval is required] (SendVisaEmail) – used to manage automatic sending of emails to approvers. If the checkbox is selected, the approvers will receive an email message in addition to the standard notification (the [Approvals] tab of the communication panel) when a document is sent for approval. Type: Boolean. Default value: "Off".

[Mailbox for sending email with information on approval] (VisaMailboxSettings) – email account used to send the notifications about approvals. You can select any email account registered in the system. Type: lookup.

[Invoice approval process] (InvoiceVisaProcess) – business process that launches when an invoice is sent for approval. Type: lookup. Default value: "Invoice approving". Available in Creatio products that have the [Invoices] section.

[Order approval process] (OrderVisaProcess) – business process that launches when an order is sent for approval. Type: lookup. Default value: "Order approving". Available in Creatio products that have the [Orders] section.

[Contract approval process] (ContractVisaProcess) – business process that launches when a contract is sent for approval. Type: lookup. Default value: "Contract approval". The setting is available in Creatio products, that have the [Contracts] section.

[Email template for sending invoice approval information] (InvoiceVisaEmailTemplate) – template for the email that is automatically sent to the approver user or user group when an invoice is submitted for approval. To add and edit templates, use the "Email message templates" lookup. Type: lookup. Default value: "Template of new invoice approval notification". The setting is available in Creatio products that have the [Invoices] section.

[Email template for sending information about order approval] (OrderVisaEmailTemplate) – template for the email that is automatically sent to the approver user or user group when an order is submitted for approval. To add and edit templates, use the "Email message templates" lookup. Type: lookup. Default value: "Template of new order approval notification". The setting is available in Creatio products that have the [Orders] section.

[Email template for sending contract approval information] (ContractVisaEmailTemplate) – template for an email that is automatically sent to the approver user or user group when a contract is submitted for approval. To add and edit templates, use the "Email message templates" lookup. Type: lookup. Default value: "Template of new contract approval notification". The setting is available in Creatio products that have the [Contracts] section.

Auto numbering of records

The following settings are available in Creatio products that have the corresponding sections.

System settings of this group facilitate automatic numbering of records, for example, invoice codes or account numbers. There are two types of settings: one specifies the static text (mask) of a number, and another one is used for saving the last generated number. For example, to generate a knowledge base article code "Article-23", where 23 is the current number of the article, enter the following mask: Knowledge base article-{0}.

Auto numbering is enabled for the following objects:

- "Document" – via the [Document number mask] (DocumentCodeMask) and [Current number of document] (DocumentLastNumber) system settings.
- "Contract" – [Contract number mask] (ContractCodeMask) and [Current contract] (ContractLastNumber) settings;
- "Account" – via the [Account code mask] (AccountCodeMask) and [Current number of account] (AccountLastNumber) system settings.
- "Knowledge base article" – via the [Knowledge base article number mask] (KnowledgeBaseCodeMask) and [Current number of knowledge base article] (KnowledgeBaseLastNumber) system settings.
- "Invoice" – via the [Invoice number mask] (InvoiceCodeMask) and [Current number of invoice] (InvoiceLastNumber) system settings.
- "Case" – via the [Case number mask] (CaseCodeMask) and [Current number of case] (CaseLastNumber) system settings.
- "Service contract" – [Service agreement number mask] (ServicePactCodeMask) and [Current number of service agreement] (ServicePactLastNumber) settings.
- "Operation" – via the [Cash flow number mask] (CashflowCodeMask) and [Current number of operation] (CashflowLastNumber) system settings.
- "Problem" – via the [Problem number mask] (ProblemCodeMask) and [Current number of problem] (ProblemLastNumber) system settings.
- "Change" – via the [Change number mask] (ChangeCodeMask) and [Current number of change] (ChangeLastNumber) system settings.
- "Release" – via the [Release number mask] (ReleaseCodeMask) and [Current number of release] (ReleaseLastNumber) system settings.
- "Order" – via the [Order number mask] (OrderCodeMask) and [Current number of order] (OrderLastNumber) system settings.

The [Mask number...] system setting is used during the process of generating the number or code of record when it is created. With the help of this setting you can specify a static text (mask) preceding or following the numeric value of number or code. Type: text (500 characters).

The **[Current number of...]** system setting is used for generating the number or code of record when it is created. Stores the numeric component of the last created record. Type: integer

Administration

[Licensing company Id] (CustomerId) – stores the unique identifier of your company used for licensing purposes. Company Id is provided when purchasing licenses. Type: text (500 characters).

[Joined objects administering] (QueryJoinRightLevel) – manages access to viewing information from one of the joined objects. For example, when viewing information about primary contact (like job responsibility or birth date) from the **[Accounts]** section. Type: integer. Default value: 0. This system setting can have one of the following values:

0 – show data only from those records in the joined object for which the current user has access.

1 – show data only from those records in the joined object for which the current user has access. In case the user does not have access to a record, show data from the primary displayed column.

2 – show data from all records of joined object, regardless of whether or not the user has access to them.

ATTENTION!

If the current user doesn't have the access to the "Read" operation for the object that contains the connected record, then the data of the connected object will not be displayed regardless of the value of the [Joined objects administering] system setting.

Managing passwords

[Show message about locking account during logging in] (DisplayAccountLockoutMessageAtLogin), **[Show message about incorrect password during logging in]** (DisplayIncorrectPasswordMessageAtLogin) – the settings manage the message displayed if a user enters an incorrect username or password. The displayed value depends on both settings. Type: Boolean. Default value: "Off".

If the "off" value is set for both settings, then when entering an incorrect password or username, the standard message is displayed: "Either invalid username or password specified, or your user account is inactive".

If the "on" value is set for both settings:

- If a user enters an incorrect username, the message will be "You have entered incorrect username".
- If a user enters an incorrect password, the message will be "You have entered incorrect password".
- If a locked user tries to authorize to the system, the message will be "Your user account is locked".

If only the **[Show message about locking account during logging in]** setting is on:

- If a user enters an incorrect username or password, the message will be "You have entered incorrect username or password".
- If a locked user tries to authorize to the system, the message will be "Your user account is locked".

If only the **[Show message about incorrect password during logging in]** system setting is on:

- If a user enters an incorrect username, the message will be "You have entered incorrect username or your user account is locked".
- If a user enters an incorrect password, the message will be "You have entered incorrect password".
- If a locked user tries to authorize to the system, the message will be "You have entered incorrect username or your user account is locked".

[Quantity of login attempts for warning message] (LoginAttemptBeforeWarningCount) – number of failed attempts to enter the password before displaying the message about the number of remaining attempts before the user account is locked. If the "0" value is set for the system setting, the message is not displayed. Type: integer. Default value: 0.

[Number of login attempts] (LoginAttemptCount) – number of unsuccessful attempts to enter the correct password. If the number of login attempts exceeds specified threshold, the user account will be locked for the period specified in the [User locking time] (UserLockoutDuration) system setting. If the "0" value is set for the system setting, the number of attempts is unlimited. Type: integer. Default value: 0.

[Password validity term, days] (MaxPasswordAge) – number of days since the password was created or edited after which the user must change the password. The user will be prompted to change the password upon next login. If the "0" value is set for the system setting, the password never expires. Type: integer Default value: 0.

[Reminder about password change, days] (PasswordChangeReminding) –number of days before the password expires, upon next login attempt Creatio displays the message about the number of days left until the password must be changed and offers to open the password change page. If the "0" value is set for the system setting, the message is not displayed. Type: integer. Default value: 0.

[Quantity of analyzed passwords] (PasswordHistoryRecordCount) – the number of previous user passwords. Note that the new password must not match any of the previous passwords. When you enter a password that matches one of the previous passwords, Creatio will display the number of previous passwords that must not match the new password. Once the password is changed, the previous password will be saved in the system. If the "0" value is set for the system setting, the new password can be identical to the previous one. Type: integer. Default value: 0.

[User locking time] (UserLockoutDuration) – time period (in minutes) during which the user will not be allowed to log in to the system once the number of failed attempts to enter the password exceeds the set threshold. If the "0" value is set for the system setting, the user will not be locked. Type: integer. Default value: 0.

Password strength settings set the requirements that must be met by new passwords. The following settings define these requirements:

- [Password complexity: Minimum length] (MinPasswordLength) – minimum number of characters in the password. Type: integer. Default value: 0.
- [Password complexity: Minimum quantity of lower case characters] (MinPasswordLowercaseCharCount) – minimum number of lowercase letters in the password. Type: integer. Default value: 0.
- [Password complexity: Minimum quantity of upper case characters] (MinPasswordUppercaseCharCount) – minimum number of uppercase letters in the password. Type: integer. Default value: 0.
- [Password complexity: Minimum quantity of digits] (MinPasswordNumericCharCount) – minimum number of digits in the password. Type: integer. Default value: 0.

- [Password complexity: Minimum quantity of special characters] (MinPasswordSpecialCharCount) – minimum number of special symbols that are not letters or digits (#, %, &, !, ?, etc.) Type: integer. Default value: 0.

Values by default

The following settings are available in Creatio products that have the corresponding sections and functionality.

[Attachments and notes default icon] (FileDetailDefaultIcon) – icon used in the tile view on the [Attachments] detail for the files, whose type is not specified in the [File resolutions] lookup. Type: lookup. Default value: default.

[Document status by default] (DocumentStatusDef) – specifies a default status for new documents. Type: lookup. Default value: Planned.

[Invoice payment status by default] (InvoicePaymentStatusDef) – specifies a default payment status for new invoices. Type: lookup. Default value: Not issued.

[Order delivery status] (OrderDeliveryStatusDef) – specifies a default status for a new order delivery. Type: lookup. Default value: Planned.

[Order payment status] (OrderPaymentStatusDef) – specifies a default payment status for new orders. Type: lookup. Default value: Planned.

[Order status] (OrderStatusDef) – specifies a default status for new orders. Type: lookup. Default value: 1. Planned.

[Default unit of measure] (DefaultUnit) – specifies a default unit of measure for a new product. Type: lookup. Default value: number.

[Default change source] (ChangeSourceDef) – specifies a default source for new changes. Type: lookup. Default value: Project

[Default change category] (ChangeCategoryDef) – specifies a default category for new changes. Type: lookup. Default value: Normal.

[Case closure code by default] (CaseClosureCodeDef) – specifies a default code for closed cases. Type: lookup. Default value: Full solution provided.

[Default change priority] (ChangePriorityDef) – specifies a default priority for new changes. Type: lookup. Default value: Average.

[Case default priority] (CasePriorityDef) – specifies a default priority for new cases. Type: lookup Default value: Average

[Default release priority] (ReleasePriorityDef) – specifies a default priority for new releases. Type: lookup. Default value: Average.

[Default case source] (CaseOriginDef) – specifies a default status for new cases. Type: lookup. Default value: Call (in Service Creatio customer center, Service Creatio enterprise and CRM-bundles) or Personal visit (in Financial Services Creatio customer journey and CRM-bundles).

[Default service agreement] (DefaultServicePact) – base service agreement used for the calculation of response and resolution time, if the case SLA cannot be determined by the case contact or account. Type: lookup. Default value: Service contract by default.

[Default change status] (ChangeStatusDef) – specifies default status for new changes. Type: lookup. Default value: New.

[CI default status] (ConfigurationItemStatusDef) – specifies default status for new configuration units. Type: lookup. Default value: In use.

[Case default status] (CaseStatusDef) – specifiesdefault status for new cases. Type: lookup. Default value: New.

[Default problem status] (ProblemStatusDef) – specifies default status for new problems. Type: lookup. Default value: New.

[Default release status] (ReleaseStatusDef) – specifies a default status for new releases. Type: lookup. Default value: Planned.

[Default service status] (ServiceItemStatusDef) – specifies a default status for new statuses. Type: lookup. Default value: Provided.

[Default service agreement status] (ServicePactStatusDef) – specifies a default payment status for new service contracts. Type: lookup. Default status: Active.

[Time for case overdue check, minutes] (CaseOverduesCheckTerm) – determines the frequency with which Creatio checks if cases are overdue. In an overdue case, the date of planned reaction or planned resolution is less than the current date, while the date of actual reaction or the actual resolution is not specified. As a result, the checkbox is selected in the [Reaction overdue] or [Resolution overdue] column on the case page. The value is set in minutes. Type: integer. Default value: 2.

[Default release type] (ReleaseTypeDef) – specifies default type for new releases. Type: lookup. Default value: Low.

[Default service agreement type] (ServicePactTypeDef) – specifies default type for new service contracts. Type: lookup. Default value: SLA.

[Default support line for case] (CaseServiceLevelDef) – specifies default support level for new cases. Type: lookup. Default value: 1st line.

[Default change goal] (ChangePurposeDef) – specifies default purpose for new changes. Type: lookup. Default value: Standard changes.

[Base price list] (BasePriceList) – specifies a price list that determines the product price. Type: lookup. Default value: Base.

Configuration

[Repository URI by default] (DefRepositoryUri) – contains the path to the package repository that is used in the system by default. The default path is used if the path to the package repository hasn't been specified. Type: text (500 characters).

[Base card page - Aggregate column] (StructureExplorerAggColumnEditPageSchemaUId) – page for aggregate columns used in the column setup window. Type: lookup. Default value: Aggregate column setup.

[Base column card page] (StructureExplorerColumnEditPageSchemaUId) – page for standard columns used in the column setup window. Type: lookup. Default value: Aggregate column setup.

[Base lookup card page] (DefLookupEditPageSchemaUId) – used in lookup registration. This system setting sets the page to use as a base page for cards of standard lookups. Type: lookup. Default value: Base lookup card page.

[Base lookup page] (DefLookupGridPageSchemaUId) – used in lookup registration. Using this system setting you can specify the base page for displaying lists of records in standard lookups, as well as when opening a window for any lookup in the system. Type: lookup. Default value: Lookup page.

NOTE

Lookups are registered in the [Lookups] section.

[Current package] (CurrentPackageId) – the package that contains all changes made via the Section Wizard. These can be, for example, changes associated with adding columns to the section object or adding a new section to the system. Type: lookup. The "Custom" package is set as the current package by default. To migrate configuration settings made in the Section Wizard to another application, be sure to change the value of this system setting. Select the package to save your configuration changes in the [Value by Default] field (this package can later be exported and installed on a new application).

[Mobile application manifest] (MobileApplicationManifest) – contains the name of the XML file that contains the configuration of the mobile application. If multiple manifests are specified, their names are separated with the semicolon ";" symbol. Type: text (50 characters).

[Calendar start date] (SchedulerTimingStart) – sets the start date for the period in the user calendar. Type: integer. Default value: 0.

[Calendar end date] (SchedulerTimingEnd) – sets the end date for the time period in the user calendar. Type: integer. Default value: 24.

[Configuration items can be saved without locking] (AllowSaveUnlockedSchema) – use this system setting to enable or disable saving changes in an unlocked solution item. You can enable this system setting when, for example, only one developer is working with the application. Type: Boolean. Default value: "Off".

[Package repository path] (UpdateRepositoryUri) – path to a repository folder that contains updated base packages. Use this system setting to update the application version. The value of this system setting is provided by Creatio support service. Type: text (500 characters).

[Display C# compiler warnings when publishing configuration] (CodeCompilerWarningLevel) – level of C# compiler warnings that will be displayed when compiling workspace files. Type: integer. Default value: 2.

[Publisher] (Maintainer) – identifies a party that makes changes to the configuration. The publisher name is assigned to each package separately. You can edit only packages that have been published by your company. The setting is used for developing Creatio customizations for third parties. Type: text (250 characters).

[Maximum quantity of data strings to be bound to package] (MaxPackageSchemaDataRowsCount) – threshold for binding data to packages. If the number of the bound records reaches the threshold, the corresponding message will be displayed and the user would need to confirm data binding. Type: integer. Default value: 100.

> NOTE
>
> Binding large volumes of records to a package can take a long time.

Finances

[Base currency] (PrimaryCurrency) – sets a base currency used for financial calculations in the system. Type: lookup. Default value: Euro.

[Tax by default] (DefaultTax) – specifies default tax to use when adding a product. Type: lookup. Default value: VAT. Found in Sales Creatio enterprise, Sales Creatio commerce, Sales Creatio team products.

[Price includes tax] (PriceWithTaxes) – this system setting determines the taxation method used when calculating product cost. Type: Boolean. Default value: "On". The setting is available in Sales Creatio enterprise, Sales Creatio commerce, Sales Creatio team and CRM-bundles.

Global search

[Global search default entity weight] (GlobalSearchDefaultEntityWeight) – enables increasing the display priority of the search results that display records of the section where the search was performed. For example, if you enter a search query from the [Contacts] section, the records of this section will appear first in the list.

[Global search default primary column weight] (GlobalSearchDefaultPrimaryColumnWeight) – enables increasing the display priority of the specific search results. It applies to records, whose primary column value matches the search query (for example, **[Full name]** is a primary column for the contact and **[Name]** is a primary column for the account). If the search query matches the value in the primary column of the record, this record will be displayed at the top of the list of search results.

[Display search results with partial match] (UseInexactGlobalSearch) – enables displaying search results taking morphology, typos and fuzzy matches into account. Type: Boolean. Default value: "Off".

[Match threshold for displaying in search results (percent)] (GlobalSearchShouldMatchPercent) – enables managing the amount of displayed search results with partial match. For this system setting, you can set an integer value from 0 to 100. The lower the value is – the more results with partial match are displayed. This will increase the chances of finding the needed data for inaccurate search requests.

Duplicate search

[Date of last duplicate search by contacts] (LastContactDuplicatesSearch) – date and time of the last search for duplicate records in the **[Contacts]** section. Type: date/time.

[Date of last duplicate search by accounts] (LastAccountDuplicatesSearch) – date and time of the last search for duplicate records in the **[Accounts]** section. Type: date/time.

LDAP synchronization

The settings in this group are used to synchronize users with the LDAP server.

> ATTENTION!
> We recommend that you use the LDAP synchronization setup window for LDAP synchronization setup.

LDAP connection settings

[LDAP server name or IP] (LDAPServer) – address used to connect to the LDAP server. Type: text (50 characters).

[LDAP authentication type] (LDAPAuthType) – authentication type that is used when authorizing the LDAP users. For example, Ntlm, Anonymous, Basic, etc. Type: lookup.

[LDAP server user login] (LDAPServerLogin) – user login for connecting to the LDAP server. For example, it could be the system administrator domain name. Type: text (50 characters).

[LDAP server user password] (LDAPServerPassword) – user password for connecting to the LDAP server. For example, the system administrator's domain password. The password data is encrypted. Type: encrypted string.

User synchronization settings

[Name of attribute containing LDAP user full name] (LDAPUserFullNameAttribute) – attribute of entry in the LDAP directory that contains the full name of a user. For example, this can be the "name" attribute. Type: text (50 characters).

[Name of attribute containing LDAP user login] (LDAPUserLoginAttribute)– attribute of entry in the LDAP directory that contains the domain login of a user. For example, "AccountName". Type: text (50 characters).

[Name of attribute to identify LDAP user] (LDAPUserIdentityAttribute) – any attribute of entry in the LDAP directory, whose value is unique for each entry. The value of this attribute is used as a unique identifier of records, when synchronizing users. For example, in Active Directory it could be “objectSid”. Type: text (50 characters).

[LDAP entry, which contains list of LDAP users] (LDAPUsersEntry) – unique name (distinguishedName, DN) of an entry in the LDAP directory organization structure (folders, groups, etc) that contains user-type entries. For example, “CN=Users,DC=example,DC=com”. If the directory contains a number of such entries, specify the unique name of their mutual parent entry. Type: text (50 characters).

[Condition to form list of LDAP users] (LDAPUsersFilter) – filter used to select LDAP entries for user synchronization. For example, for Active Directory this filter expression can be as follows:

> “(&(objectClass=user)(objectClass=person)(!objectClass=computer)(!userAccountControl:1.2.840.113556.1.4.803:=2))”.

Type: text (50 characters).

[Name of attribute containing LDAP current employment] (LDAPUserCompanyAttribute) – attribute of entry in the LDAP directory that contains the place of work of the user. Used when importing users from LDAP to automatically fill in the [Account] field in the contact page. Type: text (250 characters).

[Name of attribute containing LDAP user email] (LDAPUserEmailAttribute) – attribute of entry in the LDAP directory that contains the email of the user. Used when importing users from LDAP directory to automatically fill in the [Email] field in the contact page. Type: text (250 characters).

[Name of attribute containing LDAP user phone number] (LDAPUserPhoneAttribute) – attribute of entry in the LDAP directory that contains the phone number of the user. Used when importing users from LDAP directory to automatically fill in the [Business phone] field in the contact page. Type: text (250 characters).

[Name of attribute containing LDAP user job title] (LDAPUserJobTitleAttribute) – attribute of entry in the LDAP directory that contains the job title of the user. Used when importing users from LDAP directory to automatically fill in the [Job title] field in the contact page. Type: text (250 characters).

Folder synchronization settings

[Name of attribute containing LDAP group name] (LDAPGroupNameAttribute) – attribute of entry in the LDAP directory that contains the name of the user group. For example, the “cn” attribute in Active Directory. Type: text (50 characters).

[Name of attribute to identify LDAP group] (LDAPGroupIdentityAttribute) – attribute of entry in the LDAP directory whose value is unique for all entries. The value of this attribute is used as a unique identifier of records, when synchronizing groups. For example, in Active Directory it could be “objectSid”. Type: text (50 characters).

[LDAP entry containing list of LDAP groups] (LDAPGroupsEntry) – unique name (distinguishedName, DN) of an organization structure item in the LDAP directory containing user group entries. For example, “CN=Groups,DC=example,DC=com”. If the directory contains a number of such entries, specify the unique name of their mutual parent entry. Type: text (50 characters).

[Condition to form list of LDAP groups] (LDAPGroupsFilter) – filter used to select LDAP entries for group synchronization. For example, for Active Directory this filter expression can be as follows:

> “(&(objectClass=group)(!userAccountControl:1.2.840.113556.1.4.803:=2))”

Type: text (50 characters).

[Condition to form list of LDAP users in group] (LDAPUsersInGroupFilter) – search filter that determines what users belong to which groups. For example: "(memberOf=[#LDAPGroupDN#])". Use the following variables to specify filter parameters:

- [#LDAPGroupDN#] – unique name (Distinguished Name) of the group being searched;
- [#LDAPGroupName#] – name of the group. This variable will contain the value specified in the [Group name] field in the synchronization setup window;
- [#LDAPGroupIdentity#] – unique id of the searched folder. The variable will contain the value of the attribute specified in the [Unique identifier of group] field of the LDAP synchronization setup window.

Type: text (50 characters).

Additional LDAP synchronization settings

[Name of attribute containing LDAP entry modification date] (LDAPEntryModifiedOnAttribute) – attribute of entry in the LDAP directory, which contains the date and time of the last modification of the entry in the "generalized time" format. Used for identifying new users in the LDAP group during the synchronization. Type: text (50 characters). Default value: whenChanged.

[LDAP synchronization interval, hours] (LDAPSynchInterval) – time between LDAP synchronization sessions, specified in hours. Type: integer. Default value: 1.

[Date of last synchronization with LDAP] – date and time of the last synchronization session. The value of this system setting is updated automatically. It is not recommended to edit it manually. This system setting is used for the automatic LDAP synchronization. Type: date/time.

Integration with external resources

The [Integration with external resources] system setting is used to register the application in the social networks and Google. Three system settings are used for each registration: **[Application registration page]** (FacebookRegistrationPage, GoogleRegistrationPage, TwitterRegistrationPage), **[Access key]** (FacebookConsumerKey, FacebookConsumerSecret, GoogleConsumerKey, GoogleConsumerSecret, etc.), and **[Secret access key]** (FacebookConsumerSecret, GoogleConsumerSecret, TwitterConsumerSecret). The "Application registration page" contains the address of an external resource that is used for registration, for example, "https://code.google.com/apis/console/".

The procedure of obtaining values for the "Access Key" and "Secret Access Key" system settings of this folder is explained when describing the procedure of signing up the application to social networks and Google.

Integration with message services

[Default message exchange library] (SysMsgLib) – sets the telephony integration library that is used by default. Type: lookup.

Cases

The following settings are available in Service Creatio enterprise, Service Creatio customer center, Financial Services Creatio customer journey and CRM-bundles.

[1st-line support] (FirstSupportLine) – sets a user group that corresponds to the "1st-line support" value of the "Roles in the service team" lookup. Used in the incident management process in case of incident escalation. Type: lookup. Default value: "1st line of support".

[2nd-line support] (SecondSupportLine) – sets a user group that corresponds to the "2nd line of support" value of the "Roles in the service team" lookup. Used in the incident management process in case of incident escalation. Type: lookup. Default value: "2nd line of support".

[3rd-line support] (TrirdSupportLine) – sets a user group that corresponds to the "3rd line of support" value of the "Roles in the service team" lookup. Used in the incident management process in case of incident escalation. Type: lookup. Default value: "3rd line of support".

[Create cases by junk emails] (CreateCasesFromJunkEmails) – determines whether to create cases by emails from the addresses and domains specified in the [Blacklist of email addresses and domains for case registration] lookup. Type: Boolean. Default value: "Switched of" (flag removed).

[Junk case default status] (JunkCaseDefaultStatus) – sets the default status for cases registered by emails and domains specified in the [Blacklist of email addresses and domains for case registration] lookup. Type: lookup. Default value: "Canceled".

[Automatically create new contacts for unknown email addresses] (CreateNewContactsForUnknownEmailAddresses) – determines whether to create a new contact when registering a case from an unknown email. Type: Boolean. Default value: "Enabled" (checkbox is checked).

[Number of waiting days to reevaluate resolved case] (FirstReevaluationWaitingDays) – after a case is resolved and case evaluation email is sent, Creatio will wait for case evaluation from the case client for the specified number of days before sending a second reminder. Type: integer. Default value: 1.

[Number of waiting days after second reminder of resolved case] (SecondReevaluationWaitingDays) – after sending a case evaluation email for the second time, Creatio will wait for the specified number of days before closing the case. Type: integer. Default value: 1.

Applications

Settings are available in Creatio lending and CRM bundle for bank products.

[Main participant role in application] (MainParticipantRole) – sets the role of a transaction participant specified in the [Client] field. Type: lookup. Default value: Borrower.

[Main registration document type] (MainRegDocumentType) – sets the primary identity document for a contact. Type: lookup. Default value: "National passport".

mobile

Settings are available in Creatio enterprise and CRM-bundles.

[Check-in verification range] (CheckInRadius) – sets a distance that is the allowable discrepancy (in meters) between the coordinates of the employee and the actual coordinates of the check-in. Specified distance will be used for check-in verification.

[Use last known location of user] (UseMobileLastKnownLocation) – a system setting enabling a mobile device to use the latest cached employee's location and save it as check-in location if the actual check-in coordinates are unknown. Type: Boolean. Default value: "On".

VIDEO TUTORIALS

- System settings and lookups

Users and permissions

You can grant permissions to access Creatio data and functionality for individual **users** and user groups (referred to as "**roles**").

Users

You need to create and license a user account for each Creatio user. Each user record must be linked to a specific contact. Enterprise organizations with an extensive infrastructure of IT services can benefit from a number of features for centralized user management and authentication.

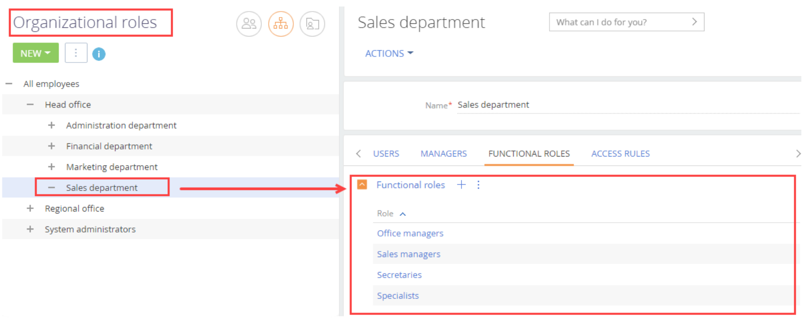
Synchronization with the LDAP catalog will automatically create Creatio users with all necessary details from your LDAP directory, such as name, job title, communication options, addresses, roles, etc. In addition, users will be able to use their domain credentials to log in to Creatio. You can learn more about how to set up LDAP synchronization in the "LDAP integration and user authentication in Creatio" article.

Single Sign-On (SSO) technology enables using a single user account to log in to multiple services. Once a user authenticates in one of the services, they become authenticated in all services that use single sign-on. Learn more about SSO features in the "Single Sign-On in Creatio" and "Single Sign-On setup" articles.

Roles

Configuring the structure of user roles (Fig. 456) is the important first step in Creatio permission management. After this, you can easily set access permissions by assigning new users to the needed roles.

Fig. 456 Example of the role structure



There are two types of user roles: **organizational** and **functional**. All users assigned to a role inherit the access permissions of that role. An actual access level of a Creatio user is a combination of access permissions of all of the user's roles.

Organizational roles represent the structure of access levels. You assign access permissions to organizational roles. Examples of organizational roles are different company branches (e.g., the head office and a regional office), as well as company departments, e.g., "System administrators", "Sales", "Administrative department".

Functional roles are designed to represent the structure of your actual job titles. You assign permissions to functional roles by linking them with organizational roles. Examples of functional roles are usually “Sales manager”, “Office manager”, “Secretary”. For example, if you need to grant the same permissions to secretaries of different offices, set up access permissions for the “Secretaries” functional role.

NOTE

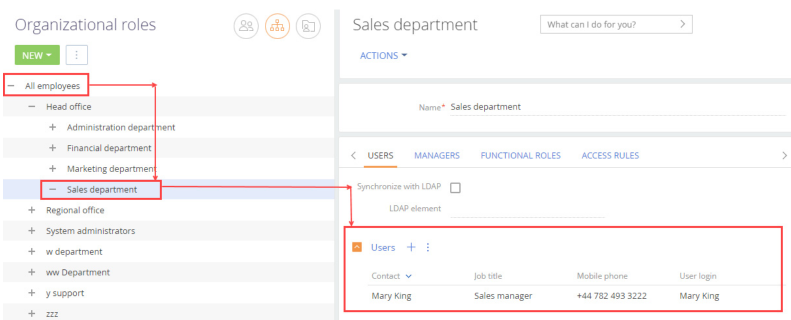
The data of Creatio users, organizational and functional roles are stored in the “SysAdminUnit” database table.

Permission inheritance between organizational roles

Subordinate roles inherit all access permissions that have been set up for their parent role. As a result, in addition to any permissions that you assign individually for a user, the user will also obtain any permissions of their role, as well as any permissions inherited by that role from other roles.

For example, the “All employees” organizational role grants minimum access permissions necessary for any employee. If you add a user to any of its subordinate roles, e.g., “Sales department”, such user will inherit all permissions set up for both, the “Sales department” and “All employees” roles. Users with a role that is subordinate to the “Sales department” role will inherit the access permissions from that role, permissions from its parent “Sales department” role and permissions from the “All employees” role, which is a parent role for the “Sales department” role (Fig. 457).

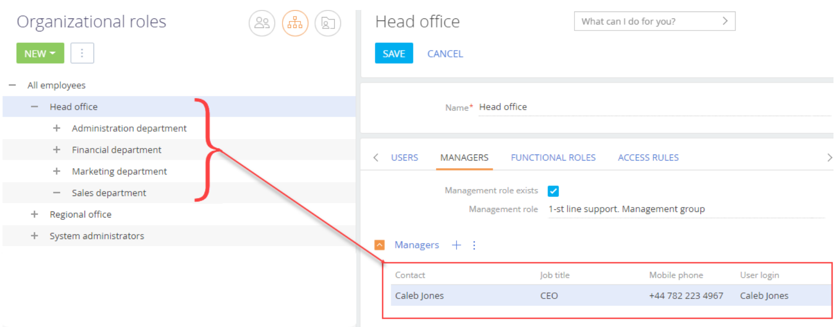
Fig. 457 Example of inheriting parent roles by a user



As a result, in addition to any permissions that you assign individually for a user, the user will also obtain any permissions of their role, as well as any permissions inherited by that role from other roles.

For any organizational role, you can assign a **manager role**. A manager role automatically obtains all permissions from all of its subordinate employees. The main defining feature of the manager role (Fig. 458) is that it automatically obtains all the permissions of the corresponding organizational role and its subordinate roles. For example, the “All employees” organizational role includes a “Head office’ subordinate role, which in its turn includes a “Sales department” subordinate role. If you assign a manager role to the “Head office” role, the managers of the head office will obtain all permissions granted to the “Head office” and “Sales department” roles.

Fig. 458 Example of a manager role for the "Sales department' organizational role



Each Creatio configuration has a "**System administrators**" organizational role. By default, this role has maximum possible permissions and can create, read, update and delete any data.

A user can have several roles. For example, you can assign an employee the "Sales managers" and "Account managers" roles. Permissions for each of these roles may conflict with each other. In this case, you need to set up the permission priority. Read more about permission priorities in the "How to configure access to operations in section objects" article.

Types of access permissions

In Creatio, you can grant access to **business data** (e.g., to the [Accounts] section records or dashboards), as well as to the **Creatio functions**, such as the ability to export records to Excel, design business processes, configure sections, etc.

Access to business data grants permission to perform CRUD (creating, reading, updating and deleting) operations with data. To provide access to business data, you need to configure access permissions to corresponding Creatio objects. Creatio objects are roughly equivalent to database tables and correspond to sections, details, lookups, etc.

You can manage access to business data on several levels:

- Ability to perform CRUD operations with any data in an object. Learn more about setting up access to object data in the "Managing object operation permissions" article.
- Ability to view, edit or delete separate records. Learn more about record permissions in the "Managing record permissions" article.
- Ability to view, edit or delete values in separate object columns. Learn more about column permissions in the "Managing column permissions" article.

Access to functions can be granted through system operations. System operation permissions (access to Creatio functions) should not be confused with object operation permissions (which imply access to CRUD operations in objects). System operations enable you to manage access to a broad list of Creatio functions, including user registration, configuring workplaces, managing lookups, system configuration, etc.

NOTE

A user (as a rule, it is the system administrator) who has access to the "View any data", "Add any data", "Edit any data" and "Delete any data" system operations, can create, read, update or delete data in any object, regardless of settings in the [Object permissions] section.

Learn more about system operations in the "System operation permissions" article.

User activity logging and audit

Native tools for logging user activities in Creatio include Audit log and Change log.

Audit log automatically registers all events related to a modification of user roles, distribution of access permissions, changes in the values of system settings and users' authorization in the system. You can learn more about using the audit log in the “Audit log” article.

Change log enables tracking the history of changes in the database tables of Creatio. You can set up a list of objects that will be used for tracking changes in the change log. Learn more about using the log in the “Change log” article.

SEE ALSO

- Object permissions
- Managing object operation permissions
- Managing record permissions
- Managing column permissions
- Inherited access permissions
- Selecting an object to set up access permissions

User authentication

Creatio offers additional options for managing user accounts for enterprises with high user count or additional security requirements. The following options will ensure consistency between user accounts in Creatio and other enterprise's systems and services, as well as enable the users to use a single set of login credentials throughout those services:

- Single Sign-On (SSO)

  With single sign-on, users need to log in only once to authorize in multiple services that they are supposed to access. User authentication is processed by a secure third-party identity provider, with no need to manage passwords for every single user in Creatio. During the first login attempt, if the user account has not been created previously, just-in-time provisioning mechanism will automatically create the corresponding Creatio user account with proper data from the identity provider, such as user group, employee name, contact information, etc.

  Creatio can integrate with any identity provider that supports the SAML 2.0 protocol. This guide contains instructions on how to set up SSO with two popular identity providers: ADFS and OneLogin.

- LDAP (Lightweight Directory Access Protocol)

  An LDAP directory service can act as a single, authoritative user registry for thousands of users. Integrating with LDAP enables you to:

  - Pick up user roles and structure directly from your corporate Active Directory (AD).
  - Enable users to log in to Creatio with their domain credentials - LDAP compares them with the username and the password details stored in the Active Directory.

- Windows authentication

  Windows authentication lets authorized Windows domain users to log in to Creatio without having to enter login and password. A user's identity is verified by comparing the current user's domain credentials with the credentials of the corresponding Creatio or LDAP user.

CONTENTS

Single Sign-On in Creatio

The Single Sign-On technology in Creatio enables the use of a single user account to log in to multiple services. After signing in once via an identity provider, users can access their applications and services without the need to enter their login credentials. When the user signs out in any of the applications, sessions of all other connected applications end as well.

Single Sign-On advantages:

- Better security with less passwords for users to memorize.
- Faster authentication in multiple services.
- Easier administration of user accounts.
- Easier implementation process for security technologies due to the use of a single identity provider throughout all operating systems and devices.

  NOTE

  Creatio supports the SAML 2.0 protocol, therefore any identity provider that uses this protocol is compatible.

NOTE

Single Sign-On identification is supported by mobile devices running iOS and Android.

Essential Single Sign-On terminology

Single Sign-On, SSO – access control technology based on using a single resource for user authentication. This technology includes Single Sign-On, Single Sign-Off (Single Log Out) and Just-In-Time Provisioning methods.

Single Sign-Off (Single Log Out) – a reverse method that restricts user's access to services after a single log out operation on any of them.

Just-In-Time Provisioning – an automatic registration of user accounts in an application if no accounts exist for an authorized user.

Identity provider – a service that verifies user authenticity based on a contact directory or a response from a specific service. Creatio supports the SAML 2.0 protocol, therefore any identity provider that uses this protocol is compatible.

Service Provider – a service or a system accessed by the user.

Resource – the information that the user requests from the service provider.

User Agent – a user environment, browser or any other client application on the user's device.

Authentication – the process of verifying user's identity.

Authorization – the process of verifying permissions to perform an action or an operation.

Federated SSO – an authentication system where the service provider redirects users to the identity provider without receiving any user data.

Benefits of the Single Sign-On Technology

The following examples demonstrate the benefits of using the Single Sign-On technology:

Automatically creating a user account on first login

If a user has an account within the corporate domain, there is no need to create a new account for each resource used in the company. The user only needs to enter their universal account credentials and:

- If there is a user with the same login in the domain, Creatio will create a contact and an account for the new user.
- Contact data will be filled according to the [SAML field name converters to contact field name] lookup settings. The created record can be viewed in the [Contacts] section.
- A new account will obtain organizational and functional roles that are similar to its domain roles. The created record can be viewed in the users and roles management section.

NOTE

Automatic user creation is configured after the Single Sign-On setup and can be disabled.

Logging in on several resources

When you authenticate in one of the identity provider resources, the authentication to other provider resources will be automatic. The user does not need to enter their login and password to sign in to other applications.

Logging out from all resources

All resources and applications will receive a request to end your current session after you exit one of the resources. All resources and applications will log out the corresponding user.

Single Sign-On setup

To set up Single Sign-On:

1. Set up the **identity provider** by adding Creatio to trusted websites.
2. Set up the trusted identify provider in **Creatio**. Optionally, select the default identity provider.

Prerequisites:

1. A Creatio website, available by https and administrator privileges on the website.

   NOTE

   A Creatio setup for https protocol is described in the corresponding article.

2. Administrator privileges on the identity provider.
3. Users in the corporate domain.

Creatio can integrate with any identity provider that supports the SAML 2.0 protocol. This guide contains instructions on how to set up SSO with two popular identity providers: ADFS and OneLogin.

CONTENTS

Setting up Single Sign-On via ADFS

You can integrate your Active Directory Federation Services (ADFS) instance to help manage seamless single sign-on for your members. For this, you need to configure a number of settings both in ADFS and Creatio.

Settings on the Creatio side require access to the configuration files on the application server. Cloud customers will need to contact Creatio support with a request to perform the settings. The instructions for settings on the Creatio side in this guide are intended for on-site customers. We strongly advise on-site customers to perform setup under the guidance of a Creatio support specialist.

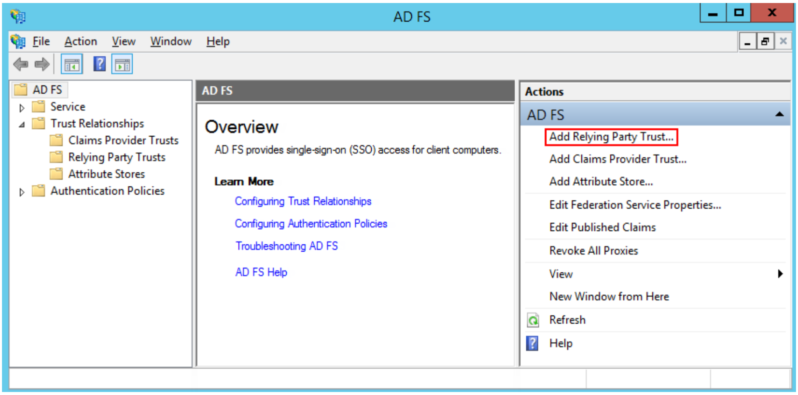
> ATTENTION
>
> In the setup example below, https://site01.creatio.com/Demo_161215/ is the Creatio website and http://adfs01.mysite.com/adfs/ is the ADFS site. Please be sure to replace these addresses with the corresponding addresses of your sites when you perform the actual setup.

Settings on the ADFS side

Begin this procedure by launching an ADFS instance.

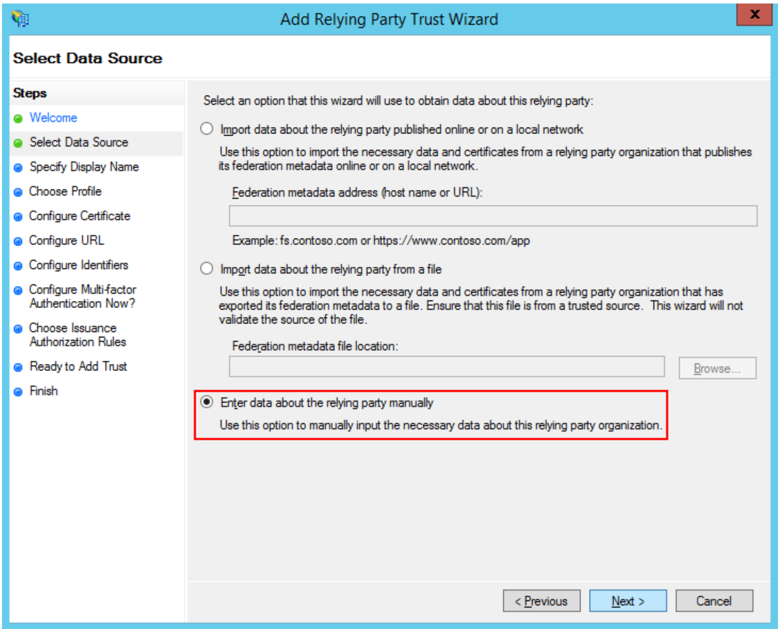
1. Add a new Trusted Relaying Party (Fig. 459).

Fig. 459 Adding a new Trusted Relaying Party



2. Select the “Enter data about the relying party manually” option (Fig. 460).

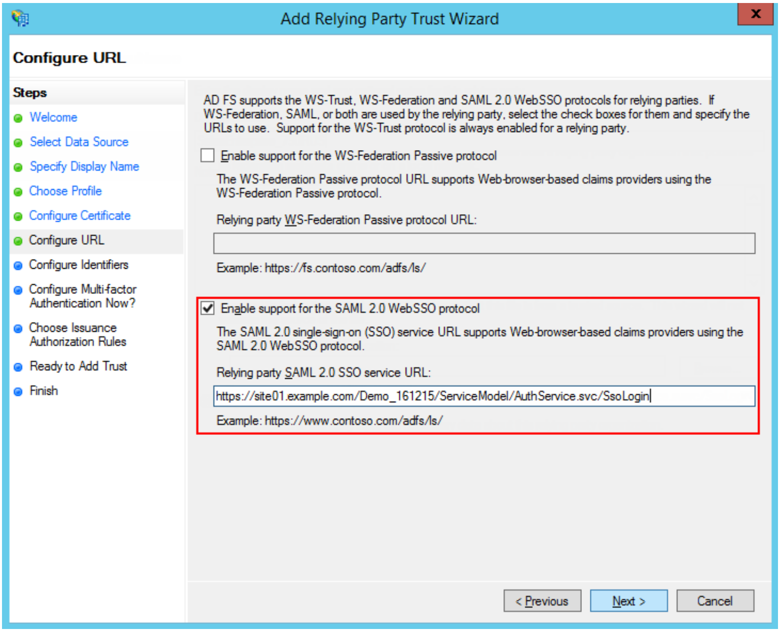
Fig. 460 Selecting the “Enter data about the relying party manually” option



3. Enter the relaying party name in the [Display name] field. This name is needed for a comprehensive list of trusted applications in ADFS and does not affect actual setup.
4. Keep the default ADFS profile. Click “Next”.
5. Click “Next” on the certificate selection step.

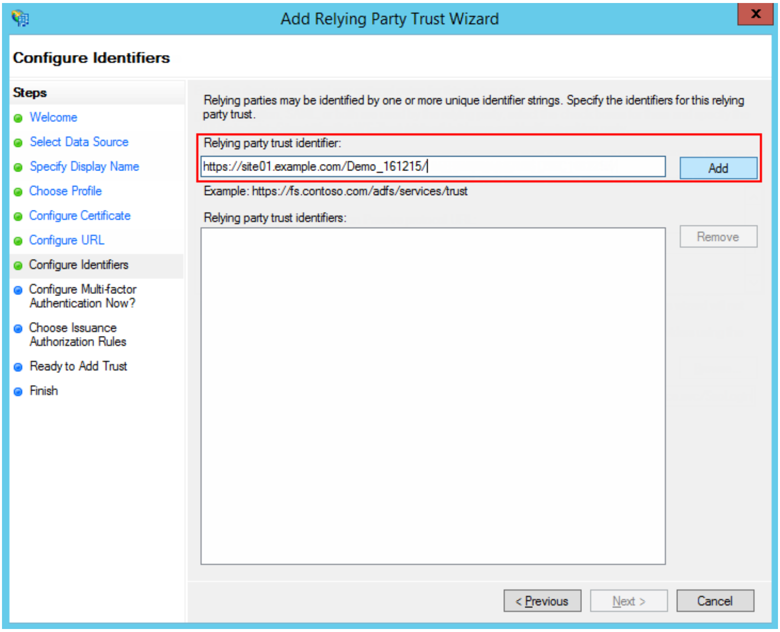
6. Enable SAML 2.0 protocol support. Specify the site address and add "/ServiceModel/AuthService.svc/SsoLogin" to it (Fig. 461).

Fig. 461 Enabling SAML 2.0 protocol support



7. Specify the website root as the identifier and click "Add" (Fig. 462).

Fig. 462 Specifying identifier



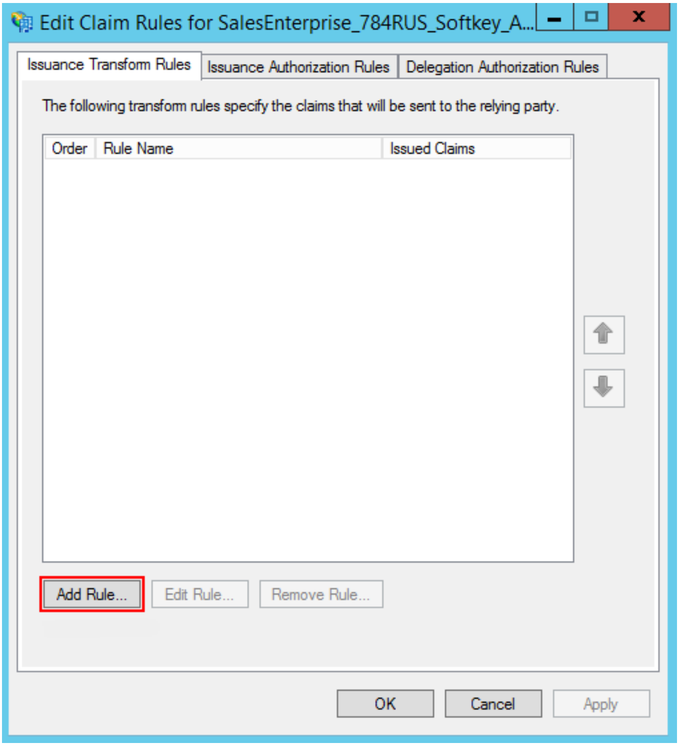
ATTENTION

The identifier is used when verifying the authenticity of a source that requests authentication. The URL must completely match, including the "/" in the end.

8. Set up the rest of the parameters according to your security requirements. You can leave default values for test purposes.
9. Click "Finish". In the opened window, click the "Add Rule" button and add a new SAML Assertion to SAML Response rule (Fig. 463).

ACCELERATE

Fig. 463 Adding a rule

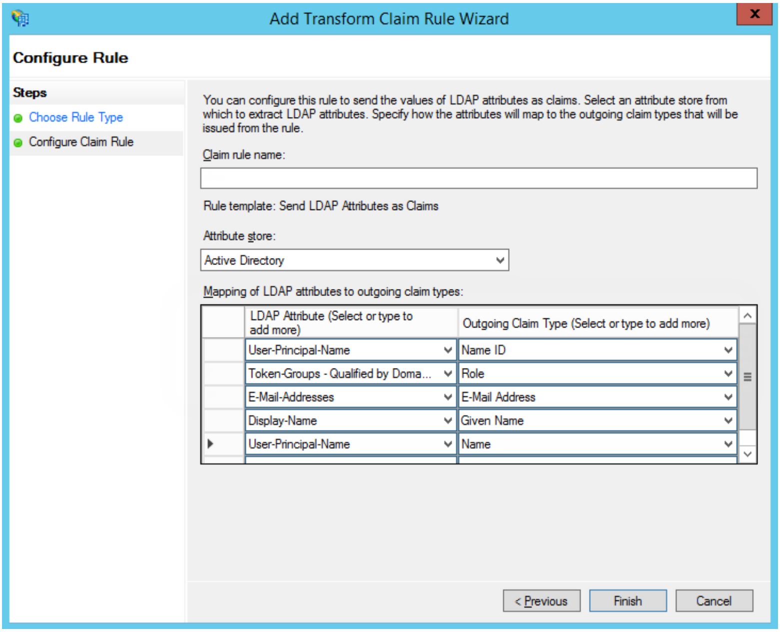


NOTE

The data generated according to the new rule will be used by Creatio to search for users and update their roles.

10. Keep default settings and click "Next" on the first step of the wizard. Set up a set of parameters that will be received from the user's data (Fig. 464). In the current example, the user's Name and a list of domain groups will be passed to SAML Assertion.

Fig. 464 Setting up rule parameters



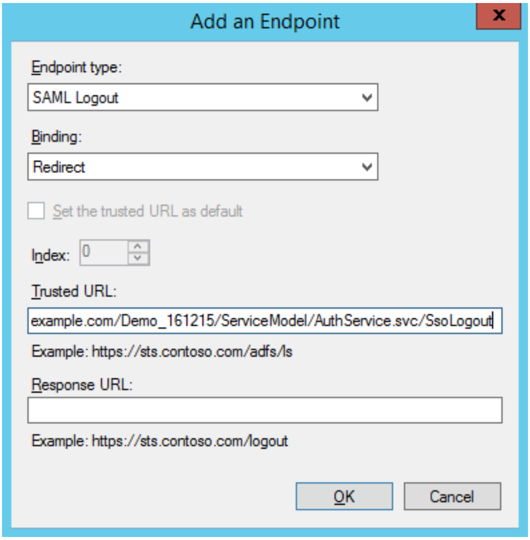
11. Click “Save”.
12. Open the Trusted Relay settings and specify SHA-1 encryption according to the website certificate algorithm.
13. Add Logout endpoint on the Endpoints tab and set its parameters (Fig. 465).

    Endpoint type: SAML Logout

    Binding: Redirect

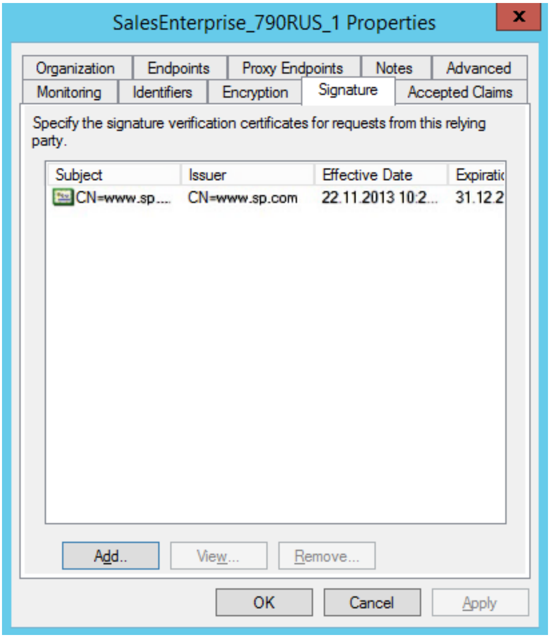
    Trusted URL: https://site01.creatio.com/Demo_161215/ServiceModel/AuthService.svc/SsoLogout

Fig. 465 Setting up endpoint parameters



14. On the Signature tab, add a certificate for signing Logout Request (Fig. 466).

Fig. 466 Adding a certificate



ATTENTION

Single Sign-Out will not work without a certificate.

Settings on the Creatio side (cloud)

If you use a cloud-based version of Creatio, contact our support and have our team configure Single Sign-On on your site via a remote connection. Alternatively, you can create a user with administrator permissions and provide our support team with the credentials.

Settings on the Creatio side (on-site)

If you use an on-site version of Creatio, perform the following settings in Creatio configuration files:

ATTENTION

On-site customers are strongly advised to perform these settings under the guidance of Creatio support.

1. Specify identity provider information in the saml.config. In the Name parameter, specify your website's FQDN.

   ATTENTION

   The value of the ServiceProvider Name parameter must be identical to the Identifier value specified on the ADFS identity provider's side. This is how it verifies that the SAML Assertion was issued specifically for your application. We recommend using the FQDN of your website.

2. In the Partner Identity Provider section, specify IdP settings. You can view these settings in the metadata file.

   WantAssertionSigned="false" – if an encryption certificate will not be used during SAML Assertion data exchange.

   SingleSignOnServiceUrl – URL of the identity provider's single sign-on. Usually for ADFS this is: https://site01.creatio.com/Demo_161215/adfs/ls.

   SingleLogoutServiceUrl – URL of the identity provider's single sign-off. Usually for ADFS this is: https://site01.creatio.com/Demo_161215/adfs/ls.

   PartnerCertificateFile – path to the security certificate in the file system on the Creatio application server. Specify this parameter if WantAssertionSigned="true".
   SignLogoutRequest="true" – specify for ADFS, since signing of LogoutRequest is required.

   SignLogoutResponse="true" – specify for ADFS, since signing of LogoutResponse is required.

   OverridePendingAuthnRequest="true" — this option helps in case of errors in IdP initiated login.

   An example of the saml.config for test ADFS:

```
<?xml version="1.0"?>
<SAMLConfiguration xmlns="urn:componentspace:SAML:2.0:configuration">
    <ServiceProvider Name="https://site01.creatio.com/Demo_161215/"

                Description="Example Creatio Service Provider"
                AssertionConsumerServiceUrl="~/ServiceModel/
AuthService.svc/SsoLogin"
                LocalCertificateFile="sp.pfx"
                LocalCertificatePassword="password"
            />
    <PartnerIdentityProviders>
```

```
<!-- ADFS Creatio -->
        <PartnerIdentityProvider Name="http://adfs01.mysite.com/adfs/
services/trust"
                            OverridePendingAuthnRequest="true"
                                 Description="MVC Example Identity
Provider"
                                 SignAuthnRequest="false"
                                 SignLogoutRequest="true"
                                 SignLogoutResponse="true"
                                 WantSAMLResponseSigned="false"
                                 WantAssertionSigned="false"
                                 WantAssertionEncrypted="false"
                                 SingleSignOnServiceUrl="https://
adfs01.mysite.com/adfs/ls"
                                 SingleLogoutServiceUrl="https://
adfs01.mysite.com/adfs/ls"

PartnerCertificateFile="Certificates\idp.cer"/>
    </PartnerIdentityProviders>
</SAMLConfiguration>
```

3. Specify the certificate that will be signing the SAML Assertion. Make sure that the certificate file is available in the Terrasoft.WebApp folder in the website root.

```
LocalCertificateFile="sp.pfx"
LocalCertificatePassword="password"
```

4. Modify the web.config in the website root folder:
   a. Enable using SSO AuthProvider:

      SsoAuthProvider – identity provider for the primary application.

      SSPSsoAuthProvider – identity provider for the customer portal.

      You can enable one or both of the providers.

```
<terrasoft>
<auth
providerNames="InternalUserPassword,SSPUserPassword,SsoAuthProvider,S
SPSsoAuthProvider" autoLoginProviderNames="" defLanguage="en-US"
defWorkspaceName="Default" useIPRestriction="false"
loginTimeout="30000">
<providers>
```

   b. Specify which identity providers in the saml.config need to be used. In the web.config App Loader, specify the PartnerIdP parameter value from the Issuer URL string in saml.config, such as:

```
<appSettings> ... <add key="PartnerIdP" value="http://
adfs01.mysite.com/adfs/services/trust"/> ... </appSettings>
```

   c. Enable using SSO by default. Edit the App Loader web.config: NuiLogin.aspx?use_sso=true

NOTE

A direct login link will be created: https://site01.creatio.com/NuiLogin.aspx
Use the following link to test the SSO operation before it is enabled by default: https://site01.creatio.com/NuiLogin.aspx?use_sso=true

Enable redirection to the identity provider when going to the website root:

```
<defaultDocument> <files> <add value="NuiLogin.aspx?use_sso=true" />
</files> </defaultDocument>
```

Enable redirection to the identity provider if no user session is available:

```
<authentication mode="Forms">
<forms loginUrl="~/NuiLogin.aspx?use_sso=true" protection="All"
timeout="60" name=".ASPXAUTH" path="/" requireSSL="false"
slidingExpiration="true" defaultUrl="ViewPage.aspx?Id=4e342d5e-bd89-
4b79-98e2-22e433122403" cookieless="UseDeviceProfile"
enableCrossAppRedirects="true" />
</authentication>
```

5. Enable Single Log Out in the web.config in the Terrasoft.WebApp folder:

```
/Terrasoft.WebApp/web.config
<add key="UseSlo" value="true" />
```

6. Enable Just-In-Time User Provisioning in the web.config in the application root:

```
<add name="UseJit" value="true" />
```

7. Set up mapping between SAML Assertion fields and Creatio columns using the [SAML field name converter to contact field name] lookup. You need this to populate contact fields correctly when the system will create new users via Just-In-Time User Provisioning. If the field is empty or disabled in the identity provider data, it can be filled with the value specified in the [default value] field of the lookup. Next time you log in, the contact fields specified in the lookup will be populated with the values received from the provider or with actual default values.

NOTE

If the lookup is missing in the lookup list, it needs to be registered.

8. To use the Single Sign-On in a mobile application, please set the [default value] attribute in the [SSO in mobile application] system setting.

SEE ALSO

- Setting up Single Sign-On via OneLogin
- Setting up Just-In-Time User Provisioning

Setting up Single Sign-On via OneLogin

You can use OneLogin SSO portal as a single sign-on point for all your services, including Creatio. For this, you need to configure a number of settings both on the OneLogin and Creatio side.

Settings on the Creatio side require access to the configuration files on the application server. Cloud customers will need to contact Creatio support with a request to perform the settings. The instructions for settings on the Creatio side in this guide are intended for on-site customers. We strongly advise on-site customers to perform setup under the guidance of a Creatio support specialist.

ATTENTION

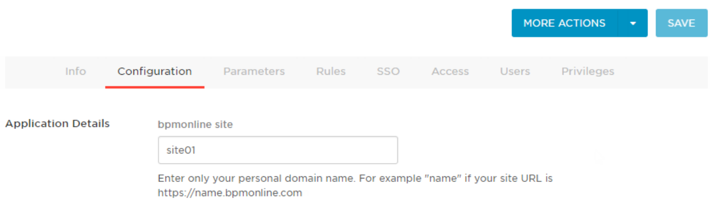
In the setup case below, we use https://site01.creatio.com/ as Creatio site address and “appid” as application id on the OneLogin. During the actual setup process, please be sure to replace these values with your site address and the id of corresponding application on OneLogin.

Settings on the OneLogin side

Start the procedure by logging in to OneLogin using an administrator account.

1. Click “Apps” and select “Add Apps”. Enter “Creatio” in the search string and select the Creatio application.
2. Change the value in the “Display name” field, if needed, modify application icons or clear the [Visible in portal] checkbox. These settings affect the website display on the OneLogin site.
3. Click “Save”.
4. Go to the “Configuration” tab and enter your website domain name in the “Creatio site” field (Fig. 467).

Fig. 467 Website configuration page



Settings on the Creatio side (cloud)

If you use a cloud-based version of Creatio, contact our support and have our team configure Single Sign-On on your site via a remote connection. Alternatively, you can create a user with administrator permissions and provide our support team with the credentials.

Settings on the Creatio side (on-site)

If you use an on-site version of Creatio, perform the following settings in Creatio configuration files:

ATTENTION

On-site customers are strongly advised to perform these settings under the guidance of Creatio support.

1. Specify identity provider information in the saml.config. In the Name parameter, specify your website’s FQDN, such as https://site01.creatio.com/.

ATTENTION

The value of the ServiceProvider Name parameter must be identical to the Audience value specified on the identity provider’s side. This is how it verifies that the SAML Assertion was issued specifically for your application. We recommend using the FQDN of your website.

2. In the Partner Identity Provider section, specify identity provider settings. You can view these settings in the metadata file.

WantAssertionSigned="false" – if an encryption certificate will not be used during SAML Assertion data exchange.

SingleSignOnServiceUrl – URL of the identity provider's single sign-on. Can be taken from the SAML 2.0 Endpoint (HTTP) on a trusted application page.

SingleLogoutServiceUrl – URL of the identity provider's single sign-off. Can be taken from the SLO Endpoint (HTTP) on a trusted application page.

An example of the saml.config for a test OneLogin:

```
<?xml version="1.0"?>
<SAMLConfiguration xmlns="urn:componentspace:SAML:2.0:configuration">
    <ServiceProvider Name="https://site01.creatio.com/"

                Description="Example Creatio Service Provider"
                AssertionConsumerServiceUrl="~/ServiceModel/
AuthService.svc/SsoLogin"
            />
    <PartnerIdentityProviders>

   <!--OneLogin Creatio -->
        <PartnerIdentityProvider Name="http://adfs01.mysite.com/adfs/
services/trust"
                                 Description="OneLogin"
                                 WantAssertionSigned="false"
                                 SingleSignOnServiceUrl="https://ts-
dev.onelogin.com/trust/saml2/http-post/sso/appid"
                                 SingleLogoutServiceUrl="https://ts-
dev.onelogin.com/trust/saml2/http-redirect/slo/appid"

PartnerCertificateFile="Certificates\onelogin.cer"/>

    </PartnerIdentityProviders>
</SAMLConfiguration>
```

3. Modify the web.config file in the website root folder:

   a. Enable using SSO AuthProvider:

      SsoAuthProvider – identity provider for the primary application.

      SSPSsoAuthProvider – identity provider for the customer portal.

      You can enable one or both of the providers.

```
<terrasoft>
<auth
providerNames="InternalUserPassword,SSPUserPassword,SsoAuthProvider,S
SPSsoAuthProvider" autoLoginProviderNames="" defLanguage="en-US"
defWorkspaceName="Default" useIPRestriction="false"
loginTimeout="30000">
<providers>
```

   b. Specify which IdP (of those specified in the saml.config) to use. In the web.config App Loader, specify the PartnerIdP parameter value from the Issuer URL string in saml.config, such as: "https://app.onelogin.com/saml/metadata/appid"

```
<appSettings> ... <add key="PartnerIdP" value="https://
app.onelogin.com/saml/metadata/appid"/> ... </appSettings>
```

c. Enable using SSO by default. Edit the App Loader web.config: NuiLogin.aspx?use_sso=true

NOTE

A direct login link will be created: https://site01.creatio.com/NuiLogin.aspx
Use the following link to test the SSO operation before it is enabled by default: https://site01.creatio.com/NuiLogin.aspx?use_sso=true

Enable redirection to the identity provider when going to the website root:

```
<defaultDocument> <files> <add value="NuiLogin.aspx?use_sso=true" />
</files> </defaultDocument>
```

Enable redirection to the identity provider if no user session is available:

```
<authentication mode="Forms">
<forms loginUrl="~/NuiLogin.aspx?use_sso=true" protection="All"
timeout="60" name=".ASPXAUTH" path="/" requireSSL="false"
slidingExpiration="true" defaultUrl="ViewPage.aspx?Id=4e342d5e-bd89-
4b79-98e2-22e433122403" cookieless="UseDeviceProfile"
enableCrossAppRedirects="true" />
</authentication>
```

4. Enable Single Log Out in the web.config in the Terrasoft.WebApp folder:

```
<add key="UseSlo" value="true" />
```

5. Enable Just-In-Time User Provisioning in the web.config in the website root folder:

```
<add name="UseJit" value="true" />
```

6. Set up mapping between SAML Assertion fields and Creatio columns using the [SAML field name converter to contact field name] lookup. You need this to populate contact fields correctly when the system will create new users via Just-In-Time User Provisioning. If the field is empty or disabled in the identity provider data, it can be filled with the value specified in the [default value] field of the lookup. Next time you log in, the contact fields specified in the lookup will be populated with the values received from the provider or with actual default values.

NOTE

If the lookup is missing in the lookup list, it needs to be registered.

7. To use the Single Sign-On in a mobile application, please set the [default value] attribute in the [SSO in mobile application] system setting.

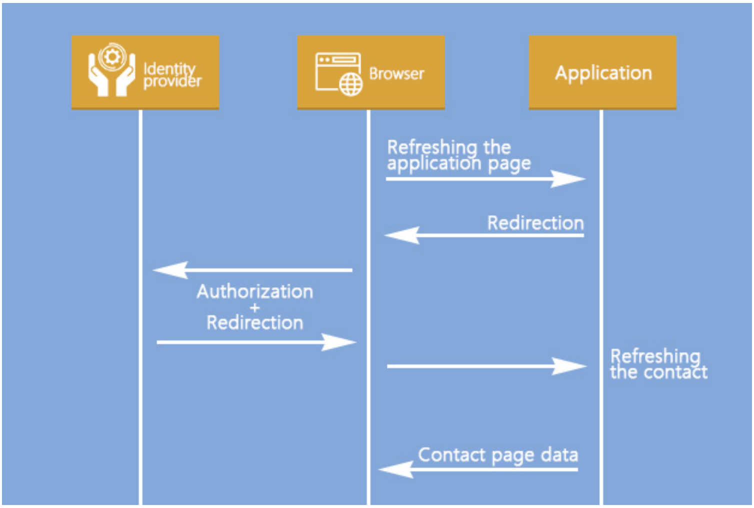
SEE ALSO

- Setting up Single Sign-On via ADFS
- Setting up Just-In-Time User Provisioning

Setting up Just-In-Time User Provisioning

Use Just-In-Time User Provisioning (JIT UP) function to avoid creating accounts for each separate service and to keep user database up-to-date. JIT UP extends the Single Sign-On (SSO) technology and helps to reduce the number of operations for administrating accounts and personal data in contact records. Each time a user logs on using SSO, the data on the contact page are updated with the data obtained from the identity provider (Fig. 468). If a user has no account in Creatio, it can be created when the user logs in for the first time.

Fig. 468 Updating data via Just-in-Time User Provisioning



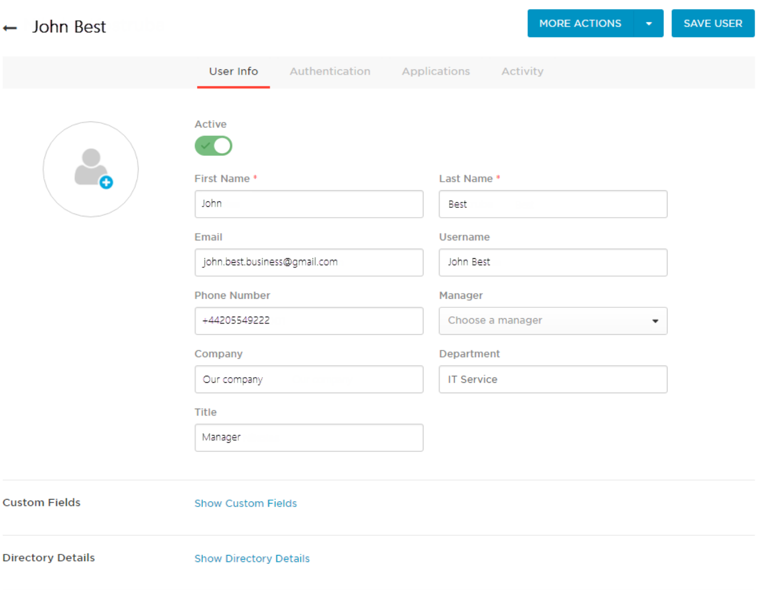
NOTE

Updating a contact with data from an identity provider includes updating the data on the record page and contact's connections to user groups.

To specify contact fields that should be populated with data from the identity provider, configure the mapping of the SAML Assertion fields with Creatio columns. This is done in the SAML Assertion of the identity provider and in the [SAML field name converters to contact field name] lookup.

To set up mapping, you will need a configured account in the identity provider (Fig. 469) with the data required for Creatio.

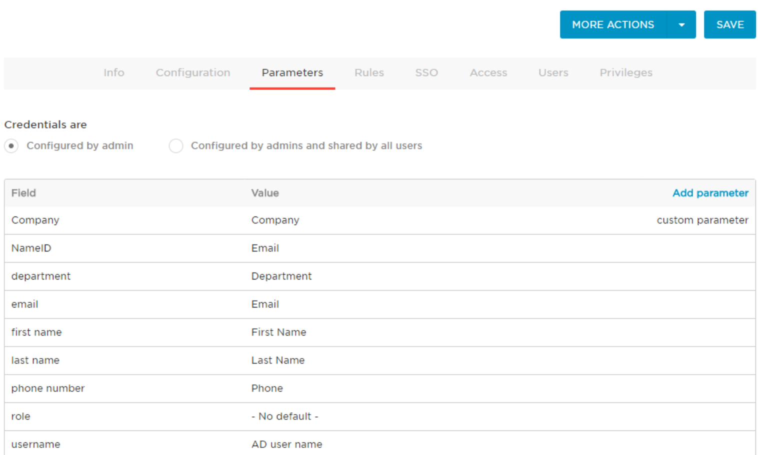
Fig. 469 Account fields in the OneLogin identity provider



To set up field population parameters:

1. Ensure that all required field values are transferred to Creatio. For example, to fill the profile of John Best with data from the [Company], [Department], [Email], [First Name], [Last Name] and [Phone] fields (Fig. 470).

Fig. 470 Application parameters in the OneLogin identity provider



NOTE

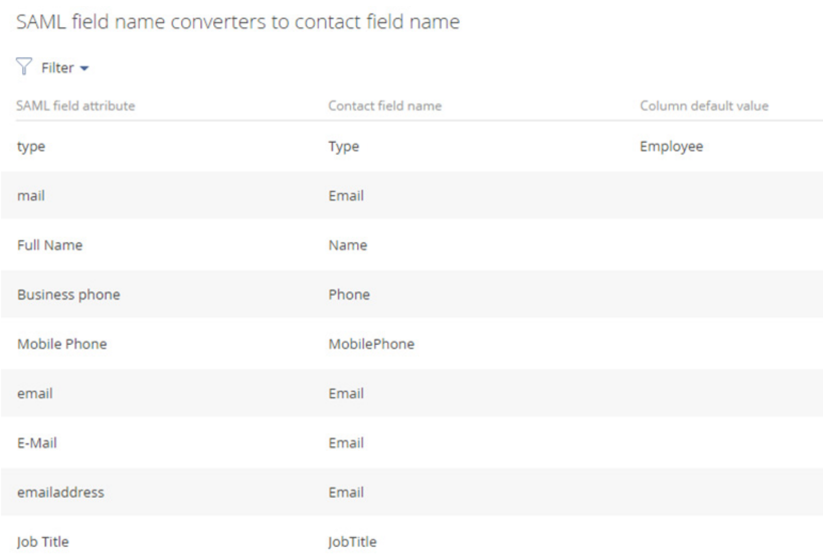
To verify the parameters, use the SAML Decoder extension in the Google Chrome browser.

2. Verify that correct rules to receive values and update the columns for each required field are specified on the Creatio side. Rules are configured in the [SAML field name converters to contact field name] lookup. Specify a column in the Creatio for each field received from the identity provider. For example, to fill the [Department], [Account], [Phone], [Email], [Given name] and [Surname] columns in Creatio, specify them next to the corresponding SAML attributes (Fig. 471).

NOTE

Specify column names in the Creatio database as contact columns.

Fig. 471 Configuration of the [SAML field name converters to contact field name] lookup



SAML field name converters to contact field name

Filter

SAML field attribute	Contact field name	Column default value
type	Type	Employee
mail	Email	
Full Name	Name	
Business phone	Phone	
Mobile Phone	MobilePhone	
email	Email	
E-Mail	Email	
emailaddress	Email	
Job Title	JobTitle	

3. A field that is missing in the identity provider data can be populated with the value specified in the [Column default value] field of the [SAML field name converters to contact field name] lookup. For example, the OneLogin identity provider does not contain the [Type] field and does not pass it when the user logs on. To populate this field in Creatio, create a rule in the lookup and specify the “Employee” value as default (Fig. 471). In this case, all created contacts will have the “Employee” value in the [Type] field.
4. You can add custom parameters to the OneLogin identity provider and specify macros for them. Working with macros is covered in a separate article.

SEE ALSO

- Setting up Single Sign-On via ADFS
- Setting up Single Sign-On via OneLogin
- Single Sign-On in Creatio

LDAP integration and user authentication in Creatio

Use synchronization with an LDAP directory to automate user account administration in Creatio. Users, whose accounts have been synchronized with LDAP, can log in with their domain user name and password.

Creatio supports synchronization with Active Directory and OpenLDAP.

The synchronization procedure consists of three stages:

1. Performed once, unless LDAP directory structure changes. The setup is needed to enable the synchronization functionality in the system. Also, you will need to set up Active Directory user filtering. Read more in the "Setting up Active Directory user filters" article.
2. Connecting Creatio items (i.e. users and organizational structure elements) to the respective items in the LDAP directory. This step is performed when adding new users or organizational roles. You can connect existing Creatio user accounts or import users from LDAP directory by creating connected records in Creatio automatically.
3. Synchronization of Creatio users and organizational structure elements with the connected LDAP directory elements. This step is required to update data in Creatio in order to reflect changes that occurred in the LDAP directory since the last synchronization. The regular synchronization is performed either automatically, or when initiated by the [Synchronize with LDAP] action in the [Organizational roles] section.

NOTE

Each organizational role is an element in a tree-like structure of roles, where each element is an organization or a department.

CONTENTS

Setting up LDAP integration

Integration setup is the process of setting up parameters for connecting LDAP directory elements to Creatio users and roles. Basic knowledge about the structure of the needed LDAP directory is required to set up LDAP integration.

This article contains examples of LDAP setup for Active Directory and OpenLDAP.

ATTENTION

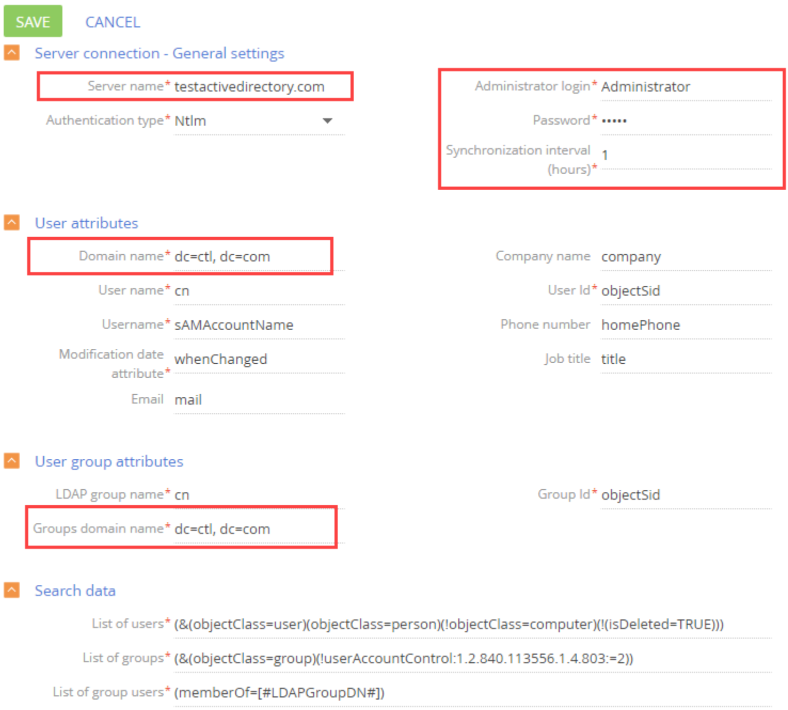
Depending on the structure of each LDAP directory, LDAP element attributes in your directory may be different from the attributes specified as examples.

1. Running integration setup

To begin the setup, open the System Designer and click the [LDAP integration setup] link of the [Import and integration] block. The setup page will open. Make sure you populate the highlighted fields. Default values may be used for other fields.

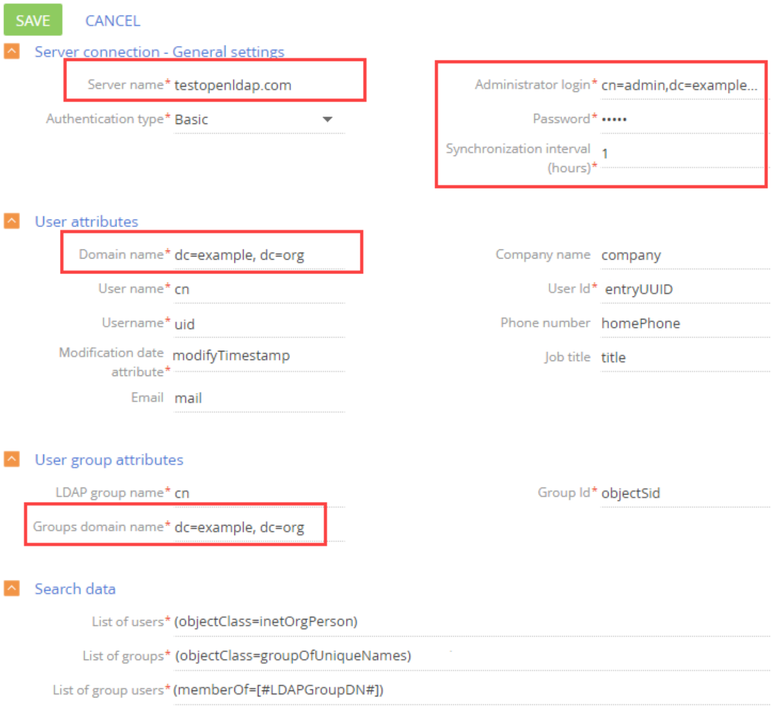
Active Directory settings

Fig. 472 LDAP integration setup page for Active Directory



OpenLDAP settings

Fig. 473 LDAP integration setup page for OpenLDAP



The below settings are required for LDAP integration.

2. LDAP server connection setup

Specify general server connection settings for Active Directory (Fig. 474) or for OpenLDAP (Fig. 475).

Fig. 474 Server connection settings for Active Directory

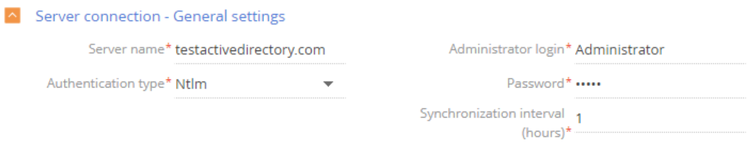
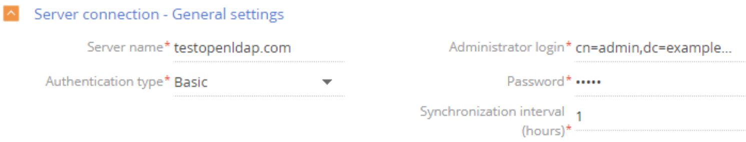


Fig. 475 Server connection settings for OpenLDAP



- [Server name] - name or IP address of the LDAP server.
- [Authentication type] - select the protocol for connection to the LDAP server.

  NOTE

  The authentication type is determined by the used LDAP server, as well as by the authentication security requirements. For example, select the “Ntlm” type to authenticate “NT LanManager” that is supported by Windows.
- [Administrator login], [Password] – administrator credentials.
- [Synchronization interval (hours)] - the interval for automatic user synchronization. Learn more in the “Running LDAP synchronization” article.

3. User synchronization setup

To set up the user synchronization, specify the attributes of LDAP directory elements that contain the user data to be imported (Fig. 476, Fig. 477).

Fig. 476 User attribute settings for Active Directory

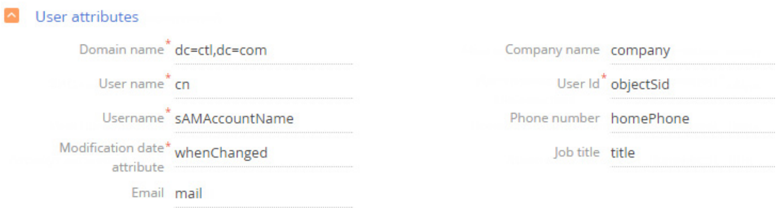


Fig. 477 User attribute settings for OpenLDAP

Required attributes

- [Domain name] – the unique name of the LDAP organizational structure element that comprises the synchronized users. All users that are subordinate to the specified LDAP element, directly or through other elements, will be available for synchronization. For example, if you specify root element of the LDAP directory, all users in the directory will be available for synchronization.

- [User name] – LDAP attribute that contains the full name of an LDAP user. The value of this attribute is used to populate the [Full name] field in the contact page when importing users. For example, the first and last name can be contained in such attributes as “name” or “cn” (Common name).
- [Username] – the attribute that contains the LDAP user name that is used to log in to the system. The user, whose account was synchronized with LDAP, will be logging in to the system using that name. For example, the “sAMAccountName” attribute can contain user login.
- [User Id] – the attribute to use as a unique user Id. The value of this attribute must be unique for each user.
- [Modification date attribute] – the name of the attribute that stores the time and date of the last LDAP element modification, for example, “WhenChanged”.

ATTENTION

If any of these attributes is missing, LDAP synchronization will result in an error.

Additional attributes

You can also specify additional attributes containing the information that can be used to fill out the user registration page automatically:

- [Company name] – the attribute that contains the name of the user’s employer. The value of the specified attribute will be used for populating the [Account] field on the contact page. If an account name matches the value of the specified attribute, the user’s contact will be linked to this account.
- [Job title] – the attribute that contains user's job title. The value of the specified attribute will be used for populating the [Job title] field on the contact page. If an existing job title matches the value of the specified attribute, this job title will be selected for the user during synchronization.

NOTE

If the value of the corresponding attribute does not match any existing accounts and job titles, Creatio will not be adding new accounts and job titles during the synchronization and leave the corresponding fields empty on the user’s contact page.

- [Phone number] – the attribute that contains phone number of the user. The value of the specified attribute will be used to populate the [Business phone] field on the contact page.
- [Email] – the attribute that contains the email address of the user. The value of the specified attribute will be used to populate the [Email] field on the contact page.

ATTENTION

If you leave any additional attribute fields empty, the corresponding fields on the contact page will not be populated automatically upon importing users from an LDAP directory.

4. Setting up the synchronization between the LDAP user groups and Creatio roles

Group synchronization settings enable linking groups in the LDAP directory to elements of Creatio organizational structure. To set up the user group synchronization, specify the attributes of LDAP directory elements that contain data about Active Directory (Fig. 478) or OpenLDAP (Fig. 479) groups to be imported.

Fig. 478 User group settings for Active Directory

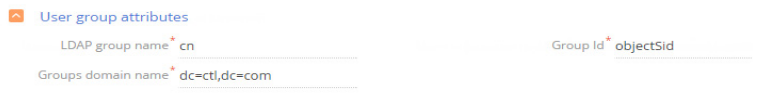


Fig. 479 User group settings for OpenLDAP

- [LDAP group name] – the attribute that contains the name of the user group in LDAP. For example, you can specify attribute "cn" ("common name").
- [Group Id] – the attribute that must be used as a unique group Id. The value of this attribute must be unique for each group. The "objectSid" attribute is a good choice for unique group Id.
- [Groups domain name] – the unique name of the LDAP element that contains all user groups that are synchronized. All user groups that are subordinate to the specified LDAP element, directly or through other elements, will be available for synchronization. For example, if you specify the root element of the LDAP directory, all user groups in the directory will be available for synchronization.

NOTE

Creatio verifies users included into synchronization groups during the synchronization process. If the date stored in the modification date attribute of an LDAP user is later that that of the last synchronization, user entry in Creatio organizational structure will be updated.

ATTENTION

If any of these attributes are missing, LDAP synchronization will result in an error.

5. Setting up filter conditions

Filter conditions determine which LDAP element criteria will be included in the list of the groups and users that are synchronized. Specify general server connection settings for Active Directory (Fig. 480) or for OpenLDAP (Fig. 481).

Fig. 480 Filter conditions for Active Directory

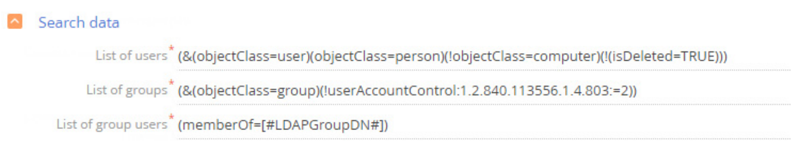


Fig. 481 Filter conditions for OpenLDAP

- Use the **[List of users]** filter to select the needed LDAP elements from the general catalog that will be synchronized with the Creatio users. The search filter must select active elements only.
- Use the **[List of groups]** filter to select the needed LDAP elements that will be synchronized with the Creatio organizational roles (user groups). The search filter must select active elements only.
- Use the **[List of group users]** filter to receive the list of users that are included in the LDAP group. One or more attributes will determine whether a user is a member of a group. For example, most directories use such attribute as "memberOf". The (memberOf=[#LDAPGroupDN#]) filter contains a Creatio macro and will filter out all objects (users) who are in the [#LDAPGroupDN#] group.

SEE ALSO

- System settings description

Setting up Active Directory user filters

Active Directory (AD) is Microsoft directory service for Windows domain networks that can be synchronized with Creatio to automate user and user group management. Synchronization is recommended if all or most Creatio users are also part of a Windows domain network.

Active Directory filters

An AD filter consists of the following attributes:

```
(<operator><filter1><filter2>)
```

Where <filter1>:

```
(<attribute><operator><value>)
```

> **NOTE**
> Attributes represent properties or characteristics of AD objects (ObjectClass, cn, streetAddress, etc.)

The filter comparison operators are as follows:

= (equal to)

~= (approximately equal to)

<= (less than or equal to)

>= (greater than or equal to)

& (all conditions must be met, i.e., "AND" operator)

| (any of the conditions must be met, i.e., "OR" operator)

! (the clause must evaluate to "False", i.e., "NOT" operator).

Values represent actual values of AD attributes. Values are not case sensitive and should not be included in quotes. The wildcard character "*" is supported, unless the <attribute> is a DN attribute (distinguishedName, manager, memberOf, etc.). For example, the following filter will select all objects where objectClass is filled in:

(objectClass=*).

Standard user filter

The standard filter for obtaining all active users is as follows:

(&(objectClass=user)(objectClass=person)(!objectClass=computer)(!(isDeleted=TRUE)))

In this filter:

& – the "AND" operator, indicating that all filter conditions must be met.

objectClass=user – the clause to select all objects of the "user" objectClass.

objectClass=person – the clause to select all objects of the "person" objectClass.

!objectClass=computer – the clause to exclude all objects of the "computer" objectClass.

!(isDeleted=TRUE) – the clause to exclude all deleted objects.

Standard user group filter

To synchronize Active Directory users with Creatio organizational structure, set up a filter to obtain user groups. The standard user group filter for all active users is as follows:

(&(objectClass=group)(!userAccountControl:1.2.840.113556.1.4.803:=2))

In this filter:

& – the "AND" operator, indicating that all filter conditions must be met.

objectClass=group – the clause to select all objects of the "group" objectClass.

userAccountControl – user access control flags attribute in the bitwise comparison filter clause.

:1.2.840.113556.1.4.803: – the LDAP_MATCHING_RULE_BIT_AND rule. The matching rule is true only if all bits from the property match the value. This rule acts like the bitwise AND operator.

2 – decimal value of the ACCOUNTDISABLE flag.

The (!userAccountControl:1.2.840.113556.1.4.803:=2) bitwise comparison filter excludes disabled (inactive) user accounts. For more information, please see the following support.microsoft.com article.

Standard filter for Active directory group users

In addition to user and user group filters, LDAP synchronization requires a filter to select all users that belong to each of the synchronized LDAP groups. The standard filter for getting a list of users in an LDAP group is as follows:

(memberOf=[#LDAPGroupDN#])

In this filter:

memberOf – standard attribute that determines the group of an AD object.

[#LDAPGroupDN#] – a Creatio macro for obtaining a list of users for a group with a unique DN (Distinguished Name) attribute value.

The macros above can be used to set up LDAP synchronization only in bom'online, as this is not a standard LDAP attribute. The following additional macros can be used in the filters for AD group users:

[#LDAPGroupName#] – the name of the group in the [LDAP group name] field on the LDAP synchronization setup page in Creatio System Designer.

[#LDAPGroupIdentity#] – unique group Id specified in the [Group Id] on the LDAP synchronization setup page in Creatio System Designer.

Filter setup

When setting up LDAP synchronization, you can use standard filters or create your own filters for users and groups.

CASE

Set up a filter that would differentiate employees with identical first and last names during synchronization with Active Directory.

You will need to make changes to the user synchronization filter. By default, the CN (Common Name) attribute is used for selecting objects. This attribute is required since it is specified the [User name] field in the [User attributes] group on the LDAP integration setup page. For the purpose of this case, the "displayName" attribute (which will be unique for each user) can be used. To differentiate users with identical first and last names, synchronize only users with the "displayName" attribute. To do this:

1. Open the System Designer and click [LDAP integration setup].
2. Add the "(displayName=*)" condition that requires the "displayName" attribute to be filled in to the default filter in the [List of users] field. The filter will look like this:

   (displayName=*)(&(objectClass=user)(objectClass=person)(!objectClass=computer)(!(isDeleted=TRUE)))
3. Add the logical AND operator that will make both filter conditions required:

   (&(displayName=*)(&(objectClass=user)(objectClass=person)(!objectClass=computer)(!(isDeleted=TRUE))))
4. Replace the standard filter in the [List of users] field with the new filter.
5. Save the LDAP synchronization settings and run the synchronization.

SEE ALSO

- Setting up LDAP integration
- Linking LDAP elements to Creatio users and roles
- Running LDAP synchronization
- Setting up user authentication through LDAP
- LDAP FAQ

Linking LDAP elements to Creatio users and roles

Before synchronizing Creatio users, a number of operations must be performed:

- connect Creatio organizational roles to the LDAP user groups;
- connect Creatio users to the LDAP users;

To connect an organizational structure element to the LDAP group, specify the needed LDAP element on the organizational role page.

To synchronize one of the existing Creatio users with LDAP, connect that user to the corresponding LDAP user.

To synchronize large numbers of users who have not yet been registered in Creatio, import these users from the LDAP directory.

Connecting organizational structure elements

1. Open the System Designer and click the [Organizational roles] link in the [Users and administration] block.
2. Select an element to link with an LDAP group in the organizational role tree.
3. On the organizational role page:
   a. Go to the [Users] tab.
   b. Select the [Synchronize with LDAP] checkbox.
   c. In the [LDAP element] field, select the LDAP group that will be synchronized with the current element.
4. Save settings.

Connecting a Creatio user to an LDAP user:

1. Open the System Designer and click the [Organizational roles] link in the [Users and administration] block.
2. In the organizational role tree, select an element where the needed user is located.
3. On the organizational structure element page, go to the [Users] tab and open the user page.
4. On the [General information] tab, select the [LDAP authentication] option.
5. In the [Login] field, select the needed LDAP user.
6. Save settings.

   As a result, the selected Creatio user will be connected with the LDAP user and will be able to log in to the system, using the login and password stored in the LDAP directory (i.e. domain login and password).

Importing new users from LDAP

1. Open the System Designer and click the [Organizational roles] link in the [Users and administration] block.
2. In the organizational role tree, select an element where the LDAP users will be imported.

   NOTE

   Before importing users, connect all necessary Creatio organizational structure elements to the corresponding groups in the LDAP directory.

3. Click the [Save] button.
4. Select the [Synchronize with LDAP] option in the section menu. Once the synchronization is complete, all users from the LDAP server group will be imported to the selected organizational group.

   As a result, the contacts will be created for the selected LDAP users and Creatio users will be connected to them. New user accounts will be automatically added to the selected organizational structure element. At the same time, the fields in the contact page will be filled in with values of different attributes, specified during the synchronization setup.

ATTENTION

The list of LDAP user displays all the users, regardless of whether they are included in the LDAP element that is connected to the organizational structure or not.
When synchronizing with LDAP, only those users who are included in the LDAP element that is connected to the organizational structure will be synchronized.

NOTE

When the LDAP user is connected to a Creatio user account, the corresponding user will be automatically licensed.

SEE ALSO

- Setting up LDAP integration
- Running LDAP synchronization
- Setting up user authentication through LDAP
- LDAP FAQ

Running LDAP synchronization

During the synchronization session, all changes made to users and groups in the LDAP directory are applied to the corresponding connected Creatio organizational structure elements.

Automatic synchronization

To set up automatic synchronization:

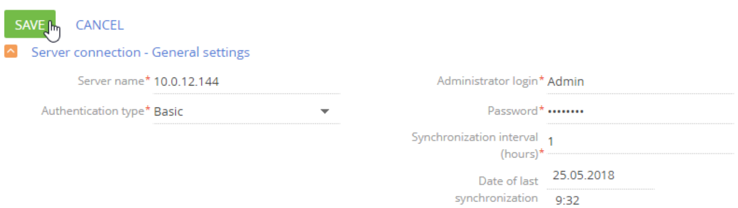
1. Open the System Designer by clicking the button in the top right corner of the application window.
2. Click the [LDAP integration setup] link in the [Import and integration] block.
3. Populate the [Synchronization interval (hours)] field. Automatic synchronization of users with LDAP will be performed with the indicated interval.

   NOTE

   Population of other fields of the [LDAP integration setup] page is described in a separate article. Read more >>>

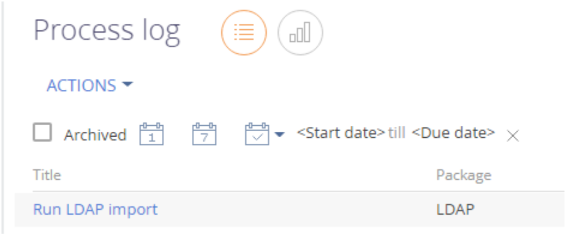
4. Click the [Save] button to save the new folder (Fig. 482).

Fig. 482 Saving of the populated LDAP integration setup page



After you save the LDAP integration setup page, the synchronization will be run automatically. The “Run LDAP import” process will be run (Fig. 483).

Fig. 483 – The “Run LDAP import” process

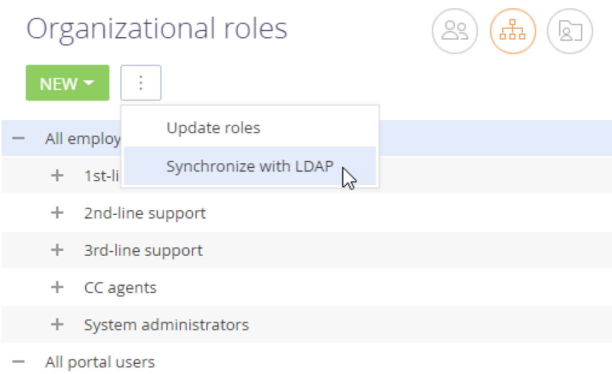


Manual synchronization

To run the manual synchronization:

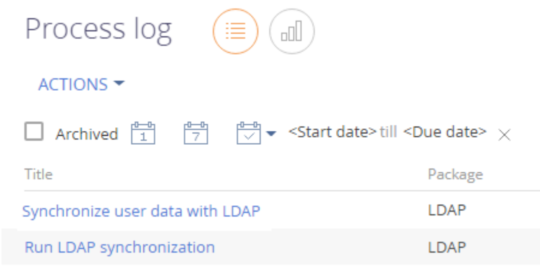
1. Open the System Designer by clicking the button in the top right corner of the application window.
2. Click the [Organizational roles] link in the [Users and administration] block.
3. Select the [Synchronize with LDAP] option in the section menu (Fig. 484). The “Run LDAP synchronization” process will be run, which in its turn calls the “Synchronize user data with LDAP” process (Fig. 485).

Fig. 484 – the [Synchronize with LDAP] action



ACCELERATE

Fig. 485 – The “ Synchronize user data with LDAP” and “Run LDAP synchronization” processes



After the synchronization is complete, a confirmation message will be displayed.

Synchronization results

- If an LDAP user is no longer among the active users, the [Active] checkbox will be cleared on the page of the corresponding Creatio user and such user will not be able to log in.
- If a previously inactive LDAP user has been activated, then the [Active] checkbox will be selected on the page of the synchronized Creatio user.
- If an LDAP user or group of users has been renamed, then the synchronized Creatio users and roles will be renamed as well.
- If an LDAP user has been excluded from an LDAP group that was synchronized with a Creatio organizational structure element, then the corresponding Creatio user will be excluded from the corresponding Creatio organizational structure element.
- If a synchronized LDAP user has been added to a synchronized LDAP group, then the corresponding Creatio user will be added to the corresponding Creatio organizational structure element.
- If new unsynchronized LDAP users have been added to a synchronized LDAP element, the users will be imported to Creatio.
- If there are Creatio users (not imported from LDAP) whose names match LDAP user names, their synchronization will not be performed.
- If a synchronized LDAP user was deleted from a group connected with Creatio organizational structure element, such user will remain active in Creatio but will not be able to log in.

SEE ALSO

- Managing users
- Linking LDAP elements to Creatio users and roles
- Setting up user authentication through LDAP
- LDAP FAQ

Setting up user authentication through LDAP

To enable user authentication through LDAP, modify the Web.config file in the application root folder.

Active Directory and OpenLDAP settings are different.

1. Specify “Ldap” and “SspLdapProvider” in the list of available authentication providers. This step is the same for Active Directory and OpenLDAP.

```
<terrasoft>
<auth providerNames="InternalUserPassword,Ldap,SSPLdapProvider"
autoLoginProviderNames="" defLanguage="en-US"
defWorkspaceName="Default" useIPRestriction="false"
loginTimeout="30000">
<providers>
```

ATTENTION

Upper/lowercase characters must be as in the example.

2. Specify server IP or URL, as well as user domain parameters in the “Ldap” section. Active Directory and OpenLDAP parameters are different.

Active Directory parameters

```
<provider name="Ldap"
type="Terrasoft.WebApp.Loader.Authentication.Ldap.LdapProvider,
Terrasoft.WebApp.Loader">
<parameters>
...
            <add name="ServerPath" value="testactivedirectory.com" />
            <add name="AuthType" value="Ntlm" /
            <add name="DistinguishedName" value="dc=tscrm,dc=com" />
            <add name="UseLoginUserLDAPEntryDN" value="false" />
        <!--<add name="SearchPattern"
            value="(&amp;(objectCategory=person)(objectClass=user)
            (!(userAccountControl:1.2.840.113556.1.4.803:=2))
            memberOf=CN=SVNUsers,OU=groups,OU=Terrasoft,DC=tscrm,
            DC=com))" />-->
            <add name="SearchPattern"
            value="(&amp;(sAMAccountName={0})(objectClass=person))" />
            <add name="KeyDistributionCenter" value="" />
</parameters>
```

OpenLDAP parameters

```
<provider name="Ldap"
type="Terrasoft.WebApp.Loader.Authentication.Ldap.LdapProvider,
Terrasoft.WebApp.Loader">
<parameters>
...
            <add name="ServerPath" value="testopenldap.com" />
            <add name="AuthType" value="Basic" />
            <add name="DistinguishedName" value="dc=example,dc=org" />
            <add name="UseLoginUserLDAPEntryDN" value="true" />
            <add name="SearchPattern"
             value="(&amp;(uid={0})(objectClass=inetOrgPerson))" />
            <add name="KeyDistributionCenter" value="" />
</parameters>
```

3. Specify server IP or URL, as well as portal user domain parameters in the SspLdapProvider section. The step is the same for Active Directory and OpenLDAP.

```
<provider name="SSPLdapProvider"
type="Terrasoft.WebApp.Loader.Authentication.SSPUserPassword.SSPLdapP
rovider, Terrasoft.WebApp.Loader">
<parameters>
...
            <add name="ServerPath" value="creatioapp.com" />
...
            <add name="DistinguishedName" value="dc=tscrm,dc=com" />
...
</parameters>
```

4. Save the changes in the Web.config file.
5. **Additional step for OpenLDAP**: before you synchronize with OpenLDAP-server, specify the “true” value for UseLoginUserLDAPEntryDN in the Web.config file of Terrasoft.WebApp.

```
<appSettings>
...
             <add key="UseLoginUserLDAPEntryDN" value="true" />
```

   If you disregard this setting, the users will be synchronized with empty LDAPEntryDN field of the SysAdminUnit table, which will result in having authorization issues.

SEE ALSO

- System settings description

LDAP FAQ

- Why not all Active Directory users were imported in Creatio after synchronization?
- Why a user cannot log in under domain account after setting up LDAP?

Why not all Active Directory users were imported in Creatio after synchronization?

By default, during the LDAP synchronization, all Active Directory users are imported in Creatio. If all users were not imported, try the following options:

- Check filter conditions. There may be syntax errors in the settings or not all groups specified.
- Active Directory roles or groups may have changed for the users. There users are not treated as new. Try modifying filtering conditions or import these users manually.
- These users also may have been previously imported, but removed from roles/groups, or simply deleted. Since the users are not recognized as new, they will not be displayed in the synchronization filter.

Why a user cannot log in under domain account after setting up LDAP?

If Creatio is deployed **on-site**, you need to edit the Web.config file in the website root directory. Specify authentication providers as values of the auth providerNames parameter:

```
auth providerNames = "InternalUserPassword,Ldap,SSPLdapProvider"
```

After making changes, restart the LDAP synchronization.

SEE ALSO

- Setting up LDAP integration
- Running LDAP synchronization

Windows authentication in Creatio

Windows authentication via the NTLM protocol verifies the user's identity upon login by comparing the current user's domain credentials with the credentials of the corresponding Creatio or LDAP user. Thus, the user who is authenticated becomes authorized within the domain and will be able to log in to the Creatio application without entering the username or the password of the account.

Benefits:

- Log in to the system as the authenticated domain user using the [Log in as domain user] link of the login page.
- Log in at once, skipping the login page. In this case, the user is forwarded to the main page of the application at once.

The NTLM authentication functionality is available:

- Only for the users whose application is deployed on-site.
- Either for the users of the main application or for the self-service portal users.
- Either for the users who are synchronized with LDAP or Creatio users.

CONTENTS

How Windows authentication works

Windows (NTLM) authentication can be used concurrently with LDAP authentication. Windows authentication requires entering login credentials in the browser. During LDAP authentication, user's password is checked on the Active Directory server. Both Windows (NTLM) and LDAP authentications trigger when the user clicks the "Log in as domain user" link (provided that the user account is synchronized with LDAP). Read more >>>

If the user attempts to log in to the system using the domain credentials, the following authentication algorithm is performed:

1. A user authentication check within the domain is performed.
2. If the domain username and the password are stored in a cookie, they will be retrieved from this cookie. Otherwise, a browser window will be displayed to enter the user credential.

   Further steps depend on the user synchronization with the LDAP directory.

   a. If the user is not synchronized with LDAP:

      - User authentication check is performed through the comparison of the username and the password from the cookie and the corresponding credentials of the Creatio account. Thus, it is required to specify the same username and password that are used in the domain to enable Windows authentication for the users who are not synchronized with LDAP.

- Based on the check results, if the data matches and the user account is licensed, the user authorization will be performed.

b. If the user is synchronized with LDAP:

- The browser sends a request to the Active Directory service to authenticate the user.
- The query returns the credentials of the current domain user that are compared with the username and the password details stored in the cookie.
- If the data matches and the user account is licensed, the user authorization will be performed.

NOTE

User authentication is performed either for the users of the main application or for the self-service portal users. You can set the check order in the Web.config file of the loader application. Read more >>>

SEE ALSO

- Windows authentication in Creatio
- Setting up Windows authentication
- Logging in via Windows authentication

Setting up Windows authentication

To use Windows authentication via the NTLM protocol, first add system users (manually or by importing from LDAP) and license them. Users will need to allow writing local data to cookie files in their browsers to be able to store the data locally.

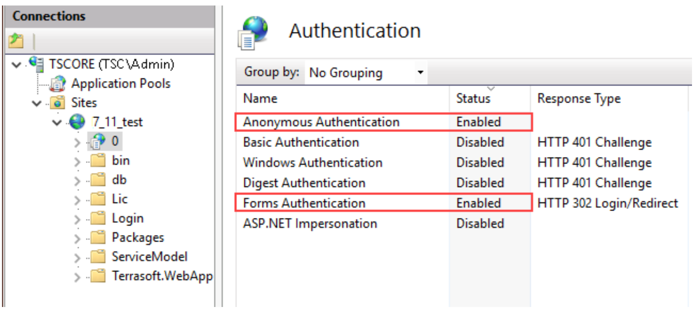
The authentication setup is performed on the application server and consists of two steps:

- IIS server setup that activates authentication using the NTLM protocol. Read more >>>
- Web.config file setup of the loader application that defines authentication providers and users availability check order among those registered in Creatio. Read more >>>

IIS server setup

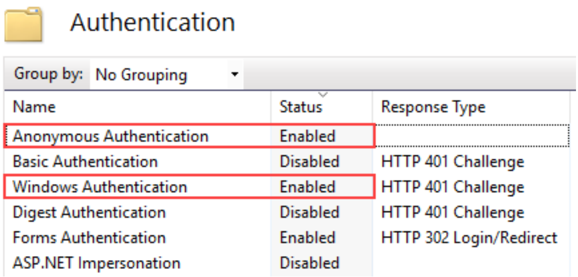
1. Enable anonymous authentication and form authentication for both the web application and loader application (Fig. 486).

Fig. 486 Authentication settings for the loader application in IIS



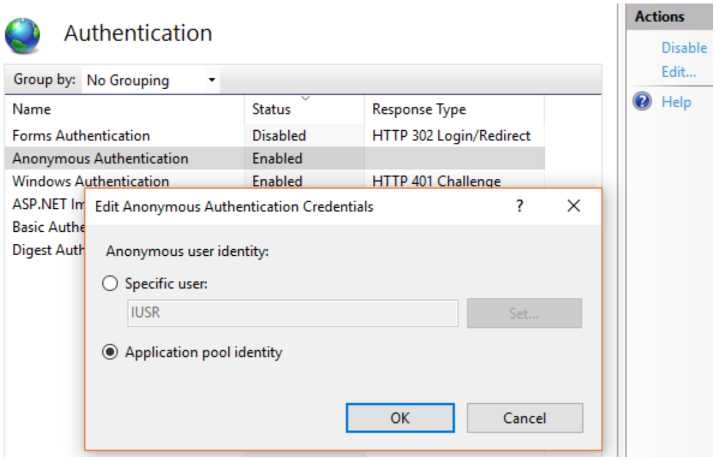
2. Disable the form authentication; enable anonymous authentication and Windows authentication for the "Login" directory within the loader application (Fig. 487).

Fig. 487 Login directory settings



Please note that anonymous authentication of the loader application and working applications must be conducted under application pool identity. To enable this, edit anonymous authentication credentials by clicking the [Edit] button in the [Actions] area of the IIS manager and select [Application pool identity] (Fig. 488).

Fig. 488 Entering credentials for anonymous authentication in IIS



NOTE

Read more about Windows Authentication in Microsoft documentation.

Setting up Web.config file of the loader application

1. Open the Web.config file of the loader application to be edited.
2. In this file, specify the Windows Authentication providers:

```
auth providerNames="InternalUserPassword,SSPLdapProvider,Ldap"
autoLoginProviderNames="NtlmUser,SSPNtlmUser"
```

[InternalUserPassword] – provider that is specified in the Web.config file by default. If you want to provide NTLM authentication only for the users who are not synchronized with LDAP, do not specify an additional value for the providerNames parameter.

[Ldap] – add this provider to the [providerNames] parameter values. As a result, the users who are synchronized with LDAP will be able to perform NTLM authentication.

[SSPLdapProvider] – add this parameter to the [providerNames] parameter value for the users of the self-service portal who are synchronized with LDAP to be able to perform NTLM authentication.

[NtlmUser] – add this provider to the [autoLoginProviderNames] parameter value. As a result, the users will able to perform NTLM authentication regardless of their synchronization with LDAP and the authentication type configured for these Creatio users.

[SSPNtlmUser] – add this parameter to the [autoLoginProviderNames] parameter value for the users of the self-service portal to be able to perform NTLM authentication regardless of their synchronization with LDAP and the authentication type configured for these Creatio users.

The record order of the [autoLoginProviderNames] parameter defines the order, in which Creatio checks if the system users are available in the list of application users (NtlmUser) or in the list of the self-service portal users (SSPNtlmUser). For example, if you want the check to be performed among the main application users primarily, place the [NtlmUser] provider at the top of the list of the values of the [autoLoginProviderNames] parameter.

ATTENTION

You can specify the [SSPNtlmUser] provider as an [autoLoginProviderNames] parameter value only if the [NtlmUser] provider is specified additionally. You can use the [NtlmUser] provider separately.

3. If you want to authenticate in Creatio at once, specify the “true” value for the [UsePathThroughAuthentication] parameter of the <appSettings> element:

```
<appSettings>
<add key="UsePathThroughAuthentication" value="true" />
...
</appSettings>
```

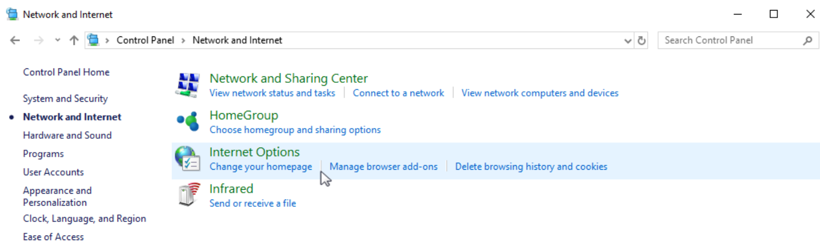
If you want the login page to be displayed with the available [Log in as domain user] link, specify the “false” value for the [UsePathThroughAuthentication] parameter. The end-to-end authentication will be performed only when accessing application main page. Add “/Login/NuiLogin.aspx” to bom’online website address.

As a result, users will be able to log in to Creatio as domain users. They may still be required to enter their credentials in a domain authentication window, which will pop up on login attempt.

To prevent displaying of the domain authentication window:

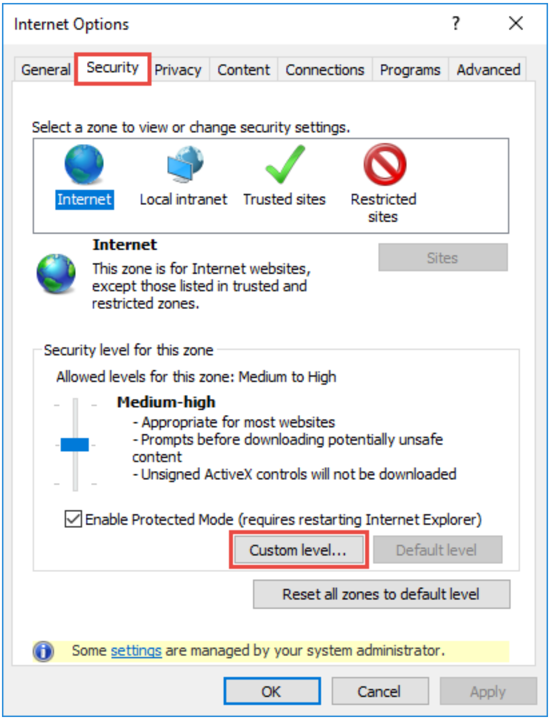
a. Click “Start” –> “Settings” –> “Control Panel” –> “Network and Internet” menu and select “Internet options” (Fig. 489).

Fig. 489 Accessing Internet options of Windows Explorer



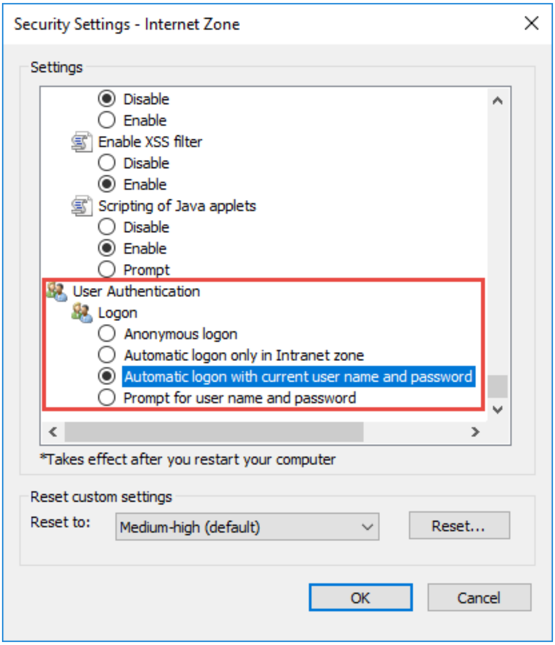
b. In the opened window, select the “Security” tab and click the “Custom level” button to go to security settings (Fig. 490).

Fig. 490 Security settings



c. In the “User authentication” group of settings, select the “Automatic logon with current user name and password” authentication method (Fig. 491).

Fig. 491 Selecting user authentication method



d. Click "OK".

As a result, the domain authentication window will not pop up and the users will not have to re-enter their domain credentials each time they access Creatio.

SEE ALSO

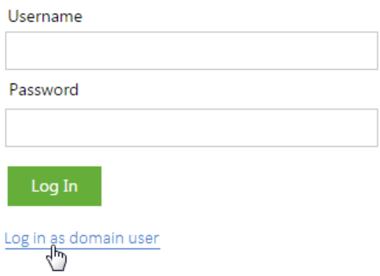
- Windows authentication in Creatio
- How Windows authentication works
- Logging in via Windows authentication

Logging in via Windows authentication

As a result of NTLM protocol configuration, the user can authorize in Creatio using the domain credentials with no need to enter the login or the password of the Creatio user account.

1. A browser window with the user credentials where the domain username and the password must be specified will be displayed in the application at the first log in to the system.
2. If you activate the "authentication at once" function during setting up the Web.config file of the loader application, the user will be forwarded to the main page of the application skipping the login page.
3. If you deactivate the "authentication at once" function, the login page will be displayed by clicking the Creatio link where the [Log in as domain user] button will be available (Fig. 492).

Fig. 492 Login page



Click the [Log in as domain user] button to authorize in the system.

SEE ALSO

- How Windows authentication works
- Setting up Windows authentication
- Setting up LDAP integration
- Running LDAP synchronization

Managing users

Each Creatio user has a unique name and password to log in to the system. A user account is linked to a corresponding contact record and each contact record can only be linked to one user account.

To manage users in Creatio, use the [System users] section. User settings determine what operations users can perform, what data they can see and how they can work with these data.

> NOTE
> By default, only system administrators have access to the [System users] section.

To access the [System users] section, click -> **[System users]** (Fig. 493).

Fig. 493 Accessing user management

The section has a usual structure, where each record corresponds to a Creatio user. One notable exception is that views in the section are used to switch between managing different types of administration units:

- [System users]
- [Organizational roles]
- [Functional roles]

Common data

Information on a user page is presented in the table below.

Contact	The field contains the name of the contact that this user will represent in the system. It is editable only when adding a new record.
Type	You specify the system user type (company employee or portal user) when you add a new user record. The [Type] field on the user page is populated with the selected value automatically and remains grayed-out until you save the record. After you save the record and reopen the new user page, you will be able to edit the type.
Home page	Select the section that will open by default when a user logs in.

Active	Select the checkbox to activate the user account. If the [Active] checkbox is cleared, then this user account cannot be used to log in to the system. The [Active] checkbox will be selected automatically if the [LDAP Authentication] option is selected. Learn more in the “Setting up LDAP integration” article.
Culture	The language of the user interface.

The [General information] tab

The tab contains data for user authentication.

Select the [Creatio authentication] option if the current user should not be synchronized with LDAP. The [Username] and [Password] fields will become editable.

Username	The user’s login for authenticating in Creatio.
Password, Password confirmation	Specify the password for authenticating in Creatio. The password entry is encrypted.
Password expiration date	The password expiration date is set automatically when a user changes the password. The date is calculated based on the “Password validity term, days” system setting by adding the specified number of days to the date when the password was last changed.
Reset password	Select the checkbox to force the resetting of a user's password. If the checkbox is selected, when logging in to the system for the next time, the user will be notified that the password is expired and must be changed. Once the password is changed, the checkbox will be automatically cleared.

Select the [LDAP authentication] option to synchronize the current user with an LDAP user. When this option is selected, only the [Username] field becomes editable. In this field, you need to select a value from the LDAP lookup containing the users that have not yet been synchronized with Creatio.

The [Roles] tab

The tab contains the list of functional roles that have been added manually and the list of organizational roles that the current user is included in. Read more in the “Organizational roles” and “Functional roles” articles.

The [Licenses] tab

The tab displays the list of Creatio licenses as well as the licenses available for users. Read more is available in the “License a user” article.

The [Rights delegation] tab

The tab contains the list of users, organizational structure elements and functional roles whose access permissions are delegated to the user.

Delegating access permissions can be used when you need to temporarily grant a user or a role the access permissions of some other user or role. For example, before going on vacation, a department manager can delegate their access permissions to one of the employees. To do this, open the required employee's page and add the user account or the role of the department manager to the [**Rights delegation**] detail.

More information is available in the "Delegate permissions" article.

The [Access rules] tab

The tab contains the range of IP addresses the user is allowed to use to access Creatio and the list of user sessions. On this tab, you can also set a session timeout for a specific user.

> **NOTE**
> The tab settings are also available for organizational and functional roles.

Use the list of sessions to analyze the summary information about the number of hours spent in Creatio. You can also force the end of an active user session by clicking the [**Finish session**] button.

> **NOTE**
> In Creatio, a session is a period of time between the login and logout events. Information on the detail cannot be edited and is based on the data about the exact time the users started and ended their sessions.

Session start	Shows the date and time when the user logged in to Creatio.
Session end	Displays the date and time when the session ended. A user can log out from Creatio by clicking the [Exit] button or by closing the browser window. When you click the [Exit] button, the current user session will terminate, and you will be redirected to the login page. When you close the browser window or when the Internet connection is lost, your session will terminate automatically (by default, the session timeout is 20 minutes).
User session timeout, min	Use this field to set up the individual timeout for a specific user if the user activities require a longer work session than it is specified by the general system timeout.

> **ATTENTION**
> Setting up IP-based access rules involves editing the web.config file and activating the useIPRestriction parameter: useIPRestriction="true". Creatio cloud users need to contact technical support to make these changes.
>
> In the [Operation permissions] section of the System Designer, open the [Ignore access check by IP address] operation and add users or user groups to the [Operation permission] detail. Clear the [Access level] checkbox for all users and user groups who are required to use IP-based access rules.

CONTENTS

ACCELERATE

SEE ALSO

- Organizational roles
- Functional roles

VIDEO TUTORIALS

- User and role management, access permissions

Add a system administrator user

By default, Creatio has a "**System administrators**" organizational role whose members have full access to all data in Creatio. This is achieved through access to the following system operations:

- Add any data (CanInsertEverything)
- Delete any data (CanDeleteEverything)
- Edit any data (CanUpdateEverything)
- View any data (CanSelectEverything)

To add a new system administrator user in Creatio:

1. In the [Contacts] section, **create a contact** for the new user (or make sure that the corresponding contact already exists). Read more in the "Add a regular employee user" article.
2. In the [System users] section, **create a new user**, specifying the contact in the user profile. Read more in the "Add a regular employee user" article.
3. Grant **system administrator** privileges to the new user.

ATTENTION

Access to these operations overrides any object permissions a user may have. For example, a user with permission to the "View any data" system operation can view all records in objects, even if you try to deny the "Read" permission for that user in the object permissions UI.

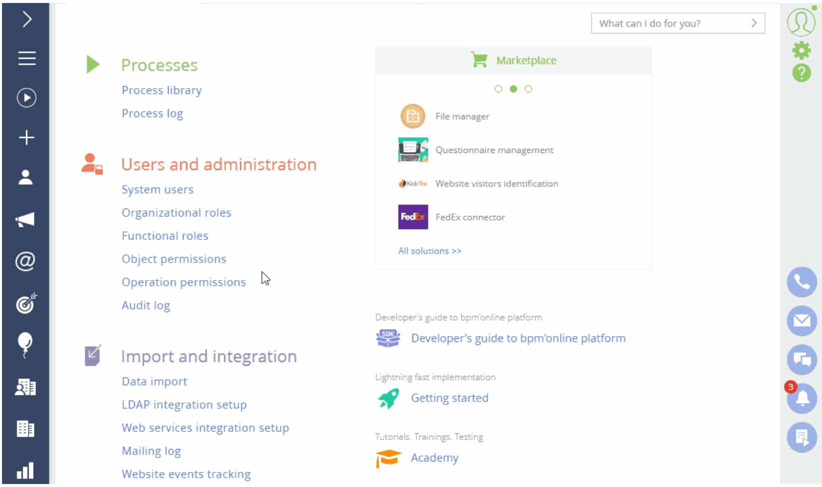
There are two ways you can assign a system administrator role to a user:

- From the user page.
- From the role page.

Method 1. Assign a system administrator role to a user from the user's page

1. Click -> System Designer -> [**System users**].
2. Open the user page ->the [**Roles**] tab.
3. In the [**Organizational roles**] detail, click + and specify the "**System administrators**" role (Fig. 494).

Fig. 494 Assigning a system administrator role to a user from the user's page

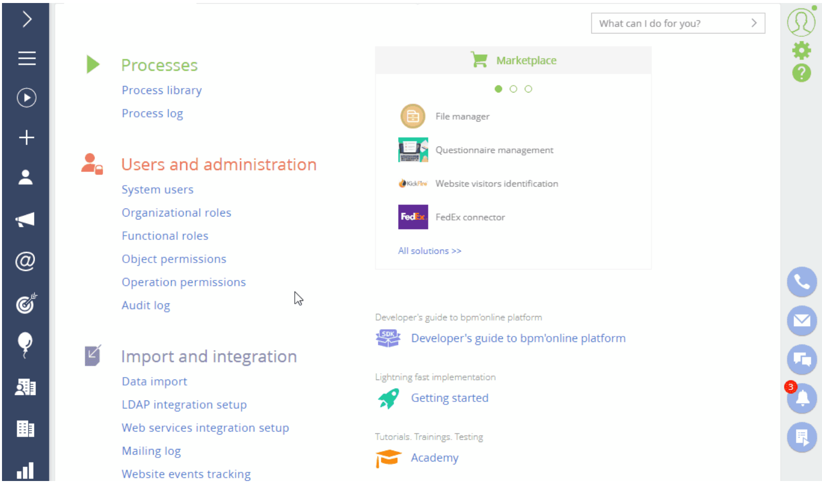


As a result, the user will be added to the "System administrators" role and will receive full access to all data in Creatio.

Method 2. Assign a system administrator role to a user from the role page

1. Click  -> [**Organizational roles**].
2. In the list of organizational roles represented in the form of a folder tree, select the "**System administrators**" role. The area to the right of the roles tree will show the page of the selected role.
3. On the [**Users**] tab:
   - Click + and select [**Add existing**] to **add an existing user**. In the pop-up window, select the corresponding user (Fig. 495).
   - Click + and select [**Add new**] to **add a new user** assigned to this role (you will need to populate the new user page).

Fig. 495 Adding a system administrator role for a user via the [Organizational roles] section



As a result, the user will be added to the "System administrators" role and will receive full access to all data in Creatio.

Add a regular employee user

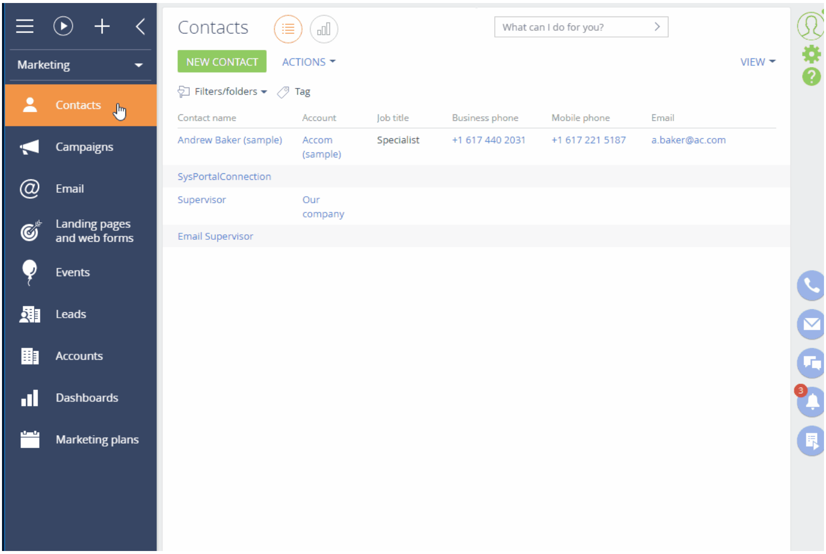
To create a new user account for a regular employee:

1. In the [Contacts] section, **create a contact** for the new user (or make sure that the corresponding contact already exists). Learn more in the "Add a new contact" article.
2. In the [System users] section, **create a new user**, specifying the contact in the user profile. Read more in the "Create a user" article.
3. **Assign the user a role**, if applicable. Read more in the "Assign a user role" article.
4. **Distribute licenses** to the user. Read more in the "License a user" article.

Add a new contact

1. The [**Contacts**] section –> [**Create contact**].
2. Populate the required fields on the contact mini-page and click [**Save**] (Fig. 496).

Fig. 496 Adding a new contact



As a result, a new contact will be added in Creatio and you will be able to create a user for this contact.

NOTE

You can also add a new contact directly from the contact lookup page when populating the [Contact] field on the user page. Click in the [Contact] field, then click [New] in the lookup window that pops up. Populate the contact page that opens. After you save the contact page, you will return to the new user page, with the [Contact] field populated with the newly created contact

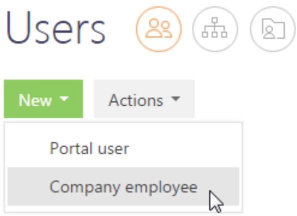
Create a user

1. Click -> [System users] (Fig. 497).

Fig. 497 Switching to the user management section

2. Click [New] -> [Company employee] (Fig. 498).

Fig. 498 Selecting a user type



NOTE

You can change the type of user ("Company employee" or "Portal user") after saving the new user record and reopening the user page.

3. Populate the fields on the [General information] tab of the user page:

   [**Contact**] – select the user's contact in the [Contacts] section.

   [**Type**] – Creatio populates the field automatically when you select the user type at step 2. The possible field values are "**Portal user**" or "**Company employee**" (Fig. 498).

   [**Active**] – a status checkbox selected automatically for active users. You can clear the checkbox to disable a user.

   [**Culture**] – select interface language for the current user. The user will be able to change the interface language in the user's profile.

NOTE

The [Culture] field shows active languages. To select other languages, activate them in the [Languages] section of the System Designer. Learn more about Creatio cultures in the "Localization" article.

[**Home page**] – select a section that will open by default when the user logs in to Creatio. If you leave the field empty, the user will be redirected to the Main Menu, and upon subsequent logins – to the last opened page during the previous session.

[**Date and time format**] – specify the format that will be used to display dates for the user. You can leave the field blank and the user will be able to specify the format later in the user profile.

The [**Authentication**] detail contains the following fields:

[**Username**] – enter the login that will be used to authenticate the user in Creatio.

[**Password**], [**Password confirmation**] – specify the password that will be used to authenticate the user in Creatio;

[**Password expiration date**] – the field is non-editable and displays the date when the password expires. The date is calculated based on the [Default value] field of the "**Password validity term, days**" (MaxPasswordAge) system setting. The value is set to "0" by default, in which case the password has no expiration date. The [Password expiration date] field on the user's page remains blank and locked.

[**Reset password**] – select this checkbox if you want to force the user to change their password when logging in for the next time. If the checkbox is selected on the user's page, Creatio will notify the user that their password has expired and request changing it at the next login attempt.

NOTE

If you use the LDAP authentication, select the [LDAP authentication] checkbox and specify the username from the LDAP lookup in the [Username] field. The lookup in this field contains the list of LDAP users that have not yet been synchronized with Creatio. Learn more in the "Setting up LDAP integration" article.

4. Save the page.

As a result, a new user will be added in Creatio.

SEE ALSO

- Assign a user role
- License a user

Import users from Excel

You can quickly add multiple users to Creatio by importing them from Excel. Learn more in the "Excel data import" article.

You need to import data into the "System administration object" that corresponds to the "SysAdminUnit" table in the database. This object contains the company's organizational structure: users, organizational and functional roles.

To import users from Excel:

1. **Prepare the file for import** and populate all the needed columns. Read more below – "Prepare an Excel file for importing users".
2. Download the file and **import users** to the system. Read more below – "Run the import process".
3. **Set up user records**: assign roles, specify passwords and available licenses. Read more below – "Post-import procedures".

Prepare an Excel file for importing users

Create an *.xlsx document. The document should contain the "Name" and "Type" fields, where you specify the login and type values. You can optionally populate the rest of the columns.

Column name	Column value in the imported Excel file
Name	User's login name. This column is required.
Type	Specify "4" to import records as users. This column determines the type of administration unit that is imported – either a role or a user. These types are stored in the "Object Permission Types (SysAdminUnitType)" object. You can find the possible values of this table below. This column is required.
Contact	Specify the name of the user's contact. The names that you specify in the "Contact" column of your user import file must match the names of corresponding contacts in Creatio, otherwise Creatio will create new contacts. This column is optional. If you do not populate it, Creatio create new contacts using username as the contact's name.

Column name	Column value in the imported Excel file
Active	The following values can be used: • "0" - for disabled users • "1" - for active users This column is optional. By default, all users are active.
Culture	Specify the user language code (e.g., the "en-US" for English UI). Learn more about Creatio cultures in the "Localization" article. This column is optional. By default, the users will use English localization.
Connection type	The connection type determines the access permissions inherited by the user. • "0" - used for company employees • "1" - used for portal users This column is optional. By default, all users are imported as employees.

Different values of "Object Permission Types (SysAdminUnitType)" are available in the table below.

System administration unit type	The actual value in the Type column
Organization	0.
Organizational unit	1.
Manager	2.
User	4.
Portal user	5.
Functional role	6.

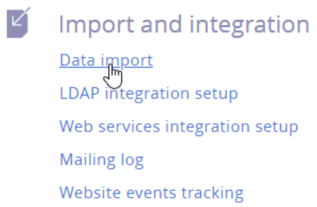
Learn more about general requirements for the imported Excel file in the "How to prepare an Excel file for import" article.

Run the import process

To import users from Excel:

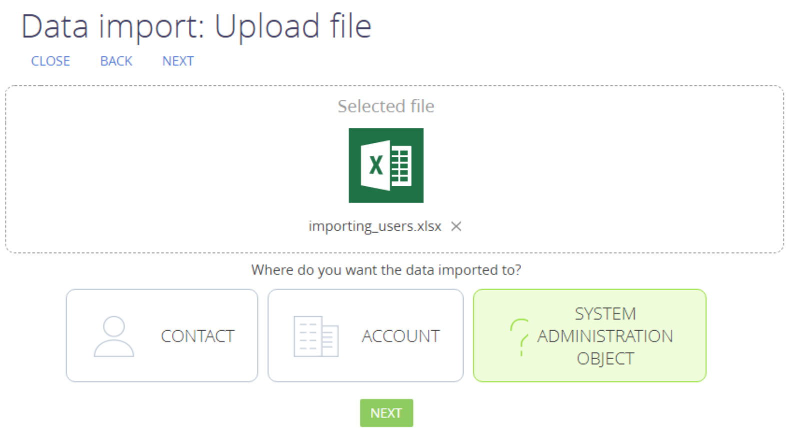
1. Click System Designer -> [**Data import**] (Fig. 499).

Fig. 499 Link to the [Data import] functionality of the "Import and integration" block



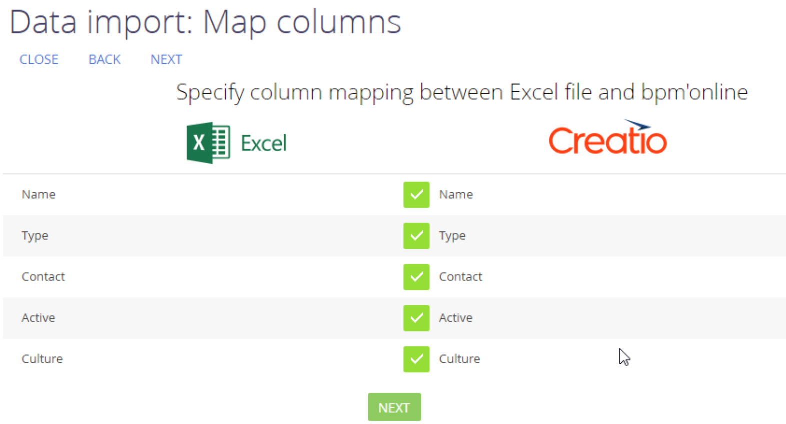
2. **Add your user import Excel file**: drag and drop it on the Data Import page that opens, or click [Select file] and locate your Excel file.
3. Click [**Other**] and select "**System administration object**" as the object for importing file records (Fig. 500). Click [Next].

Fig. 500 Selecting an object for the import on the Data Import page



4. Specify the **column mapping** by connecting the columns from the Excel file to the fields in the Creatio import object (Fig. 501). Click [Next].

Fig. 501 Mapping columns

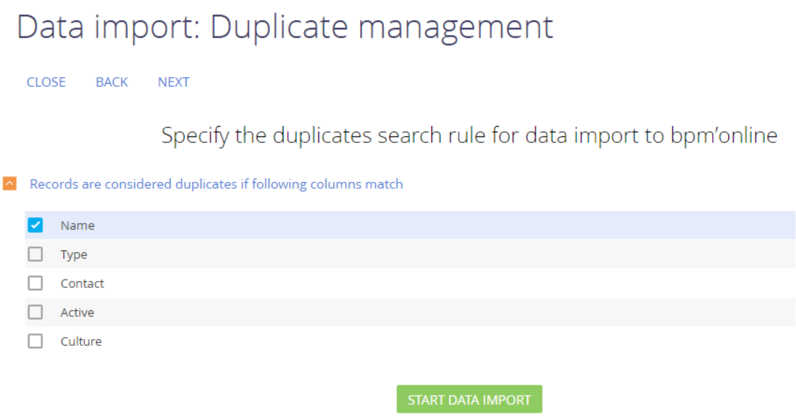


5. **Specify the conditions for identifying duplicate records**. The data of these columns must be unique for each of the imported records (Fig. 502).

   If the value of a column in the imported file coincides with the database value, Creatio will update the existing record. If the value is not available in the database, Creatio will create a new record.

   For example, when importing users, use the "Contact" column to determine whether the imported record already exists. If contact with such a name does not exist, Creatio creates a new record.

Fig. 502 Managing duplicates



6. Click [**Start data import**].

NOTE

The process of setting up columns and duplicate parameters is covered in more detail in the "How to import customer database" article.

When the import process completes, Creatio will inform you accordingly.

As a result, the imported records will be displayed in Creatio user record list. Note that the imported users will not have roles, licenses or passwords. You will need to assign those manually.

Post-import procedures

After you complete the import, you need to perform the following steps manually for each imported user:

1. On the [General information] tab of the user page, **set a password** to enable the user to log in to Creatio.

   NOTE

   Users can change their password when logging in to Creatio for the first time. Read more in the "Add a regular employee user" article.

2. **Select the necessary role** (e.g., "All employees") on the [Roles] tab. Learn more in the "Assign a user role" article.
3. **Distribute licenses** on the [Licenses] tab. Learn more in the "License a user" article.

SEE ALSO

- How to prepare an Excel file for import
- How to import customer database

Import users and roles from LDAP

If you use the Active Directory service, you can import the users from your directories to Creatio via LDAP synchronization. This will let you copy users and roles from your corporate Active Directory to Creatio.

Before you start adding users via LDAP synchronization:

- **Prepare your directory for integration: make sure that the users are assigned to the AD user groups that will be synchronized with Creatio.**

  NOTE

  Active Directory (AD) users that do not belong to any AD user group will not be imported. Creatio only imports the organizational structure represented by the AD user groups.

- **Set up LDAP integration.** Read more >>> **After you click [Save] on the LDAP integration setup page, Creatio will notify you about the "Run LDAP import" business process running in the background. As a result, the Active Directory user groups will be copied to Creatio database.**

When your Creatio is integrated with LDAP, you can synchronize with your AD and add the AD users to Creatio.

Adding users via LDAP synchronization

LDAP synchronization enables importing AD users of specific AD user groups to Creatio specific organizational roles by linking the Creatio roles to the AD user groups.

To add users to a Creatio organizational role:

1. Click -> [Organizational roles].
2. Select the role, where you want to add LDAP users from the corresponding AD user group via LDAP synchronization. You can also create a new role for the AD user group in your Creatio organizational structure. To do this:
    a. Select a parent role (e.g. “All employees” for adding regular users or “All portal users” for adding portal users) -> [New] -> [Organization].
    b. Specify the name for your new role. The name can be the same as in your Active Directory user group or it can be different.
3. On the [Users] tab, select the [Synchronize with LDAP] checkbox.
4. In the [LDAP element] field, select the corresponding user group from the list to connect the LDAP element with the Creatio organizational role -> [Save].
5. Click -> [Synchronize with LDAP]. Creatio will notify you that the LDAP synchronization is complete.

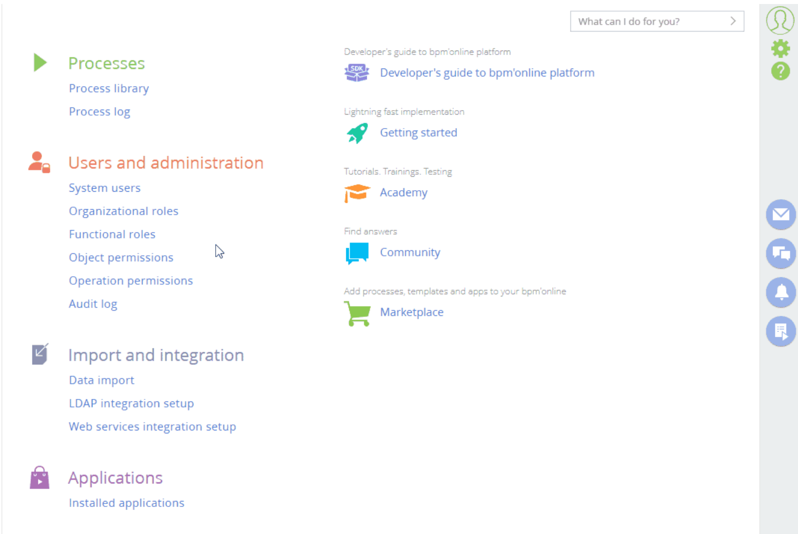
    NOTE

    If LDAP synchronization resulted in an error, you can check the details by checking the instances of the [Run LDAP synchronization] business process in the [Process log] section.

6. Update the [Organizational roles] page.

As a result, the [Users] detail of the corresponding role will display the LDAP users of the corresponding user group in your Active Directory. The new organizational role will display on the [Organizational roles] detail of the user’s page. You can verify this by opening the corresponding user record and check its [Roles] tab (Fig. 503).

Fig. 503 Adding users via LDAP synchronization from the role page



- LDAP integration and user authentication in Creatio
- Setting up LDAP integration
- Linking LDAP elements to Creatio users and roles
- Running LDAP synchronization

Assign a user role

User groups in Creatio are called "**roles**". You can assign organizational and functional roles to users in Creatio. Read more in "Managing users".

The assigned roles provide users with access to corresponding Creatio data objects and general system-wide functions. You can specify several roles for a user.

> NOTE
> By default, Creatio assigns the "All employees" organizational role to the newly added users of the "Employee" type.

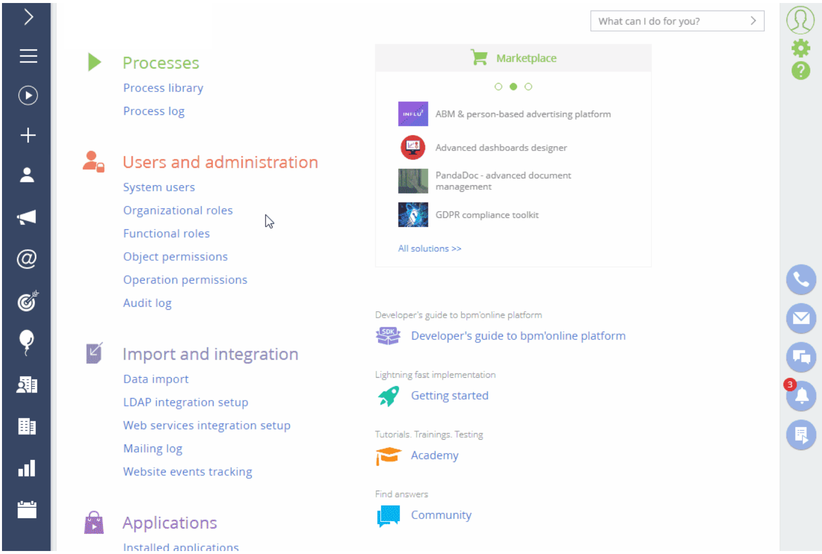
There are two ways you can assign roles to a user:

- From the user page
- From the role page

Method 1. Assign roles to a user from the user page

1. Click -> System Designer -> [**System users**].
2. Open the user page -> the [**Roles**] tab.
3. On the [**Organizational roles**] detail, click + and specify the roles from the company's organizational structure.
4. On the [**Functional roles**] detail, click + and specify the user's functional role. Functional roles are usually based on the user's job title (Fig. 504).

Fig. 504 Assigning roles to a user from the user page



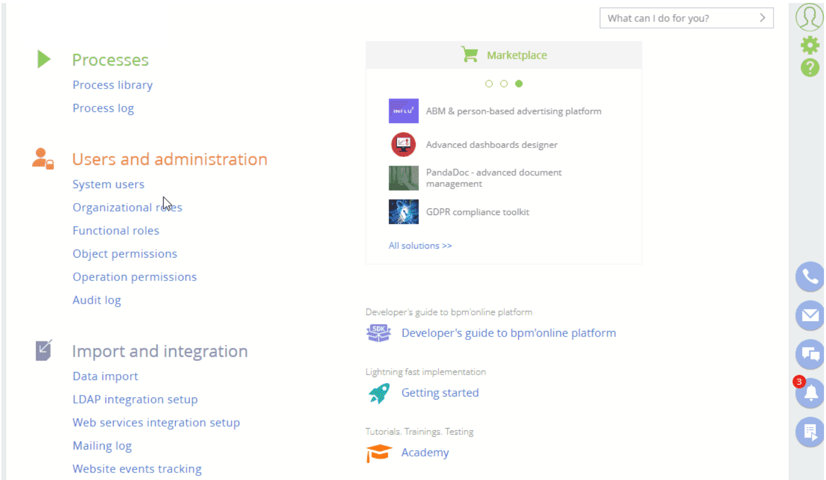
As a result, the user will be granted all permissions relevant to the assigned roles.

Method 2. Assign roles to a user from the role page

1. Click -> [**Organizational roles**].
2. In the list of organizational roles (represented in the form of a folder tree), **select the corresponding organization and/or division**. This will bring up the selected role page to the right.
3. On the [**Users**] tab:
   - Click + and select [**Add existing**] to **add an existing user**. In the pop-up window, select the corresponding user (Fig. 505).
   - Click + and select [**Add new**] to **add a new user** assigned to this role (you will need to populate the new user page).
4. To assign a functional role to the user, switch to the [**Functional roles**] view by clicking , then **select the corresponding functional role**.
5. Repeat step 4 (Fig. 505).

ACCELERATE

Fig. 505 Assigning roles to a user from pages of the corresponding roles



As a result, the user will be added to the corresponding roles and granted relevant permissions.

License a user

You need to issue licenses to each new Creatio user. Only licensed users can log in to Creatio application and access the corresponding functionality. For example, users who have not been issued a “Creatio marketing” license, will not be able to use functions that are specific to Creatio marketing, such as the [Email] and the [Campaigns] sections. By default, Creatio system administrators have permission to distribute licenses to user accounts.

ATTENTION

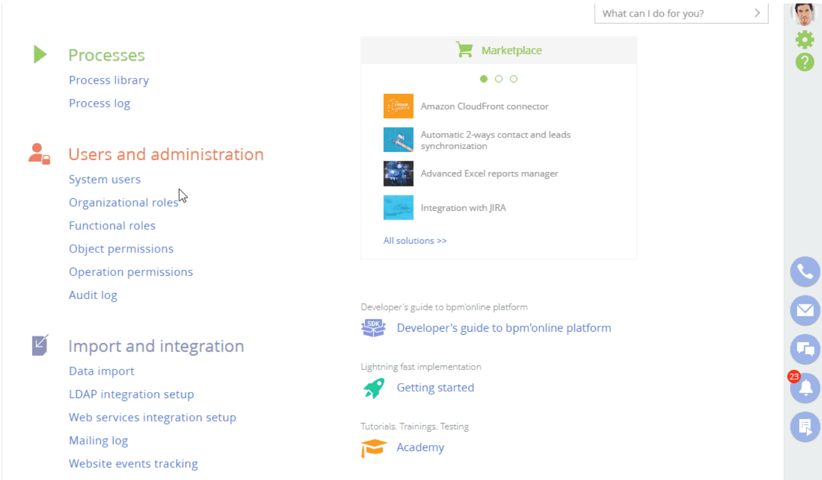
To enable licensing a user account, Creatio must have available licenses that have not been distributed among other users.

To license a user:

1. Click  -> [**System users**].
2. Open the user page -> the [**Licenses**] tab.
3. In the license list, select the licenses to be distributed for the user account (Fig. 506).

ACCELERATE

Fig. 506 Distributing licenses to a user



As a result, the user will be granted licenses for the selected products and functionalities.

> **NOTE**
> If your application does not have available licenses, request them from support and upload them. Read more in the "Software licensing" article.

SEE ALSO

- Functional roles
- Creatio licensing

VIDEO TUTORIALS

- User and role management, access permissions

Delegate permissions

The functionality of delegating permissions enables granting all access permissions of a user to another user for a limited time. This is useful when, for example, an employee is out of the office or otherwise unavailable and someone should take over their duties. You can delegate permissions of individual users or roles to any number of other users or roles.

To delegate permissions, a user must have access to the "**Manage user list**" (CanManageUsers) and "**Change delegated permissions**" (CanChangeAdminUnitGrantedRight) system operations.

Delegate permissions of a user to other users and roles

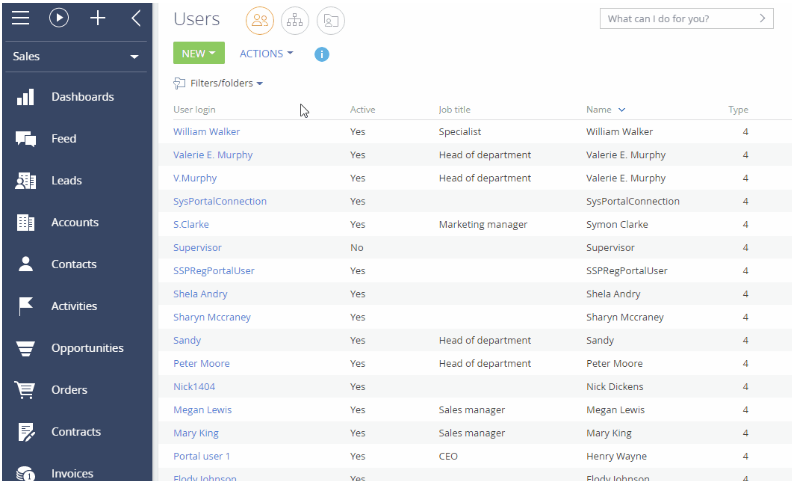
To delegate user permissions to another employee or employee group:

1. Click -> [**System users**].
2. Open the user page, **whose permissions you want to delegate**.
3. Click [**Rights delegation**] -> [**Delegate permissions**].

4. In the opened window, select the user or employee group that **will receive the delegated permissions**, e.g., the “Accounting department” organizational role.
5. Click [**Select**]. Click [**Close**] on the user page.
6. Click [**Actions**] -> [**Update roles**] to apply the changes.

As a result, the users and roles who received the permissions will be displayed in the [**Who receives permissions**] column, and the user/role, whose permissions were delegated, will be displayed in the [**Who grants permissions**] column on the [**Access rights delegation**] detail (Fig. 507).

Fig. 507 Delegating permissions of a user to another user/employee group



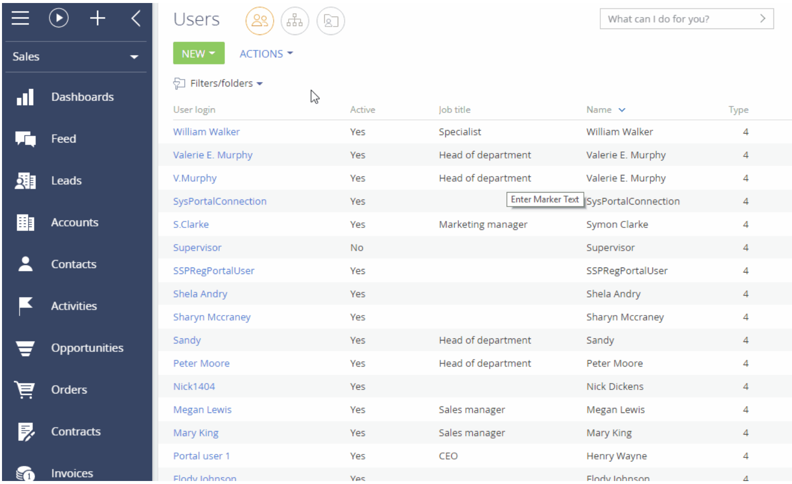
Delegate permissions of other users and roles to a user:

To delegate permissions of other users and roles to a user:

1. Click -> [**System users**].
2. Open the page of a user, who **will receive the delegated permissions**.
3. Click [**Rights delegation**] -> [**Get permissions**].
4. In the opened window, select the user or role whose **permissions must be delegated** to the current user, e.g., the “Accounting department” organizational role.
5. Click [**Select**]. Click [**Close**] on the user page.
6. Click [**Actions**] -> [**Update roles**] to apply the changes.

As a result, the user who received the permissions will be displayed in the [**Who receives permissions**] column, and the user/role, whose permissions were delegated, will be displayed in the [**Who grants permissions**] column on the [**Access rights delegation**] detail (Fig. 508).

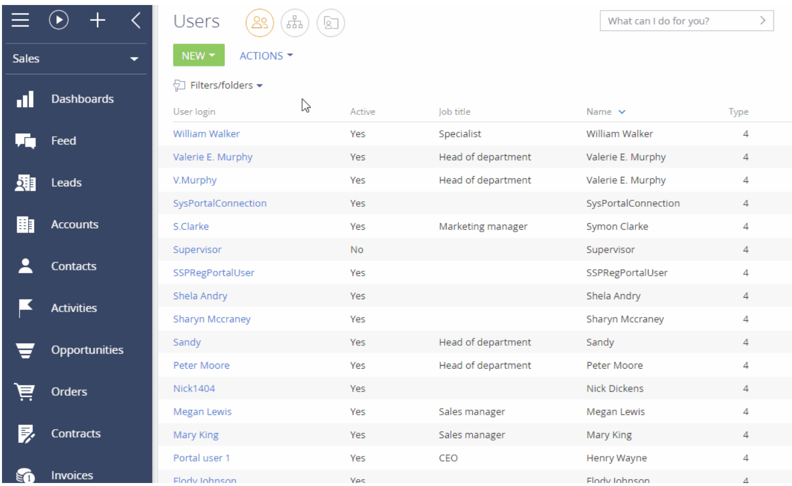
Fig. 508 Delegating permissions of an alternative user/employee group to the current user



Remove the delegated user permissions

1. Click -> [System users].
2. Open the page of the user, whose **delegated permissions you want to remove**.
3. Open the [**Rights delegation**] tab, **click the record** you want to delete.
4. Click ⋮ -> "Delete" (Fig. 509). **Close the user page**.
5. Click [**Actions**] -> [**Update roles**] to apply the changes.

Fig. 509 Removing the delegated permissions



As a result, the delegated permissions will be deleted. The user will only have the initially assigned permissions.

SEE ALSO

- License a user
- System user (Supervisor)

System user (Supervisor)

A dedicated user account called "System user" is required for the correct operation of Creatio. The system user must have the following permissions:

- System administrator (full access) permissions.
- Full license package.
- The user must be specified in the [System operations user] system setting.

By default, each configuration of Creatio has the "Supervisor" user account that is set as the system user.

> NOTE
> If you do not have a "Supervisor" user in the system, make sure that the user specified in the [System operations user] system setting has a full license package and all access permissions.

Unlike system administrators, there can be only one system user in Creatio.

> ATTENTION
> You can rename or change the system user, but you can not delete the system user account altogether – this may lead to degradation of system performance.

A system user account is needed for both system administration/configuration and to ensure the correct operation of the entire system. For example, a system user account is used to index global search data, save changes in section and detail wizards, sending newsletters. Creatio may not function properly if a system user is deleted or their access rights or licenses have been removed.

Change the system user

1. Transfer the **maximum number of licenses** from the previous user to the new one.
2. Assign the role with **maximum access permissions** to the new system user, e.g. "System administrators".
3. Specify the new system user in the [**System operations user**] system setting.

SEE ALSO

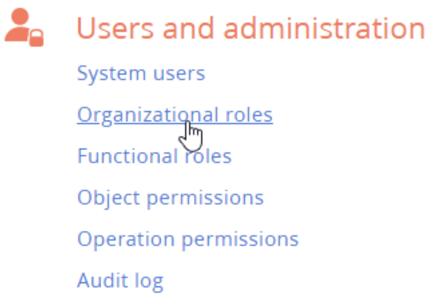
- Functional roles
- Add a regular employee user

Organizational roles

Organizational roles are user groups that represent company units, departments or subdivisions in the organizational structure, for example, the "Boston Office Sales Department" or the "Washington Office HR Department". Each organizational role can be assigned access permissions that apply to all of its users. Organizational roles also automatically inherit access permissions from their parent organizational roles.

To manage organizational roles, click -> [**Organizational roles**] (Fig. 510).

Fig. 510 Accessing the organizational roles



The [Organizational roles] section contains the company's organizational structure (represented in the form of a folder tree) and the information about individual organizational roles.

NOTE

By default, only system administrators have access to this section. Users need to have permission to the "Manage user list" (CanManageUsers) system operation to work with this section.

Add an organizational role

1. Click -> [**Organizational roles**].
2. In the list of organizational roles, **select the corresponding parent role**. For example, an organizational role for the regional office.
3. Click [**Add**] and **select the role type** - "Organization" or "Division". For example, create a "Marketing department" division for the regional office.
4. Enter the **name** of the role. The name of each organizational role must be unique.
5. Open the [**Functional roles**] tab and add functional roles e.g., "Marketing Manager", "Copywriter", etc. All users in these functional roles will obtain all permissions of the organizational role.

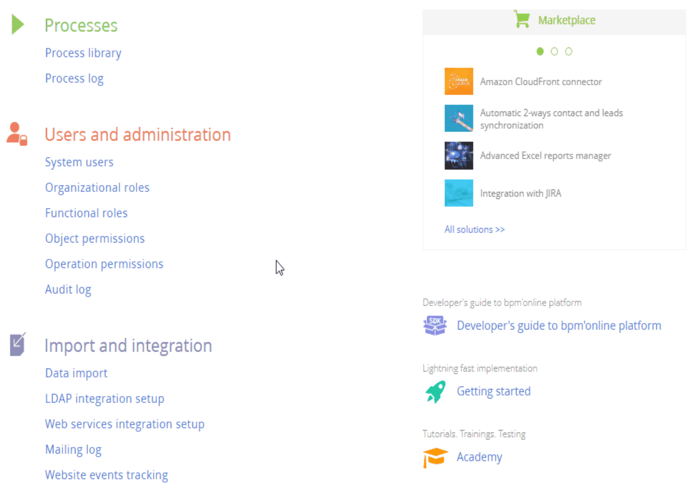
   This step is optional.

NOTE

Alternatively, you can connect a functional role to an organizational role on the functional role page. Read more in the “Connect functional and organizational roles” article.

6. Click -> [**Update roles**] for changes to take effect (Fig. 511).

Fig. 511 Adding an organizational role



As a result, a new organizational role will be added to Creatio. It will automatically obtain the same access permissions as its parent organizational role.

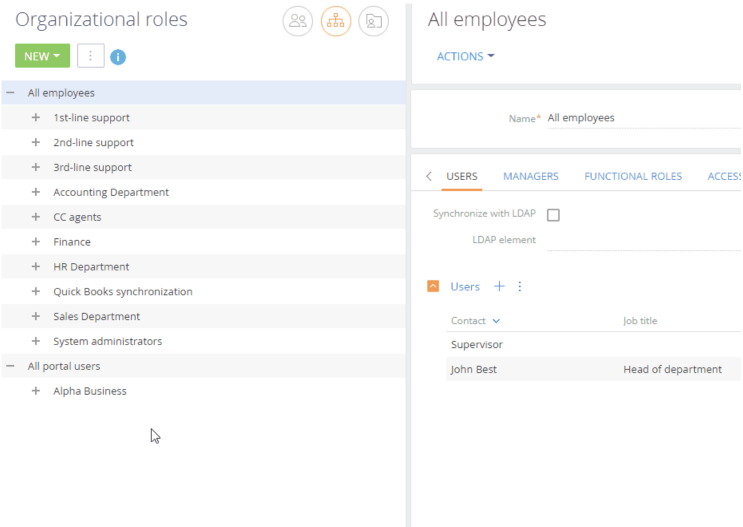
Add a manager role

In Creatio, you can assign permissions for management staff automatically, by adding a “**manager role**” to an organizational role. The manager role automatically obtains all permissions of the corresponding organizational role and all its subordinate roles.

While the manager role exists as a standalone organizational role in Creatio (and can be used to set up its access permissions), it is not visible in the list of organizational roles.

1. Click -> [**Organizational roles**].
2. In the list of organizational roles, select the corresponding organization and/or division to assign a manager role to. For example, to assign a manager to the HR Department, select the “HR Department” role.
3. On the [**Managers**] tab, select the [**Management role exists**] checkbox.
4. In the [**Management role**] field, specify the name of the manager role (Fig. 512).

Fig. 512 Creating a manager role for the "HR Department" organizational role

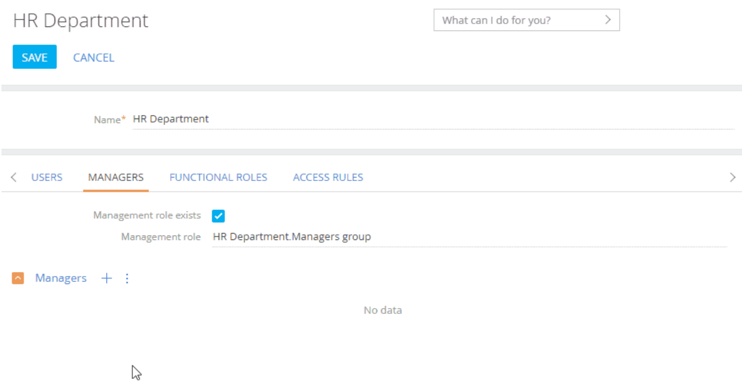


As a result, a new management role will be added to the organizational role. It will automatically obtain all access permissions from the organizational role (e.g., "HR Department") and all of its subordinate elements.

5. On the [**Managers**] tab:

- Click + and select [**Add existing**] to **add an existing user**. Select the corresponding user in the pop-up window (Fig. 513).
- Click + and select [**Add new**] to **add a new user** assigned to this role (you will need to populate the new user page).

Fig. 513 Adding users to the “HR Department” manager role



As a result, the users will automatically obtain all access permissions of the manager role, which will automatically include all permissions from its parent organizational role (e.g., “HR Department”) and its subordinate roles.

NOTE

Learn more about access permissions in the “Object permissions” and “System operation permissions” articles.

Add users to an organizational role

You can create a list of users in an organizational role in any of the following ways:

- add an existing user (selecting a user from the list)
- add a new user via a new user page
- import LDAP users Read more >>>

ATTENTION

You can import LDAP users only if the LDAP user integration has been set up. Learn more in the “Setting up LDAP integration” article.

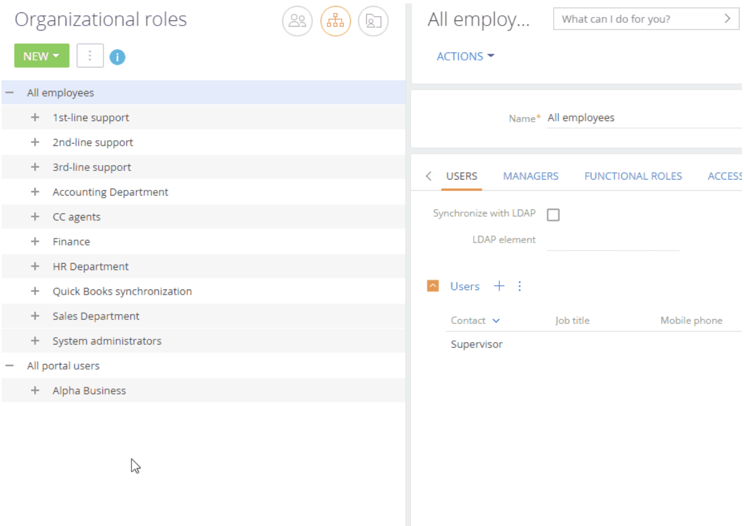
All users added to the organizational role will inherit any access permissions configured for it.

To add users to an organizational role:

1. Click -> [**Organizational roles**].
2. In the list of functional roles (represented in the form of a folder tree), **select the corresponding organization and/or division**.
3. On the [**Users**] tab:

- Click + and select [**Add existing**] to **add an existing user**. Select the corresponding user in the pop-up window (Fig. 514).
- Click + and select [**Add new**] to **add a new user** assigned to this role (you will need to populate the new user page).

Fig. 514 Adding existing users to an organizational role



As a result, selected users will be added to the organizational role. The users will inherit any access permissions configured for the organizational role.

NOTE

Learn more about access permissions in the “Object permissions” and “System operation permissions” articles.

SEE ALSO

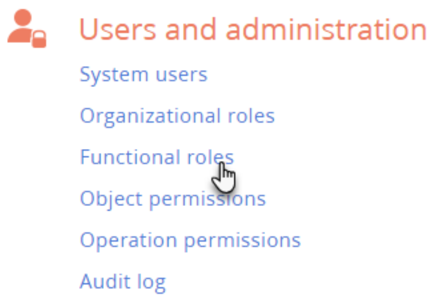
- Functional roles
- Object permissions
- System operation permissions

Functional roles

Functional roles reflect employee job titles, e.g., "Sales Managers".

To manage functional roles, click -> [**Functional roles**] (Fig. 515).

Fig. 515 The [Functional roles] section



The [Functional roles] section contains the structure of functional roles (represented in the form of a folder tree) and the information about each functional role.

NOTE

By default, only system administrators have access to this section. Users need to have permission to the "Manage user list" (CanManageUsers) system operation to work with this section.

Use functional roles to set up identical access permissions for all employees with certain job positions, regardless of the company division. For example, you can create a functional role for managers in both main and regional offices. To do this:

1. **Create** a functional role. Learn more in the "Add a functional role" article.
2. **Add organizational roles** to a functional role. Learn more in the "Connect functional and organizational roles" article.
3. **Configure access permissions** for a functional role. Learn more about object permissions in the "Object permissions" article.

Add a functional role

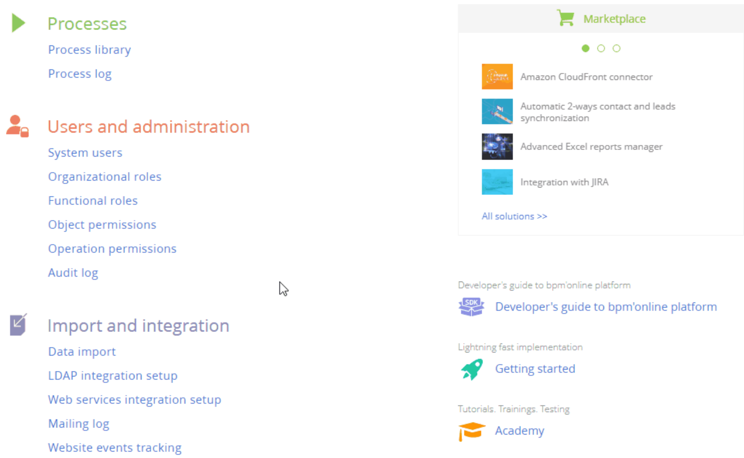
1. Click -> [**Functional roles**].
2. Click [**Add**]. Specify the name of the role in the opened window.

   NOTE

   The name of a functional role must be unique.

3. Click [**Save**].
4. Click ⋮ -> [**Update roles**] for changes to take effect (Fig. 516).

Fig. 516 Adding a functional role



As a result, a new functional role will be added.

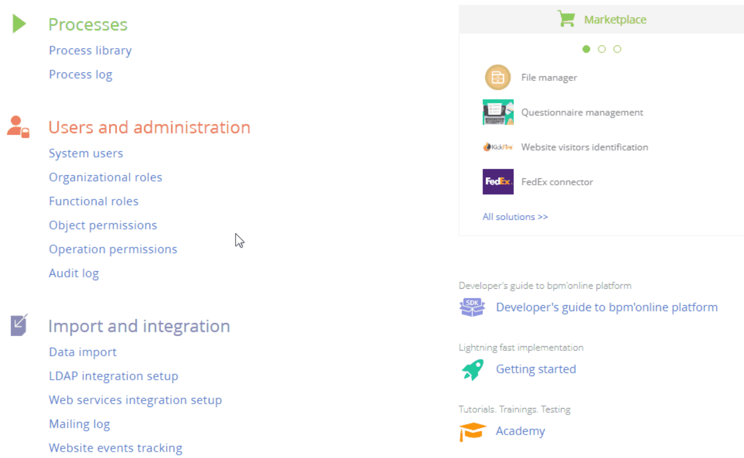
Connect functional and organizational roles

A functional role can be linked to one or more organizational roles. For example, you can link the “Managers” functional role with the “Main office. Managers group” and “Regional office. Managers group” organizational roles.

To connect a functional role to an organizational role:

1. Click -> [**Functional roles**].
2. In the list of functional roles, **select the corresponding functional role**. The functional role page will open on the right-hand side.
3. On the [**Organizational roles**] tab, click + and **add organizational roles** to a functional role. For example, add the “Main office. Managers group” and “Regional office. Managers group” organizational roles to the “Managers” functional role.
4. Click ⋮ -> [**Update roles**] for changes to take effect (Fig. 517).

Fig. 517 Connecting functional and organizational roles



As a result, the “Managers” functional role will be linked to the “Main office. Managers group” and “Regional office. Managers group” organizational roles. This will grant all permissions from the linked organizational roles to the users with the “Managers” functional role.

Add users to a functional role

You can add users to the functional role in any of the following ways:

- add an existing user (selecting a user from the list)
- add a new user via a new user page
- import LDAP users Read more >>>

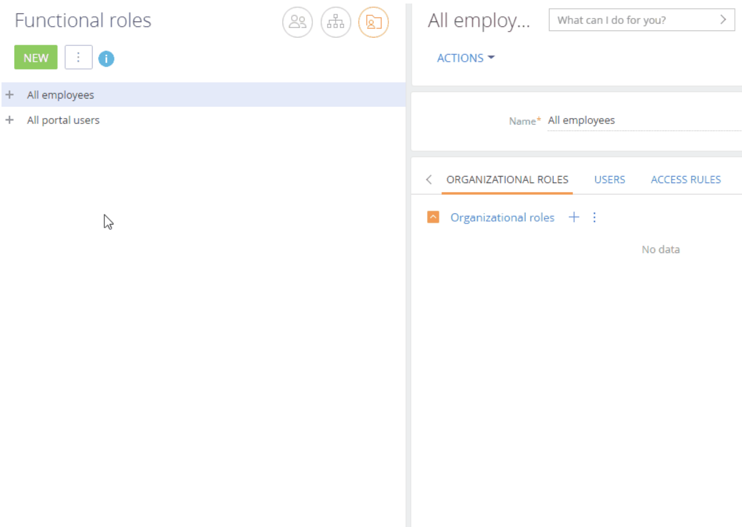
ATTENTION

You can import LDAP users only if the LDAP user integration has been set up. Learn more in the “Setting up LDAP integration” article.

To add users to a functional role:

1. Click -> [**Functional roles**].
2. In the list of functional roles, **select the corresponding organization and/or division**.
3. On the [**Users**] tab:
   - Click + and select [**Add existing**] to **add an existing user**. Select the corresponding user in the pop-up window (Fig. 518).
   - Click + and select [**Add new**] to **add a new user** assigned to this role (you will need to populate the new user page).

Fig. 518 Adding existing users to a functional role



As a result, new or existing users will be added to a functional role. Additionally, they will inherit any access permissions configured for this role.

NOTE

Learn more about access permissions in the "Object permissions" and "System operation permissions" articles.

SEE ALSO

- Managing users
- Organizational roles
- Object permissions
- System operation permissions

VIDEO TUTORIALS

- User and role management, access permissions

Object permissions

Business data in Creatio is stored in "objects". Each section, detail, or lookup is passed on a corresponding object, which, in turn, roughly corresponds to a database table.

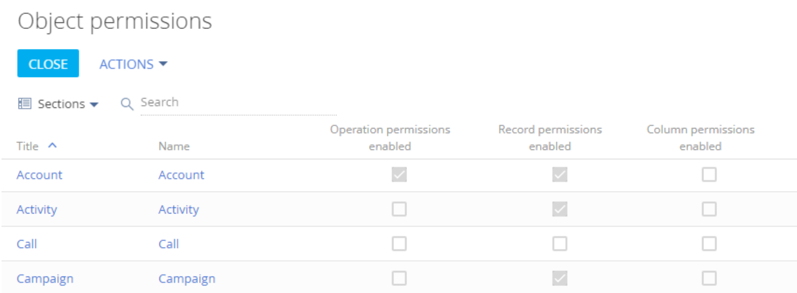
NOTE

For more about technical aspects of Creatio objects, please refer to the "Creating the entity schema" article of the development guide.

In Creatio, working with access to data involves managing object permissions. The **Object permissions** section of the System Designer is designed for this purpose.

You can manage objects on three levels: **operation permissions**, **record permissions** and **column permissions**. In the object permissions management section (Fig. 519) you can see whether permissions in each object are managed by operations, records and columns.

Fig. 519 Section objects and their access levels



Access to operations with the object

Operation permissions enable you to grant or limit the ability to create, read, update or delete object data (CRUD operations) for individual users or roles.

NOTE

Object operations should not be confused with "system operations", which you can manage in the [Operations permissions] section. Learn more about system operations in the "System operation reference" article.

- If the **[Operation permissions enabled] checkbox is cleared**, all users can create, read, update or delete all records in the object.
- If the **[Operation permissions enabled] checkbox is selected**, the ability to perform CRUD-operations in the object is only available to those users and roles who were granted these permissions specifically. All other users (apart from system administrators) do not have access to the object. For example, only individual users can add new records. Users and roles that do not have operation permissions to this object will not be able to create, read, update or delete data in it.

Learn more about setting up access to operations with objects in the "Managing object operation permissions" article.

Access to object records

This option enables you to manage the permissions to read, update or delete specific records in an object, as well as to delegate these permissions. By default, a new record is only accessible to its owner and the system administrator. Record owners configure access permissions to their record individually (learn more in the "Access rights" article). A system administrator can configure a set of rules for automatically granting access to a new record to certain users or roles, based on the record author.

- If the **[Record permissions enabled] checkbox is cleared**, all users can create, read, update or delete all records in the object (provided that they have corresponding operation permissions to the object).
- If the **[Record permissions enabled] checkbox is selected**, individual users or groups can perform separate CRUD-operations with individual object records (provided that they have corresponding operation permissions to the object). For example, only certain users or roles can view and edit specific accounts or contacts.

Learn more about setting up access to object records in the "Managing record permissions" article.

Access to object columns

This option enables you to configure access permissions to specific fields in sections, details and lookups. A field is a visual representation of a database column.

- If the **[Column permissions enabled] checkbox is cleared**, all users can access values in all object columns, provided that they have access permissions to object operations and access to corresponding records.
- If the **[Column permissions enabled] checkbox is selected**, only specific users and roles can access values in object columns, provided that they have access permissions to object operations and access to corresponding records. For example, only individual users can view the annual revenue of accounts or change a contact type.

Learn more about setting up object column access in the "Managing column permissions" article.

The [Operation permissions enabled], [Record permissions enabled] and [Column permissions enabled] checkboxes in the list are view-only. They change automatically, based on the permissions that you set up for each object. If all checkboxes are disabled for an object, then all users have full access to the object and have permission to create, read, update or delete its data in all records and all columns. Learn more about different access permission options in the "Managing object operation permissions", "Managing record permissions" and "Managing column permissions" articles.

Selecting an object to set up access permissions

In Creatio, you manage access to sections, details, and lookups through their respective objects. To restrict access to data of a particular section, detail, or lookup, you need to set up access permissions to the object where those records are stored. The objects are available in the [**Object permissions**] section of the System Designer.

The same object can act as a data source for a section, several details and lookup fields. That is why identifying which object you need is paramount.

Use filters to view the list of "section", or "lookup" objects only. By default, the list in the [Object permissions] section shows only section objects (including objects used in custom sections). Select the "Lookups" filter to display only objects that correspond to registered lookups.

> NOTE
>
> If you select a filter and search for a particular object, Creatio will only search for objects that correspond to the selected filter. For example, if the "Sections" filter is selected in the list, and you are looking for a lookup, the necessary object will not be found since the list displays exclusively section objects.

Use the search string in conjunction with the filter to find the object you need.

Configuring access to a section

To set up access to **a section**, select the "Sections" filter and start typing section name in the search box. The name of the object usually corresponds to the name of the section in the singular. For example, the [Contacts] section object is called "Contact", the [Documents] section object is called "Document", etc. (note that custom sections and objects may not follow this rule).

Below are a few examples of section names and their corresponding object names.

Section name	Object title	Database object name
Contacts	Contact	Contact
Accounts	Account	Account
Activities	Activity	Activity
Opportunities	Opportunity	Opportunity
Landing pages and web forms	Landing page (web form)	GeneratedWebForm

Click on the object's name to begin configuring its access permissions. Note that only object names and titles are clickable in the list. Learn more about setting up different types of object permissions in the "Managing object operation permissions", "Managing record permissions" and "Managing column permissions" articles.

Configuring access to a lookup

To configure access to **a lookup**, select the "Lookups" filter and specify the object name in the search box. A lookup object name is usually identical to the lookup name or corresponds to the name of the lookup in the singular. For example, the [Currency] lookup object is named "Currency".

Below are a few examples of lookup names and their corresponding object names.

Lookup name	Object title	Database object name
States/provinces	States/provinces	Region
List of objects available to portal users	List of objects available to portal users (view)	VwSysSSPEntitySchemaAccessList
Email templates	Email template	EmailTemplate
Noteworthy event types	Noteworthy event types	AnniversaryType
Opportunity categories	Opportunity categories	OpportunityCategory

Click on the object name to begin configuring its access permissions. Note that only object names and titles are clickable in the list. Learn more about setting up different types of object permissions in the "Managing object operation permissions", "Managing record permissions" and "Managing column permissions" articles.

Configuring access to a detail

A detail is a record page element that displays a list of records that are connected to the current record. Most details display section records, e.g., the [Contacts] detail on the account page. Several details use their own dedicated objects as data sources, e.g., the [Addresses] and [Noteworthy events] details. To configure access permissions to a **detail**, first determine which object serves as the data source for the detail. If the detail displays section data (e.g., the [Contacts] detail on the account page displays data from the [Contacts] section), set up permissions to the corresponding section object. If the detail displays lookup data, the access is configured for an object, which corresponds to that particular lookup. If the detail has its own object, the access is configured for that particular object.

> **NOTE**
> You can look up the name of the detail object in the Section Wizard. Locate where the detail is used, and find the [Detail] field in the edit mode.

Make sure you select the "All objects" filter before searching for a dedicated detail object in the [Object permissions] section. If the detail displays the data of a particular section, the name of the detail object corresponds to the section name. For example, the name of the [Contacts] detail object in the [Accounts] section is "Contact".

If the detail displays lookup data, in most cases the name of the object corresponds to the name of the lookup.

The name of a dedicated detail object usually combines the name of the detail and the section in which it is used (singular). For example, the [Attachments] detail object in the [Contacts] section is named "Contact attachment".

Below are a few examples of detail names and corresponding object names.

Section name	Detail name	Object title	Database object name
Contacts	Communication options	Contact communication options	ContactCommunication
Accounts	Communication options	Account communication options	AccountCommunication
Contacts	Addresses	Contact address	ContactAddress
Accounts	Addresses	Account address	AccountAddress
Contacts	Job experience	Contact job experience	ContactCareer
Accounts	Banking details	Payment details of the account	AccountBillingInfo
Contacts	Attachments and notes	Contact attachments and notes	ContactFile
Any	Activities	Activity	Activity

Click on an object name to begin configuring its access permissions. Learn more about setting up different types of object permissions in the "Managing object operation permissions", "Managing record permissions" and "Managing column permissions" articles.

Configuring access to feed messages

Access permissions to **feed** are inherited from access permissions of the object where the feed message is posted. For example, if a user has permissions to read or create records in the [Accounts] section, they can view and create messages in the account's feed. However, they can only edit and delete their own messages. To grant access permissions to feed messages in a specific section, grant access permissions to that section object. Learn about finding the needed objects in the "Configuring access to a section" article.

To begin configuring operation, record and column permissions, select an object of the necessary section by clicking on its name or title. Learn more about setting up different types of object permissions in the "Managing object operation permissions", "Managing record permissions" and "Managing column permissions" articles.

Configuring access to tags

There is a separate object for storing **tags** for each section with each object record being a separate tag. The object title looks like this: "<section name> section tag". For example, "Feed section tag", "Activity section tag", etc.

> NOTE
>
> Before searching for the tag objects, in the [Objects permissions] section, make sure you select "All objects" filter.

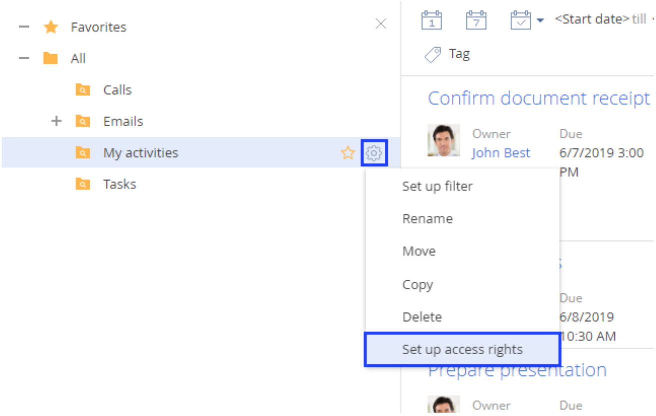
Click on an object name to begin configuring its access permissions. Note that only object names and titles are clickable in the list. Learn more about setting up different types of object permissions in the "Managing object operation permissions", "Managing record permissions" and "Managing column permissions" articles.

Configuring access to a section folders

There is a separate object for storing **folders** of each section, with each object record being a separate folder. The object title looks like this: "Section folder - <section name>". For example, the title of the object that stores the folders of the [Contracts] section is "Section folder - "Contracts"". The object title also may consist of the word "folder" and the section name in singular. For example, the folder object title for the [Contacts] section is "Contact folder".

All folder objects are managed by records, i.e., by default, a folder is visible only to the user who created it, with the ability to share the folder with other users via the [Set up access rights] button (Fig. 520).

Fig. 520 Access permissions to the “My activities” folder in the [Activities] section

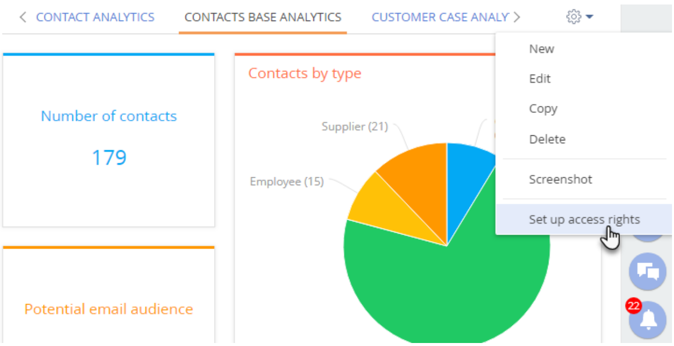


Configuring access to dashboards

Creatio section analytics, as well as the analytics available in the [Dashboards] section are stored in a separate “Dashboard” (SysDashboard) object.

If the “Dashboard” object is not managed by records, all users have full access to all dashboards. If the object is managed by records, access permissions to individual dashboards are configured via the [Set up access permissions] button in the analytics view (Fig. 521).

Fig. 521 Configuring access permissions to the “Dashboards” view in the [Contacts] section



Inherited access permissions

Subordinate objects, such as details, can inherit access permissions from parent objects (e.g., corresponding sections). For example, account communication options can inherit access permissions of the parent account. In this case, any user who has no permission to edit the primary record (e.g., account) cannot edit the subordinate records (e.g., communication options of that account) either.

This functionality is disabled by default. You can enable it for separate objects in the Object Designer, available in the [Configuration] section of Creatio advanced settings page.

NOTE

More information about working with the Object Designer and the [Configuration] section is available in the "The [Configuration] section" article of the Development Guide. The "Workspace of the Object Designer" article provides a description of the Object Designer.

Open the Object Designer; display all object properties (Fig. 522); in the [Object to inherit access permissions from] field, select the parent object, whose access permissions will be inherited by the current object (Fig. 523).

Fig. 522 Switching the object properties area to the "advanced" mode

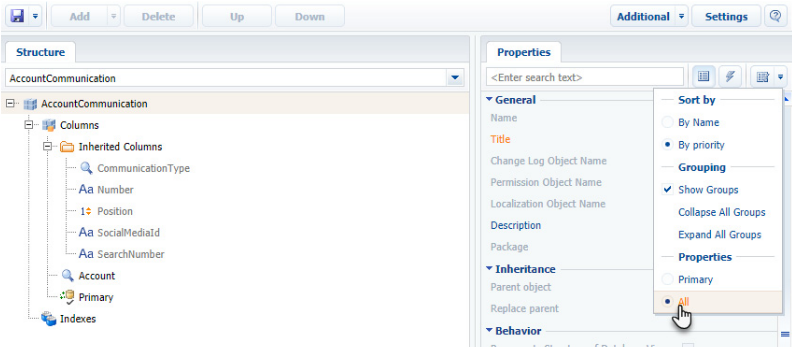
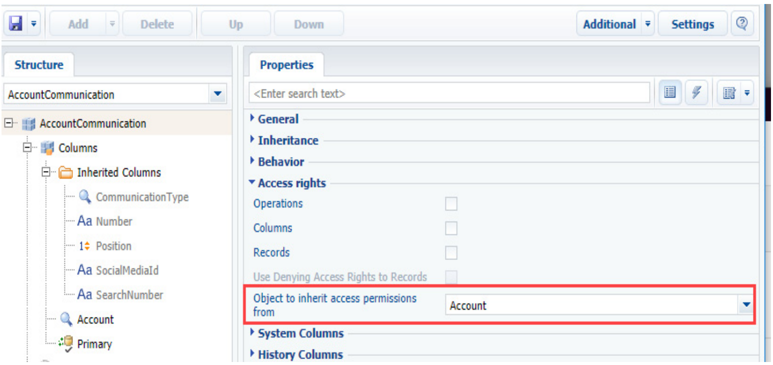


Fig. 523 Inheriting access permissions from the parent object



SEE ALSO

- Managing object operation permissions
- Managing record permissions
- Managing column permissions

Managing object operation permissions

Managing access to object operations enables you to assign permissions to create, read, update or and delete (CRUD) operations for all data in an object. Let's have a look at several typical cases of managing operation permissions.

NOTE

Object operations should not be confused with "system operations", which you can manage in the [Operation permissions] section. There are 4 system operations that override any settings in the [Operation permissions] section. Any user who has access to the "View any data", "Add any data", "Edit any data" and "Delete any data" system operations, can create, read, update or delete data in any object, regardless of settings made in the [Object permissions] section. Learn more about system operations in the "The [Operation permissions] section" article.

- Configure access to operations in section objects
- Configure access to operations in detail objects

Configure access to operations in section objects

CASE

Set up the following permissions to the [Opportunities] section:

Sales managers should have permission to read, create and update the [Opportunities] section records with no ability to delete them.

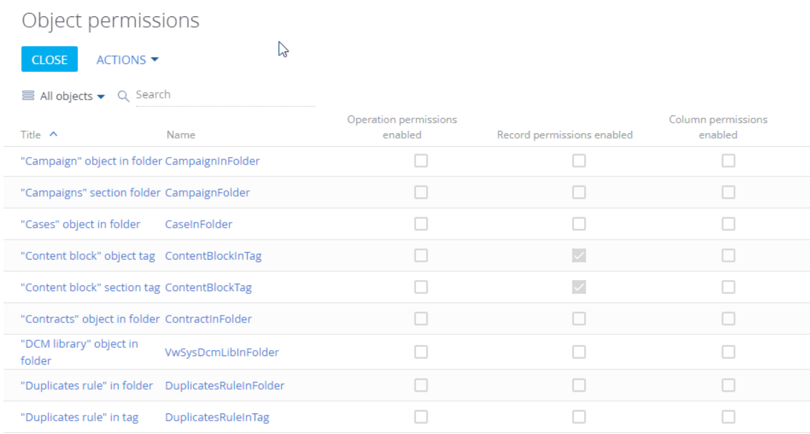
Sales managers should have full access to all opportunities, including permission to delete them.

The secretaries should not have access to the [Opportunities] section.

One of the employees in the "Secretaries" role, as well as all the company's employees, should have permission to view opportunities in the section.

1. Go to the System Designer (button) and open the **[Object permissions]** section.
2. Select the necessary object in the list or use the search box. For example, to configure access permissions to the [Opportunities] section, select the "Sections" filter and choose the "Opportunity" object. Click the name (or title) of the object to open the object permission settings window (Fig. 524).

Fig. 524 Choosing the section object and opening the permissions settings window

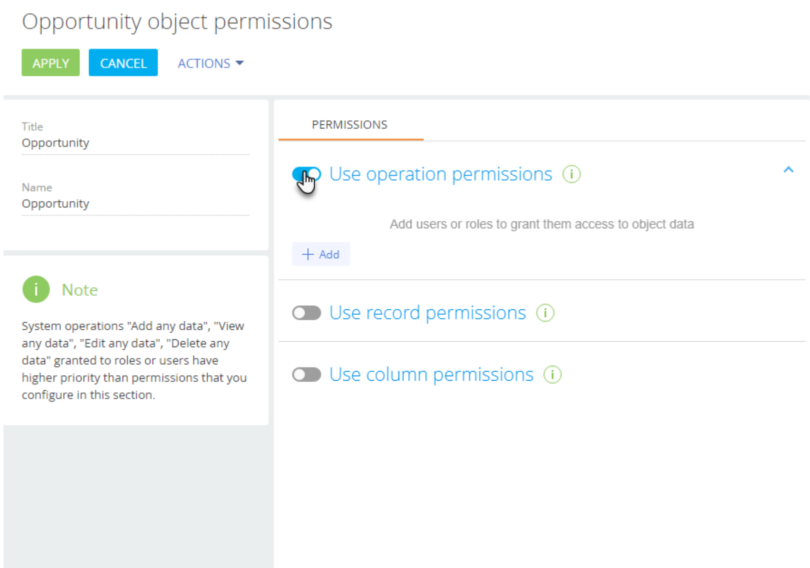


NOTE

Learn more about finding the object in the list in the "Selecting an object to set up access permissions" article.

3. Enable the "Use operation permissions" switch (Fig. 525).

Fig. 525 Enabling operation permissions



NOTE

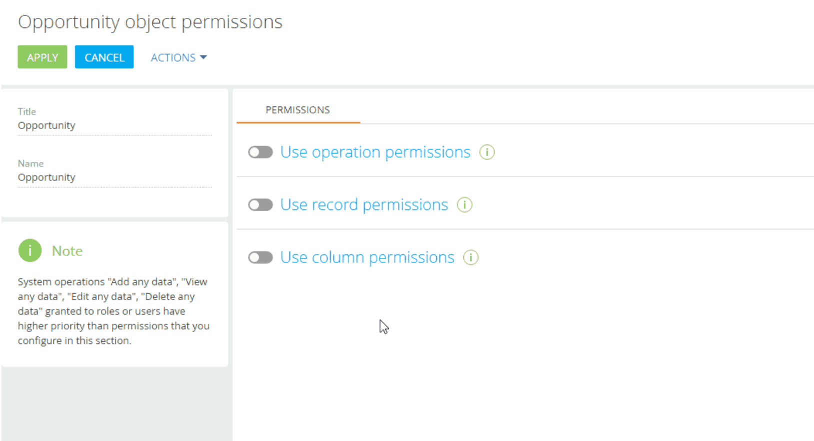
By default, all employees (the "All employees" organizational role) have the ability to read, create, update and delete all object records. Users in the "All employees" role will have permissions to perform these operations, even if operations permissions are not used and the switch is disabled.

ATTENTION

If you remove the "All employees" role from the settings area, and then disable the "Use operation permissions" switch and apply the changes, users will not be able to see the object records.

4. Click [Add] and select the necessary users and roles. You can use the search box or the [Organizational roles], [Functional roles] and [Users] tabs to quickly find users and roles. In this case:
    - The "All employees" role (added automatically).
    - The "Sales managers" organizational role.
    - The "Sales managers. Managers group" organizational role.
    - The "Secretaries" organizational role.
    - An individual user from the "Secretaries" organizational role (Fig. 526), e.g., V. Murphy.

Fig. 526 Adding users and roles to grant access permissions to the section



5. By default, each user or role that you add is granted access to read, create, update and delete object data. Edit these permissions according to your requirements, for example:
    - Leave the [Read] checkbox selected and clear the [Create], [Edit] and [Delete] checkboxes for the "**All employees**" role. As a result, all company employees can read section records but cannot create, edit or delete them.
    - Leave the [Read], [Create], [Edit] checkboxes selected and clear the [Delete] checkbox for the "**Sales managers**" role. As a result, sales managers will be able to read, create and edit section records without the ability to delete them.
    - Leave the [Read], [Create], [Edit] and [Delete] checkboxes selected for the "Sales managers. **Managers group**" role. As a result, sales department managers will have permission to read, create, edit or delete records in the [Opportunities] section.

- Clear the [Read], [Create], [Edit] and [Delete] checkboxes for the "**Secretaries**" role. As a result, the [Opportunities] section will be hidden from the company's secretaries.
- Leave the [Read] checkbox selected for the **specific user in the "Secretaries" role**. As a result, the user can read records in the [Opportunities] section.

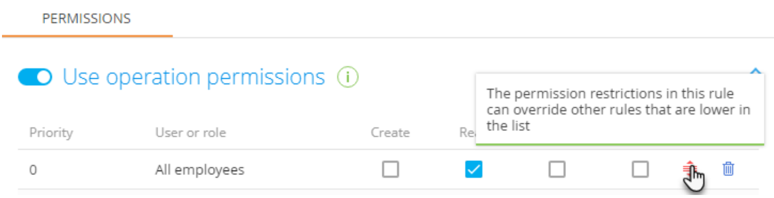
icon may appear next to some permissions. This means that some settings contradict each other, and it is necessary to adjust their priorities.

Hierarchy of object operation permissions

Sometimes the access permissions that apply to the same user or role may contradict each other, since a user may be included in several roles. Also, organizational roles may inherit permissions from one another, for example, the "Sales managers", "Sales managers. Managers group" and "Secretaries" roles are a part of the "All employees" role. Additionally, permissions granted to an individual user may conflict with permissions that the user may have as a member of their role. These conflicts are indicated by the icon next to the conflicting access permission.

In case of a conflict, the permission that is the highest in the list will have a higher priority. The priority is shown in the [Priority] column and the highest possible priority is "0". An icon next to an access permission rule indicates such a "conflict". You can drag a rule to change its position in the list (Fig. 527).

Fig. 527 The need to adjust priorities in the list of permission rules



Please take the following into account while configuring access permission priorities:

- A user who is a part of several roles will get the access permissions of the **highest** role in the list.

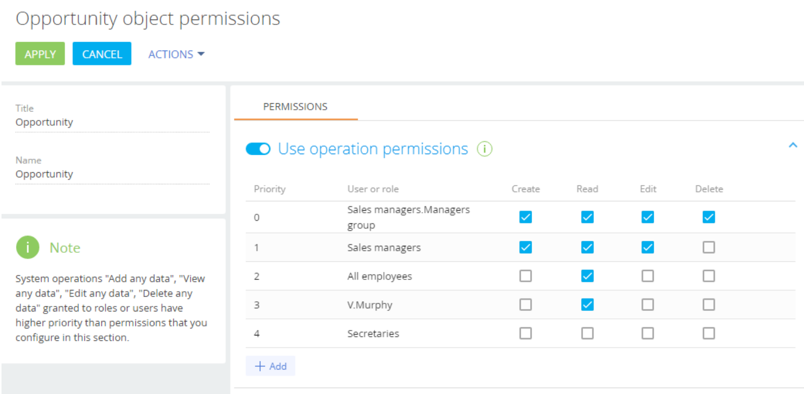
  For example, all users should not access the [Opportunities] section records, but sales managers (who also belong to the "All users" role) should be given all permissions except those that enable them to delete records. To do this, place the "Sales managers" role higher than "All employees" in the list.
- To deny access permissions to an operation for a role while permitting the operation for some of its users, place this role **lower** in the list than the users who need to be granted access.

  Thus, if you deny access to the [Opportunities] section for the "Secretaries" role, but grant permission to read data to one of the secretaries, make sure that you move the "Secretaries" below the secretary employee who is supposed to access to the section.
- Users or roles that are **not added** to the object operations settings area do not get access to operations and are not included in priority settings.

Configure access permission priorities. To change the rule display order, drag&drop the rule to the necessary position in the list (Fig. 528).

1. Place the organizational role with the highest level of permissions (in our case, “Sales managers. Managers group”) at the top of the list.
2. Place the “Sales managers” role directly below.
3. The “All employees” role and the “V. Murphy” user (who belongs to the “Secretaries” role) have the same access permissions. Thus, you can place them directly below the “Sales managers” role in any order.
4. The “Secretaries” role should be placed at the very bottom of the list, since they do not have access to the [Opportunities] section.
5. Save the changes by clicking “Apply” in the upper left corner of the page.

Fig. 528 Setting up access permission priorities



As a result:

- Users in the “**Sales managers**” role have access to the [Opportunities] section with the ability to create and edit section records. Sales managers do not have the ability to delete records.
- Their **managers** should have full access to these records, including the permissions to delete them.
- **All company employees** can read section records but cannot create, edit or delete them.
- All **secretaries**, apart from V. Murphy, cannot view the [Opportunities] section records.
- **V. Murphy** can read the records in the section.

SEE ALSO

- Configure access to operations in detail objects

Configure access to operations in detail objects

CASE

Configure access permissions to the [Attachments] detail in the [Contracts] section. Users in the “Sales managers” organizational role should have full access to detail records.

All other users can only view the files in the detail and cannot edit or delete them.

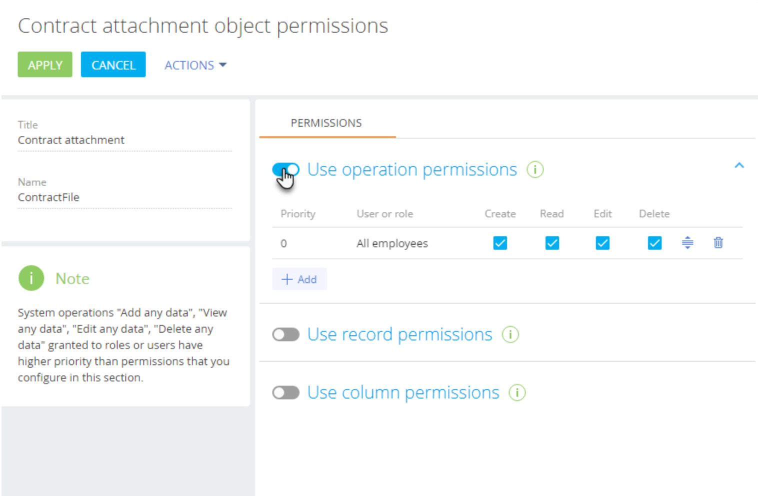
1. Go to the system designer (button) and open the **[Object permissions]** section.
2. Select the “All objects” filter.
3. Find the “Attachments” object via the search box.

NOTE

Learn more about finding the object in the list in the “Selecting an object to set up access permissions” article.

4. Click the name or the title of the object to open the access permissions configuration window.
5. Enable the “Use operation permissions” switch (Fig. 529).

Fig. 529 Enabling the “Use operation permissions” switch



6. Click [Add] and select the necessary users and roles. Use the search box to quickly find the necessary users and roles. In this case:
   - The “All employees” role (added automatically).
   - The “Sales managers” role.
7. By default, each user or role in the list is granted access to read, create, update and delete object data. Edit these permissions to fit the example requirements:
   - Leave the [Read], [Create], [Edit] and [Delete] checkboxes selected for the “**Sales managers**” role. As a result, sales managers can read, create, edit and delete data in the [Attachments] detail.
   - Leave the [Read] checkbox selected and clear the [Create], [Edit] and [Delete] checkboxes for the “**All employees**” role. As a result, all employee users can view the data on the [Attachments] detail without the ability to add, edit or delete anything.
8. If necessary, configure access priorities for the selected roles. Adjustments may be necessary if access levels conflict with each other (roles may overlap). For example, the “Sales Managers”

role is included in the “All Employees” role. The need to adjust priorities is indicated by the icon next to the conflicting access permission. Detailed information about priorities is provided in the “Hierarchy of object operation permissions” chapter.

As a result:

- Users in the “**Sales managers**” role have full access to the [Attachments] detail.
- **All company’s employees** can view the data on the [Attachments] detail without the ability to create, edit or delete anything.

SEE ALSO

- Managing record permissions
- Managing column permissions

Managing record permissions

This option enables you to manage the permissions to read, update or delete individual object records, as well as to delegate these permissions.

The distribution of access rights depends on the record’s authorship. By default, maximum access permissions are given to the following users:

- **system administrators** with permissions to the “View any data”, “Add any data”, “Edit any data” and “Delete any data” system operations, which have higher priority than settings in the [Object permissions] section.
- **record author**, who has full access to the record and also can delegate rights to other users.. Learn more about setting up access permissions to individual records in the “Sharing records” article.

The system administrator can configure permissions that will be distributed to users when creating a new record based on the author of that record. If an object is not managed by records, all users who have access to operations in the object will have access to all of its records. All users who have access to operations in the object will have record permissions if this configuration is not performed.

Configure access permissions to records in the [Opportunities] section

CASE

In the following example, we will configure access rights to the [Opportunities] section.

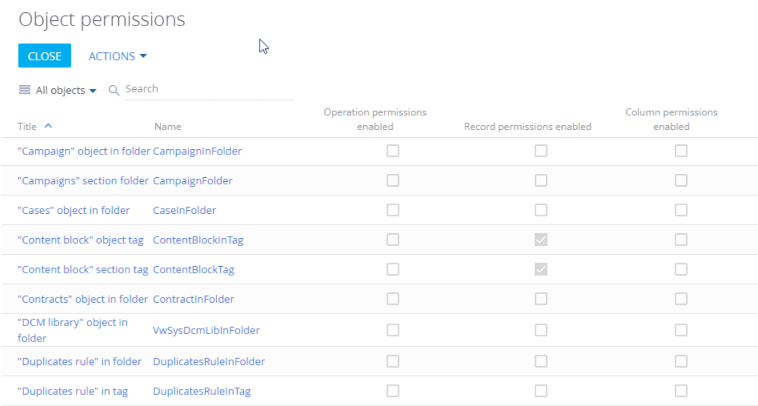
If the record is created by a sales manager, all employees that are part of this organizational role should have permission to view the record (with the ability to delegate these permissions), edit it, but not delete it.

If the record is created by a supervisor, the managers should have permission to view and edit the record without the ability to delegate access permissions.

The managers should have full access to these records, including the permission to delete them.

1. Go to the System Designer (button) and open the **[Object permissions]** section.
2. For example, to configure access permissions to the [Opportunities] section, select the “Sections” filter and choose the “Opportunity” object. Click the name (or title) of the object to open the object permissions settings window (Fig. 530).

Fig. 530 Choosing the section object and opening the permissions settings window

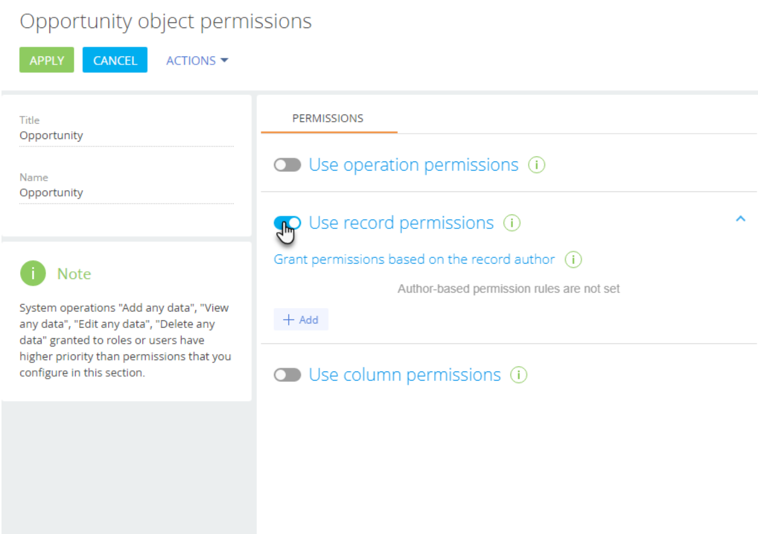


NOTE

Learn more about locating the object in the list and selecting it for access permissions configuration in the "Selecting an object to set up access permissions" article.

3. Enable the "Use operation permissions" switch (Fig. 531).

Fig. 531 Enabling the "Use operation permissions" switch

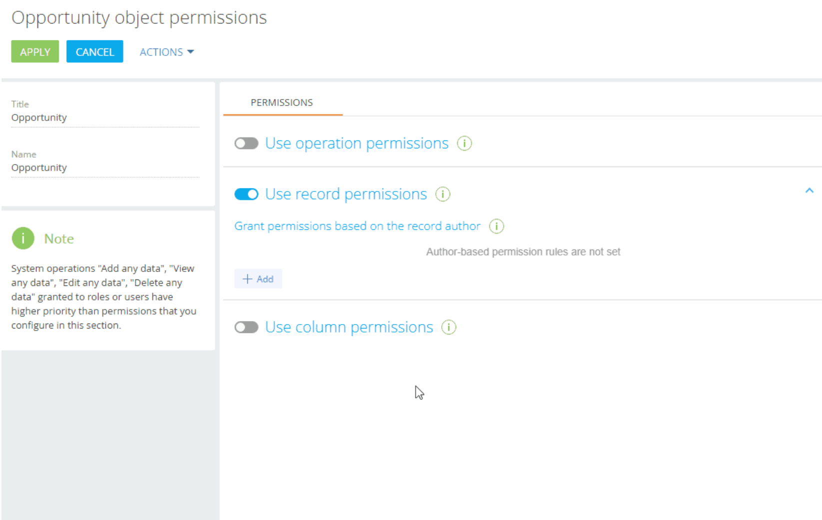


NOTE

If the object record permissions are enabled in the section, and the access permissions are not configured, the record will only be available to authors and system administrators.

4. Clicking the [Add] button opens a window in which you can specify a user (or role) who created the record, and a user (or role) who will receive permissions to work with this record. Use the search box to quickly find the necessary users and roles.

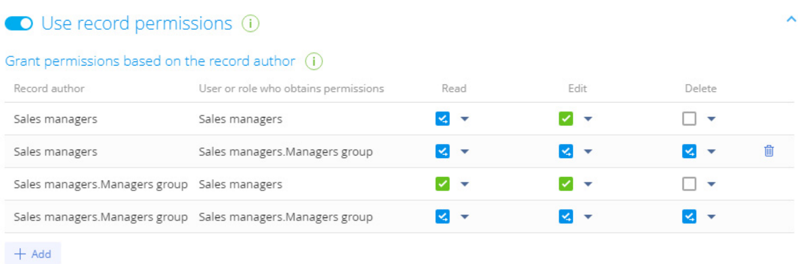
Fig. 532 An example of adding roles to configure access permission



In our case, the record owners and the users who receive permissions to work with the record are the members of the "Sales managers" and "Sales managers. Managers group" organizational roles to the "Managers" functional role.

5. By default, access permissions are not specified. Click the button and select "Granted" or "Granted with right to delegate" options in the column which corresponds to specific permissions (read, edit or delete) for each user to determine access levels. In our case, the following permissions are granted (Fig. 533):

Fig. 533 An example of configuring record access permissions



- To enable sales managers to view records created by their colleagues, delegate this permission to other users, as well as edit the records while being unable to delete them, select the “Granted with right to delegate” checkbox for the “**Sales managers**” role in the [Read] column, and the “Granted” checkbox in the [Edit] column.

- To enable sales managers to view records created by their managers, as well as edit these records with no ability to delete them, select the “Granted” checkbox in the [Edit] and [Read] columns for the “**Sales managers**” role.
- To enable their managers to view, edit and delete records in the [Opportunities] section, as well as to grant them an ability to delegate these permissions, select the “Granted with right to delegate” checkbox for the “**Sales managers. Managers group**” role in the [Read], [Edit] and [Delete] columns of the records authored by the “Sales managers” and “Sales managers. Supervisors” roles. Managers group” organizational roles to the “Managers” functional role.

NOTE

Unlike access permissions to object operations, the priority is not affected by the order in which permissions are displayed in the list.

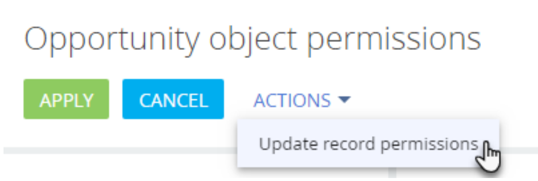
6. Click the [Apply] button to save changes.

ATTENTION

If access permissions are configured in a section, which already has records, you will need to update all record permissions. Otherwise, the permissions will only apply to new section records.

The process of updating record permissions may take some time. Depending on the number of section records, as well as the number of users and roles, the update process may take 3 minutes or more and affect system performance. To avoid this, we do not recommend updating record permissions during peak system load. To apply new access permissions to existing section records, open the access permissions setup page and select “Update record permissions” in the [Actions] menu (Fig. 534).

Fig. 534 Launching the record permissions update process



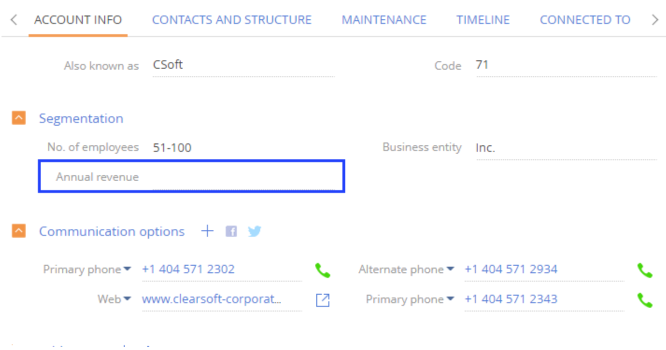
SEE ALSO

- Managing object operation permissions
- Managing column permissions

Managing column permissions

Object columns are displayed in the form of fields on pages and in section/detail lists. Column permissions enable you to limit access to read or edit individual object fields for users or roles. For example, you can limit permissions to read data in the [Annual revenue] field for the “Secretaries” organizational role, and enable all other employees to read the data in that field. The users who do not have permission to read data in the [Annual revenue] field will see the field itself, but its value will not be displayed (Fig. 535).

Fig. 535 The [Annual revenue] field with limited access permissions



Object operation and record permissions override column permissions. For example, if the user does not have permission to read an object data, the object will not be displayed for that user at all, and any column permissions will be irrelevant.

ATTENTION

Before setting up object column permissions, make sure that the user or role has access to the corresponding object operations and records. Note that if an object is not managed by operations and records, all users and roles have full access to all operations and all records. Learn more about limiting access permissions to create, edit, read or delete object data in the "Managing object operation permissions" article.

In this article, we are going to look at the process of granting or limiting access permissions to read and edit data in separate fields.

CASE

Set up permissions to the [Annual revenue] field on the account page. All company's employees, apart from its secretaries, should have access permissions to read the data in the [Annual revenue] field, while the sales managers should be able to read and edit data in that field.

The field value is hidden for the company's secretaries.

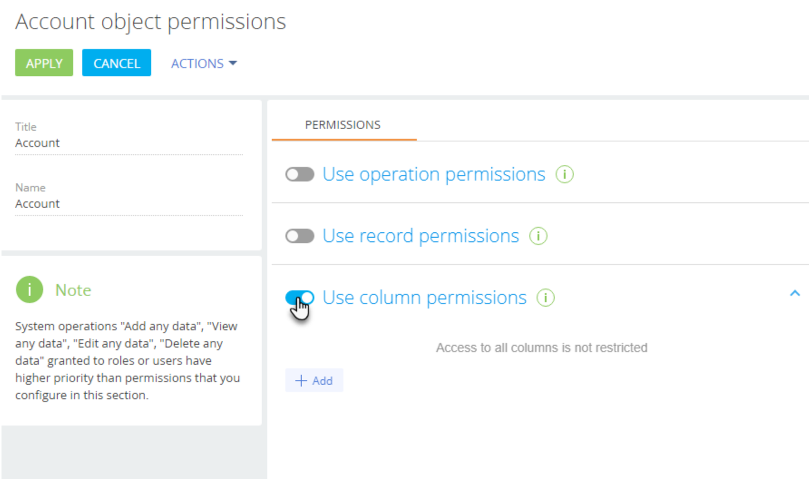
1. Go to the System Designer (button) and open the **[Object permissions]** section.
2. Select the necessary object in the list or use the search box. For example, to configure access permissions to the [Annual revenue] field, select the "Sections" filter and choose the "Account" object. Click the name (or title) of the object to open the object permissions settings window.

NOTE

Learn more about locating the object in the list and selecting it for access permissions configuration in the "Selecting an object to set up access permissions" article.

3. Make sure that the necessary users or roles already have access to object operations (or that the object is not administered by operations).
4. Enable the "Use column permissions" switch (Fig. 536).

Fig. 536 Enabling column permissions

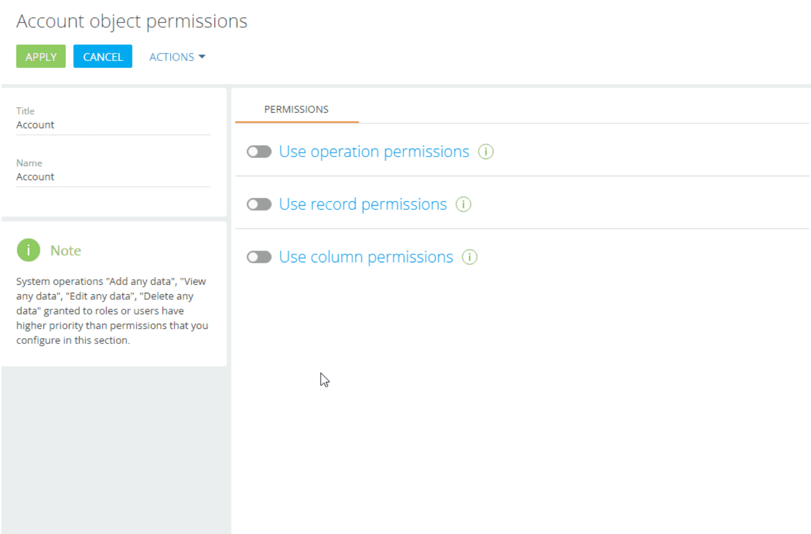


NOTE

If a new column is added to the object, and this object uses column permissions, then the users, except for system administrators, will not be able to access that column by default. You need to set up permissions for each custom column that you add after enabling column permissions in an object.

5. Click [Add] and select the necessary column. For example, to limit access to the [Annual revenue] field, type "Annual revenue" in the search box and click [Select]. The selected column will be displayed in the list on the left. The list on the right enables you to select users and roles to configure access permissions (Fig. 537). You can add other columns, if necessary. Select a column in the list to configure its access permissions.
6. Click [Add] in the list on the right, then select users and roles. You can use the search box or the [Organizational roles], [Functional roles] and [Users] tabs to quickly find users and roles in the selection window (Fig. 537). In this case:
    - The "All employees" role (added automatically).
    - The "Sales managers" organizational role.
    - The "Secretaries" organizational role.

Fig. 537 Selecting the [Annual revenue] column and adding users and roles to configure access permissions



By default, each user or role added to the list is granted access to read, update and delete the column value. Modify permissions to restrict access. For example, to implement the case above:

- Change access permissions for the "**All employees**" role to "Permit reading". As a result, all company's employees will be able to see the [Annual revenue] field value on the account page, without the ability to edit it.
- Select the "Permit reading and editing" access permission level for the "**Sales managers**" role. As a result, the sales managers will be able to read and edit the value of the [Annual revenue] field.
- Select the "Deny reading and editing" access permissions level for the "**Secretaries**" role. As a result, the company's secretaries will not be able to see the [Annual revenue] field.

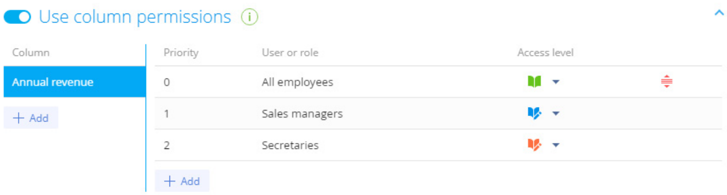
The icon may appear next to some permissions. That means these permissions are in "conflict", and it is necessary to change their priority so that the settings can be applied correctly.

Hierarchy of column permissions

Sometimes different access permissions applied to the same user or role may contradict each other.

For example, the "Sales Managers" and the "Secretaries" roles are included in the "All Employees" role. Sales managers have more permissions than regular employees (Fig. 538).

Fig. 538 Example of access levels contradicting each other



In the case of a conflict, the permission that is the highest in the list will have a higher priority. The priority is shown in the [Priority] column and the highest possible priority is “0”. An icon next to some of the rules indicates that they overlap and need to be lowered or raised in the list in order for other rules to work correctly.

Follow these rules while configuring access permission priorities:

- Object operation permissions and record permissions have higher priority.
- A user who has several roles will get the access permissions of the highest role in the list.

  For example, you can deny editing access for all employees, and grant sales managers the permissions to read and edit this field. To do this, place the “Sales managers” role higher than “All employees” in the list.
- If you deny access to a column for a user, place this role higher in the list than any roles who have permission to access the column.

  For example, to deny access to read and edit column data for all secretaries, the “Secretaries” role should be placed higher than the “All employees” role (which has permissions to read the column data) in the list. In this case, the icon will be displayed next to the “Secretaries” role.

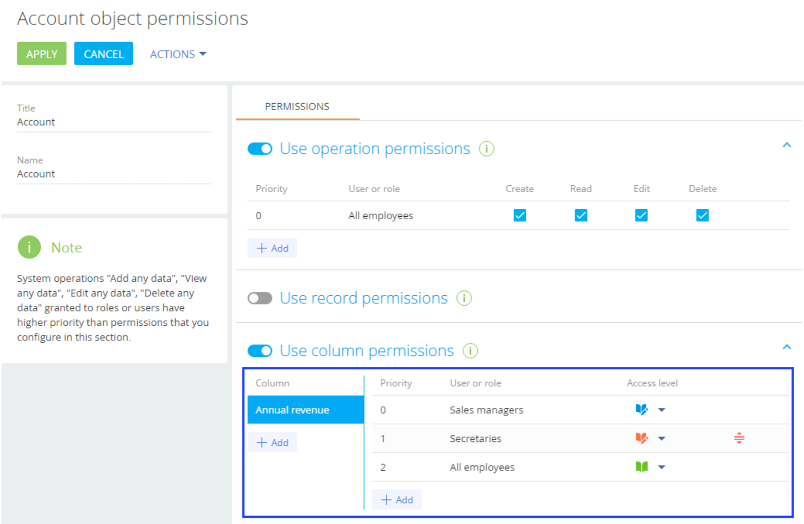
  NOTE

  In this case, there is no need to change the priority, since the secretaries are not supposed to view the column value, according to our example.
- The access permissions for users or roles that have not been added to the column permissions settings area correspond to the objects operation permissions that are configured for them.

Configure access permission priorities for the example above. To change the rule display order, drag&drop the rule to the necessary position in the list (Fig. 539).

1. Place the organizational role with the highest level of permissions (in our case, “Sales managers”) at the top of the list.
2. Place the “Secretaries” role directly below the “Sales managers” role.
3. Place the “All employees” role at the very bottom of the list.
4. Save the changes by clicking “Apply” in the upper left corner of the page.

Fig. 539 An example of configuring access permission priority



As a result:

- Users that are part of the "**Sales managers**" role will have the ability to read and edit the [Annual revenue] field value.
- All **secretaries** will not be able to see the field on the account page.
- **All company's employees** will be able to see the [Annual revenue] field value on the account page, without the ability to edit it.

SEE ALSO

- Managing object operation permissions
- Managing record permissions

System operation permissions

Access to a number of Creatio functions cannot be managed via permissions to add, view, edit and delete data in objects. Examples of such functions are import and export operations, creating business processes, configuring workplaces, system configuration, etc. Use **system operations** to manage access to these functions.

A system operation can have one of the two access levels: a user or role either have access to perform the operation, or they do not. For example, if you grant the "All employees" role permission to perform the "Export list records" system operation, all users will be able to export section list data as Excel files.

The **Operation permissions** section of the System Designer is designed for managing access to system operations. Although standard folders are not available in the list of system operations, you can use either a standard or an advanced filter to find the needed operation.

Please note that system operation permissions work in conjunction with other access permissions. For example, users can only export data, which they can access according to object permissions.

CONTENTS

SEE ALSO

- Object permissions
- Managing users

VIDEO TUTORIALS

- User and role management, access permissions

Granting access permissions to system operations

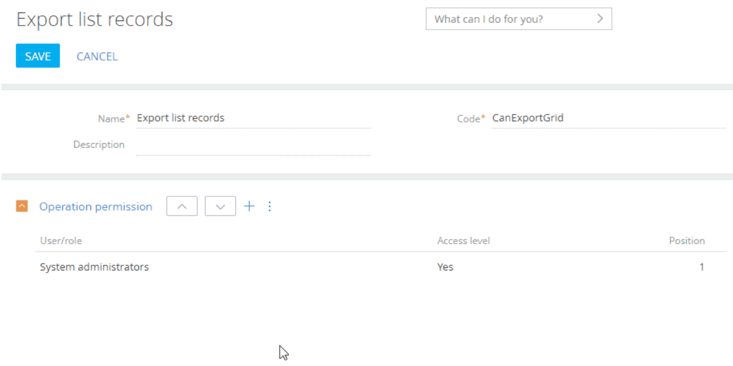
By default, only system administrators have access to key system operations. You can configure access permissions to system operations for individual users or user groups.

CASE

Set up access to the [Export to Excel] system operation for the sales supervisors.

1. Click -> System Designer -> **[Operation permissions]**
2. Apply the "Name = Export list records" (or "Code = CanExportGrid") filter. **Click the name of the operation** to open it.
3. Click + and specify the necessary **user/role** on the [Operation permission] detail. For example the "Sales managers. Managers group" organizational role. The user/role will show up on the [Operation permission] detail with the "Yes" value in the "Access level" column. As a result, the "Sales managers.Managers group" role will be able to export section data to Excel (Fig. 540).

Fig. 540 Granting access permissions to a system operation



> **NOTE**
> To deny access permissions, click a record on the [Operation permission] detail and change the value in the "Access level" column to "No". To do this, select the user or role in the list. The "Access level" column value will be displayed as a checkbox. Clear it to deny access permissions for the selected user/role. Please do not forget to save.

Sometimes a user may be assigned conflicting permissions to system operations. This may happen if the user is a member of several roles, some of which have permission to a system operation, and some are denied that permission. In order for access permissions to work correctly, make sure you properly configure their priority.

Use or on the [Operation permissions] detail to change the priority of assigned operation permissions. The role that is the highest in the list will determine the actual access permissions of a user. For example, if you need to deny permission to export list records for all users except sales managers, place the "All Employees" role lower than the "Sales managers" role in the list.

> **NOTE**
> Users or roles that were not added to the [Operation permission] detail will not have access to perform the corresponding system operation. In addition, they will not affect the permission priorities.

SEE ALSO

- System operation reference

System operation reference

System operations to which you can manage access are described below.

ACCELERATE

User and role administration

System operation name and code	Description
Manage user list CanManageUsers	Permissions to add, modify and delete user accounts in the [Users and administration] section.
Manage user licenses CanManageLicUsers	Access to the license manager. The users that have permission to manage licenses can log into Creatio and redistribute the licenses even if Creatio has been locked due to exceeding the number of distributed licenses.
Change delegated permissions CanChangeAdminUnitGrantedRight	The ability to delegate the access rights of some users to others using the [Delegate access permissions] detail on the user page.

Managing portal users

System operation name and code	Description
Manage portal users CanAdministratePortalUsers	Permissions to add, modify and delete portal user accounts in the [Users and administration] section.
Access to portal main page setup module CanManagePortalMainPage	Permission to set up the portal main page.

General access

General access operations refer to all records in all objects. General access is usually provided to system administrators.

ATTENTION

Access to these operations overrides object permissions (object operations, records and columns). For example, if a user has access to the [View any data] operation, this user will be able to view records of all objects, even those in which the read operation is restricted.

System operation name and code	Description
View any data CanSelectEverything	Permission to view any data in any object.
Add any data CanInsertEverything	Permission to add records to any object.
Edit any data CanUpdateEverything	Permissions to edit any data in any object.
Delete any data CanDeleteEverything	Permission to delete any records in any object.

Columns and system operations

System operation name and code	Description
Change system operations permissions CanChangeAdminOperationGrantee	Ability to manage access permissions to system operations. The scope of rights granted by this operation includes the right to register additional system operations.

Access to special sections

System operation name and code	Description
Access to "Access rights" workspace CanManageAdministration	Access to the [Object permissions] and [Operation permissions] sections. Access to specific administering operations is granted separately.
Access to "Process design" section CanManageProcessDesign	Access to the [Process design] section, and ability to add and modify business processes.
Access to "Change log" section CanManageChangeLog	Access to the [Change log] section.
Access to "System settings" section CanManageSysSettings	Access to the [System settings] section.
Access to “Lookups” section CanManageLookups	Access to the [Lookups] section.
Access to “Configuration” section CanManageSolution	Access to the [Configuration] section (System Designer -> Advanced Settings).
View “Audit log” section CanViewSysOperationAudit	Access to view the contents of the [Audit log] section.
Manage "Audit log" section CanManageSysOperationAudit	Permission to view the contents of the “System operations audit log” section and to archive the log.

Access to duplicates search

System operation name and code	Description
Duplicates search CanSearchDuplicates	Permission to search for duplicates in sections with active duplicate search rules.
Duplicates processing CanMergeDuplicates	Permission to merge duplicate records on the duplicate search results page. Additionally, permission to merge records manually in all accessible sections and lookups.

System operation name and code	Description
Access to "Duplicates rules setup" CanManageDuplicatesRules	Permission to add and edit duplicate search rules.

Access to integration settings

System operation name and code	Description
Access to message exchange services CanUseMsgService	Permission to configure phone integration.
Access to OData CanUseODataService	Access to external resources using the OData protocol.

General actions

System operation name and code	Description
Email providers list setup CanManageMailServers	Permission to create a list of email servers used to send and receive emails.
Shared mailbox synchronization setup CanManageSharedMailboxes	Permission to manage shared mailboxes (mailboxes with the [Allow shared access] checkbox enabled).
Change access rights to record CanChangeEntitySchemaRecordRight	Enables the users to share records in sections with other users. The [Use operation permissions] checkbox must be selected in the corresponding section object.
Ignore access check by IP address SuppressIPRestriction	When a user who has access to this operation logs in to the system, the IP address restrictions will be ignored.
Export list records CanExportGrid	Permission to export list data in a *.xlsx file. If a user does not have permission for this operation, the [Export to Excel] action in sections and the “List” dashboard tile menu is disabled.
Permission to run business processes. CanRunBusinessProcesses	Permission to run business processes in Creatio. All users have permission to perform this operation by default.
Cancel running processes CanCancelProcess	Permission to cancel a running business process in the process log.
Access to workplace setup CanManageWorkplaceSettings	Permission to create and set up workplaces, i.e., managing the section list available in the side panel.
Access to comments CanEditOrDeleteComment	Permission to edit and delete comments on the feed messages.

System operation name and code	Description
Permission to delete messages and comments CanDeleteAllMessageComment	Permission to delete messages and comments left by other users in the [Feed] section, on the [Feed] tab of the Notification Panel, and on the [Feed] tab of the view and edit pages of system sections. Users can edit and delete their own messages and comments even if they do not have access permissions to this system operation.

SEE ALSO

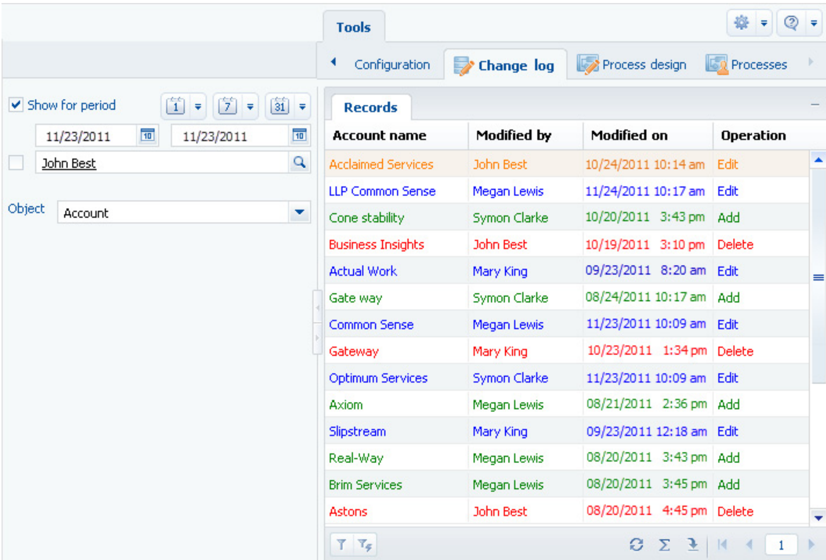
- Granting access permissions to system operations

Change log

By using the [Change log] section, you can track changes in the system database tables. To view the change log:

1. Open the system designer by clicking the button in the top right corner of the application window.
2. In the [Admin area] block, click the [Advanced settings] link.
3. In the opened window, click the [Change log] tab (Fig. 541).

Fig. 541 The [Change log] section



The structure of the [Change log] section is not standard. There are no details and folder area in this section, but there is a filter block.

Using the filter block, you can set a time period to view the changes made over that time. Additionally, you can filter and view the changes in the system objects that were made by a certain employee.

In the [Object] field, select a system object to view the history of the changes made in it. Columns in the list of the [Change log] section vary based on the selected object. For example, for the [Accounts] section, the following columns are displayed: [Account name], [Modified by], [Modified on] and [Operation].

The color of each record in the change log vary according to the operation performed in this record:

- green – new record was added;
- blue – one of the logged columns was modified in the record;
- red – the record was deleted.

The main operations in the section are performed using the actions.

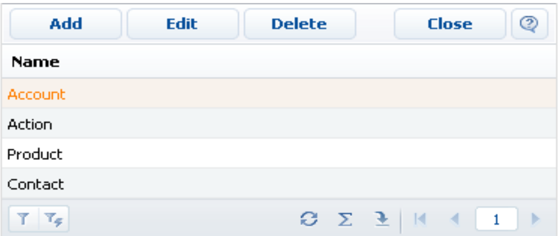
You can set up the list of objects for which the history of changes will be tracked using the [Setup log] action. To view all modifications made to a certain record in the section, use the [View all changes in selected record] action. Use the [Clear log] action to delete the extra log data.

CONTENTS

The [Setup log] action in the [Change log] section

Use this action to specify the tables in the system, changes in which you intend to track. When you select this action, the change log setup window will open (Fig. 542).

Fig. 542 The change log setup window



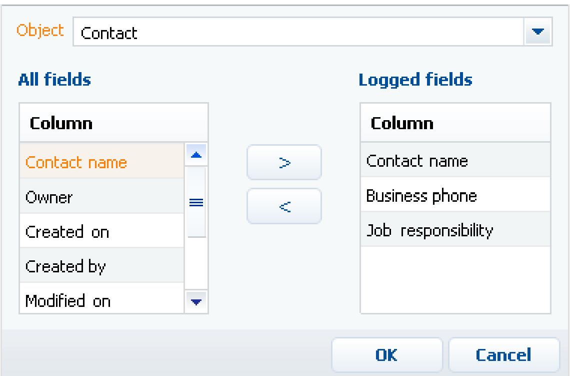
The window contains a list of logged objects. Click the [Add] button, to enable the logging for a certain object and set up the list of logged columns. Use the [Edit] button to change the list of logged columns in the logged object. The [Delete] button is used to disable logging for the selected object.

NOTE

All changes in the logged object that were made before the logging was disabled are saved in database. After the logging is enabled again, the tracking of changes in the logged object will be resumed.

When you click the [Add] or [Edit] button, the change log object setup card will open (Fig. 543).

Fig. 543 The change log object setup card



Use the [Object] field to specify the section, detail or other system object for which you want to track the history of changes. Select the needed object from the drop-down list. This is a required field.

NOTE

The [Object] field is editable only if you added the new object for logging (upon clicking the [Add] button in the change log setup object card).

The [All fields] area displays a list of all columns in the selected object. For example, if the "Contact" object was selected, then this area will display the following columns: [Full name], [Business phone], [Job responsibility], etc.

The [Logged columns] area contains a list of columns for which the logging will be enabled.

Use the > and < buttons to add or remove the logged columns.

After you save the settings, changes in the logged columns will be displayed in the [Change log] section.

The [View all changes in selected record] action in the [Change log] section

By using this action, you can display a list of all modifications made to the selected record. When you select this action, an additional window will open (Fig. 544) containing a list of all changes.

Fig. 544 Viewing the history of changes for the selected record

Account name	Modified by	Modified on	Operation	Type	Industry
Axiom	John Best	9/13/2011 2:45 pm	Add	Customer	Construction
Axiom	John Best	1/10/2011 9:52 am	Edit	Customer	Banks
Co. Axiom	John Best	3/20/2011 3:40 pm	Edit	Customer	Banks
Axiom Co.	John Best	5/17/2011 5:35 pm	Edit	Partner	Banks
Axiom Co.	John Best	8/15/2011 2:30 pm	Edit	Partner	Advertising
Axiom Co.	John Best	9/13/2011 9:37 am	Delete	Partner	Advertising

By default, the table shows who modified the record and when, as well as the type of operation performed. You can add columns that show how the record field values changed. The modified values of the logged fields will be highlighted in yellow.

NOTE

The changes are highlighted only of the records are sorted by the [Modified on] column (in chronological order).

For example, a record has been edited and the values in the [Industry] and [Type] columns were modified. If the [Industry] and [Type] columns are displayed the list, they can be used to track which values they had at each point of time.

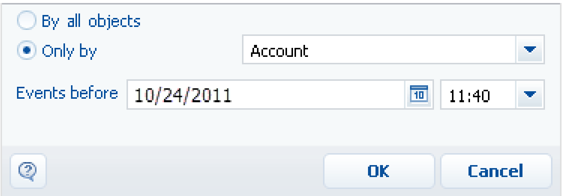
SEE ALSO

- The [Setup log] action in the [Change log] section

The [Clear log] action in the [Change log] section

In case you no longer need to store information about certain modifications made in the system, you can clear the change log. When you select this action, an additional window will open where you can specify the parameters of deleting data from the log (Fig. 545).

Fig. 545 The [Clear log] window



If you select the [By all objects] option, then the history of changes will be cleared for all logged objects.

If you select the [Only by] option, then the history of changes will be cleared for the specified object only. Select the needed object from the drop-down list.

In the [Events before] field, select the date and time to clear all changes made prior to that.

SEE ALSO

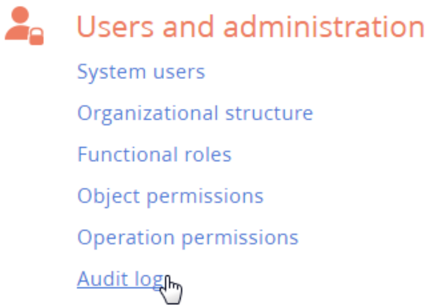
- The [Setup log] action in the [Change log] section
- The [View all changes in selected record] action in the [Change log] section

Audit log

The system operations audit log automatically registers events related to user roles modification, access rights distribution, system settings value change and users' authorization in the system.

To view the change log, open the system designer by clicking the button in the top right corner of the application. Click the [Audit log] link in the [Users and administration] block (Fig. 546).

Fig. 546 Opening the system operations audit log



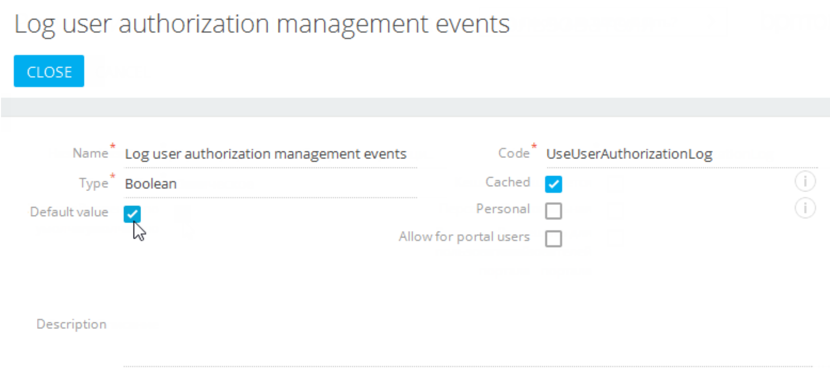
To be able to view the system operations audit log, you will need to have access to the [View “Audit log” section] system operation, and to be able to view and archive records, you will need to get access to the [Manage “Audit log” section] system operation.

Audit log setup

You can enable and configure the audit log using system settings or by editing configuration files (cloud users will need to contact Creatio support for this). To enable the audit log using system settings:

1. Open the system designer by clicking the button at the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block.
3. Select the [Audit log] folder (subordinate to the [Access rights] folder). This folder contains all system settings that control the audit log. Each type of logged event has a dedicated system setting that enables or disables it.
4. To enable the setting, open it and select the [Default value] checkbox. For example, to enable logging of login/logoff events, select the checkbox in the [Log user authorization management events] system setting (Fig. 547).

Fig. 547 Selecting the [Dafault value] checkbox



NOTE

After disabling an audit log system setting, you may need to restart the Redis session server for the changes to take effect.

NOTE

If the audit log is enabled on the system configuration file level, the corresponding system setting values will be ignored.

Types of logged events

The following event types are registered:

- Managing users – adding, modifying, and removing system users.
- Managing organization structure – adding, modifying, and removing organization structure items (user "roles").
- Managing user roles – adding users to organization structure items, excluding users from roles.
- Managing administrated objects – managing types of permissions that can be applied to object.
- Managing object access rights – modifying access rights to read, modify, and delete operations in an object.
- Managing access rights to objects for external resources – modifying access rights to objects used for integration between Creatio and various external services via the OData protocol.
- Managing access rights to columns – modifying access rights to the object columns.
- Managing access rights to records – modifying access rights that are assigned to object records. You can enable logging of this event using the [Log entity schema records access rights management events] system setting.
- Managing access rights to records by default – modifying access rights that are assigned by default to object records.
- Managing access rights to operations – modifying access rights to the system operations.
- Managing ranges of IP addresses – modifying or removing ranges of valid IP addresses.
- Managing system settings – modifying system setting values.
- User authorization – user authorization attempts (successful or not).

- Managing audit log – archiving records of system operations audit log.
- User session – ending user sessions.

Views

The [Audit log] section contains the following views:

- [Audit log] – the list of the last registered events.
- [Log archive] – the list of events for which the [Archive log] action was performed. The archived events are stored in a separate table.

Log list

[Event type] – the list of system event types is included in the [Event types] lookup, for example, “User authorization”, “User session”.

[Event date] – date and time of the event start.

[Result] – the list of results of the system events is included in the [Event results] lookup. For example, the attempt of authorization can end with the “Authorization” result, or with the “Authorization denied” result if it fails.

[IP address] – the IP address of the user who performed the operation that resulted in the system event. For example, the IP address of the user who attempted to log in to the system.

[Owner] – the user that performed the operation that resulted in the system event. For example, the name of the employee who attempted to be authorized in the system.

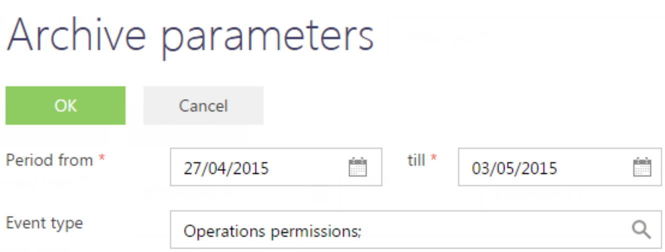
[Description] – the detailed description of the event, for example, “User authorization John Best. IP: 192.168.0.7”. The event description is generated automatically.

Actions

The system operation audit log contains the [Archive log] action that copies the log records to a separate archive table.

Performing the action opens the [Archive parameters] page (Fig. 548) where you can set up parameters for archiving.

Fig. 548 The [Archive parameters] window



[Period from], [till] – the time period that includes the records to be archived. Only those events whose date falls in the specified range will be archived.

[Event type] – select types of events to be archived. Only those events whose types match the selected ones will be archived. You can select multiple types.

Performing the archiving action is logged as “Access rights audit log”. Once the operation is complete, the system shows the number of the archived records in a message.

SEE ALSO

- Managing users
- Object permissions
- System operation permissions

Integrations

CONTENTS

Integration with email services by the IMAP/SMTP protocol

In Creatio, you can receive emails from email service providers that support the IMAP/SMTP protocol.

After the list of email providers have been configured, Creatio users will be able to send and receive email messages directly from the system. The list of providers that is obtained after the settings have been made is used when setting up individual mailboxes.

NOTE

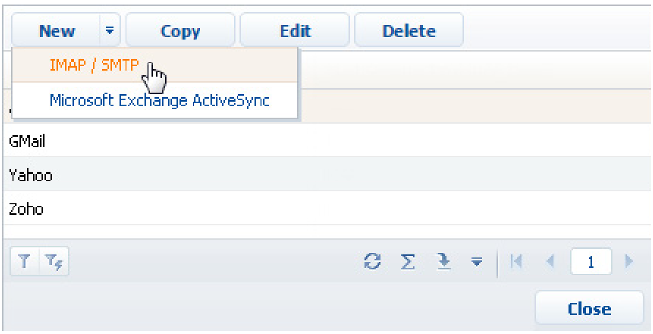
To set up connection parameters for email providers, the user must have the right to run the [Access to "Access rights" workspace] system operation. To set up system operation permissions, use the [Operations permissions] section.

Setting up the IMAP/SMTP email service provider

To add an IMAP/SMTP email service provider:

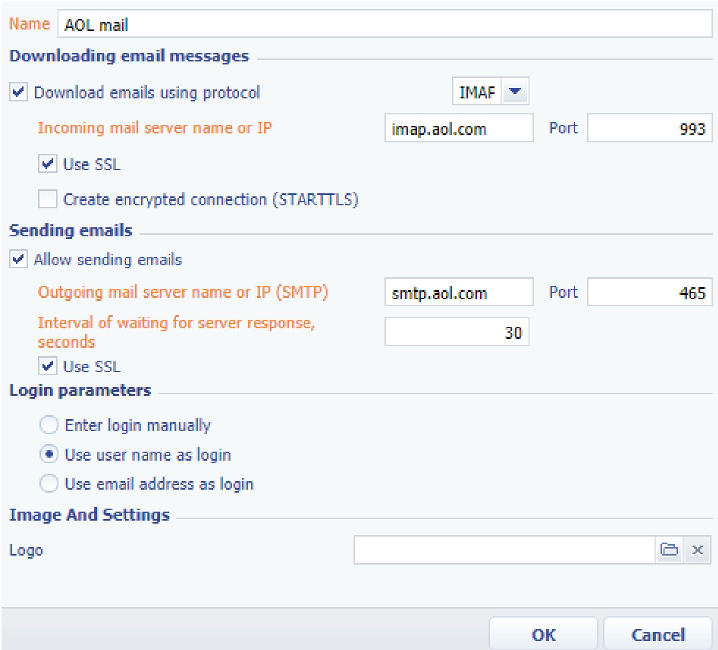
1. Enter the [List of email providers] lookup in the [Lookups] section of the system designer.
2. In the opened lookup window, in the [Add] button menu, select [IMAP / SMTP] (Fig. 549).

Fig. 549 Adding a new email provider



3. In the opened card (Fig. 550), enter the email service provider name, for example, "AOL mail".

Fig. 550 The email provider card



4. Specify email download parameters:
    a. Select the [Download emails using protocol] checkbox. In the protocol field, the IMAP protocol is specified.
    b. Specify the name or IP address of the incoming email server, for example, “imap.aol.com”.
    c. Enter the port number for connecting to the incoming mail server. For example, to receive emails via the IMAP protocol by such providers as Gmail or Yahoo, the port 993 is used.
    d. If necessary, select the [Use SSL] or [Create encrypted connection (STARTTLS)] checkbox for secure connection.
5. Specify email send parameters:
    a. Select the [Allow sending emails] checkbox.
    b. Specify the name or IP address of the server for sending emails, for example, “smtp.aol.com”.
    c. Enter the port number for connecting to the smtp-server. As a rule, the port 465 (if the server supports encryption), 587 or 25 is used.
    d. Specify the response time from the email send server (by default, 40 seconds).
    e. If necessary, select the [Use SSL] checkbox for secure connection.

6. Specify login parameters:
    a. Select the [Enter login manually] option if users enter their own email address and login.
    b. Select the [Use user name as login] option if the part of email address before the “@” is used as a login. For example, the “test” will be a login for “test@google.com” email address.
    c. Select the [Use email address as login] option if the full email address will be used as a login (for example, “test@google.com”).
7. Select an image file in the [Logo] field to specify the provider logo.
8. Save the page.

As a result, system users will be able to use mailboxes of this provider to send and receive email messages.

NOTE

Add the domains of a new provider to the [Email providers domains] lookup for automatic recognition of the email provider. As a result, users will not specify the mail provider manually when setting up an email account.

SEE ALSO

- Working with emails
- How to set up a personal mailbox

Integration with the MS Exchange service

You can integrate with the MS Exchange service in Creatio.

NOTE

Integration with MS Exchange 2010 and higher is supported.

Set up the integration beforehand to work with MS Exchange emails, contacts and calendar. Once the integration is complete, users will be able to configure MS Exchange mailboxes.

NOTE

To set up connection parameters for email providers, the user must have the right to run the [Access to "Access rights" workspace] system operation. To set up system operation permissions, use the [Operations permissions] section.

Configuring MS Exchange accounts in Creatio

Setting up the base parameters of the MS Exchange account is identical to setting up the IMAP/SMTP account. Read more >>>

You can also set up the synchronization of Creatio contacts and activities with MS Exchange contacts and calendar.

CONTENTS

SEE ALSO

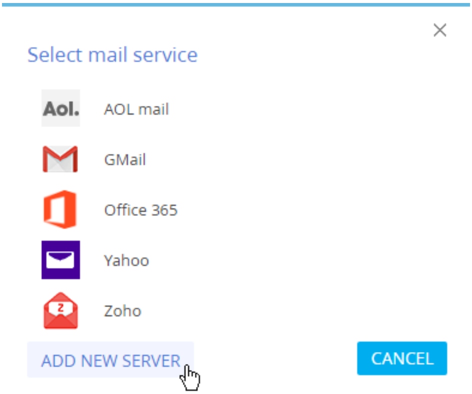
- Configuring email accounts in Creatio

Setting up the MS Exchange email service provider

To add the Microsoft Exchange email service provider:

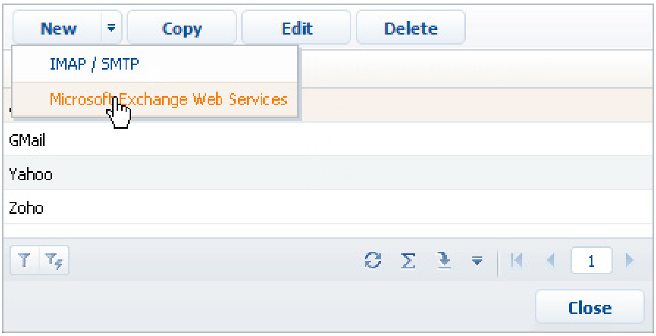
1. Open the [Email] tab on the communicational panel.
2. Select the [New email account] in the action menu.
3. Select [Add new server] in the selected email service window.

Fig. 551 Selecting of the email provider



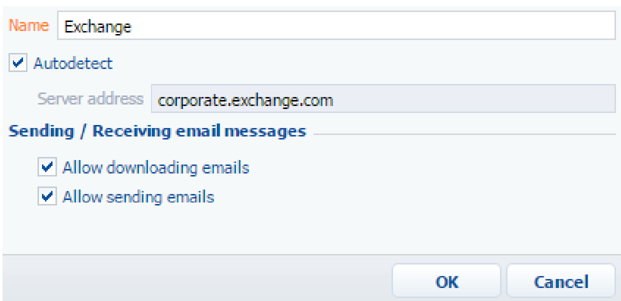
4. In the opened email service provider lookup window, in the [New] menu, select the [Microsoft Exchange Web Services] option (Fig. 552).

Fig. 552 Adding the Microsoft Exchange email service provider



5. In the opened card (Fig. 553), enter the email provider name, for example, “Exchange”.

Fig. 553 The email service provider page



6. Select the [Autodetect] checkbox for the system to independently detect the necessary server and connect to it.
7. If the system doesn't detect the server, specify its address manually:
    a. Clear the [Autodetect] checkbox. As a result, the [Server address] field will become available and required.
    b. In the [Server address] field, enter the Microsoft Exchange server address.
8. Select the [Allow downloading emails] checkbox.
9. Select the [Allow sending emails] checkbox.
10. Specify login parameters:
    a. Select the [Enter login manually] option if users enter their own email address and login.
    b. Select the [Use user name as login] option if the part of email address before the "@" is used as a login. For example, the "test" will be a login for "test@google.com" email address.
    c. Select the [Use email address as login] option if the full email address will be used as a login (for example, "test@google.com").
11. Select an image file in the [Logo] field to specify the provider logo.
12. Save the page.

As a result, system users will be able to use the MS Exchange server to receive and send emails. In addition, they will be able to synchronize contacts and activities between this server and Creatio.

SEE ALSO

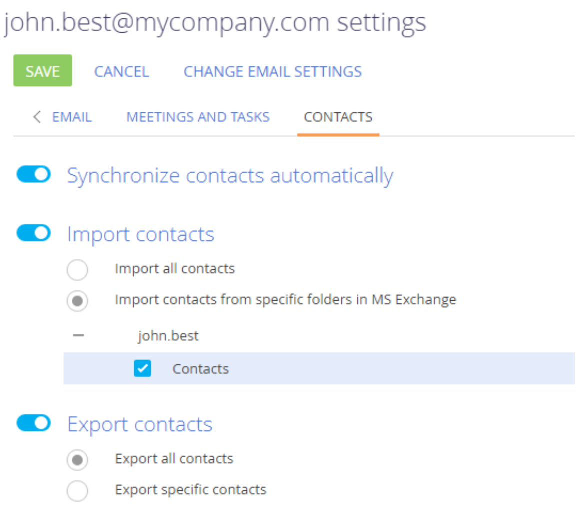
- Working with emails
- Configuring email accounts in Creatio

Synchronizing Creatio contacts with MS Exchange contacts

Use the mailbox synchronization setup page to set up synchronization of Creatio contacts with the MS Exchange contacts (Fig. 554). You can access the page from the communication panel by clicking ⋮ —>{Edit email accounts] or from the [Contacts] section by selecting [Actions] —> [Synchronize contacts] —>[Set up...].

> **NOTE**
> This command contains the name of the account (for example, [John.best@mycompany.com settings]).

Fig. 554 Example of synchronizing Creatio contacts with the MSExchange



Setting up import of contacts during synchronization

To set up import of MS Exchange contacts into Creatio:

1. Select the [Import contacts] checkbox on the [Contacts] tab of the mailbox synchronization setup page.
2. Select the [Import all contacts] option to import all records from mailbox folders of the "Contacts" type.

   If you only want to import contacts from the selected MS Exchange folders, select the [Import contacts from specific folders in MS Exchange] option. Click the + button and select the checkboxes next to the needed folders.
3. Click the [Save] button.

   NOTE

   If more than one account with the same name is found in Creatio, the contact will be imported without connection to the account. If the user who performs the import has the access to one of these accounts, then the contact will be imported with the connection to this account.

Setting up export of contacts during synchronization

To set up the export of Creatiocontacts to MS Exchange:

1. Select the [Export contacts] checkbox on the [Contacts] tab of the mailbox synchronization setup page.
2. Select the [Export all contacts] option to export all contacts to which you have the access.

   If you only want to export contacts of certain types or folders, select the [Export specific contacts] option.

   a. Select the [Employees] and/or [Customers] checkbox to export all contacts of the corresponding types during synchronization (only those contact will be exported to which you do have the access).

   b. Select the [From folders] checkbox to export contacts included in particular folders, for example, “Employees”. Open the list of folders and select the folders for synchronization.

3. Click the [Save] button.

> NOTE
> Adding folders is described in a separate article.

Synchronizing contacts with MS Exchange

Contacts can be synchronized between Creatio and the Exchange server automatically. To enable automatic synchronization, select the [Synchronize contacts automatically] checkbox on the synchronization setup page.

To perform the synchronization, open the [Contacts] section, click the [Actions] button and select the [Synchronize contacts] –>[Synchronize now] action.

SEE ALSO

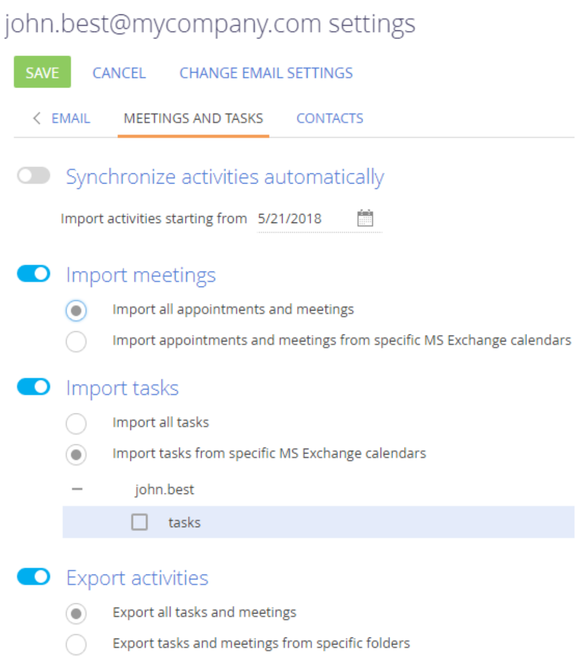
- How to synchronize Creatio with Google contacts
- Fields that can be synchronized with MS Exchange
- Synchronizing contacts with MS Exchange (development guide)

Synchronizing the Creatio calendar with the MS Exchange calendar

Use the mailbox synchronization setup page to set up the synchronization of the Creatio activities with the MS Exchange tasks and meetings (Fig. 555). You can access the page from the communication panel by clicking ⋮ –>{Edit email accounts] or from the [Contacts] section by selecting [Actions] —> [Synchronize contacts] —>[Set up...].

> NOTE
> This command contains the name of the account (for example, [Set up test@google.com]).

Fig. 555 Example of synchronizing Creatio activities with the MSExchange calendar.



Setting up the import of activities during synchronization

To set up the import of the MS Exchange **meetings** into Creatio:

1. On the [Meetings and tasks] tab, select the [Import meetings] checkbox.
2. Select the [Import all appointments and meetings] option to import all records from MS Exchange calendars.

   If you only want to import records from the selected MS Exchange calendars, select the [Import appointments and meetings from specific MS Exchange calendars] option. Open the list of calendars and select the calendars you wish to import.
3. Select the [Import tasks] checkbox and if necessary select folders whose tasks must be imported.
4. Click the [Save] button on the mailbox synchronization setup page.

As a result,MS Exchange activities that have the “Appointment” or “Meeting” type will be added to Creatio as the activities of the “Meeting” category

When importing the MS Exchange activities of the “Task” type, records will be added in Creatio as the activities of the “To do” category. In this case, only those tasks whose owner is the current user of Creatiowill be imported.

Setting up the import of **tasks** is similar to that of the meetings.

Setting up the export of activities during synchronization

To set up the export of the Creatio activities to MS Exchange:

1. On the [Meetings and tasks] tab, select the [Export activities] checkbox.
2. Select the [Export all tasks and meetings] option to export all activities to which you have access.

   If you only want to export activities from specific folders, select the [Export tasks and meetings from specific folders] option. A list of folders corresponds to the folders configured in the [Activities] section
3. Click the [Save] button on the mailbox synchronization setup page.

As a result, the activities of the "Appointment" type will be created in MS Exchange when exporting tasks with the [Display in calendar] checkbox checked. When exporting tasks the with the [Display in calendar] checkbox unchecked, the activities of the "Task" type will be created in MS Exchange.

Synchronizing activities with MS Exchange

Activities can be synchronized between Creatio and the Exchange server automatically. To enable automatic synchronization, select the [Synchronize activities automatically] checkbox and select the date in the [Import activities starting from] field.

To perform the synchronization, open the [Activities] section, click the [Actions] button and select the [Synchronize contacts] –>[Synchronize now] action.

SEE ALSO

- How to synchronize Creatio activities with Google calendar
- Fields that can be synchronized with MS Exchange
- Synchronizing tasks with MS Exchange (development guide)
- Synchronizing appointments with MS Exchange (development guide)

Fields that can be synchronized with MS Exchange

During the synchronizing process, the field values of contacts, tasks, appointments and emails are passed from Creatio to MS Exchange and vice versa. Mapping of these fields is described in the development guide:

- Synchronizing tasks with MS Exchange >>>
- Synchronizing email with MS Exchange >>>
- Synchronizing contacts with MS Exchange >>>
- Synchronizing appointments with MS Exchange >>>

ATTENTION

It is not recommended to modify the structure of Creatio fields that correspond to Exchange fields as it may lead to synchronization errors.

Configuring email accounts in Creatio

Keep the entire history of electronic communications with customers in Creatio. After a simple preliminary setup, Creatio users will be able to send and receive email messages directly from the system.

- Add one or more email accounts. Read more >>>
- Configure email settings for each email account. Read more >>>
- Set up sending emails to customers from shared email accounts (for example company newsletter). Read more >>>

Exchange and IMAP/SMTP settings are similar.

CONTENTS

SEE ALSO

- Integration with email services by the IMAP/SMTP protocol
- Integration with the MS Exchange service

How to set up a personal mailbox

Each Creatio user can set up integration with one or more mailboxes and use them for sending and receiving email messages. Creatio can link emails to existing records (accounts, contacts, etc.), use emails to create new records and use emails to enrich contact profiles.

Creatio uses OAuth protocol for easy and secure integration with the following email providers:

- GMail. For this provider the OAuth authentication is enabled by default. Read more >>>
- Office 365. You will need additional setup to use OAuth authentication.

OAuth is an open standard for access delegation that provides Creatio with secure delegated access to email accounts without saving user login and password in the application.

Below is an example of setting up email accounts of popular email providers.

CONTENTS

SEE ALSO

- Working with emails

ACCELERATE

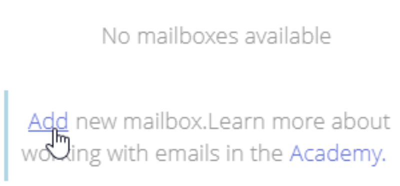
Setting up a GMail account using OAuth

For the GMail provider, the OAuth authentication is enabled by default. Since the users enter mailbox login and password directly on the GMail page, the mailbox credentials are not saved in Creatio database.

To set up a Gmail mailbox in Creatio:

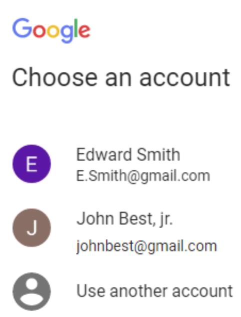
1. Open the [Email] tab of the communication panel and add an email account. You can do this in one of the following ways:
    - If the list of mailboxes is empty, click the [Add new mailbox] link on the [Email] tab of the communication panel (Fig. 556). Click the mailbox authentication link.

Fig. 556 Adding a GMail account in Creatio



    - If there is at least one mailbox in the list, click and select [New email account]. As a result, the GMail authentication window will open.
2. Enter email address and click the [Next] button. Google account selection page will open.
3. Select a Google account (Fig. 557). You may need to log in to Google at this point.

Fig. 557 Selecting a Google account

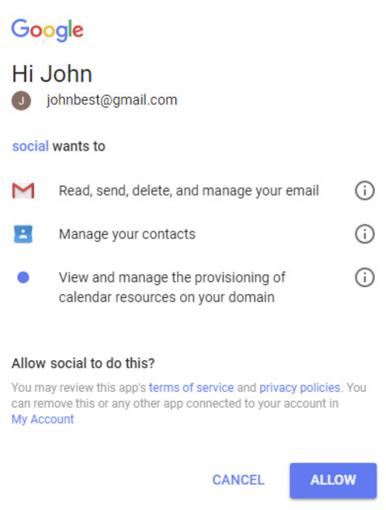


NOTE

If the 2-step authentication is enabled for the selected Google account, you will need verify Creatio's access to your mailbox.

4. Permit access to emails and contacts for Creatio (Fig. 558).

Fig. 558 Permitting Creatio access to Google contacts and emails



As a result, an email account with default parameters will be created in Creatio. You can start working with emails or customize additional mailbox settings (add signatures, configure synchronization period, etc.).

SEE ALSO

- Setting up an email account of a pre-configured provider
- Setting up an email account on the corporate domain
- Email account individual settings
- Integration with email services by the IMAP/SMTP protocol

Setting up an email account of a pre-configured provider

Before you can set up a mailbox of an email provider, basic integration with that provider must be set up in Creatio. By default, Creatio is integrated with the following email providers:

- AOL
- GMail
- Mai.ru
- Office 365
- Yahoo
- Yandex.ru
- Zoho.

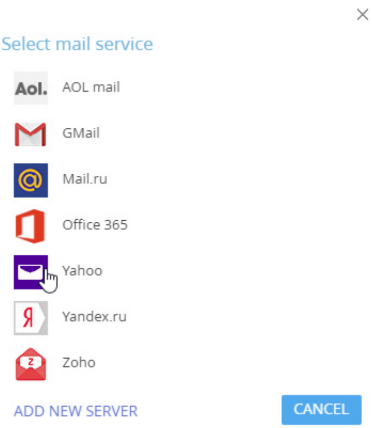
If you use another provider, you will need to add that provider's IMAP/SMTP or Exchange parameters to Creatio. Email provider integration is configured by system administrators.

To configure email account of a pre-configured provider:

1. Open the [Email] tab on the communication panel, then click and select [New email account]. As a result, the email account authentication window will open.
2. Enter email address and click the [Next] button. The email provider will be identified according to the domain name.

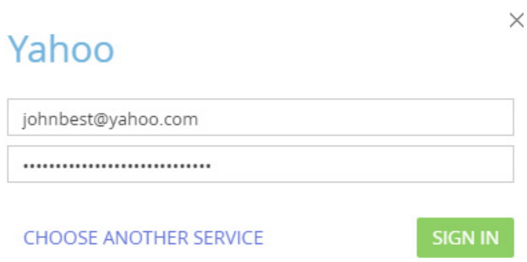
   If the provider was not identified automatically, a window will open, where you will be able to specify the provider manually (Fig. 559).

   Fig. 559 Selecting email provider for synchronization

3. Enter a password and click [Sign in] (Fig. 560).

   Fig. 560 Signing in a mailbox account

As a result, an email account with default parameters will be created in Creatio. You can start working with emails or customize additional mailbox settings (add signatures, configure synchronization period, etc.).

SEE ALSO

- Setting up a GMail account using OAuth
- Setting up an email account on the corporate domain
- Email account individual settings
- Integration with email services by the IMAP/SMTP protocol

Setting up an email account on the corporate domain

If you use corporate email domain, you will need to set up integration with the corporate email provider by the IMAP/SMTP or Exchange protocol and match domain names to corresponding email providers. This is performed by a system administrator.

To configure email account on a corporate domain:

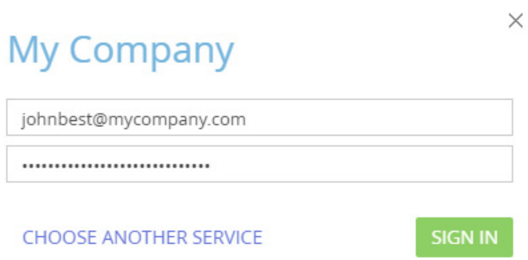
1. Open the [Email] tab on the communication panel, then click and select [New email account]. As a result, the email account authentication window will open. This method of adding the account does not depend on the availability of configured accounts.
2. Enter email address and click the [Next] button. The email provider will be identified according to the domain name.

   If the provider was not identified automatically, you will be able to specify it manually.

   NOTE

   The mailbox with corporate domain address (for example, mycompany.com) can be serviced by a global email provider (for example, Yahoo or GMail). If you do not know which email provider to choose, verify this with your system administrator.
3. Enter a password and click [Sign in] button (Fig. 561).

   Fig. 561 Singing in to an email account of a corporate provider



As a result, an email account with default parameters will be created in Creatio. You can start working with emails or customize additional mailbox settings (add signatures, configure synchronization period, etc.).

SEE ALSO

- Setting up a GMail account using OAuth
- Setting up an email account of a pre-configured provider
- Email account individual settings

- Integration with email services by the IMAP/SMTP protocol

Email account individual settings

Email accounts are added with default parameters. For each added email account, you can configure:

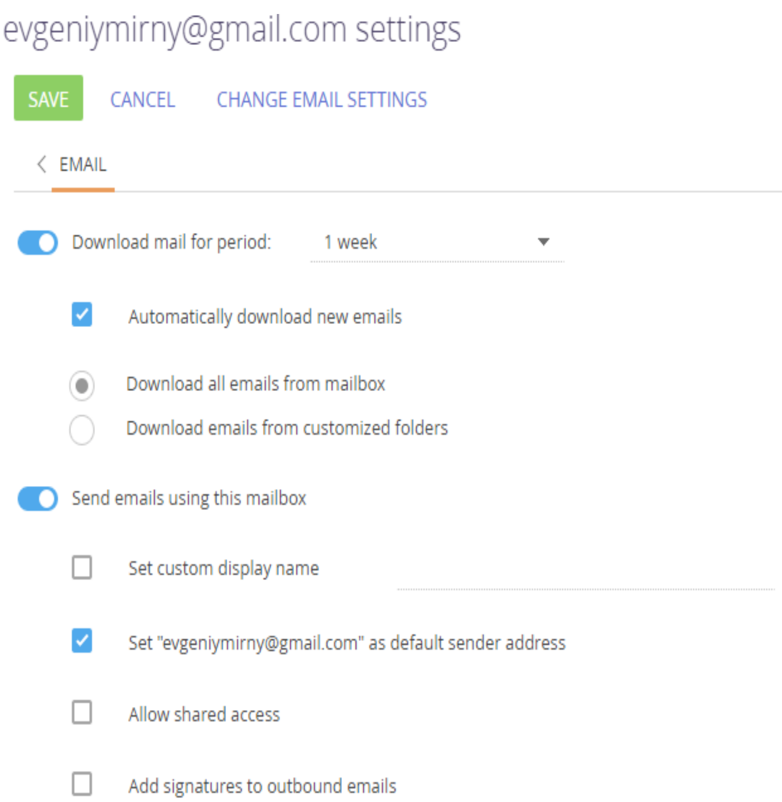
- email downloading parameters
- email sending parameters
- email message signatures.

NOTE

If you have configured the synchronization with the MX Exchange mailbox, the [Meetings and tasks] and [Contacts] tabs will be displayed at the email account settings page. Here you can configure parameters of synchronization of MS Exchange calendar and contacts. Read more >>>

You can go to the mailbox settings directly from the mailbox registration notification or by selecting the account in the [Edit email accounts] menu of the button.

Fig. 562 Edit page of the email account settings



CONTENTS

Receiving emails in Creatio

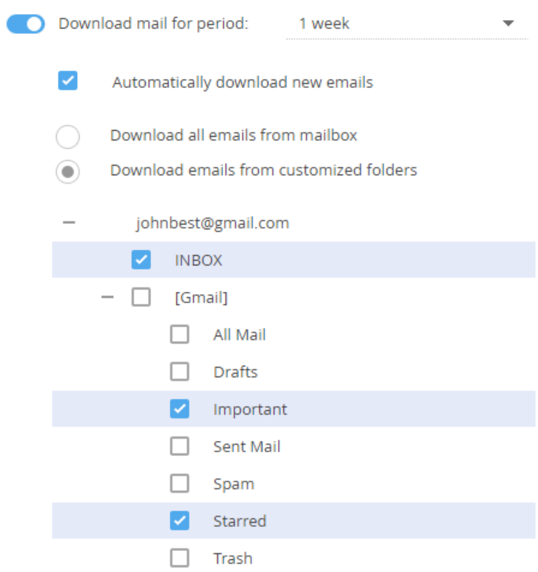
1. To download emails from the mailbox to Creatio, enable the [Download mail for period] switch and specify the time interval (day, week, month) for which emails will be downloaded to Creatio at the first synchronization.

   NOTE

   The periodicity of automatic mailbox synchronization is set in the [Mailbox synchronization interval] system setting.

2. Select the [Automatically download new emails] checkbox to download incoming emails automatically.
3. Select the [Download all emails from mailbox] option to download all messages from the mailbox, or the [Download emails from customized folders] option to download messages from specific folders only.
4. To download emails from specific folders only, select the [Download emails from customized folders] option, click the [+] button to display the folders of the specified account and select folders from which you need to receive emails (Fig. 563).

Fig. 563 Specifying synchronization folders



5. Save the changes.

NOTE

If you select only a parent folder for downloading emails, the messages from the nested folders will not be downloaded to the Creatio. Select the nested folders to download emails from them.

Sending emails from Creatio

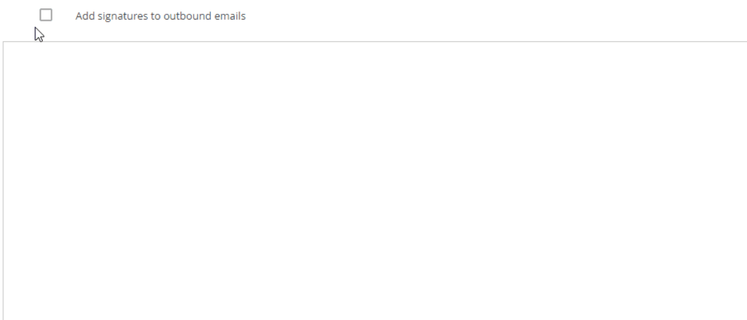
To reply to emails directly from Creatio, set up sending of emails. To do this:

1. Enable the [Send emails using this mailbox] switch to use the mailbox for sending the emails. If the switch is disabled, the mailbox will not be available for selection on the email edit page, as well as in the corresponding business process and case elements.
2. Select the [Set "email address" as default sender address] checkbox to use the mailbox by default. The mailbox address will be specified by default in the [From] field for new emails.
3. Save the changes.

Configuring email signatures

To add a signature to the outgoing emails, select the [Add signatures to outbound emails] checkbox and add the signature text in the input area below (Fig. 564). Save the changes.

Fig. 564 Adding signatures in outgoing emails



NOTE

You can copy a signature from your mail client and paste it to the text area.
In some browsers, only one image can be copied to the signature template at a time from the clipboard. If your signature contains several images, the remaining images must be added one by one.

SEE ALSO

- How to set up a personal mailbox
- Email account individual settings
- Working with emails

Configuring shared mailbox

Shared email account enables managing shared access to the mailbox: set the access permissions to read emails for different groups of users, enable processing of incoming emails and sending emails from one address for different users or groups of users.

Shared mailboxes are commonly used

- for case registration, sending notifications and emailing between the customers and the service team in the process of case resolution or for processing requests about company products.
- For example, you can create a shared sales department mailbox and grant access to the advertising department employees for sending newsletters and special offers.

NOTE

All incoming and outgoing emails from the shared mailbox, will only be visible in the communication panel, timeline and history to the user who registered this mailbox in Creatio and to the users which get the access permission to work with emails.

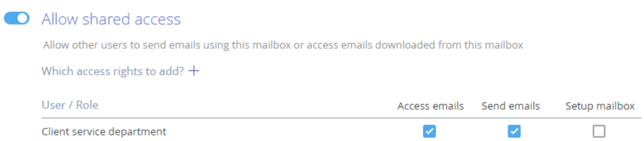
ATTENTION!

To set up a shared mailbox, you need permission to perform the [Access to shared account setup] and [Shared mailbox synchronization setup] system operations. Managing access to system operations is covered in a separate chapter.

Shared mailbox setup is similar to personal mailbox setup, but requires the following additional actions:

1. Select the [Allow shared access] option on the email settings page.
2. Click the + button to add employees who will use the shared mailbox. Click the button in the displayed field and specify system user or role to grant access to a group of users. Click the [Save] button. If you want to grant access to the mailbox for a number of users or groups, repeat the previous step for each user or group.
3. Configure access permissions for the shared mailbox (access emails, sending emails or setting up mailbox) for the added users. For this, select the checkbox in the corresponding column (Fig. 565).

Fig. 565 Example of configuring permissions to a shared mailbox



The following options can be used for managing access to the mailbox:

- "Access email" – enables to display emails received on this mailbox in the system sections, for example, on the [Timeline] tab. At the same time, the emails from the shared mailbox will not be displayed in the communication panel of the user with granted access to emails. This option is used if several employees process emails from one mailbox. For example, for cases registered via email.

- “Send emails” – enables to select this mailbox in the [From] field when sending emails, setting up business processes and display incoming emails at the communication panel.
- “Setup mailbox” – enables modification of the mailbox settings by several administrators.

4. Save the changes.

SEE ALSO

- How to set up a personal mailbox
- Email account individual settings
- Working with emails

Integration with Google services

You can synchronize your Creatio contacts and tasks with the Google contacts and calendar. After the synchronization, the latest modifications in the Creatio contacts will be transmitted to the Google organizer and vice versa.

Integration with Google must be performed for Creatio deployed on-site. Creatio cloud requires a single authorization when logging in for the first time.

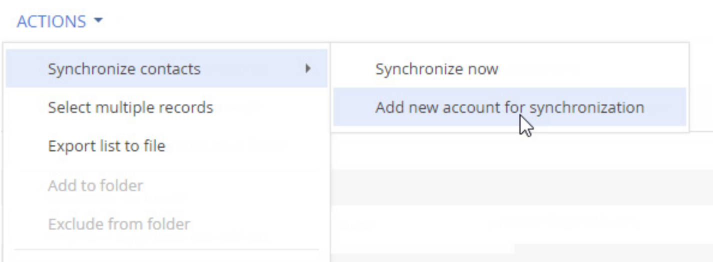
CONTENTS

How to set up synchronization from Google for Creatio cloud

To set up synchronization for Creatio cloud, do the following:

1. Open the [Contacts] section and tag the Creatio contacts that need to be synchronized with Google. A personal tag is used to mark the contacts that need to be synchronized with Google. For example, contacts tagged as "Personal contacts" are to be synchronized with Google.
2. From the [Actions] menu, select the [Synchronize contacts]-[Add account for synchronization] option (Fig. 566).

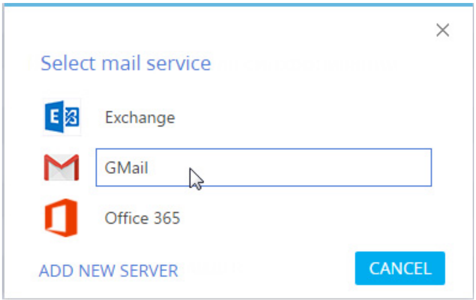
Fig. 566 Specifying synchronization folders



3. Open the [Select service for synchronization] and click the [Gmail] icon (Fig. 567).

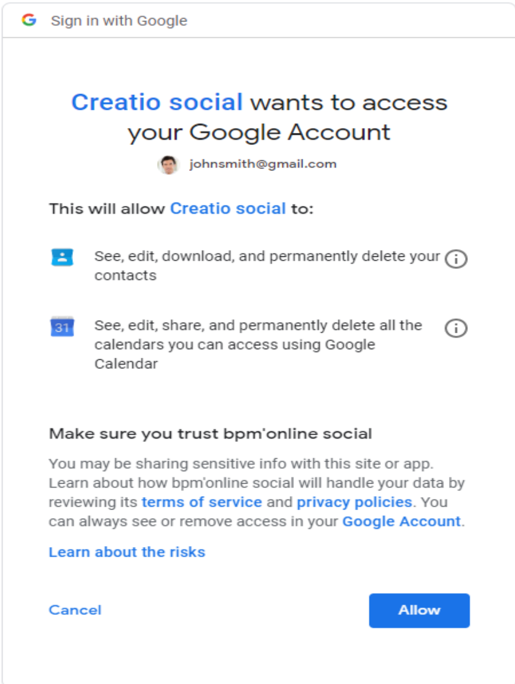
ACCELERATE

Fig. 567 Specifying synchronization folders



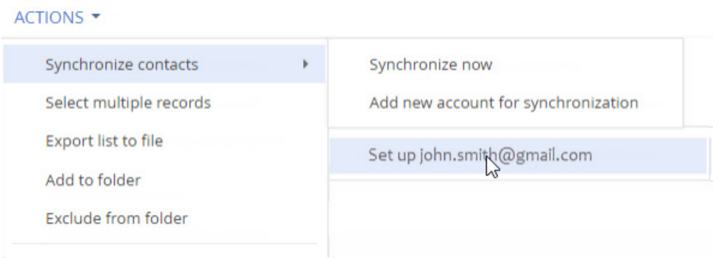
4. Allow Creatio to access your data (Fig. 568). If necessary, enter the login and password for your account.

Fig. 568 Allowing access to application



5. Press the [Actions] button and select [Synchronize contacts]-[Set up...] (Fig. 569).

Fig. 569 Setting up property details



6. Define the parameters of synchronization with Google Calendar and Google Contacts. For automatic synchronization of activities, select the [Synchronize activities automatically.] checkbox. select a time interval for automatic synchronization.
7. In the [Synchronize from] field select the date from which you want to synchronize activity.
8. For automatic synchronization of contacts, select the [Synchronize contacts automatically.] checkbox and select a time interval for automatic synchronization.

SEE ALSO

- Registering application for synchronization with Google (for on-site users only)
- How to set up synchronization of Creatio contacts and activities with Google contacts and calendar
- How to synchronize Creatio with Google contacts
- How to synchronize Creatio activities with Google calendar
- How to configure email accounts in Creatio

Registering application for synchronization with Google (for on-site users only)

On-site users need to register their Creatio application in Google before synchronization.

Registration procedure can be divided into two steps:

- First, register a Google account and set it up, enable access for to the Calendar API, and generate the keys ("Client ID" and "Client Secret") needed for integration.
- Second, enter the received "Client ID" and "Client Secret" keys in Creatio for the values of the [Google Service Access Key] and [Google Secret Access Key] system settings respectively.

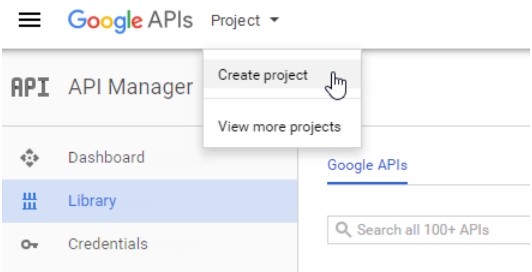
Setting up an account and receiving Google keys

To configure your Google account:

1. Follow the https://code.google.com/apis/console/ link.
2. Log in to your Google account.
3. From the [Project] menu, select the [Create project] option (Fig. 570).

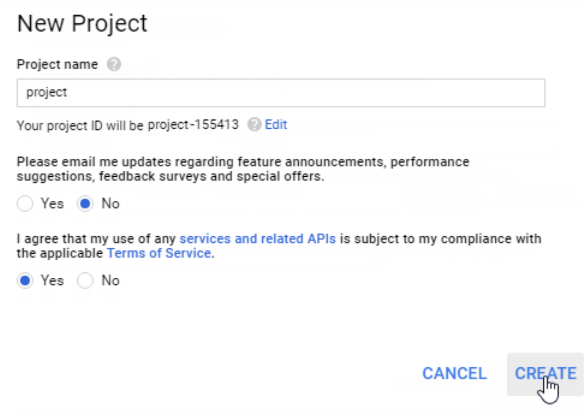
ACCELERATE

Fig. 570 Creating a new project



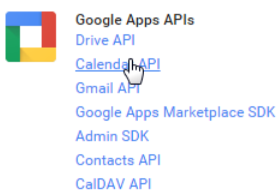
4. Enter the project name and click [Create] (Fig. 571).

Fig. 571 Creating a new project



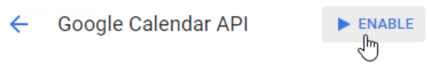
5. In the [Google Apps APIs] group, click [Calendar API] (Fig. 572).

Fig. 572 Selecting API to enable access



6. Click [Enable] (Fig. 573).

Fig. 573 Activating Calendar API



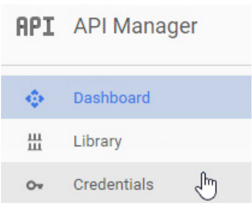
7. Add [Contacts API] and enable it, just like you did with the [Calendar API]. As a result, the Calendar API is added to the list of available APIs of the project (Fig. 574).

Fig. 574 The list of available project API

API	Requests	Errors	Error ratio	Latency, median	Latency, 98%	
Contacts API	–	–	–	–	–	Disable
Google Calendar API	–	–	–	–	–	Disable

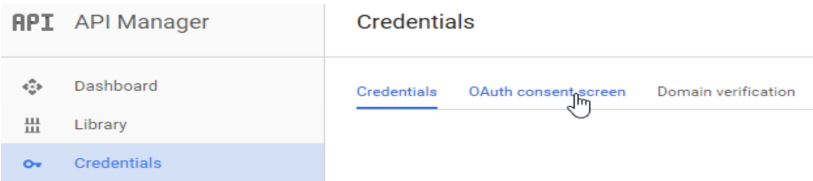
8. Specify the information about the product to create the client ID. In the [API Manager] menu, click [Credentials] (Fig. 575).

Fig. 575 Opening the credentials setup page



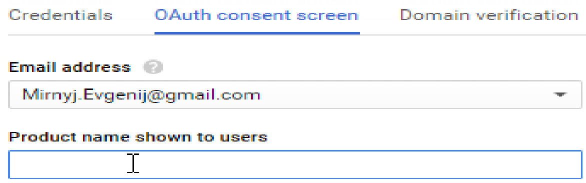
9. Click the [0Auth consent screen] tab (Fig. 576).

Fig. 576 Opening the credentials setup page



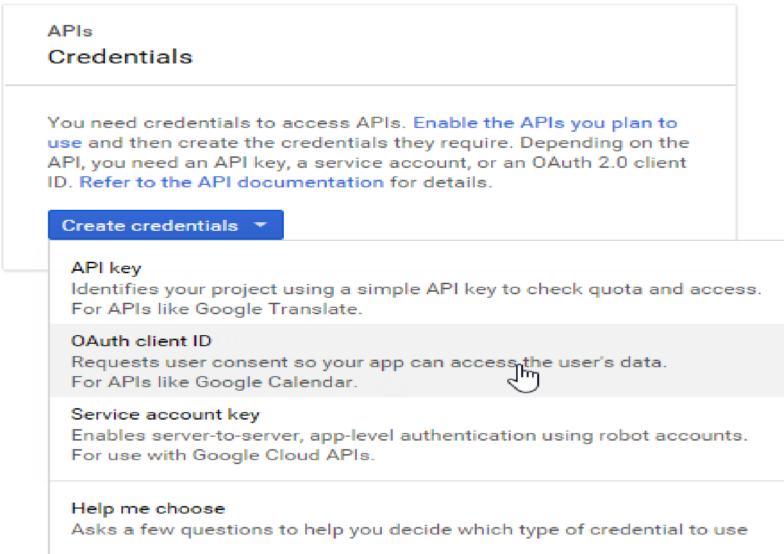
10. Fill in the [Product name shown to users] field (Fig. 577) and click [Save]. This name will be shown to the users during Creatio authorization for using Google accounts.

Fig. 577 Filling in the [Product name shown to users] field



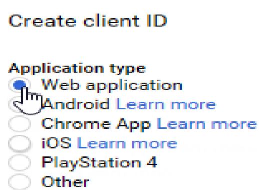
11. To create an ID, open the [Credentials] tab and in the [Create credentials] menu, select [0Auth client ID] (Fig. 578).

Fig. 578 Creating 0Auth client ID



12. Specify the application type. Select [Web application] (Fig. 579).

Fig. 579 Selecting the connection type



13. In the [Authorized JavaScript origins] field, enter your Creatio website address.

14. In the [Authorized redirect URLs] enter the url of the application to which the data will be sent to. The page address has to contain this prefix "/0/ViewPage.aspx?Id=3b22f0ff-034a-48da-8758-a0660e5a26ff". For example, https://creatioapp.com/0/ViewPage.aspx?Id=3b22f0ff-034a-48da-8758-a0660e5a26ff.

    ATTENTION

    For on-site applications, deployed on a dedicated domain and accessible only by a specific IP or from the internal network, enter "localhost" in the [Authorized JavaScript origins] field. In the [Authorized redirect URLs] enter the IP and server port, on which the application is deployed, and a special prefix. For example, ip:port/0/ViewPage.aspx?Id=3b22f0ff-034a-48da-8758-a0660e5a26ff

15. Click [Create]. A pop-up message with your client ID and client secret will be displayed.
16. Enter your Google keys in the corresponding system settings in Creatio.

    ATTENTION

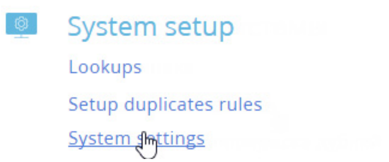
    For the Google APIs projects added after 05/11/2017 you have to additionally verify the application . Without this step, the "invalid_scope" error will be thrown to a user at integration attempt.

How to enter a Google key into Creatio

Second, enter the received "Client ID" and "Client Secret" keys in Creatio for the values of the [Google Service Access Key] and [Google Secret Access Key] system settings respectively. To do this:

1. Open the Creatio application.
2. Open the system designer by clicking the button in the top right corner of the application window.
3. Click the [System settings] link in the [System setup] block (Fig. 580).

Fig. 580 The [System settings] section



4. Select the [Google Service Access Key] system setting in the list and click [Open].
5. In the [Default value] field of the system setting card, enter the "Client ID" key (the text in the [Here is your client ID] field of the Google message) you received during the Creatio registration in Google and click [Save] and then [Close].
6. Select the [Google Service Access Key] system setting in the list and click [Open].
7. In the [Default value] field of the system setting card, enter the "Client secret" key (the text in the [Here is your client secret] field of the Google message) you received during the Creatio registration in Google and click [Save] and then [Close].

    As a result, users will be able to synchronize their tasks and contacts with their Google calendar and Google contacts.

SEE ALSO

- How to set up synchronization of Creatio contacts and activities with Google contacts and calendar

- How to synchronize Creatio with Google contacts
- How to synchronize Creatio activities with Google calendar
- How to configure email accounts in Creatio

How to set up synchronization of Creatio contacts and activities with Google contacts and calendar

To enable synchronization setup of Google contacts and calendar with Creatio contacts and activities, the synchronization must be set up beforehand.

An example of synchronization setup in the Contacts section is described below.

1. Open the [Contacts] section.
2. Create a private tag to be used for synchronization, for example, “Google synchronization”.

   NOTE

   Only the records marked with a tag will be synchronized. Records marked with a corporate or public tag will not be synchronized.

3. Press the [Actions] button and select [Synchronize contacts]-[Set up...] In the Settings page do the following:
   a. For activities to synchronize automatically, select the [Synchronize activities automatically] checkbox and specify the synchronization interval. To start synchronization from a specified date, select the required date in the [synchronize from].
   b. To automatically synchronize contacts, select the [Synchronize contacts automatically] checkbox and specify the synchronization interval.
   c. To synchronize contacts with a specific tag, in the [Send all contacts with a tag from Creatio to Google] field select the required tag.
4. Click the [Save] button.

   NOTE

   Date and time of the latest synchronization session is displayed on the setup page.

   As a result, both your Google account and the Creatio contact tag for synchronization will be saved in the system, and the synchronization will be started at the specified time intervals automatically.

   NOTE

   In the [Activities] section, setting up synchronization with Google is done in the same manner. Note that you don't need to specify the tag for synchronizing tasks in the synchronization settings of the [Activities] section.

SEE ALSO

- How to synchronize Creatio with Google contacts
- How to synchronize Creatio activities with Google calendar
- How to configure email accounts in Creatio

SEE ALSO

- Working with tags

How to synchronize Creatio with Google contacts

You can use the synchronization option to add your Google contacts into Creatio. Synchronization with Google can be performed only for those Creatio records that have a tag specified in the synchronization settings.

To run the synchronization for the first time:

1. Open the [Contacts] section.
2. Click the [Actions] button and select [Synchronize contacts]-[Start synchronization].

   As a result of synchronization, a new group of contacts titled "Creatio" will be added to your Gmail contacts.

   NOTE

   If you set up automatic synchronization, the process starts automatically.

3. Move the Gmail contacts to the "Creatio" group.
4. Run the [Synchronize with Google contacts] action again to perform the synchronization.

As a result, the Gmail contacts from the "Creatio" group will be imported into Creatio with the tag that was specified during the synchronization setup.

NOTE

If you set up automatic synchronization, the process starts automatically.

From this point on, the synchronization of Google and Creatio contacts is performed in both directions. Synchronization is run only for those records that have been changed or added since the last synchronization session.

If a record has been modified in both Gmail and Creatio, the most recent changes will be used for the synchronization.

If records were deleted in Gmail or Creatio, the next synchronization will not delete them from Creatio or Gmail. In the first case, the tags will be removed from such records. In the second case, the records will be excluded from the "Creatio" group.

SEE ALSO

- How to synchronize Creatio activities with Google calendar
- How to configure email accounts in Creatio

How to synchronize Creatio activities with Google calendar

If you use the Google calendar to plan your activities, you can synchronize it with your Creatio calendar.

To start synchronization, click the [Actions] button and click [Synchronize activities] - [Start synchronization] in the Activities section.

When you run this action, the Creatio activities are synchronized with the primary calendar of the Google account specified in the synchronization settings. All activities with the [Display in calendar] mark synchronize from Creatio Synchronization runs by the [Organizer] field. Thus, if an event organizer has not set up synchronization, the [Organizer] field is filled by the participant of the activity who has run the synchronization. If the current author creates an event in Google, synchronization with Creatio adds it into the system and adds the participants to the [Participants] detail. Only users who have the same email listed on the [Communication options] detail and in the Google event will be added to the list of participants. This collective task is displayed for other participants only after they synchronize their calendar with Google.

If a collective task that was created in Creatio by synchronizing with Google has been modified by one of its participants, all changes will be displayed in Google.

> **NOTE**
> Synchronization can also be run automatically, within the time intervals specified in the synchronization settings.

SEE ALSO

- How to configure email accounts in Creatio

How to configure email accounts in Creatio

To delete a Google account, do the following:

1. Open the user profile page. Click the [Profile] button on the home page.
2. Click the [Accounts in external resources] button.
3. Select the Google account, click [Actions] and select [Delete]. Click the [Yes] button.

SEE ALSO

- Integration with email services by the IMAP/SMTP protocol
- Integration with the MS Exchange service
- LDAP integration and user authentication in Creatio

Phone integration

The integration between Creatio and telephone networks enables making and receiving calls directly from the system interface. To use other phone integration functions in Creatio, phone integration setup is required.

After the phone integration has been set up, you will be able to manage calls in Creatio: make and receive calls, put calls on hold, transfer calls, make video calls and record conversations.

To manage your calls, use the [Calls] tab () of the communication panel.

The history of all calls is stored in the [Calls] section that provides standard options for working with the information. In the section, you can search and group the stored data, and set up the section analytics.

CONTENTS

SEE ALSO

- Managing calls
- Phone integration (development guide)

Phone integration setup

Creatio has a built-in integration feature with Webitel phone integration service. Creatio users can make internal calls just using the headset without any additional software installation.

To use other phone integration services in Creatio, additional settings are needed.

Phone integration works in browsers that support the WebRTC tschnology:

- Google Chrome, the latest official version on the Creatio release date;
- Mozilla Firefox, the latest official version on the Creatio release date;
- Microsoft Internet Explorer 11 and higher versions;
- Microsoft Edge;
- Apple Safari, the last official version on the Creatio release date.

CONTENTS

SEE ALSO

- The [Calls] section
- Managing calls
- Feature Comparison for supported phone systems
- Creatio phone integration FAQ
- Phone integration (development guide)

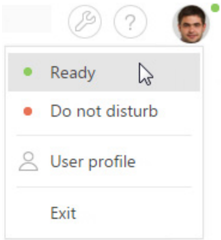
Available Webitel base phone integration settings

Webitel phone integration is a built-in service and is available for internal calls without the need for additional setup. To make and receive external calls in Webitel, you will need to install the Webitel connector from the Creatio marketplace and set up the phone integration. More information about installation of the marketplace applications is available in the separate article.

> **NOTE**
>
> If you purchase Webitel Call Manager cloud, all setup will be performed by Webitel support. If you purchase Webitel Call Manager on-site, you can order setup service from Webitel or study the requirements and perform the setup according to the Webitel setup guide.

A green indicator at the top right corner of the application indicates that phone integration runs correctly in Creatio (Fig. 581).

Fig. 581 Agent status indicator



To be able to work with the service, populate the “Webitel users” lookup. You have to register your company's employees in Creatio to enable them to make internal calls directly from the application.

NOTE

See more details on how to register Creatio users in the “How to add a new user in Creatio” article.

When adding a Creatio user, the system will automatically assign a Webitel extension number. It will be displayed on the [Communication options] detail of the contact page. By default, the phone number assignment starts from 100. Upon the next user registration, the following ordinal numbers will be assigned, for example, 101, 102, 103 etc.

NOTE

The telephone number is generated automatically based on the specified template. You can change the auto-numbering using the "Webitel user number mask" system setting.

Setting up Webitel internal phone parameters

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. Select or remove the required checkboxes:
    a. [Disable Contact Center integration] – this checkbox allows you to disable a built-in Webitel integration. The call button will not be displayed on the communication panel of the application.
    b. [Enable debugging] – this checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.
    c. [Use Web phone] – this checkbox allows you to use a web phone. Clear the checkbox if you need to use the down-line phone.
    d. [Use video] – this checkbox allows to make video calls on internal numbers.
4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- Managing users
- Webitel phone integration (development guide)

How to integrate with Oktell

In Creatio, the Oktell integration functionality has a separate license. You need to form the license request, send it to our service team, upload the received licenses file into the system and finally, distribute the licenses between the users.

NOTE

See more details about licensing in the “Software licensing” and “License distribution” articles.

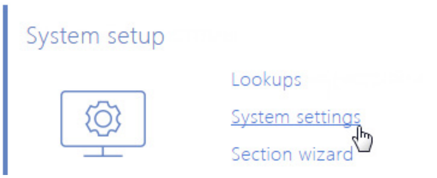
The integration can be performed if all prior Oktell configurations are performed by the telephony administrator.

Selecting message exchange library

Message exchange library selection is performed once by the system administrator.

1. Open the system designer by clicking  in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 582).

Fig. 582 Opening the [System settings] section



3. Select the [Default messages exchange library] system setting in the list and click the [Open] button.
4. On the system setting page, populate the [Value by default] field by selecting the "Phone integration library based on Oktell protocol".
5. Click the [Save] button.

Setting Oktell parameters

These settings should be applied with each Creatio user who received Oktell integration license. Use the user login credentials to access the system.

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the opened page, populate the required values:
   a. [Disable Contact Centre integration] – this checkbox allows you to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
   b. [Oktell server address] – Oktell website address, for example, “ws://oktell:4026”.
   c. [Username], [Password] – authentication user data.

d. [Enable debugging] – this checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.

e. [Enable picking up phone from application] – this checkbox allows you to use the answer button from the application upon receiving an incoming call. If the checkbox is not selected, the answer to the call will be performed using the telephone receiver.

NOTE

The [Enable picking up phone from application] checkbox will run if the telephone set supports the auto-answer function while receiving SIP Header Auto Answer. For example, most Cisco phones support this function by default. The Grandstearm phones require additional telephone configuration options.

4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- Software licensing
- License distribution
- Oktell phone integration (development guide)

How to integrate with Asterisk

The Asterisk integration functionality has a separate license in Creatio. Form a license request, send it to our service team, upload the received license file into the system and distribute the licenses between the users.

NOTE

See more details about licensing in the “Software licensing” and “License distribution” articles.

The integration is only possible if all prior Asterisk configurations were performed by the telephony administrator.

Preparing Asterisk

The AMI (Asterisk Manager Interface) interface is used to interact with Asterisk. Use AMI to connect to Asterisk servers, configure and manage client programs.

1. Create an AMI user for Creatio, specify the user's parameters in the “manager.conf” file, for example:

```
[terrasoft]
secret = terrasoft
deny=0.0.0.0/0.0.0.0
permit=0.0.0.0/0.0.0.0
read = system,call,log,verbose,command,agent,user,originate
write = system,call,log,verbose,command,agent,user,originate
```

NOTE

The “deny” and “permit” values should be replaced with the corresponding addresses.

2. Check the parking feature activity and the “features.conf” file parameters, for example:

```
parkext => 700
parkpos => 701-720
```

```
context => parkedcalls
parkingtime => 45
```

ATTENTION!

The "parkingtime" value determines the maximum time a call can be on hold. Upon the expiry of this time the subscriber will resume the conversation with the agent. The “parkingtime” value should be sufficiently long to avoid early call return.

Setting up Creatio messaging service

The messaging service enables the use of AMI protocols to connect to Asterisk and distribute call events between Creatio users.

1. Contact Creatio support at support@creatio.com to receive installation files. Run the Creatio Messaging Service Install.msi file on the message exchange server and proceed with the installation.

   ATTENTION

   .NET Framework of version 4.7.2 or higher should be installed on the server where you configure the Creatio Messaging Service.

2. Specify the following parameters for Asterisk connector in the “Terrasoft.Messaging.Service.exe.config” configuration file:

```
<asterisk filePath="" url="Asterisk_name_or_server_address"
port="Asterisk_server_port”. userName="Asterisk login"
secret="Asterisk password" originateContext="Outbound context”
parkingLotContext="Parking context" autoPauseOnCommutationStart="true”
queueExtensionFormat="Local/{0}@from-queue/n" asyncOriginate="true"
sendRingStartedOnRingingState="true" traceQueuesState="false"
packetInfoConfig="Additional packages values to handle within the
configuration" />
```

See the **list of Asterisk connector parameters** in the following table.

Parameter	Notes
FilePath	Use this parameter for diagnostics of the system. It allows to repeat a set of events from the file. The default value should be empty.
URL	Asterisk server IP address parameter.
Port	AMI protocol port. By default, “5038”.
OriginateContext	The command is used to initialize the call from Creatio phone number. The parameter contains the caption of the context from which the call will be made to the user phone number. The default value for FreePBX is “from-internal”
parkingLotContext	The context for call initialization to receive parking line. The default value is “originateContext”.

Parameter	Notes
AutoPauseOnCommutationStart	The checkbox is used for the correct work with Asterisk queues. If the checkbox is selected, the system will put the agent on a pause in all queues after answering the call. The feature is used to avoid the second call during the handling of the first one and/or putting the first call on hold.
queueExtensionFormat	The call channel format while receiving the call from the queue. If using LocalChannel, the default value in FreePBX is “Local/{0}@from-queue”.
sendRingStartedOnRingingState	The checkbox stands for the correct handling of the call from the queue. If this checkbox is selected, the system will display the call after receiving the “NewState” event with the Ringing parameter by AMI. The default value is “On”.
traceQueuesState	This setting is used to define the agent's status in the queues. If the agent receives the second call from the queue while handling the first one in Creatio, it is used for debugging. Information about the status of agents is being written to the log file of the connector. The default value is “Off”.

Configuration example:

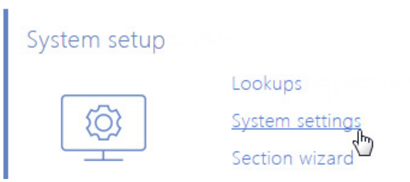
```
<asteriskfilePath=" "url="10.0.15.185" port="5038"
userName="bpm" secret="bpm" originateContext="from-internal"
parkingLotContext="from-internal" autoPauseOnCommutationStart="true"
queueExtensionFormat="Local/{0}@from-queue/n" asyncOriginate="true"
sendRingStartedOnRingingState="true" traceQueuesState="false"
packetInfoConfig=""/>
```

Setting up message exchange library

Message exchange library selection and setup is performed once by the system administrator. To set up the message exchange library:

1. Open the system designer by clicking  in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 583).

Fig. 583 Opening the [System settings] section



3. In the [Default messages exchange library] system setting, set the default value to"Telephony integration library based on Asterisk (AMI) protocol".
4. In the [Message exchange server] system setting, select the connection parameters of the system messages service. In the [Default value] field, specify the message exchange network address in the following format: "ws://0.0.0.0:2013", if your website is available by the http protocol, or "wss://0.0.0.0:2013", if your website is available by the https protocol, where:
   - "0.0.0.0" – IP address that your Creatio users use to access your message exchange server.
   - "2013" – the port used by default for connecting to the messaging service. You can change the port number in the "Terrasoft.Messaging.Service.exe.config" file.

   NOTE

   If your website is available by https and secure (wws) connection is used for websockets, you will need to install a security certificate on the message exchange server and specify it in the configuration files of the message service. For more information about the setup process, contact Creatio's technical support at support@creatio.com.

Setting Asterisk parameters

These settings should be applied to every Creatio user who received Asterisk integration license. To do this:

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the displayed page, populate the required fields:
   a. [Disable Contact Centre integration] – select this checkbox to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
   b. [Number] – Asterisk user line number. It matches the phone number by default. For example, to track the SIP/305 user line, specify the "305" value, and to track the SIP/office line, specify the "office" value.
   c. [Outgoing call context] – specify the outgoing call context if it differs from the system outgoing call context specified in the "Terrasoft.Messaging.Service.exe.config" file for this particular user.
   d. [Enable debugging] – the checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.
4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- Software licensing
- License distribution
- How to configure WSS connection for the phone service
- Creatio phone integration FAQ
- Asterisk phone integration (development guide)

How to integrate with Cisco Finesse

In Creatio, the Cisco Finesse integration functionality has a separate license. You need to generate a license request, send it to our service team, upload the received license file into the system and finally, distribute the licenses between the users.

NOTE

See more details about licensing in the "Software licensing" and "License distribution" articles.

The integration is only possible if complete preliminary Cisco Finesse setup was performed by the phone integration administrator.

Setting the IIS server to connect to the Cisco Finesse

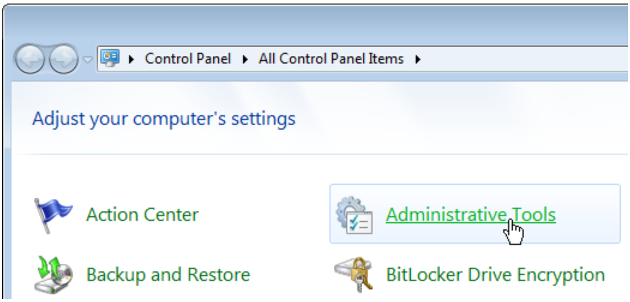
To integrate Creatio with Cisco Finesse, set up the Internet Information Services (IIS) Manager 7 or higher and the Application Request Routing (ARR) for it.

ATTENTION

If the Finesse API service is available by the https protocol, then use the correct ssl certificates, which must pass the security check on the PC where the server side of Creatiois deployed.

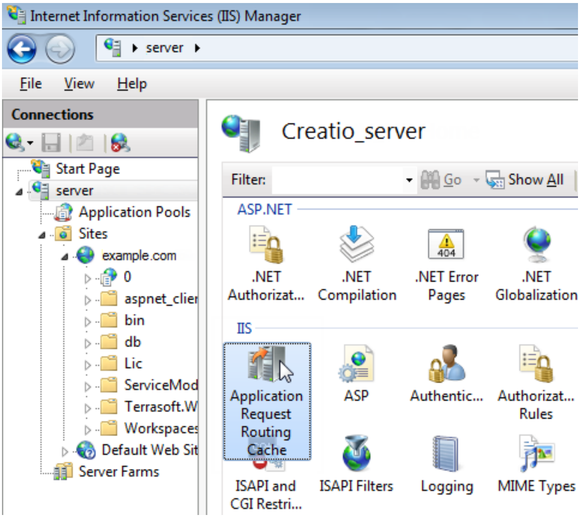
1. Open the control panel and click the [Administrative Tools] link (Fig. 584).

Fig. 584 Opening administrative tools



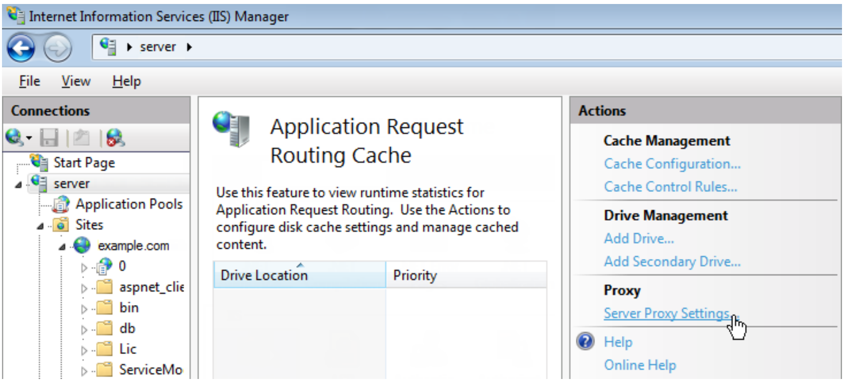
2. Run the Internet Information Services (IIS) Manager in the opened window.
3. In the [Connections] area, select the server where Creatio application is deployed and open the [Application Request Routing] setting for it (Fig. 585).

Fig. 585 Opening the [Application Request Routing] setting



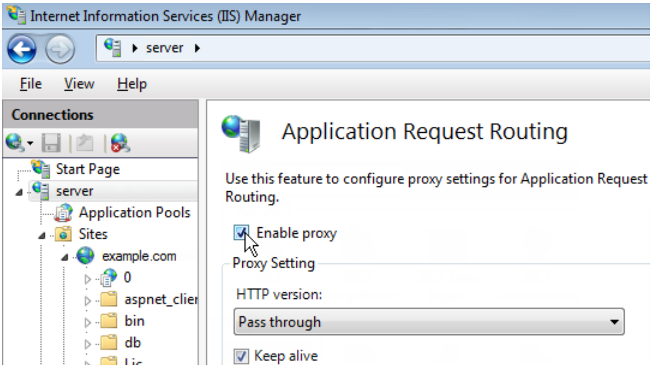
4. Click the [Server Proxy Settings] link in the [Actions] area of the Application Request Routing settings (Fig. 586).

Fig. 586 Opening proxy settings



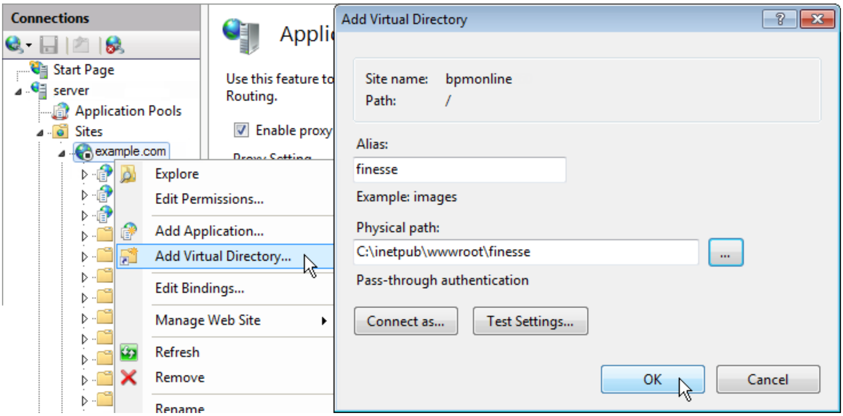
5. Select the [Enable proxy] checkbox in the displayed [Application Request Routing] area (Fig. 587).

Fig. 587 Proxy enabling



6. Create a virtual directory with the “finesse” name (Fig. 588) at the same level with the Creatio deployed website. For example, if the website of the application is “http://myhost:0000/creatio.com”, then the finesse should be available at the “http://myhost:0000/finesse” address.

Fig. 588 Creating virtual catalog



7. Find in the “finesse” directory the “Web.config” file (if there is no such file, you will need to create one).
8. Replace the contents of the file with the following parameters:

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
    <system.webServer>
        <rewrite>
            <rules>
                <rule name="ReverseProxyInboundRule2" enabled="true"
stopProcessing="true">
                    <match url="api/(.*)" />
```

```
                    <action type="Rewrite" url="http://0.0.0.0/finesse/
api/{R:1}" logRewrittenUrl="true" />
                </rule>
                <rule name="ReverseProxyInboundRule3" enabled="true"
stopProcessing="true">
                    <match url="http-bind" />
                    <action type="Rewrite" url="http://0.0.0.0:7071/
http-bind/" logRewrittenUrl="true" />
                </rule>
            </rules>
            <outboundRules>
                <preConditions>
                    <preCondition name="ResponseIsHtml1">
                        <add input="{RESPONSE_CONTENT_TYPE}"
pattern="^text/html" />
                    </preCondition>
                </preConditions>
            </outboundRules>
        </rewrite>
    </system.webServer>
</configuration>
```

NOTE

Replace the “0.0.0.0” value with the Cisco Finesse website IP address.

As a result, the request forwarding records from Creatio website to Cisco Finesse will be displayed on the IIS “URL Rewrites” website tabs. Such records indicate the successful setting.

ATTENTION!

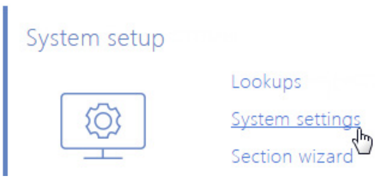
If the URL-Rewrite menu is not displayed after the Application Request Routing setup, ensure that the IIS management console runs correctly using the IISmanager standalone (Inetmgr.exe), instead of server control.

Selecting message exchange library

Message exchange library selection is performed once by the system administrator.

1. Open the system designer by clicking  in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 589).

Fig. 589 Opening the [System settings] section



3. Select the [Default messages exchange library] system setting in the list and click the [Open] button.

4. On the system setting page, populate the [Value by default] field by selecting "Phone integration library based on Finesse protocol".
5. Click the [Save] button.

Setting Cisco Finesse parameters

These settings should be applied for each Creatio user who received Finesse integration license. Use the user login credentials to access the system.

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the opened page, populate the required values:
   a. [Disable Contact Centre integration] – this checkbox allows you to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
   b. [Finesse server address] – specify Cisco Finesse server address.
   c. [Agent Id], [Extension], [Password] – specify Cisco Finesse user parameters.
   d. [Enable debugging] – the checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.
4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- Software licensing
- License distribution

How to integrate with TAPI

In Creatio, the TAPI integration functionality has a separate license. You need to generate a license request, send it to our service team, upload the received license file into the system and finally, distribute the licenses between the users.

> NOTE
> See more details about licensing in the “Software licensing” and “License distribution” articles.

The integration is only possible if complete preliminary TAPI driver setup was performed by the phone integration administrator.

Setting Creatio messaging service

The messaging service allows you to connect Creatio to the telephony using the integration protocol to connect to TAPI and distribute call events between Creatio users.

Contact Creatio support at support@creatio.com to receive installation files. Run the received .MSI file on the message exchange server and proceed with the installation.

> ATTENTION
> .NET Framework of version 4.7.2 or higher should be installed on the server where you configure the Creatio Messaging Service.

The TAPI driver must be installed and configured on the same computer by the phone integration administrator.

NOTE

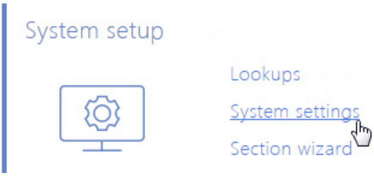
To ensure that the TAPI driver runs correctly, use the "Conference.exe" utility that can be received from the support team.

Setting up message exchange library

Message exchange library selection and setup is performed once by the system administrator.

1. Open the system designer by clicking in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 590).

Fig. 590 Opening the [System settings] section



3. Specify the message exchange library. To do this, open the "Default messages exchange library" system setting. On the system setting page:
    a. Fill in the [Value by default] field by selecting the "Telephony integration library based on Tapi protocol" value.
    b. Click the [Save] button.
4. Specify the message service connection parameters. To do this, open the "Message exchange server" system setting. On the system setting page:
    a. In the [Default value] field, specify the message exchange network address in the following format: "ws://0.0.0.0:2013", if your website is available by the http protocol, or "wss://0.0.0.0:2013", if your website is available by the https protocol, where:
        - "0.0.0.0" – IP address that your Creatio users use to access your message exchange server.
        - "2013" – the port used by default for connecting to the message service. You can change the port number in the "Terrasoft.Messaging.Service.exe.config" file.

NOTE

If your website is available by https and secure (wws) connection is used for websockets, you will need to install a security certificate on the message exchange server and specify it in the configuration files of the message service. For more information about the setup process, contact Creatio's technical support at support@creatio.com.

    b. Click the [Save] button.

Setting TAPI parameters

These settings should be applied with each Creatio user who received TAPI integration license. Use the user login credentials to access the system.

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the opened page, populate the required values:
   a. [Disable Contact Centre integration] – this checkbox allows you to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
   b. [Line] – user line number in TAPI.
   c. [Enable debugging] – the checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.
4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- How to configure WSS connection for the phone service
- Software licensing
- License distribution

How to integrate with CallWay

In Creatio, the CallWay integration functionality has a separate license. You need to generate a license request, send it to our service team, upload the received license file into the system and finally, distribute the licenses between the users.

> **NOTE**
> See more details about licensing in the "Software licensing" and "License distribution" articles.

The integration can be performed if all prior CallWay configurations are performed by the telephony administrator.

Setting up Creatio messaging service

The messaging service allows you to connect Creatio to the telephony using the integration protocol to connect to CallWay and distribute call events between Creatio users.

1. Contact Creatio support at support@creatio.com to receive installation files. Run the received .MSI file on the message exchange server and proceed with the installation.

   > **ATTENTION**
   > .NET Framework of version 4.7.2 or higher should be installed on the server where you configure the Creatio Messaging Service.

2. Specify the CallWay server address in the "Terrasoft.Messaging.Service.exe.config" file:

```
<callway url="CallWay_server_address" login="XXX" password="XXX"
port="34600" restoreConnectionInterval="2000" />
```

See the **list of configuration file parameters** in the table below.

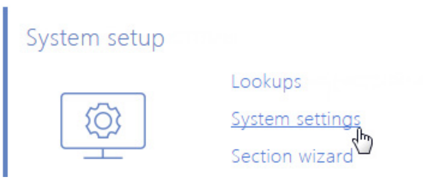
Parameter	Notes
url	CallWay server IP address parameter.
login	Integration protocol login and password.
password	
port	Integration protocol port. By default, “34600”.
restoreConnectionInterval	The time interval to reconnect integration messaging service to the CallWay telephony server, if a failure occurs. The value is specified in milliseconds and is “2000” - by default.

Setting up message exchange library

Message exchange library selection and setup is performed once by the system administrator.

1. Open the system designer by clicking  in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 583).

Fig. 591 Opening the [System settings] section



3. Specify the message exchange library. To do this, open the “Default messages exchange library” system setting. On the system setting page:
   a. Fill in the [Value by default] field by selecting the "Telephony integration library based on Callway protocol” value.
   b. Click the [Save] button.
4. Specify the message service connection parameters. To do this, open the “Message exchange server” system setting. On the system setting page:
   a. In the [Default value] field, specify the message exchange network address in the following format: “ws://0.0.0.0:2013”, if your website is available by the http protocol, or “wss://0.0.0.0:2013”, if your website is available by the https protocol, where:
      - “0.0.0.0” – IP address that your Creatio users use to access your message exchange server.
      - “2013” – the port used by default for connecting to the message service. You can change the port number in the “Terrasoft.Messaging.Service.exe.config” file.

NOTE
If your website is available by https and secure (wws) connection is used for websockets, you will need to install a security certificate on the message exchange server and specify it in the configuration files of the message service. For more information about the setup process, contact Creatio's technical support at support@creatio.com.

b. Click the [Save] button.

Setting CallWay parameters

These settings should be applied for each Creatio user who received CallWay integration license. Use the user login credentials to access the system.

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the opened page, populate the required values:
    a. [Disable Contact Centre integration] – this checkbox allows you to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
    b. [Agent internal number] – CallWay user phone number.
    c. [Routing rule] – specify the routing rule if it is required for the CallWay configured server.
    d. [Use CallWay client] – select the checkbox if an employee uses CallWay internal client. While using the CallWay internal client, the answer button in the application becomes available.
    e. [Enable debugging] – the checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.
4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- How to configure WSS connection for the phone service
- Software licensing
- License distribution

How to integrate with Infinity

In Creatio, the Infinity integration functionality has a separate license. You need to generate a license request, send it to our service team, upload the received license file into the system and finally, distribute the licenses between the users.

NOTE
See more details about licensing in the “Software licensing” and “License distribution” articles.

The integration is only possible if complete preliminary Infinity setup was performed by the phone integration administrator.

ATTENTION

Creatio supports integration with Infinity X.

Setting Creatio messaging service

The messaging service allows you to connect Creatio to the telephony using the integration protocol to connect to Infinity and distribute call events between Creatio users.

Contact Creatio support at support@creatio.com to receive installation files. Run the received .MSI file on the message exchange server and proceed with the installation.

ATTENTION

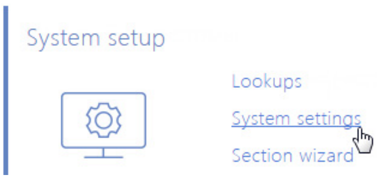
.NET Framework of version 4.7.2 or higher should be installed on the server where you configure the Creatio Messaging Service.

Setting up message exchange library

Message exchange library selection and setup is performed once by the system administrator.

1. Open the system designer by clicking in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 583).

Fig. 592 Opening the [System settings] section



3. Specify the message exchange library. To do this, open the “Default messages exchange library” system setting. On the system setting page:
   a. Fill in the [Value by default] field by selecting the "Telephony integration library based on Infinity protocol” value.
   b. Click the [Save] button.
4. Specify the message service connection parameters. To do this, open the “Message exchange server” system setting. On the system setting page:
   a. In the [Default value] field, specify the message exchange network address in the following format: “ws://0.0.0.0:2013”, if your website is available by the http protocol, or “wss://0.0.0.0:2013”, if your website is available by the https protocol, where:
      - “0.0.0.0” – IP address that your Creatio users use to access your message exchange server.
      - “2013” – the port used by default for connecting to the message service. You can change the port number in the “Terrasoft.Messaging.Service.exe.config” file.

NOTE

If your website is available by https and secure (wws) connection is used for websockets, you will need to install a security certificate on the message exchange server and specify it in the configuration files of the message service. For more information about the setup process, contact Creatio's technical support at support@creatio.com.

b. Click the [Save] button.

Setting Infinity parameters

These settings should be applied for each Creatio user who received Infinity integration license. Use the user login credentials to access the system.

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the opened page, populate the required values:
   a. [Disable Contact Centre integration] – this checkbox allows you to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
   b. [Infinity server address] – Infinity server address.
   c. [Line] – specify the telephone number of the line which will be used for the call.
   d. [Enable debugging] – the checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.
4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- How to configure WSS connection for the phone service
- Software licensing
- License distribution

How to integrate with Avaya

In Creatio, the Avaya integration functionality has a separate license. You need to generate a license request, send it to our service team, upload the received license file into the system and finally, distribute the licenses between the users.

NOTE

See more details about licensing in the “Software licensing” and “License distribution” articles.

The integration can be performed if all prior Avaya configurations are performed by the telephony administrator.

Setting up Creatio messaging service

The messaging service allows you to connect Creatio to the phone integration using the DMCC .NET API integration protocol to connect to Avaya and distributing the call events between Creatio users.

DMCC .NET API integration protocol requires licenses. The number of the licenses should correspond to the number of Creatio users who simultaneously use Avaya phone integration.

NOTE

See Avaya documentation for more information.

NOTE

Avaya Application Enablement Services (AES) component within the telecommunication system [PBX] is needed for Avaya phone integration. The integration is available for AES version of 5.2 server and up.

1. Contact Creatio support at support@creatio.com to receive installation files. Run the received .MSI file on the message exchange server and proceed with the installation.

ATTENTION

.NET Framework of version 4.7.2 or higher should be installed on the server where you configure the Creatio Messaging Service.

2. Specify the following parameters in the “Terrasoft.Messaging.Service.exe.config” configuration file:

```
<avaya serverIp="" port="4721" useSecureSockets="False" ctiUser=""
psw="" protocolVersion="http://www.ecma-international.org/standards/
ecma-323/csta/ed3/priv6" switchName="CM"
```

See the **list of configuration file parameters** in the table below.

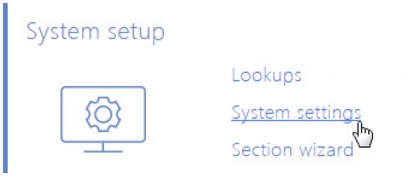
Parameter	Notes
avaya serverIp	AES server address.
port	Connection port to AES server. Default value: “4721” for the unsecured connection or “4722” for the secured connection.
useSecureSockets	The checkbox for the encrypted connection usage requires adding a certificate. By default, “False”.
ctiUser	Avaya AES (Avaya AES user login) username.
psw	Avaya AES user password.
protocolVersion	The protocol used to connect to AES server. the default value: “http://www.ecma-international.org/standards/ecma-323/csta/ed3/priv6”.
switchName	Avaya (hostname Avaya switch) hostname switch.

Setting up message exchange library

Message exchange library selection and setup is performed once by the system administrator.

1. Open the system designer by clicking in the top right corner of the application window.
2. Click the [System settings] link in the [System setup] block (Fig. 583).

Fig. 593 Opening the [System settings] section



3. Specify the message exchange library. To do this, open the "Default messages exchange library" system setting. On the system setting page:
    a. Populate the [Default value] field by selecting "Telephony integration library based on Avaya (DMCC, TSAPII)";
    b. Click [Save].
4. Specify the message service connection parameters. To do this, open the "Message exchange server" system setting. On the system setting page:
    a. In the [Default value] field, specify the message exchange network address in the following format: "ws://0.0.0.0:2013", if your website is available by the http protocol, or "wss://0.0.0.0:2013", if your website is available by the https protocol, where:
        - "0.0.0.0" – IP address that your Creatio users use to access your message exchange server.
        - "2013" – the port used by default for connecting to the message service. You can change the port number in the "Terrasoft.Messaging.Service.exe.config" file.

NOTE

If your website is available by https and secure (wws) connection is used for websockets, you will need to install a security certificate on the message exchange server and specify it in the configuration files of the message service. For more information about the setup process, contact Creatio's technical support at support@creatio.com.

    b. Click the [Save] button.

Setting Avaya parameters

These settings should be applied for each Creatio user who received Avaya integration license. Use the user login credentials to access the system.

1. Open the user profile page by clicking the [Profile] image button on the main page of the application.
2. Click the [Call Center parameters setup] button.
3. On the opened page, populate the required values:
    a. [Disable Contact Centre integration] – this checkbox allows you to disable Creatio phone integration. The call button will not be displayed on the communication panel of the application.
    b. [Agent's Id], [Password] – agent's data on Avaya server.
    c. [Number] – agent's number of Avaya server.

   d. [Enable debugging] – the checkbox allows you to display troubleshooting information within the browser console. This troubleshooting information can be used when the phone integration runs into problems and the customer addresses the service team.

4. Click the [Save] button on the page.
5. Refresh the browser page to apply the changes.

SEE ALSO

- How to configure WSS connection for the phone service
- Software licensing
- License distribution

How to configure WSS connection for the phone service

You can configure WSS connection for the phone service. This configuration is for Asterisk, Avaya, TAPI, CallWay and Infinity phone service users.

> NOTE
> Configure the WebSockets technology for proper work of the phone service in the Creatio.

To configure the secure connection with phone service, you need to modify the Terrasoft.Messaging.Service.exe.config configuration file on the phone server:

1. Delete or comment out the following configurational block in the <servers> section:

```
<server name="ClientWebSocketService"
 serviceName="ClientWebSocketService" ip="Any" port="2013" mode="Tcp"
 idleSessionTimeOut="10000" maxCommandLength="4096"
 maxConnectionNumber="10000">
 </server>
```

2. Uncomment the following block on the <servers> section:

```
<server name="ClientWebSocketService"
 serviceName="ClientWebSocketService" ip="Any" port="2013" mode="Tcp"
 idleSessionTimeOut="10000" maxCommandLength="4096" security="tls" >

<certificate filePath="certificate.pfx" password="111"></certificate>
 </server>
```

3. Specify the preliminary received digital certificate from the certification center in PFX format, as well as the access password in the <certificate> section. Put the certificate in the folder with the Creatio Messaging Service binary files.

> ATTENTION
> It is not recommended to use self-signed certificates, because this may violate the safety conditions.

4. After modifying the configuration file, change the address of connection to the phone server in the [Message exchange server] system setting from ws:// to wss://.

SEE ALSO

- Software licensing
- License distribution

Feature Comparison for supported phone systems

Phone systems ntegration largely depends on the type of phone system. By default, Creatio is integrated with Webitel telephone service. You can set up integration with other phone systems, if needed. Below is a feature comparison table for different phone systems.

Phone system features	Phone systems that support TAPI	Cisco Finesse	Avaya	Webitel	Oktell	Infinity	Asterisk	CallWay
Caller ID for incoming calls Displaying information about an incoming call, searching contact/ account by phone number	1	+	+	+	+	+	+	+
Outgoing calls Initiating outgoing calls from Creatio	+	+	+	+	2	+	3	4
Pick up Ability to receive incoming calls in Creatio	+	+	+	+	5	+	-	6
Place on hold, resume calls Ability to place calls on hold and resume calls placed on hold	+	+	+	+	+	+	+	+
End calls Ending calls (hang up) in Creatio	+	+	+	+	+	+	+	+

Phone system features	Phone systems that support TAPI	Cisco Finesse	Avaya	Webitel	Oktell	Infinity	Asterisk	CallWay
Status management Ability to set statuses, such as "Ready", "Away", "Busy", etc. The available statuses depend on the type of telephone system.	7	+	8	+	+	+	-	+
Transfer calls Ability to transfer of calls	+	+	+	+	+	+	+	+
Statistics Saving information about calls in the "Calls" section: agent name, subscriber account/contact, call duration.	+	+	+	+	+	+	+	+
Built-in phone Ability to make calls from a web browser without the need to use desktop phone.	-	-	-	+	-	-	-	-
Call replay Ability to listen to recorded calls using Creatio interface	-	-	-	+	+	-	-	-

Phone system features	Phone systems that support TAPI	Cisco Finesse	Avaya	Webitel	Oktell	Infinity	Asterisk	CallWay
Telephone system versions	All phone systems that work using TAPI 2.0	Cisco Finesse 9.1+	AES v5.2-7		2.10+	X	1.6-13	

1 – If a call is routed through UCCX while using CUCM, then number identification is unavailable due to TAPI limitations.

2, 3 – In certain situations, if calls are made from Creatio, the user must receive an incoming “system“ call first before initiating an outgoing call. This depends on the software or hardware phone version/model.

4 – Fully supported, if the operator is using CallWay software phone. If other IP phones are used, then to make a call from Creatio, an operator must respond to incoming “system“ call.

5 – Not all software/hardware phones support this feature.

6 – Only supported, if the operator is using CallWay software phone.

7 – The following 2 statuses are available: “Ready“ and "Do not disturb" (DND). Currently unavailable for Cisco.

8 — Because of limitations Avaya API has only 2 states Log in and log out (AgentLoggedOn and AgentLoggedOff), and an answer on status change request.

SEE ALSO

- Available Webitel base phone integration settings
- How to integrate with Oktell
- How to integrate with Asterisk
- How to integrate with Cisco Finesse
- How to integrate with TAPI
- How to integrate with CallWay
- How to integrate with Infinity
- How to integrate with Avaya

Creatio phone integration FAQ

Which telephone systems can be integrated with Creatio?

By default, Creatio is integrated with Webitel telephone service. Other telephone systems can be integrated with Creatio, if needed. The list of supported telephone systems is available in a separate article.

How to integrate with cloud telephone providers?

Creatio interacts with phone providers through an IP-PBX. To integrate with a cloud telephone system, set up one of the supported IP-PBX. The setup procedures for integration with different phone systems are available in a separate article.

If you are using one of the connectors listed in the comparison table for phone integration features, you can use universal Any VoIP connector for Creatio. This connector enables easy connection of any virtual or standard IP-PBX as well as SIP number from any provider.

Additionally, you can use any connector from the Creatio marketplace.

Which functions are supported by the connectors that can be integrated with Creatio?

The feature comparison for integration with different telephone systems, as well as requirements for integrating these systems with Creatio, are available in a separate article.

Phone integration stops working after updating Asterisk to version 12. Why?

Phone integration may stop working because the message transfer services in the new and previous Asterisk versions work differently. To enable Creatio integration with Asterisk 12 and up, update Terrasoft Messaging Service (TMS) connector. To do this:

1. Obtain an updated connector file from Creatio support and save it locally.
2. Stop the TMS service.
3. Delete TMS.
4. Restart the phone integration server.
5. Install the new TMS version.
6. Duplicate your settings in the new version.
7. Run the TMS service.
8. Check phone integration operation.

Can I dial an external phone number with an extension external number, bypassing the secretary/answering machine?

This depends on the settings in the PBX API. Most APIs do not have this function. If the PBX API has this function, you will need to perform additional settings on the phone integration server.

SEE ALSO

- Feature Comparison for supported phone systems

On-site deployment

The "on-site" deployment involves hosting the system on the servers of your company, while the "cloud" deployment means the application is deployed on the Creatio servers and becomes available in the SaaS mode.

To deploy Creatio application on-site, the server-side and the client-side must meet certain technical requirements.

CONTENTS

Client-side system requirements

Software products on the Creatio platform are web applications and do not require any installation on the client side. Users access the application via an Internet browser and required parameters of the customer's computer must meet the requirements of the browser. The indicative characteristics:

Monitor minimum resolution	1280x768
CPU	Pentium 4, Athlon 64 or higher with SSE2 support.
RAM	2GB recommended 512 MB of free RAM is recommended during the work process
HDD	500 MB free space is recommended

Connection channel

The recommended data channel for the client-server connection is 512 Kbps per one active user.

Additional software

One of the following Internet browsers must be installed on the client-side:

Microsoft Windows: • Windows 7; • Windows 8; • Windows 10.	Google Chrome, the latest official version on the Creatio release date
	Mozilla Firefox, the latest official version on the Creatio release date
	Microsoft Internet Explorer 11 and up Microsoft Edge
OS X, the latest official version.	Apple Safari, the last official version on the Creatio release date

NOTE

Release dates are available in the release calendar.

ATTENTION!

Using third-party plug-ins and add-ons for browsers may increase the page loading time and cause incorrect display of pages.

Server-side system requirements

Server performance affects speed and productivity of Creatio - the more powerful your hardware configuration is, the smoother Creatio operation is going to be.

To work with Creatio, you will need to deploy the following required components:

- Application server
- Database management system (DBMS)
- The session storage server (Redis)

Optional components include:

- Version control system server (SVN)
- Load balancer
- Containerization (operating-system-level virtualization)

System requirements may vary depending on the number of users who will access the system and system fault tolerance requirements.

General requirements for the servers

All system components should be functional in a virtual environment. The list of officially supported cloud/virtual platforms:

- Amazon Web Services
- Microsoft Azure / Hyper-V
- VMware vCloud Director / vSphere

NOTE

Compatibility with other cloud / virtual platforms is not guaranteed.

Active system component instances must be placed in a single location (data center / server room / office building, etc.). Placing backup components in remote locations when implementing protection against catastrophic events is acceptable.

All components should function in their dedicated operating systems. Merging components is possible, but not recommended.

To organize a DBMS cluster, you can use either a shared file storage or separate disk space of cluster nodes.

The version control server (SVN) is optional. It is needed only in case of configuration version control.

The load balancer is an optional component, which may be useful, if:

- there is an increased network load on the application servers
- application servers are deployed in a fault-tolerant configuration (web farm)

The load balancer may be either hardware or software. To work in fault-tolerant mode, the HTTP/ HTTPS traffic balancer is used with support for so-called “sticky sessions", and the WebSocket protocol. The application has been tested on HAproxy and MS ARR (Microsoft Advanced Request Routing) software load balancers. There are known cases where other balancers like Citrix, Cisco, NginX, FortiGate were successfully implemented.

Connection channels

IIS – SQL:

- the capacity of 10Mb/sec per 100 active users
- delays no more than 15-20 ms

IIS – user:

- minimum 256 Kb/sec per 1 active user
- recommended 512 Kb/sec per 1 active user
- formula: 30kByte/sec * (total number of users working at a time) * 10%

Input/output:

- IIS; 100 IOPS per 1000 active users
- SQL: 1000 IOPS per 1000 active users

ATTENTION

Starting with version 7.13.3, the IIS version 7 and 7.5 (Windows Server 2008 and Windows Server 2008 R2) is no longer supported. The application server requires IIS version 8.0 and higher (Windows Server 2012 and higher).

Software requirements

Component	Software
Web server	Windows Server 2012 R2,2016,2019; IIS: .Net framework 4.7.2
Database server	Windows Server 2012 R2,2016,2019; MSSQL 2016; Oracle 11g and higher, PostgreSQL of the latest official version as of the Creatio release date
Caching server	Linux Debian 8-9; Redis
Load balancer server	Linux Debian 8-9; HAproxy
Version control system server (SVN)	Linux Debian 8-9; SVN
Containers	Linux Debian 8-9; Docker; Kubernetes

NOTE

Microsoft .Net Framework 4.7 or higher – for Creatio version 7.11.1 – 7.13.1, Microsoft .Net Framework 4.7.2 – for Creatio version 7.13.2 or higher;

CONTENTS

- Containerization (operating-system-level virtualization) requirements

System requirements for 1 - 50 users

The requirements are presented in the table below:

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz (Haswell ge. or newer)
RAM	8 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	2 > 3 GHz (Haswell ge. or newer)
RAM	10 Gb
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <8 ms Application - 15 GB, 100 IOPS, <8 ms Tempdb - 5 GB, 100 IOPS, <8 ms Transaction logs (full recovery model) - 10 GB, 100 IOPS, <8 ms
Ratio of virtual and physical cores	No more than 1 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	2 GB
Disk space (capacity, IOPS, latency)	20 GB, 30 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 50 - 100 users

The requirements are presented in the table below.

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz (Haswell ge. or newer)
RAM	10 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	2 > 3 GHz (Haswell ge. or newer)
RAM	12 Gb
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <8 ms Application - 30 GB, 200 IOPS, <8 ms Tempdb - 5 GB, 200 IOPS, <8 ms Transaction logs (full recovery model) - 12 GB, 200 IOPS, <8 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	2 GB
Disk space (capacity, IOPS, latency)	20 GB, 30 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 100 - 300 users

The requirements are presented in the table below.

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz (Haswell ge. or newer)
RAM	14 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	2 > 3 GHz (Haswell ge. or newer)
RAM	22 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <8 ms Application - 90 GB, 300 IOPS, <8 ms Tempdb - 9 GB, 300 IOPS, <8 ms Transaction logs (full recovery model) - 36 GB, 300 IOPS, <8 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	2 GB
Disk space (capacity, IOPS, latency)	20 GB, 30 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 300 - 500 users

The requirements are presented in the table below.

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz (Haswell ge. or newer)
RAM	20 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	4 > 3 GHz (Haswell ge. or newer)
RAM	34 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <8 ms Application - 150 GB, 500 IOPS, <8 ms Tempdb - 15 GB, 500 IOPS, <8 ms Transaction logs (full recovery model) - 60 GB, 500 IOPS, <8 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	4 Gb
Disk space (capacity, IOPS, latency)	20 GB, 30 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 500 - 1000 users

The requirements are presented in the table below.

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,6 GHz (Haswell ge. or newer)
RAM	20 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 2
	With considering the fault tolerance: 3
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	8 > 3 GHz (Haswell ge. or newer)
RAM	62 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <7 ms Application - 300 GB, 1000 IOPS, <7 ms Tempdb - 30 GB, 1000 IOPS, <7 ms Transaction logs (full recovery model) - 120 GB, 1000 IOPS, <7 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	6 Gb
Disk space (capacity, IOPS, latency)	20 GB, 30 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 1000 - 3000 users

The requirements are presented in the table below.

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,6 GHz (Haswell ge. or newer)
RAM	20 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 6
	With considering the fault tolerance: 7
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	22 > 3 GHz (Haswell ge. or newer)
RAM	172 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <7 ms Application - 900 GB, 3000 IOPS, <7 ms Tempdb - 90 GB, 3000 IOPS, <7 ms Transaction logs (full recovery model) - 360 GB, 3000 IOPS, <7 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	12 Gb
Disk space (capacity, IOPS, latency)	20 GB, 100 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.5 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 3000 - 5000 users

The requirements are presented in the table below.

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,6 GHz (Haswell ge. or newer)
RAM	20 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 10
	With considering the fault tolerance: 11
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	36 > 3 GHz (Haswell ge. or newer)
RAM	282 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <7 ms Application - 1500 GB, 5000 IOPS, <6 ms Tempdb - 100 GB, 5000 IOPS, <6 ms Transaction logs (full recovery model) - 600 GB, 5000 IOPS, <6 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	18 Gb
Disk space (capacity, IOPS, latency)	20 GB, 100 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.5 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 5000 - 7000 users

The requirements are presented in the table below:

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,6 GHz (Haswell ge. or newer)
RAM	20 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 14
	With considering the fault tolerance: 15
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	50 > 3 GHz (Haswell ge. or newer)
RAM	392 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <7 ms Application - 2100 GB, 7000 IOPS, <6 ms Tempdb - 100 GB, 7000 IOPS, <6 ms Transaction logs (full recovery model) - 840 GB, 7000 IOPS, <6 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,4 GHz
RAM	26 GB
Disk space (capacity, IOPS, latency)	20 GB, 100 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.5 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

System requirements for 7000 - 10000 users

The requirements are presented in the table below:

Application server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,6 GHz (Haswell ge. or newer)
RAM	20 Gb
Disk space (capacity, IOPS, latency)	Operating system - 60 GB, 100 IOPS, <10 ms Application - 20 GB, 100 IOPS, <10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 20
	With considering the fault tolerance: 21
Fault-tolerance options	N+1

The database server

Environment	Virtual infrastructure (physical servers preferable)
CPU (number of virtual cores, frequency)	72 > 3 GHz (Haswell ge. or newer)
RAM	446 GB
Disk space (capacity, IOPS, latency)	Operating system - 80 GB, 100 IOPS, <7 ms Application - 3000 GB, 10000 IOPS, <5 ms Tempdb - 100 GB, 10000 IOPS, <5 ms Transaction logs (full recovery model) - 1200 GB, 10000 IOPS, <5 ms
Ratio of virtual and physical cores	No more than 1 virtual core per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Caching server (user sessions)

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,4 GHz
RAM	36 GB
Disk space (capacity, IOPS, latency)	20 GB, 200 IOPS, < 8 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 3
Fault-tolerance options	Redis Sentinel (N+2)

Load balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,6 GHz
RAM	10 Gb
Disk space (capacity, IOPS, latency)	20 GB, 20 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	2 >= 10 GbE
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Version control system server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz
RAM	8 Gb
Disk space (capacity, IOPS, latency)	100 GB, 20 IOPS, < 20 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 0.1 GbE
Node configuration of fail-over cluster	Not supported

Containerization (operating-system-level virtualization) requirements

Implementing the containerization (operating-system-level virtualization) is required for the following Creatio services:

- machine learning
- data enrichment
- bulk email service
- global search
- deduplication
- Exchange Listener

Typical infrastructure configuration for operating-system-level virtualization:

Kubernetesmaster server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	2 > 2,60 GHz
RAM	4 Gb
Disk space (capacity, IOPS, latency)	30 GB, 100 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 Gbit / s
The number of servers with considering the fault tolerance	3
Number of servers	Without considering the fault tolerance: 2
	With considering the fault tolerance: 3
Fault-tolerance options	N+1

Kubernetes node server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	4 > 2,60 GHz
RAM	28 GB
Disk space (capacity, IOPS, latency)	120 GB, 500 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 Gbit / s

Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Kubernetes balancer server

Environment	Virtual infrastructure
CPU (number of virtual cores, frequency)	1 > 2,60 GHz
RAM	1 Gb
Disk space (capacity, IOPS, latency)	30 GB, 100 IOPS, < 10 ms
Ratio of virtual and physical cores	No more than 2 virtual cores per 1 physical core
Network interface (number, speed)	1 >= 1 Gbit / s
Number of servers	Without considering the fault tolerance: 1
	With considering the fault tolerance: 2
Fault-tolerance options	N+1

Deployment procedure

This guide covers all stages of Creatio on-site setup and deployment, including setup instructions for Creatio, additional Windows components, database deployment, modifying configuration files, setting up DB server connection parameters as well as website setup in IIS.

After installing the application, you will need to perform additional setup to ensure correct operation of all its components. You will need to do the following:

- Set up websockets. Read more >>>
- Switch Creatio from HTTP to HTTPS. Read more >>>
- Set up global search. Read more >>>
- Set up machine learning. Read more >>>
- Set up integrations and Internet access for additional functions, for example, for data enrichment service, social media integration or Google synchronization. Read more >>>
- Set up bulk emails (only for configurations containing Creatio marketing). Read more >>>

NOTE

If during login you receive the "Unable to load one or more of the requested types" error, make sure that you install the Microsoft Visual C++ 2010 SP1 Redistributable Package to the web-server (application server PC). You can download it on Microsoft site using the following link.

CONTENTS

Installing Creatio

To install Creatio the following components are required:

1. Database management system (DBMS). The following DBMS are supported:
    - MS SQL Server 2012 SP3 or higher
    - Oracle Database 11g Release 2 or higher
    - PostgreSQL, the last official version on the Creatio release date You can use PostgreSQL:
      from version 7.13.0 and up - with the Studio product
      from version 7.13.3 and up - with the Customer Center and Service Enterprise products
      from version 7.14.2 and up - with the Sales Enterprise product

NOTE

PostgreSQL setup files are available for download at postgresql.org.

NOTE

If you have all the components of the database server installed by default, no additional DBMS settings are required to deploy Creatio. To ensure correct operation of Creatio when using MS SQL, install Database Engine.

2. 64-bit Microsoft .Net Framework 4.7.2 (for versions Creatio 7.13.2 and up);

   Microsoft .Net Framework 4.7 and up (for versions Creatio 7.11.1 - 7.13.1).
3. IIS 8.0 or higher;
4. Redis Server 3.0 or 3.2.

   ATTENTION

   To deploy Creatio database on Oracle, set up Oracle Data Access Components (ODAC) of version 11..
5. Starting from version 7.14.4, download and install .NET Core SDK 2.2.300 and .NET Framework SDK v 4.7.2 to ensure the correct compilation of the application.

   Grant permissions to read, create and delete files and the embedded catalogs for the \Terrasoft.WebApp\Terrasoft.Configuration catalog to the user who runs the application pool in IIS.

   Download 64-bit .NET Core SDK 2.2.300

   Download 64-bit .NET Framework SDK v 4.7.2

The general procedure for Creatio application on-site deployment is as follows:

- Install and/or enable required Windows components.
- Install the Redis server.
- Deploy the database.
- Modify the ConnectionStrings.config file.
- Create and set up application website using IIS.

Please note that the specifics of the deployment procedure may vary, depending on the chosen DBMS.

NOTE

MS SQL Server, Oracle Database and SVN server deployment procedures are covered in the documentation of these products.
The procedure for running PostgreSQL in Docker is covered in the Docker documentation.

ATTENTION

It is not recommended to unpack any Creatio setup files using the built-in Windows archiver. Use 7-Zip, WinRAR or WinZIP instead.

CONTENTS

SEE ALSO

- Creatio setup FAQ

Deploying the Creatio database

Deploy the Creatio database on the database server by restoring it from a backup copy file located in the application folder. You can also use a backup copy of an existing Creatio database if you are deploying a website for development or testing environment.

> **NOTE**
> The procedure for creating a MS SQL Server DB backup is described in a separate article.

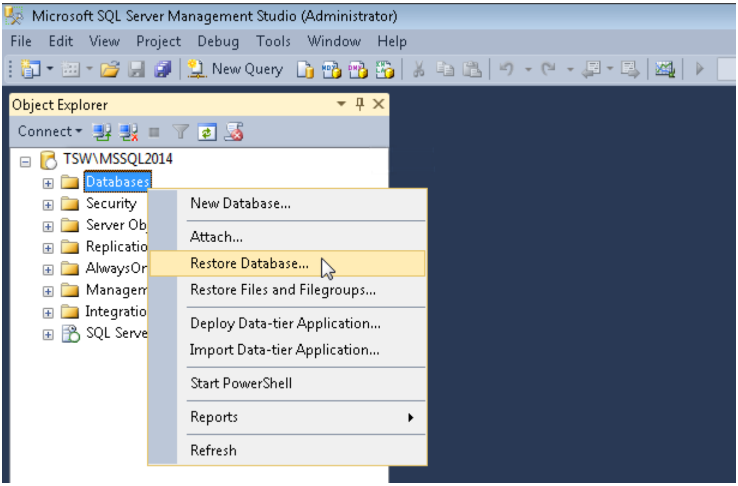
The procedure for restoring the database from a backup copy depends on the chosen DBMS.

DEPLOYING THE MS SQL SERVER DB

To restore a database:

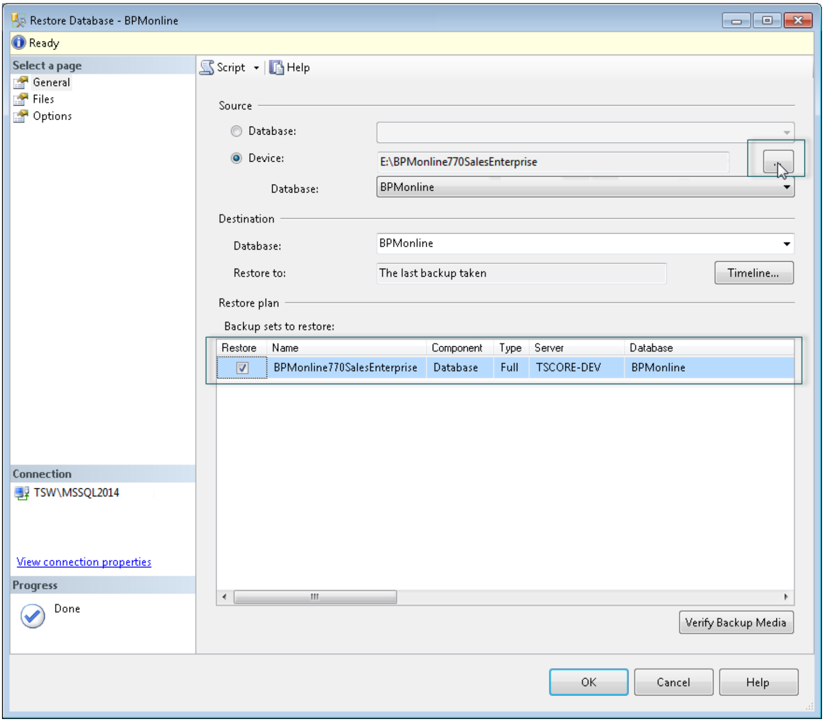
1. Log in to Microsoft SQL Server Management Studio.
2. Click the [Databases] catalog and select the [Restore Database] option from the context menu (Fig. 594).

Fig. 594 Selecting database backup command



3. In the [Restore Database] window:
   a. Specify the name of the database in the [Database] field;
   b. Specify the [Device] checkbox and specify the path to the database backup copy file. By default, the backup file is supplied together with executable files and is located in the "~\DB" folder (Fig. 595).

Fig. 595 Selecting database backup



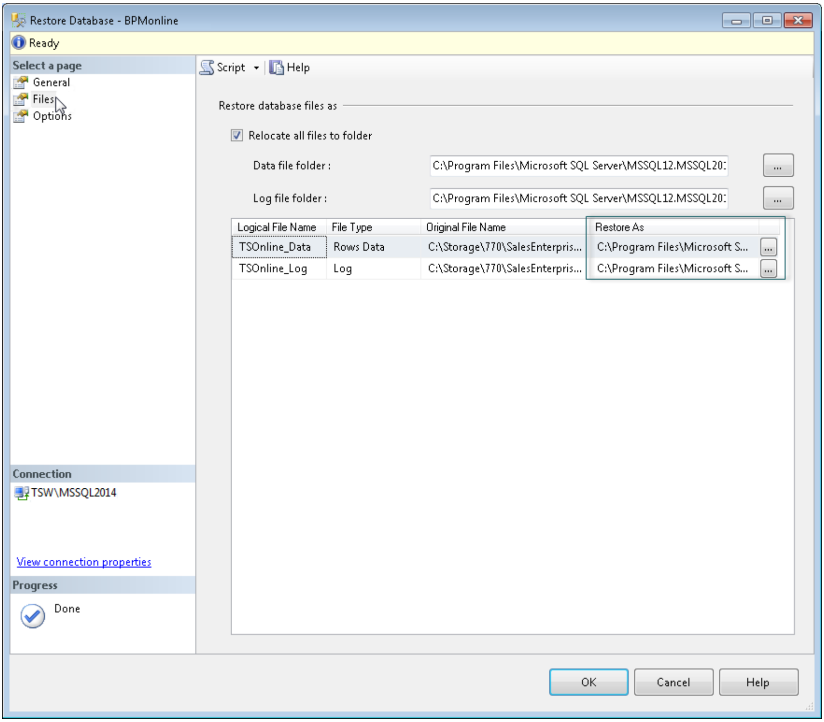
4. Go to the [Files] tab. In the [Restore the database files as] area, specify the paths and the names of the database files (Fig. 596). Specify the paths to the TS_Data.mdf and TS_Log.ldf database files.

ATTENTION

It is required to create a folder that will be used for database files restoring beforehand, as the SQL Server may not create directories.

ACCELERATE

Fig. 596 Specifying the names and paths to TS_Data.mdf and TS_Log.ldf files.



5. Click the [OK] button and wait for the database restore process to be finished.

DEPLOYING THE ORACLE DATABASE

Download and unzip the archive with the SQL scripts that are used to restore the database from the Oracle backup file.

To restore the database:

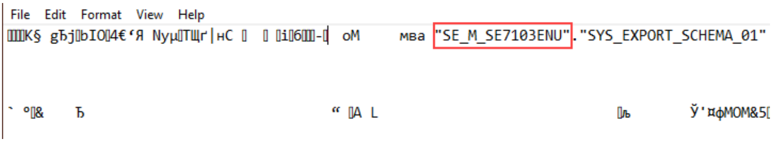
1. Open the CreateUser.sql and RecompileSchema.sql scripts in the editor and modify the following macros:
    - YOUR_SCHEMA_NAME – schema name
    - YOUR_SCHEMA_PASSWORD – schema password
    - \\your_server.com\Share – path to the backup (.dmp file).

NOTE

By default the Oracle DB backup file is located in the ~\db folder with the Creatio executable files. If the backup file is located not on the Oracle server, it should be located in the network folder with general access.

2. Open the backup file in a text editor, find and save the name of the used schema located before the ".SYS_EXPORT_SCHEMA" record (Fig. 597).

Fig. 597 The schema name in the backup file



3. Remove the modified scripts on the Oracle server. To create a new schema, execute the following command from the folder with the scripts:

```
sqlplus.exe "SYS/SYS_PASSWORD@your_server.com:1521/YOUR_SERVICE_NAME
AS SYSDBA" @CreateUser.sql
```

   - SYS_PASSWORD – a password for authorization on the Oracle server
   - your_server.com – network address of the Oracle server
   - YOUR_SERVICE_NAME – Oracle service name.

4. Run import of the DB backup copy in the created schema:

```
impdp "YOUR_SCHEMA_NAME/YOUR_SCHEMA_NAME@//your_server.com:1521/
BPMBUILD"
 REMAP_SCHEMA=ORIGINAL_SCHEMA_NAME:YOUR_SCHEMA_NAME
 DIRECTORY=BACKUPDIR DUMPFILE=filename.dmp NOLOGFILE=YES
```

   - YOUR_SCHEMA_NAME – the name of the schema specified in the CreateUser.sql
   - your_server.com – network address of the Oracle server
   - ORIGINAL_SCHEMA_NAME – the name of the schema from the backup file (step 2).

NOTE

The sqlplus and impdp utilities are installed with the Oracle server.

5. Consistently run:

```
sqlplus.exe "YOUR_SCHEMA_NAME/
YOUR_SCHEMA_PASSWORD@your_server.com:1521/YOUR_SERVICE_NAME"
 @tspkg_UtilitiesGlobalTypes.sql
sqlplus.exe "YOUR_SCHEMA_NAME/
YOUR_SCHEMA_PASSWORD@your_server.com:1521/ YOUR_SERVICE_NAME"
 @RecompileSchema.sql
```

POSTGRESQL DATABASE DEPLOYMENT

To restore a PostgreSQL database from a backup file, you will need **psql** and **pg_restore** utilities. They are located in the PostgreSQL software setup folder.

To restore the database from a backup file:

1. Enter DB connection password in the environment variable:

```
set PGPASSWORD=pg_password ("env PGPASSWORD=pg_password" – for linux)
```

   - **pg_password** – user password for connecting to the PostgreSQL server.

2. Create a database where the backup data will be restored:

ACCELERATE

```
psql --host pg_server_ip --port pg_server_port --username=pg_user --
dbname=pg_dbname -c "CREATE DATABASE pg_dbname WITH OWNER = pg_user
ENCODING = 'UTF8' CONNECTION LIMIT = -1"
```

- pg_server_ip – PostgreSQL server address;
- pg_server_port – PostgreSQL server port;
- pg_user – user for connecting to the PostgreSQL server;
- pg_dbname – name of the PostgreSQL DB where the instructions will be executed.

3. Restore the database from the backup file:

```
pg_restore --host pg_server_ip --port pg_server_port --
username=pg_user --dbname=pg_dbname --verbose \\path\to\db.backup
```

- pg_server_ip – PostgreSQL server address;
- pg_server_port – PostgreSQL server port;
- pg_user – user for connecting to the PostgreSQL server;
- pg_dbname – name of the PostgreSQL DB where the instructions will be executed.

4. Execute type converstion:

```
psql --host pg_server_ip --port pg_server_port --username=pg_user --
dbname=pg_dbname --file=CreateTypeCastsPostgreSql.sql
```

- pg_server_ip – PostgreSQL server address;
- pg_server_port – PostgreSQL server port;
- pg_user – user for connecting to the PostgreSQL server;
- pg_dbname – name of the PostgreSQL DB where the instructions will be executed;
- file – path to the CreateTypeCastsPostgreSql.sql file.

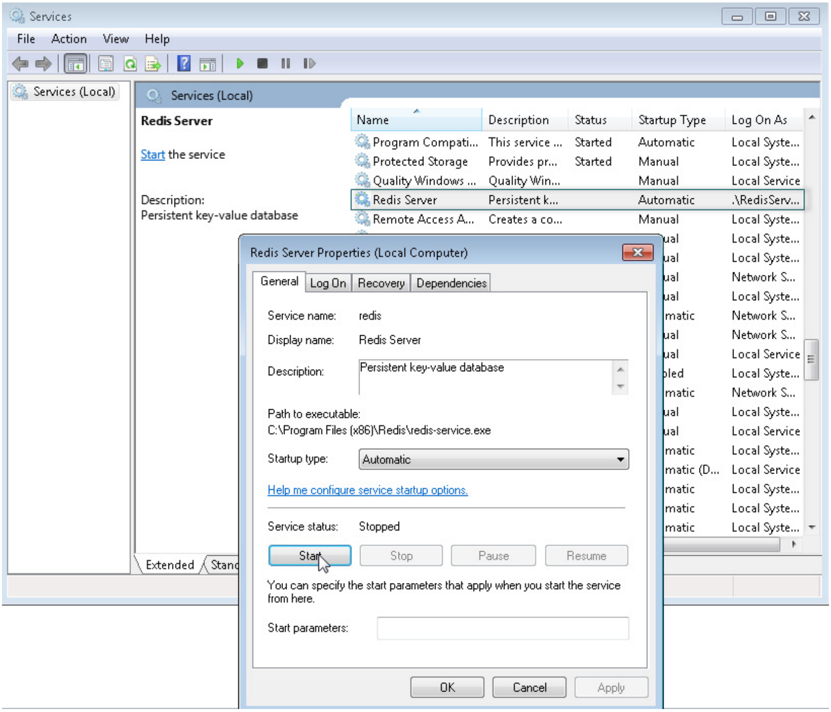
Installing the Redis Server

Use the following link to download Redis Server setup file.

Run the redis-server.exe file to start Redis Server setup. During the installation, a number of commands will be run sequentially. After the completion of each command, click [Next] and wait for the process to complete.

Start the Redis Server after the installation. To do this, go to the menu [Control Panel]-[Administrative Tools]-[Services] or enter "Services.msc" in the command line (Fig. 598).

Fig. 598 Redis Server service start window



ATTENTION

The application setup files should correspond to the DBMS that you use.
Examples of the setup files:
For Oracle DBMS: 7.14.3.1686_SalesEnterprise_Softkey_Oracle _ENU.zip;
For PostgreSql DBMS: 7.14.3.1686_SalesEnterprise_Softkey_PostgreSQL_ENU.zip

Setting up the ConnectionStrings.config file

Use the following parameters in the ConnectionStrings.config file:

Db – the element that ensures connection with the database. In this element, you configure the path to the database you need to establish connection with and the method of authorization on the database server.

```
<add name="db" connectionString="Data Source=[The database server
name];
Initial Catalog=[The database name];
Persist Security Info=True; MultipleActiveResultSets=True;
[Authorization method on the database server]; Pooling = true; Max
Pool Size = 100; Async = true" />
```

redis the element that ensures interaction with the Redis server.

```
<add name="redis" connectionString="host=[Computer name];db=[Redis DB
number];port=6379;
maxReadPoolSize=10;maxWritePoolSize=500" />
```

ATTENTION

The number of Redis database must be unique for each application site.

defPackagesWorkingCopyPath – the path to the working copy of application (if version control system is used):

```
<add name="defPackagesWorkingCopyPath" connectionString=[Path to the
working copy of application in version storage system (SVN)] />
```

tempDirectoryPath – path to the temporary directory used by the package installation mechanism:

```
<add name="tempDirectoryPath" connectionString=[Path to the temporary
directory used by the package installation mechanism] />
```

sourceControlAuthPath – path to the authorization data of the version storage system (SVN, if used):

```
<add name="sourceControlAuthPath" connectionString=[Path to the
authorization data of the version storage system (SVN)] />
```

elasticsearchCredentials – ElasticSearch authorization data for the global search operation:

```
<add name="elasticsearchCredentials" connectionString="User=[The
ElasticSearch user name]; Password=[The ElasticSearch user password];"
/>
```

The settings in the ConnectionStrings.config depend on the chosen DBMS.

- Setting up the ConnectionStrings.config for the MS SQL Server
- Setting up the ConnectionStrings.config for the Oracle Database
- ConnectionStrings.config setup for PostgreSQL

Setting up the ConnectionStrings.config for the MS SQL Server

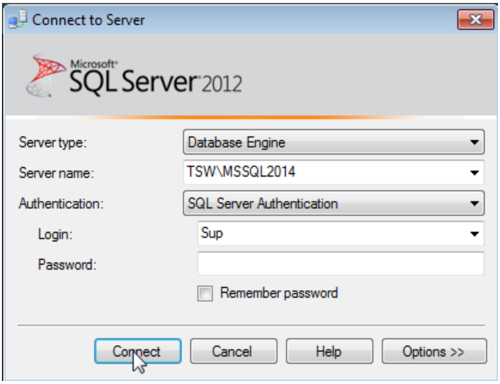
1. Edit the ConnectionStrings.config file that is located in the root folder of Creatio. Specify the connection parameters (connectionString) for the restored database (name="db") and Redis Server (name="redis").

```
<?xml version="1.0" encoding="utf-8"?>
<connectionStrings>
  <add name="db" connectionString="Data Source=[The database server
name];
Initial Catalog=[The database name];
Persist Security Info=True; MultipleActiveResultSets=True;
Integrated Security=SSPI; Pooling = true; Max Pool Size = 100; Async =
true" />
  <add name="redis" connectionString="host=[Computer name];db=[Redis
DB number];port=6379;
maxReadPoolSize=10;maxWritePoolSize=500" />
Integrated Security=SSPI" />
  <add name="defRepositoryUri" connectionString="" />
 <add name="defWorkingCopyPath" connectionString="%TEMP%\%WORKSPACE%"
/>
  <add name="defPackagesWorkingCopyPath"
 connectionString="%TEMP%\%APPLICATION%\%WORKSPACE%\TerrasoftPackages"
```

```
/>
  <add name="clientUnitContentPath"
 connectionString="%TEMP%\%APPLICATION%\%WORKSPACE%\ClientUnitSrc" />
  <add name="sourceControlAuthPath"
 connectionString="%TEMP%\%APPLICATION%\%WORKSPACE%\Svn" />
<add name="elasticsearchCredentials" connectionString="User=[The
ElasticSearch user name]; Password=[The ElasticSearch user password];"
/>
</connectionStrings>
```

2. You can see the database server name (Data Source) in the authorization window while connecting to the server using Microsoft SQL Server Management Studio (Fig. 599).

Fig. 599 SQL server authorization window



3. The (Initial Catalog) database name should match the [Database] field value that you specified when restoring database (Fig. 595).
4. The Integrated Security authentication based on the SPPI interface) is used by default to connect Creatio to the database server. To ensure successful connection to the database, it is necessary to specify the Windows user under which the connection to the database server will be performed.

   If you want to log in to the MS SQL server with the user's login and password, you need to modify the ConnectionStrings.config file located in the Creatio site root folder. Replace the **Integrated Security=SSPI** variable with the **UserID** and **Password** variables in the database connection string (add name="db"):

```
<add name="db" connectionString="Data Source=TSW\MSSQL2014;
Initial Catalog=7.10.2.1416_SalesEnterprise_Demo;
Persist Security Info=True; MultipleActiveResultSets=True;
User ID=Sup; Password=password; Pooling = true; Max Pool Size = 100;
Async = true" />
```

   In the case of using the login and password, it is also necessary to create a login and password for corresponding user on the MS SQL server.

Setting up the ConnectionStrings.config for the Oracle Database

1. Edit the ConnectionStrings.config file that is located in the root folder of Creatio. Specify the connection parameters (connectionString) for the restored database (name="db") as well as Redis Server (name="redis").

```
<?xml version="1.0" encoding="utf-8"?>
<connectionStrings>
  <add name="db" connectionString="Data Source=(DESCRIPTION =
 (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(HOST = [Database server
name])(PORT = 1521))) (CONNECT_DATA = (SERVICE_NAME = [Oracle service
 name]) (SERVER = DEDICATED)));User Id=[Schema name];Password=[Schema
 password];Statement Cache Size = 300" />
  <add name="redis" connectionString="host=[Computer name];db=[Redis
DB
 number];port=6379;
maxReadPoolSize=10;maxWritePoolSize=500" />
  <add name="defRepositoryUri" connectionString="" />
  <add name="defWorkingCopyPath" connectionString="%TEMP%\%WORKSPACE%"
/>
  <add name="defPackagesWorkingCopyPath"
 connectionString="%TEMP%\%APPLICATION%\%WORKSPACE%\TerrasoftPackages"
/>
  <add name="clientUnitContentPath"
 connectionString="%TEMP%\%APPLICATION%\%WORKSPACE%\ClientUnitSrc" />
  <add name="sourceControlAuthPath"
 connectionString="%TEMP%\%APPLICATION%\%WORKSPACE%\Svn" />
</connectionStrings>
```

ATTENTION

The number of Redis database must be unique for each application site.

Specify the server network address, Oracle service name, name of the restored database and password.

ConnectionStrings.config setup for PostgreSQL

Edit the ConnectionStrings.config file that is located in the root folder of Creatio. Specify the connection parameters (connectionString) for the restored database (name="db") as well as Redis Server (name="redis").

```
<?xml version="1.0" encoding="utf-8"?>
<connectionStrings>
  <add name="db" connectionString="Server=[Database server
name];Port=[Database server port];Database=[Database name];User
ID=[PostgreSQL user for connecting to the
database];password=[PostgreSQL user password];Timeout=500;
CommandTimeout=400;MaxPoolSize=1024;" />
  <add name="redis" connectionString="host=[Computer name];db=[Redis
DB number];port=6379;maxReadPoolSize=10;maxWritePoolSize=500" />
  <add name="redisSentinel"
connectionString="sentinelHosts=localhost:26380,localhost:26381,local
host:26382;masterName=mymaster;scanForOtherSentinels=false;db=1;maxRe
adPoolSize=10;maxWritePoolSize=500" />
```

```
  <add name="defPackagesWorkingCopyPath"
connectionString="%TEMP%\%APPLICATION%\%APPPOOLIDENTITY%\%WORKSPACE%\
TerrasoftPackages" />
  <add name="tempDirectoryPath"
connectionString="%TEMP%\%APPLICATION%\%APPPOOLIDENTITY%\%WORKSPACE%\
" />
  <add name="sourceControlAuthPath"
connectionString="%TEMP%\%APPLICATION%\%APPPOOLIDENTITY%\%WORKSPACE%\
Svn" />
  <add name="elasticsearchCredentials" connectionString="User=[The
ElasticSearch user name]; Password=[The ElasticSearch user password];"
/>
  <add name="influx" connectionString="url=http://10.0.7.161:30359;
user=; password=; batchIntervalMs=5000" />
</connectionStrings>
```

Web.config configuration (Oracle only)

If you are deploying an Oracle-based Creatio application, you will need to configure the Web.config file located in the Creatio root folder:

1. In the general parameter of the <db> block, change the value of the currentSchemaName attribute to the schema name that is specified in ConnectionStrings.config:

```
<db>
    <general
securityEngineType="Terrasoft.DB.Oracle.OracleSecurityEngine,
Terrasoft.DB.Oracle"
executorType="Terrasoft.DB.Oracle.OracleExecutor, Terrasoft.DB.Oracle"
 isCaseInsensitive="true" maxAnsiJoinCount="0"
 engineType="Terrasoft.DB.Oracle.OracleEngine, Terrasoft.DB.Oracle"
 metaEngineType="Terrasoft.DB.Oracle.OracleMetaEngine,
 Terrasoft.DB.Oracle"
 metaScriptType="Terrasoft.DB.Oracle.OracleMetaScript,
 Terrasoft.DB.Oracle"
typeConverterType="Terrasoft.DB.Oracle.OracleTypeConverter,
 Terrasoft.DB.Oracle" connectionStringName="db"
 binaryPackageSize="1048576" useOrderNullsPosition="true"
 currentSchemaName="[Oracle DB schema name]"
maxEntitySchemaNameLength="30" />
</db>
```

2. Make sure that the 4.112.1.2 library version is specified.

```
<system.data>
        <DbProviderFactories>
            <remove invariant="Oracle.DataAccess.Client" />
            <add name="Oracle Data Provider for .NET"
 invariant="Oracle.DataAccess.Client" description="Oracle Data
 Provider for .NET"
type="Oracle.DataAccess.Client.OracleClientFactory, Oracle.DataAccess,
 Version=4.112.1.2, Culture=neutral, PublicKeyToken=89b483f429c47342"/
>
```

```
        </DbProviderFactories>
    </system.data>
```

3. Specify the **quartz.dataSource.SchedulerDb.provider** key value in the <quartz> block:

```
<add key="quartz.dataSource.SchedulerDb.provider" value="OracleODP-
1123-40" />
```

4. Save changes.

Checking Windows mandatory components

Make sure that you install the following components on the web server before you create and set up a website:

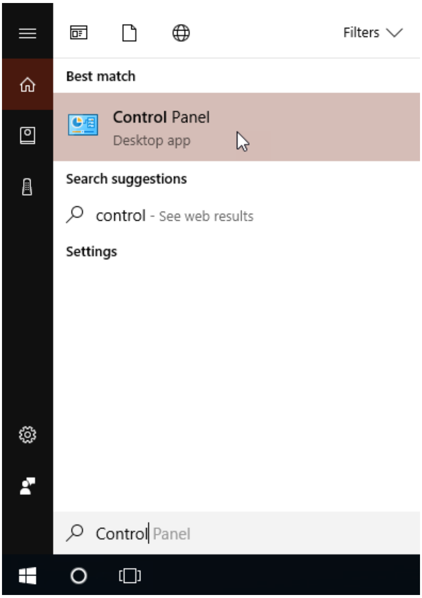
- Windows components. Note that the Microsoft Visual C++ 2010 component is required.
- Web Server IIS components.

COMPONENT	COMPONENT ITEMS
Common HTTP Features	Static Content Default Document HTTP Errors HTTP Redirection
Application Development	ASP.Net .Net extensibility ISAPI extensions ISAPI Filters WebSocket Protocol
Microsoft .Net framework 3.5.1	Windows Communication Foundation HTTP Activation Windows Communication Foundation Non-HTTP Activation
Microsoft .Net Framework 4.7 Advanced Services and up (Windows 8, Windows 10, Windows Server 2012, Windows Server 2016).	ASP.NET 4.6.2 or 4.7; WCF services HTTP Activation Message Queuing (MSMQ) Activation Named Pipe Activation TCP Activation TCP Port Sharing
Health and Diagnostics:	HTTP Logging Logging Tools Request Monitor Custom Logging
Security	Basic Authentication Request Filtering IP and Domain Restriction

To check the availability of the needed components:

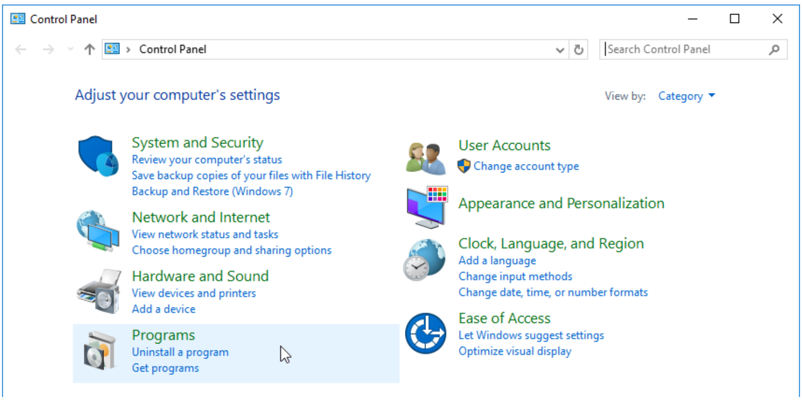
1. Enter the "control panel" in the [Start] menu and select the [Control Panel] (Fig. 600).

Fig. 600 The [Control Panel] section in the [Start] menu



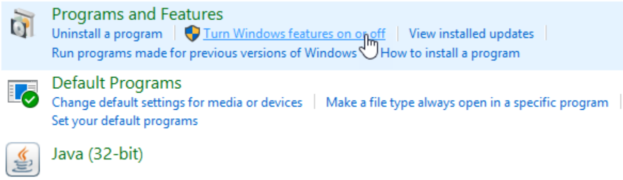
2. Select the [Programs] option in the opened window (Fig. 601).

Fig. 601 The [Programs] menu



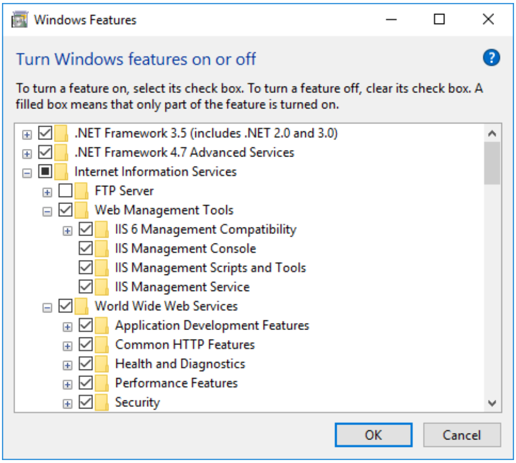
3. From the [Programs and Features] menu, select the [Turn Windows features on or off] option (Fig. 602).

Fig. 602 Selecting the [Turn Windows features on or off] option



4. Select all required components in the [Windows Features] window (Fig. 603).

Fig. 603 Selecting Web Server IIS and Windows components

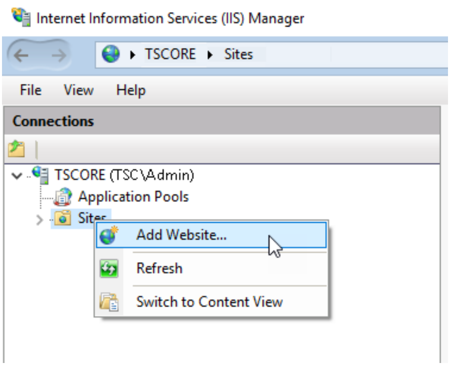


Creating and setting up application website using IIS

To create and set up a website:

1. In the IIS control window, click the [Sites] folder and select the [Add Website] option from the context menu (Fig. 604).

Fig. 604 Creating a website for Creatio application

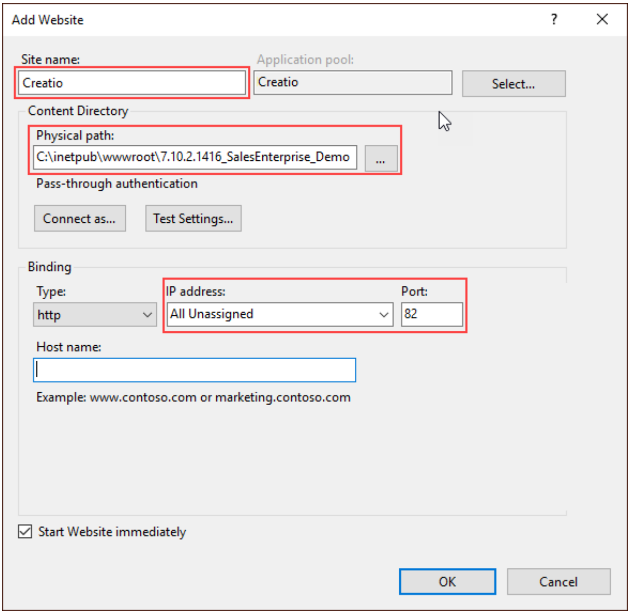


2. Specify the name of the website, the path to the root folder with Creatio files, IP address and website port (Fig. 605).

ATTENTION

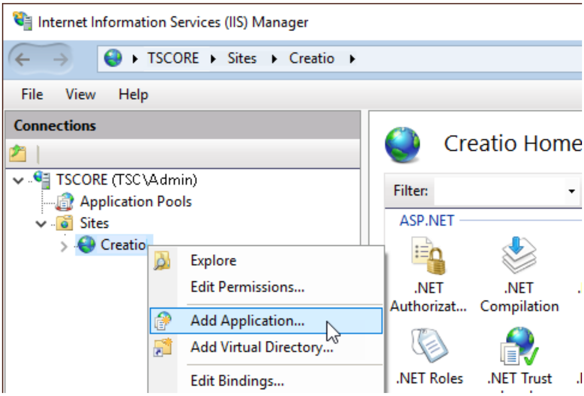
The following path C:\Inetpub\wwwroot is used by default. If needed, specify your own IP address.

Fig. 605 New website parameters window



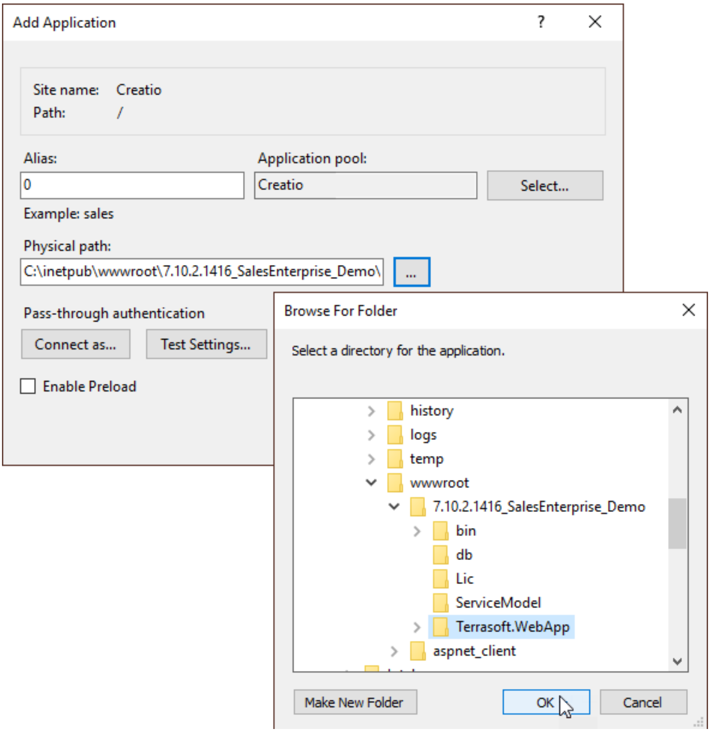
3. In the [Connections] field, click the created website and select the [Add Application] option in the menu (Fig. 606).

Fig. 606 Selecting IIS application adding command



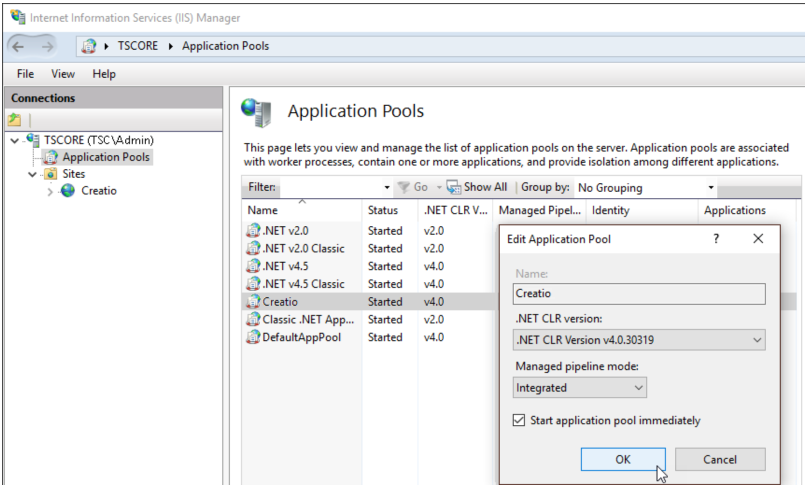
4. Specify the name of the application "0" in the [Alias] field. Specify the “Terrasoft.WEBApp” directory (Fig. 607).

Fig. 607 The application parameters selection window



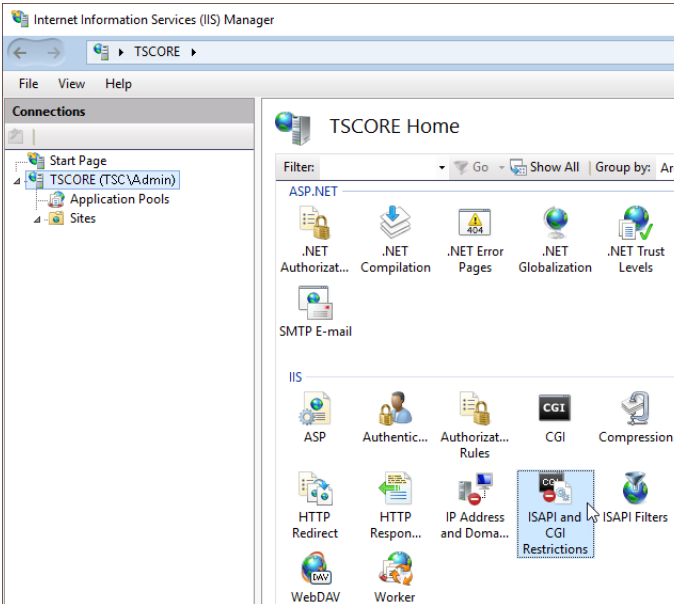
5. Go to the [Application Pools] section.
6. Select the [Creatio] pool.
7. Select the [Integrated] mode in the [Managed pipeline mode] field.
8. Specify the Asp.Net - 4.0.30319 version in the [.Net Framework version] field (Fig. 608).

Fig. 608 Applications Pools parameters input window



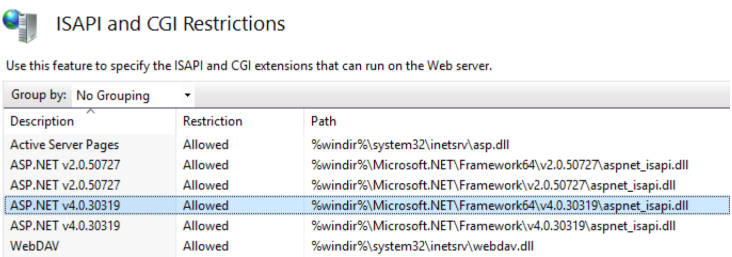
9. Check if the specified ASP.Net version is allowed. To do this:
   a. Go to the ISAPI and CGI Restrictions on the web-server level (Fig. 609).

Fig. 609 Opening ISAPI and CGI Restrictions



b. Make sure that the [Allowed] status is checked in the [Restriction] field for the used ASP.Net version (Fig. 610).

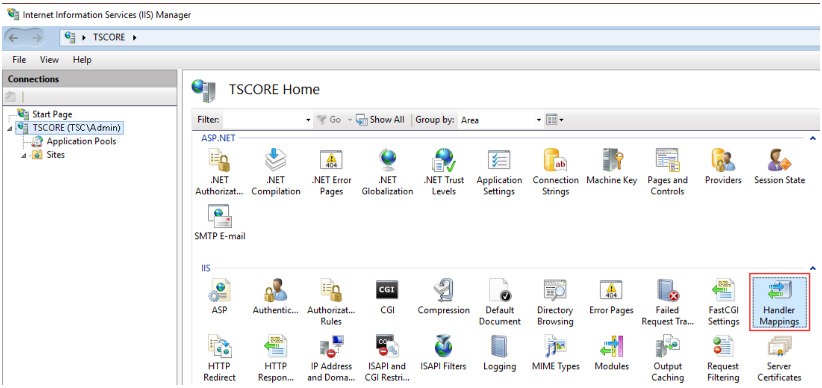
Fig. 610 Status check for the ASP.Net version used



10. Make sure that all the required permissions are active. To do this:

a. Open the Handler Mappings on the server level (Fig. 611).

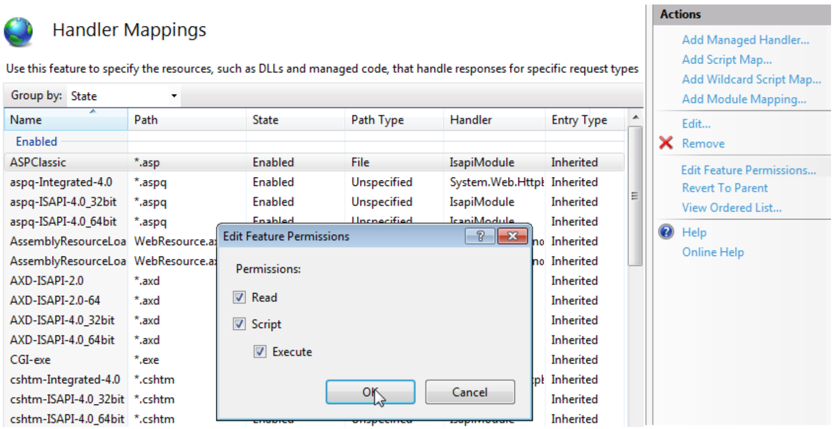
Fig. 611 Opening the Handler Mappings



b. Select the [Edit Feature Permissions] action in the [Actions] area.

c. Make sure that all the required checkboxes are selected in the [Edit Feature Permissions] window (Fig. 612).

Fig. 612 Checking required parameters in the [Edit Feature Permissions] window

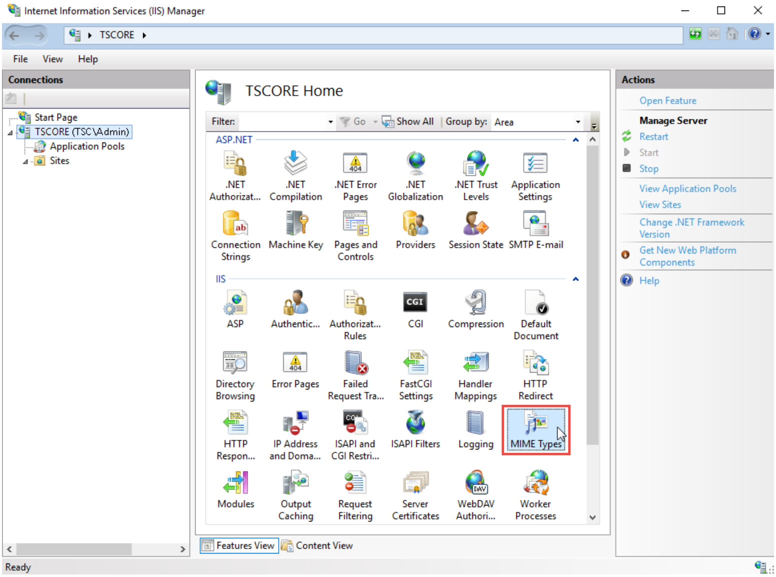


11. Make sure that MIME-type for the .svg files is configured in the new application. This configuration can be performed both on the level of the server (in this case it is inherited for all the applications located thereon) as well as on the level of the application. To verify:

a. Go to MIME Types on the server or application level (Fig. 613).

ACCELERATE

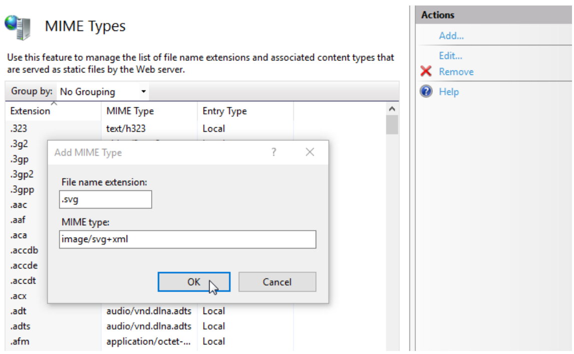
Fig. 613 Opening MIME Types



b. Make sure that configuration for .svg files is available. If the configuration is available, go to step 12.

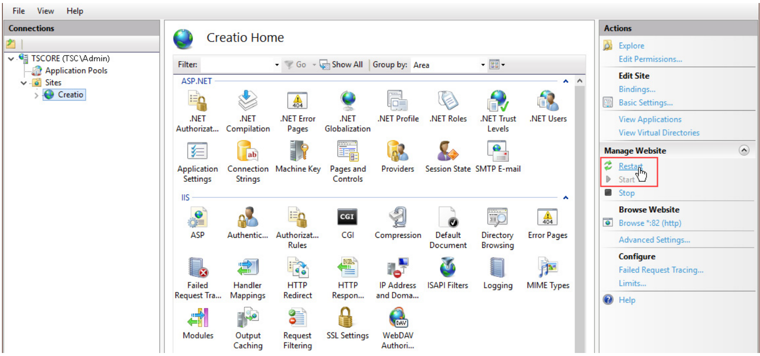
c. If configuration is not available, click [Add] in the [Actions] area. In the opened window, specify .svg and MIME-type of the data that corresponds to this extension (Fig. 614).

Fig. 614 Configuring MIME-type of the data for .svg files



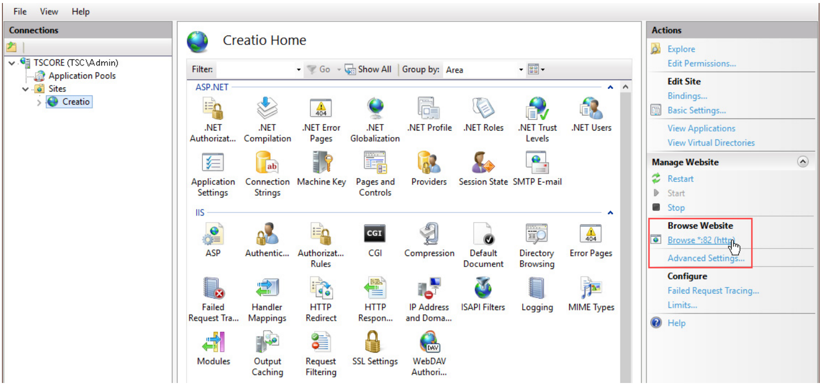
12. Restart the website with the [Restart] command on the [Manage Website] area (Fig. 615).

Fig. 615 [Restart] command at the [Manage Websites] area



13. Open the site with the address or use the [Browse] command (Fig. 616). Make sure that the application authorization page is displayed.

Fig. 616 Selecting the [Browse] command in the website [Actions] area



NOTE

To log in to a newly deployed application, use the default Supervisor user account. It is highly recommended to change the Supervisor password immediately. Login: Supervisor; Password: Supervisor.

14. To enable additional interface language:
    - Go to the [Languages] section in the system designer.
    - Select the needed language and click [Open].
    - Select the [Active] and [Use by default] checkboxes on the opened page. Save the changes.
15. In system designer, click [System settings] and change the [Order of first/last names] system setting value to "Last name, First name [Middle name]". It is necessary to correctly display contact names per separate columns: [Last name], [First name], [Middle name].

NOTE

To enable a language, the user who has run the IIS application pool needs to have access permissions to read, edit and delete application files and content subordinate catalogs (catalog .\Terrasoft.WebApp\conf).

SEE ALSO

- Websockets setup
- Switching from HTTP to HTTPS
- Setting up additional parameters and integrations
- Bulk email setup
- Creatio setup FAQ

Websockets setup

The websocket protocol (WebSockets) is used in Creatio to run custom processes, notifications, and for integration with telephony. It is important to enable the websockets and configure the applications on the server for all system functions to operate correctly.

> ATTENTION
>
> If you use proxy server in your local network, you will need to set up the websocket protocol. You can find the setup instruction in proxy server documentation.

This article describes the **process of setting up Creatio configuration files** for the correct operation of websockets.

> NOTE
>
> Installation of the components providing WebSockets protocol operation on the server is covered in a separate article.

Configuration can be performed in two ways:

- **Windows Server 2012**, **Windows Server 2016** or **Windows 8/10** with the installed Internet Information Services (IIS) version 8 or higher is deployed on the application server. Configuration files are set up in Creatio base version by default and you only need to perform settings on the server side. However, if you deploy and set up Creatio for the first time, we recommend checking configuration file settings to make sure the websockets work correctly. Read more >>>

  To use the protected HTTPS connection, you need to perform additional settings. Read more >>>
- If Creatio is deployed on **Windows Server 2008** or older, you need to perform additional configuration of components which support port, IIS and WebSockets protocol operation. Read more >>>

  When deploying Creatio on Windows Server 2008 or older, you cannot use the advantages of HTTPS.

CONTENTS

Checking websocket settings for Windows Server 2012 or Windows server 2016

To check websocket settings in Creatio deployed on a server running on Windows Server 2012 or Windows Server 2016:

1. Make sure that inheritance is disabled in the Web.config file located at Creatio root directory. The query length limits and execution time should also be specified.

```
<location path="." inheritInChildApplications="false">
    <system.web>
      ...
      <httpRuntime maxRequestLength="73400" executionTimeout="28800"
targetFramework="4.7" />
```

2. In the Web.config file located at the [Path to Creatio root folder]\Terrasoft.WebApp\: check that the "Terrasoft.Messaging.MicrosoftWSService.MicrosoftWSService, Terrasoft.Messaging.MicrosoftWSService" default value is specified for the wsService type and make sure that the port for connecting clients, the HTTP query execution time and length limits, as well as calling of additional modules are indicated.

ATTENTION

We recommend using the "MicrosoftWSService" (instead of the "SuperWSService") value for Microsoft Windows Server 2012.

NOTE

The portForClientConnection="0" value means using the web-application port.

```
<wsService
type="Terrasoft.Messaging.MicrosoftWSService.MicrosoftWSService,
Terrasoft.Messaging.MicrosoftWSService" encrypted="false"
portForClientConnection="0" />
...
<location path="." inheritInChildApplications="false">
    <system.web>
     ...
      <httpRuntime maxRequestLength="102400" executionTimeout="28800"
 targetFramework="4.6.2" />
   <httpHandlers>
        ...
        <add verb="GET" path="*ViewModule.aspx.ashx"
type="Terrasoft.Messaging.MicrosoftWSService.WSHandler,
Terrasoft.Messaging.MicrosoftWSService" />
...
<system.webServer>
    ...
    <handlers>
      ...
      <add name="WSHandler" verb="*" path="*ViewModule.aspx.ashx"
type="Terrasoft.Messaging.MicrosoftWSService.WSHandler,
Terrasoft.Messaging.MicrosoftWSService" />
```

NOTE

You can check the WebSockets connection via browser built-in Developer Tools. If the connection is successful, the console will contain a record like: WebSocket-connection opened for url:ws://demo.creatio.com/0/Nui/ViewModule.aspx.ashx

Configuring websockets for Windows Server 2008

To set up websockets in the application deployed on Windows Server 2008 or earlier, open the Web.config file located in the [Path to the root Creatio directory]\Terrasoft.WebApp\ directory. The wsService configuration block should look like:

```
<wsService type="Terrasoft.Messaging.SuperWSService.SuperWSService,
Terrasoft.Messaging.SuperWSService" defaultPort="2011"
encrypted="false" portForClientConnection="44310"
maxConnectionNumber="100" clearIdleSession="false"
clearIdleSessionInterval="120" />
```

Note that the defaultPort value must be unique and should not coincide with other port values for all server applications.

If Creatio is deployed on Windows Server 2008, and Internet Explorer is used to work with the system, you need to provide access to cookie session from the JavaScript. To do this, change the **httpOnlyCookies** value in the Web.config file.

```
…
<httpCookies httpOnlyCookies="false" />
…
```

Checking port availability

To check port availability, enter the following into the Windows command line:

```
telnet –a [host [port]]
```

Specify the web address of the deployed Creatio application as **host** and the default value of the Web.config file as **port**. For example:

```
telnet -a demo.creatio.com 2011
```

Websocket setup FAQ

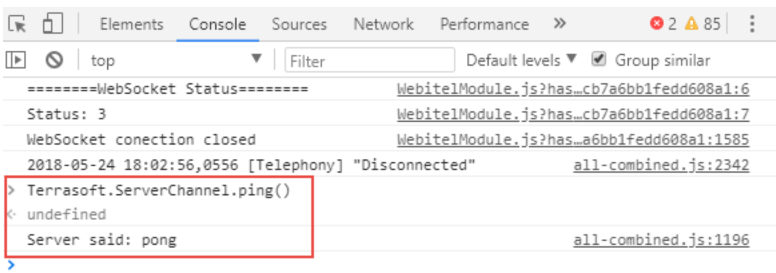
- How can I check the correctness of websocket setup?
- I configured websockets, but they do not work. Why?

How can I check the correctness of websocket setup?

There are several quick ways to check the correctness of websocket setup:

- Use the Excel data import function. If websockets are configured correctly, the data import will be performed.
- Enter the following command into the command line of web browser developer console: Terrasoft.ServerChannel.ping(). If websockets are configured correctly, the sever will return a pong response (Fig. 617). If any other response is returned, check the correctness of websocket setup.

  Fig. 617 – Websocket setup verification via the developer console of a web browser

- Manually run the business process containing the start timer and the auto-generated page elements. If the auto-generated page opens, the websockets are configured correctly.

  NOTE

  More information about business process elements is covered in a separate article.

I configured websockets, but they do not work. Why?

If websockets do not work after the setup, check:

- Whether all the WebSockets protocol components are configured. Read more >>>
- Whether the used ports are available. Read more >>>
- Whether the protocol for using websockets with a proxy server is installed, if it is used for your local network.
- Settings of antivirus and Firewall. If you cannot disable these programs on the server, add the IP-address and your Creatio site port to the list of exceptions for incoming and outgoing flows.
- Available web browser extensions and add-ons, including VPN. Extensions may block websocket work.

SEE ALSO

- Switching from HTTP to HTTPS
- Setting up additional parameters and integrations
- Creatio setup FAQ

Switching from HTTP to HTTPS

The HTTPS protocol ensures secure connection between a client and a web service. Switching from HTTP to HTTPS is recommended to increase system security and enable additional services, such as WebRTC support in Webitel. Please note that this article refers only to on-site applications. To switch to HTTPS, you need to change several options of the website in IIS and edit the Web.config file. Creatio cloud uses secure connection by default.

> NOTE
> You will not be able to use the advantages of HTTPS if Creatio application is deployed on Windows Server 2008.

CONTENTS

IIS setup

Before configuring HTTPS, do the following:

- Obtain a digital certificate from the certification center in PFX format;

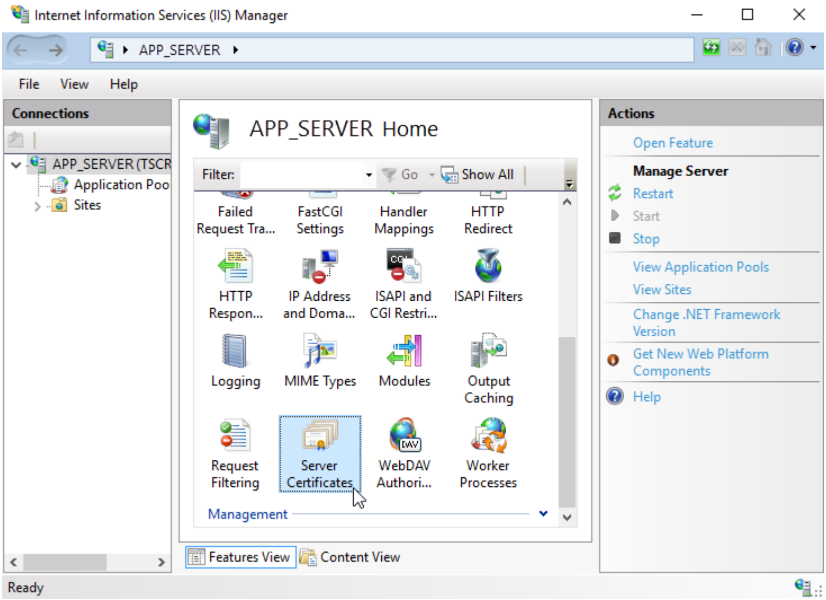
  > NOTE
  > If you are using a self-signed certificate, Creatio mobile application will not be able to connect to the Creatio site due to the security policies of mobile applications.

- Set up websockets for the correct operation of all system components;
- Additionally, check the list of installed IIS components to avoid errors during Creatio setup and operation.

The received digital certificate must be loaded into the server certificate storage:

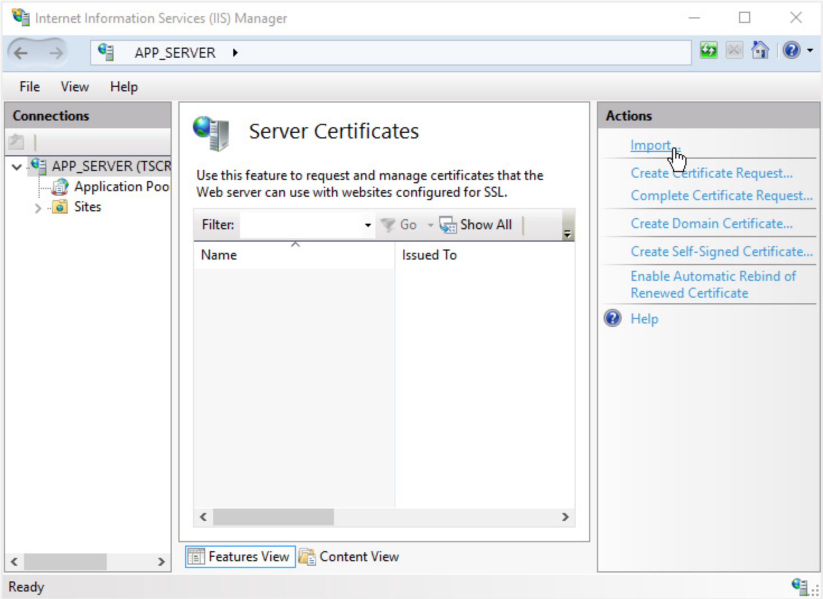
1. Open Internet Information Services (IIS) Manager.
2. In the main IIS window, double-click the [Server Certificates] detail (Fig. 618).

Fig. 618 Selecting the [Server Certificates] detail



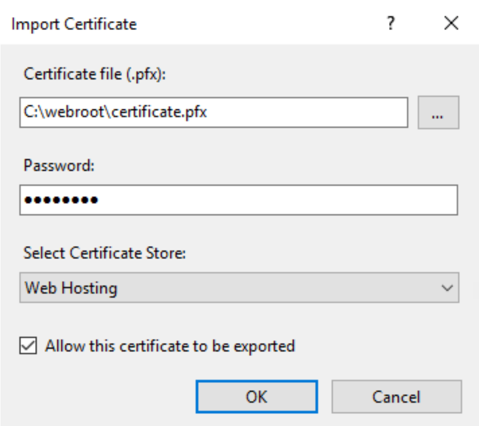
3. In the [Server Certificates] window, click the [import] link in the action menu to the right (Fig. 619).

Fig. 619 Opening the [Import] window



4. In the import dialog box, specify:
    a. Path to the import file hosted on the server
    b. Password (if required)
    c. Certificate storage (Fig. 620)

Fig. 620 Certificate import window

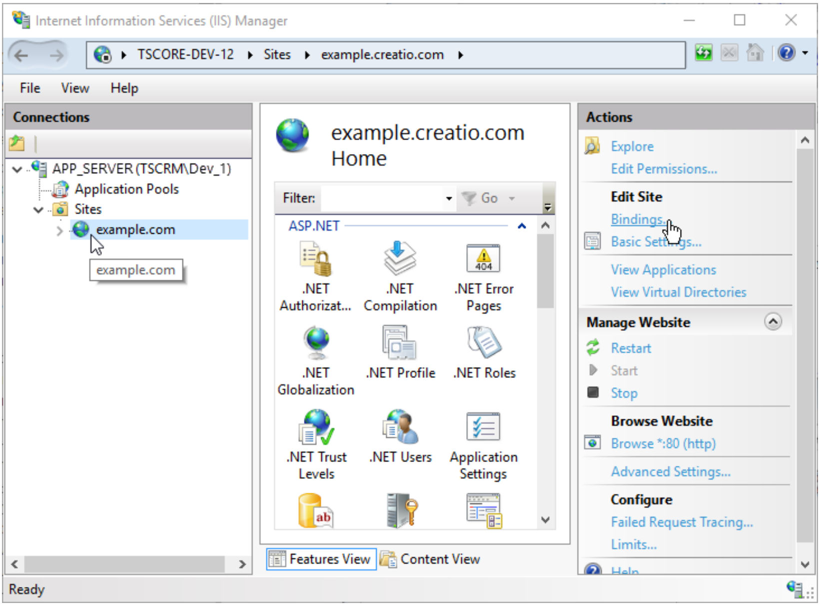


5. Click [OK] to import the certificate.

Next, connect the imported certificate to the bCreatio application:

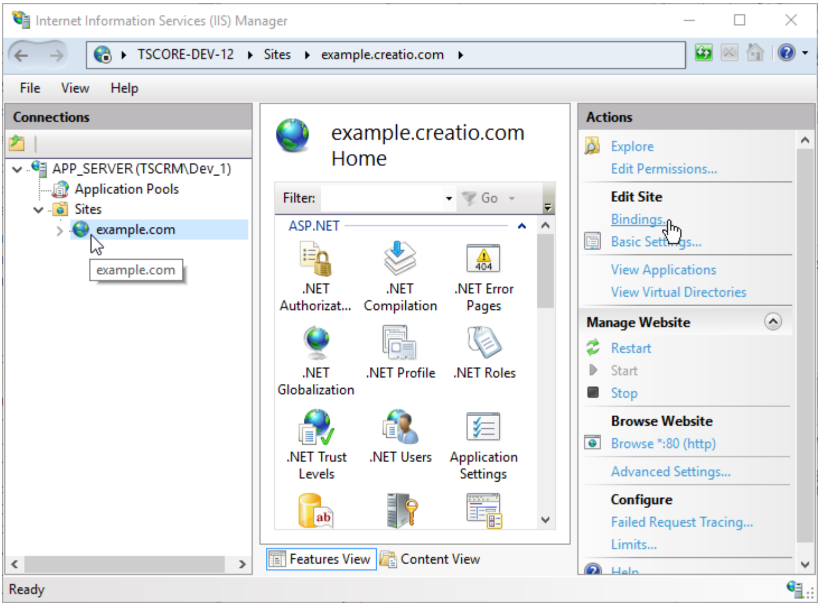
1. In the IIS window, go to the application website by clicking its name in the left [Connections] menu (Fig. 621).

Fig. 621 Selecting the Creatio website in the IIS window



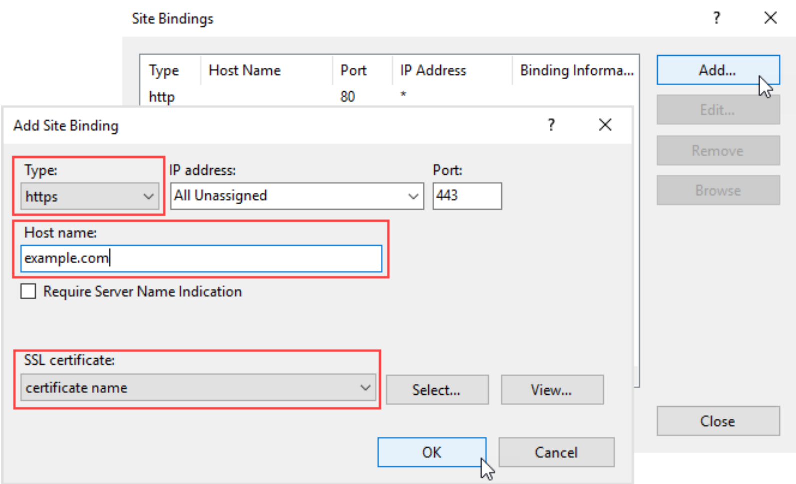
2. Click the [Bindings] link in the action menu (Fig. 622).

Fig. 622 Selecting website bindings



3. In the website bindings menu, click [Add] and add a new binding. In the [Add Site Binding] window, specify:
   a. Type "https "
   b. Website address
   c. SSL certificate (Fig. 623).

Fig. 623 Binding a certificate to the Creatio website



4. Click [OK] to confirm the settings.

Now the certificate is successfully bound to the web application.

Web.config setup

After adding the certificate, you need to make changes to the Web.config configuration file, located in the **root directory** of the Creatio website.

1. At the end of the file, find:

```
<behaviors
configSource="Terrasoft.WebApp\ServiceModel\http\behaviors.config" />
<bindings
configSource="Terrasoft.WebApp\ServiceModel\http\bindings.config" />
```

2. Change paths from “http” to “https”:

```
<behaviors
configSource="Terrasoft.WebApp\ServiceModel\https\behaviors.config" />
<bindings
configSource="Terrasoft.WebApp\ServiceModel\https\bindings.config" />
```

Edit the Web.config file located in the **[Path to the root website directory]\Terrasoft.WebApp** directory.

1. Set the variable value to encrypted="true". The configuration differs depending on the operating system of the server with Creatio application.

   For Windows Server 2012 and higher, the configuration string should look as follows:

```
<wsService
 type="Terrasoft.Messaging.MicrosoftWSService.MicrosoftWSService,
 Terrasoft.Messaging.MicrosoftWSService" encrypted="true"
```

```
portForClientConnection="443" maxConnectionNumber="100"
clearIdleSession="false" clearIdleSessionInterval="120" />
```

2. At the end of the file, find:

```
<services configSource="ServiceModel\http\services.config" />
```

3. Change the path from “http” to “https”:

```
<services configSource="ServiceModel\https\services.config" />
```

Save the configuration files.

Restart the application in the IIS and then go to your Creatio website. If all is done right, then in the address bar you will see "https://" before the web address of the application.

SEE ALSO

- Setting up additional parameters and integrations
- Creatio setup FAQ

Global search setup

The Global Search Service is designed to integrate ElasticSearch with Creatio. It performs the following functions:

- Recording:
  - Subscribes clients by creating an index in ElasticSearch and saves the connection between the index and the application.
  - Disconnects clients by removing their index in ElasticSearch.
- Transporting:
  - Participates in the indexing process by retrieving data from the application database (DB).

You need to have a server (physical or virtual machine) with Linux OS installed. Docker software is used for deploying the global search components.

We recommend implementing the operating-system-level virtualization (containerization) to ensure the correct operation of bulk duplicate search. The corresponding **system server requirements** are available in the "Containerization (operating-system-level virtualization) requirements" article.

NOTE

Depending on your company needs you can use either Docker Community Edition (CE) or Enterprise Edition (EE). Learn more in the Docker Guide.

ATTENTION

You need to have basic knowledge of Docker software and Linux OS administration to set up global search.

The sequence of actions depends on the global search version you are looking to install. The latest version of Creatio always requires the latest version of the global search service.

CONTENTS

Setting up the global search service (version 1.4)

Global search components

Deployed on separate servers:

rabbitmq – message broker.

elasticsearch – search engine.

mysql – database of global search component configuration.

redis – database used for caching and speed.

Deployed on a single server:

gs-web-api – web-service for global search component configuration.

gs-scheduler – scheduler of data indexing from Creatio into ElasticSearch.

gs-worker – component of data indexing from Creatio into ElasticSearch as per the scheduler tasks. gs-worker-replay – component processing indexing results (gs-worker operation results).

gs-worker-single — a component for targeted indexing of business process data in ElasticSearch on request from the business process.

gs-worker-single-replay – component processing indexing results (gs-worker operation results).

gs-worker-single-task — component for scheduling tasks for gs-worker-single.

To set up the components, download the source files. Download files.

ATTENTION

To create a productive environment, we recommend deploying the ElasticSearch, RabbitMQ and MySQL components in fault-tolerant clusters. If the listed components are deployed separately, disable the deployment of these components in the Docker container via the RUN_RABBITMQ, RUN_ELASTICSEARCH and RUN_MYSQL variables.

NOTE

You can deploy all global search components on a single server for demonstration purposes. To do this, To do this, in the linux / onsite-custom-env file, set the RUN_RABBITMQ, RUN_ELASTICSEARCH, RUN_MYSQL variable values to "1".

List of ports used by global search components

Component name	Outgoing port	Incoming port	Notes
gs-web-api	6379	81	Incoming port is configured with the WEB_API_PORT variable
gs-web-indexing-service	5672	82	Incoming port is configured with the WEB_INDEXING_SERVICE_PORT variable
gs-worker	5672 9200 MSSQL or Oracle port		MSSQL or Oracle port - port communicating with the Creatio database
gs-worker-single	5672 9200 MSSQL or Oracle port		MSSQL or Oracle port - port communicating with the Creatio database
gs-scheduler	3306 5672		
gs-worker-replay	3306 5672		
gs-worker-single-task	3306 5672 6379		
gs-worker-single-replay	3306 5672		
rabbitmq		5672	
elasticsearch		9200	
mysql		3306	
redis		6379	

Global search setup procedure

1. Install Docker on a physical or virtual machine with Linux OS. Read more >>>
2. Install ElasticSearch. Read more >>>
3. Install RabbitMQ. Read more >>>
4. Set up MySQL. Read more >>>
5. Set up the container variables. Read more >>>

6. Install and run the Global Search Service components. Read more >>>
7. Enable the global search function in Creatio. Read more >>>
8. Populate the database with initial data. Read more >>>.

NOTE

Skip steps 2-4 for demo applications with all global search components installed on a single server.

CONTENTS

Docker setup

Install Docker to Linux OS to deploy global search components. The installation is covered in the Docker documentation. Read more >>>

Run the **docker --version** command on a Linux machine to verify the installed Docker version.

Installing RabbitMQ

Instructions on RabbitMQ cluster setup **for Docker**, are available in a separate guide. Read more >>>

Instructions on RabbitMQ cluster setup **without Docker**, are available in RabbitMQ guide documentation. Read more >>>

Installing ElasticSearch

1. Install ElasticSearch version 5.6.8. See ElasticSearch documentation for more information on the setup procedure. Read more >>>
2. After installing ElasticSearch, install the plugin for morphology search. Download the current version of the Morphological Analysis Plugin for ElasticSearch using the following link. Download the plugin. You can find the morphology plugin installation instructions in the ElasticSearch guide. Read more >>>
3. Add the following command to ElasticSearch docker file to install the plugin:

```
RUN bin/elasticsearch-plugin install http://dl.bintray.com/content/
imotov/elasticsearch-plugins/org/elasticsearch/elasticsearch-
analysis-morphology/5.6.8/elasticsearch-analysis-morphology-5.6.8.zip
```

Installing MySQL

Instructions on MySQL cluster installation **for Docker** are available in the Docker documentation. Read more >>>

To install the MySQL cluster **without Docker**, use the instructions in the MySQL guide. Read more >>>

Setting up container variables

All global search component containers are configured via a file with environment variables. The variables are contained in the Docker/linux/onsite-custom-env base file. Edit this file to set the values of variables,

ATTENTION

During the update of global search containers, set the value of "1" for the CLEAR_ELASTICSEARCH_DATA, CLEAR_RABBITMQ_DATA, CLEAR_MYSQL_DATA variables in the Docker/linux/onsite-custom-env file.

Variable name	Details	Default value
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for MS SQL)	Creatio database connection template. Specify the **[DBLogin]** user, the **[DBPassword]** password, the **[DBServerName]** Creatio database server (for example, dbserver\\mssql2016) and the **[DBName]** Creatio database name. Since containers are run under Linux OS control, Windows does not support authorization. For authorization, create a new SQL user or use an existing one.	Server=[DBServerName]; Database=[DBName]; User Id=[DBLogin]; Password=[DBPassword]; Connection Timeout=10
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for Oracle)	Creatio database connection template. Change the GS_WORKER_DB_CONNECTION_STRING_PATTERN variable in the Docker/linux/oracle-env file for Creatio applications using the Oracle database.	The example of a variable value can be found in the Docker/linux/oracle-env file.
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for PostgreSQL)	Creatio database connection template. Change the GS_WORKER_DB_CONNECTION_STRING_PATTERN variable in the Docker/linux/oracle-env file for Creatio applications using the Oracle database.	The example of a variable value can be found in the Docker/linux/oracle-env file.

Variable name	Details	Default value
GS_ES_URL	Internal host for ElasticSearch. For applications that have global search components deployed on different servers, specify a host for which ElasticSearch will be available. For demo applications where all components of the global search are deployed on one server ((RUN_ELASTICSEARCH = 1), the internal host is available in the gs-web-api and gs-worker-xx docker containers.	http://elasticsearch:9200
GS_PUBLIC_ES_URL	The external elasticsearch host, ehich is used for access from Creatio. If ElasticSearch is deployed in the DOCKER container (RUN_ELASTICSEARCH = 1) - specify the external host, or ip-address of the machine with DOCKER deployed.	http://[external.elasticSearchHostName]:9200
RUN_RABBITMQ	A container with RabbitMQ will run if the value is set to "1". If you do not need to run the container with RabbitMQ, set the value to "0".	1
RUN_ELASTICSEARCH	A container with ElasticSearch will run if the value is set to "1". If you do not need to run the container with ElasticSearch, set the value to "0".	1
RUN_MYSQL	A container with MySQL will run if the value is set to "1". If you do not need to run the container with MySQL, set the value to "0".	1
RUN_REDIS	A container with REDIS will run if the value is set to "1". If REDIS is already deployed on an external server, set the value to "0".	1

Set the values of the below listed parameters only if the RabbitMQ, ElasticSearch or MySQL components are deployed separately.

Parameter	Function
GS_ES_LOGIN	If ElasticSearch does not require base64 authorization, leave the parameter unpopulated.
GS_ES_PASSWORD	If ElasticSearch does not require base64 authorization, leave the parameter unpopulated.
GS_RABBITMQ_AMQP	Access to external RabbitMQ. You need to change the parameter if the RabbitMq component is deployed separately.
GS_DB_CONNECTION_STRING	MySQL connection string. Change this parameter in the Docker/linux/mysql-env file if the MySQL component is deployed separately. • Server=gs-mysql – host; • ser id=$MYSQL_USER – user; • pwd=$MYSQL_PASSWORD – password.
GS_REDIS_CONNECTION_STRING	Access to external REDIS. You need to change the parameter if the REDIS component is deployed separately.

Additional variables that control the data indexing parameters in ElasticSearch

Variable name	Details	Default value
GS_DB_BATCH_SIZE	The number of records that form the batch for an indexing bulk request on ElasticSearch.	2000 records
GS_DB_INCREMENT_DAYS	Number of days to be indexed per one iteration of the scheduler. The ModifiedOn columns of system records are used for comparison.	500 days
GS_DB_FILL_QUEUE_INTERVAL	The interval for collecting data from the Creatio database by a regular scheduler. The load of the Creatio database depends on how small this parameter is. However, the primary indexing will happen faster if this parameter is smaller.	30000 (specified in milliseconds)

Running containers with the Global Search Service components

ATTENTION

For the correct container operation, the UTC-time on linux-machine with Docker installed should correspond to the UTC-time on Creatio DB server. Permissible deviation is up to five minutes. Otherwise, the global search may not index all records.

1. Copy the Docker folder from the application setup files to the linux machine.
2. Run the command.
   - For Creatio applications, deployed on **MS SQL**:

```
sh Docker/linux/run.sh mysql mssql 1.4 onsite
```

   - For Creatio applications, deployed on **Oracle**:

```
sh Docker/linux/run.sh mysql oracle 1.0
```

   - For Creatio applications, deployed on **PostgreSQL**:

```
sh Docker/linux/run.sh mysql postgre 1.4 onsite
```

NOTE

The "Error response from daemon: network with name net1 already exists" error may occur after restarting the sh Docker/linux/run.sh command, because the docker network named "net1" was created the at the time the command was run. This message is shown because the docker network with the "net1" name was created when you first started the command.

The following Docker volumes will automatically be mounted upon successful container running:

- es1, if RUN_ELASTICSEARCH=1 (es-node1);
- es2, if RUN_ELASTICSEARCH=1 (es-node2);

- mysql, if RUN_MYSQL=1;
- rabbitmq, if RUN_RABBITMQ=1.

NOTE

Mounting inside the global search containers is performed via the following path: /usr/share/globalsearch. The "docker volume list" command displays the information about created volumes.
If one of the containers (MySQL, RabbitMQ or ElasticSearch) stops working, the data will be stored on external disk outside the Docker-container. You can learn more about volumes in Docker guide. Read more >>>

Verifying successful running of containers

Enter the **docker ps -a** command in the console to see all the containers that have been run.

The following containers should be run:

- gs-web-api;
- gs-web-indexing-service;
- gs-scheduler;
- gs-worker:
  - gs-worker1;
  - gs-worker2;
  - gs-worker3;
- gs-worker-replay;
- gs-worker-single;
- gs-worker-single-replay;
- gs-worker-single-task;
- ES, if RUN_ELASTICSEARCH = 1:
  - es-node1;
  - es-node2;
- rabbitmq, if RUN_RABBITMQ = 1;
- gs-mysql, if RUN_MYSQL = 1;
- gs-redis, if RUN_REDIS=1.

Logging

By default logging is performed during the "stdout" container command execution.

NOTE

docker logs --tail 100 gs-worker displays 100 last log strings from the gs-worker container.

NOTE

When you first run the global search components you may receive an error about the failed mysql or rabbitmq connection attempt in their logs. At startup, it is possible that mysql or rabbitmq containers are temporarily unavailable. In this case, continue the connection attempts until the message about the successful connection and start of the container is displayed in stdout: "Now listening on: http://[::]:80 Application started. Press Ctrl+C to shut down".

Connecting global search service to Creatio

Actions on the server

To connect global search to Creatio, perform the following steps on the server:

1. Install the curl utility for http queries.

```
apt-get install curl
```

2. Perform the AddSite API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

```
curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
-H "Content-Type: application/json" http://[gs-web-api]:81/addsite
```

3. Perform the AddSearch API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

```
curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
-H "Content-Type: application/json" http://gs-web-api:81/addsearch
```

NOTE

The indicated query will return URL to the index created in ElasticSearch. Save the URL and use it in the system setting installation SQL-script below.

Settings on the Creatio side

For MS SQL DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2) by running the following SQL script:

```
DECLARE @GlobalSearchFeature NVARCHAR(50) = 'GlobalSearch';
DECLARE @GlobalSearchFeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE Code = @GlobalSearchFeature);
DECLARE @GlobalSearchV2Feature NVARCHAR(50) = 'GlobalSearch_V2';
DECLARE @GlobalSearchV2FeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE Code = @GlobalSearchV2Feature);
DECLARE @allEmployeesId UNIQUEIDENTIFIER = 'A29A3BA5-4B0D-DE11-9A51-
005056C00008';

IF (@GlobalSearchFeatureId IS NOT NULL)
 BEGIN
   IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GlobalSearchFeatureId)
     UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId
= @GlobalSearchFeatureId
    ELSE
     INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
 FeatureId) VALUES (@allEmployeesId, '1', @Bulk_ES_DD_FeatureId)
 END
ELSE
 BEGIN
   SET @GlobalSearchFeatureId = NEWID()
```

```
   INSERT INTO Feature (Id, Name, Code) VALUES
(@GlobalSearchFeatureId, @GlobalSearchFeature, @GlobalSearchFeature)
   INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
 FeatureId) VALUES (@allEmployeesId, '1',
@GlobalSearchFeatureId)
 END

IF (@GlobalSearchV2FeatureId IS NOT NULL)
 BEGIN
   IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GlobalSearchV2FeatureId)
     UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId
= @GlobalSearchV2FeatureId
    ELSE
     INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchV2FeatureId)
 END
ELSE
 BEGIN
   SET @GlobalSearchV2FeatureId = NEWID()
   INSERT INTO Feature (Id, Name, Code) VALUES
(@GlobalSearchV2FeatureId, @GlobalSearchV2Feature,
@GlobalSearchV2Feature)
   INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchV2FeatureId)
 END
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
UPDATE SysSettingsValue
SET TextValue = [specify URL to the ElasticSearch index, string of the
following type - http://external.elasticsearch:9200/indexname]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code =
'GlobalSearchUrl')

UPDATE SysSettingsValue
SET TextValue = [specify URL to the Global Search Service, string of
the following type - http://gs-web-api:81]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code
='GlobalSearchConfigServiceUrl')

UPDATE SysSettingsValue
SET TextValue = [specify URL to the Global Indexing Service, string of
the following type - http://gs-web-indexing-service:82]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code
='GlobalSearchConfigServiceUrl')
```

3. Restart Creatio, clear Redis and log into the application.

For Oracle DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2) by running the following SQL script:

```
CREATE OR REPLACE FUNCTION
generate_uuid return varchar2 is
    v_uuid varchar2(38);
    v_guid varchar2(32);
BEGIN
    v_guid := sys_guid();
    v_uuid := lower(
                '{' ||
                substr(v_guid, 1,8) || '-' ||
                substr(v_guid, 9,4) || '-' ||
                substr(v_guid, 13,4) || '-' ||
                substr(v_guid, 17,4) || '-' ||
                substr(v_guid, 21) ||
                '}'
                );
    RETURN v_uuid;
END;
/

DECLARE
  GlobalSearchFeature VARCHAR(50) := 'GlobalSearch';
  GlobalSearchFeatureId VARCHAR(38) := NULL;
  GlobalSearchFeatureId_GUID VARCHAR(38) := generate_uuid();
  GlobalSearchV2Feature VARCHAR(50) := 'GlobalSearch_V2';
  GlobalSearchV2FeatureId VARCHAR(38) := NULL;
  GlobalSearchV2FeatureId_GUID VARCHAR(38) := generate_uuid();
  allEmployeesId VARCHAR(38) := '{7F3B869F-34F3-4F20-AB4D-
7480A5FDF647}';
  State_GlobalSearch VARCHAR(1) := NULL;
  State_GlobalSearchV2 VARCHAR(1) := NULL;
BEGIN
  SELECT MAX("Id") INTO GlobalSearchFeatureId FROM "Feature" WHERE
"Code" = GlobalSearchFeature AND rownum = 1;
  SELECT MAX("Id") INTO GlobalSearchV2FeatureId FROM "Feature" WHERE
"Code" = GlobalSearchV2Feature AND rownum = 1;
  SELECT MAX("FeatureState") INTO State_GlobalSearch FROM
"AdminUnitFeatureState" WHERE "FeatureId" = GlobalSearchFeatureId AND
rownum = 1;
  SELECT MAX("FeatureState") INTO State_GlobalSearchV2 FROM
"AdminUnitFeatureState" WHERE "FeatureId" = GlobalSearchV2FeatureId
AND rownum = 1;

  IF (GlobalSearchFeatureId IS NULL) THEN
      INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchFeatureId_GUID, GlobalSearchFeature,
GlobalSearchFeature);
      INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
```

```
GlobalSearchFeatureId_GUID);
    ELSE
      IF (State_GlobalSearch IS NOT NULL) THEN
          UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchFeatureId;
        ELSE
          INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId_GUID);
      END IF;
  END IF;

  IF (GlobalSearchV2FeatureId IS NULL) THEN
      INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchV2FeatureId_GUID, GlobalSearchV2Feature,
GlobalSearchV2Feature);
      INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId_GUID);
    ELSE
      IF (State_GlobalSearchV2 IS NOT NULL) THEN
          UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchV2FeatureId;
        ELSE
          INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId_GUID);
      END IF;
  END IF;

END;
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
DECLARE
  URL_SETTING_ID VARCHAR(38) := NULL;
  CONFIG_URL_SETTING_ID VARCHAR(38) := NULL;
  IND_API_SETTING_ID VARCHAR(38) := NULL;

  URL_VAL_ID VARCHAR(38) := NULL;
  CONFIG_URL_VAL_ID VARCHAR(38) := NULL;
  IND_API_VAL_ID VARCHAR(38) := NULL;

  SYS_ADMIN_UID VARCHAR(38) := '{A29A3BA5-4B0D-DE11-9A51-
005056C00008}';

  ES_IND VARCHAR(500) := '[enter the URL to the ElasticSearch index,
string of the following type - http://external.elasticsearch:9200/
indexname]';
  CONFIG_URL VARCHAR(500) := '[enter the URL to the Global Search
Service, string of the following type - http://gs-web-api:81]';
```

```
  IND_API_URL VARCHAR (500): = '[enter the URL to the Global Search
Indexing Service, string of the following type - http://gs-web-
indexing-service: 82]'
BEGIN
  SELECT "Id" INTO URL_SETTING_ID FROM "SysSettings" WHERE "Code" =
'GlobalSearchUrl';
  SELECT "Id" INTO CONFIG_URL_SETTING_ID FROM "SysSettings" WHERE
"Code" = 'GlobalSearchConfigServiceUrl';
  SELECT "Id" INTO IND_API_SETTING_ID FROM "SysSettings" WHERE "Code"
= 'GlobalSearchIndexingApiUrl';

  SELECT MAX("Id") INTO URL_VAL_ID  FROM "SysSettingsValue" WHERE
"SysSettingsId" = URL_SETTING_ID;
  SELECT MAX("Id") INTO CONFIG_URL_VAL_ID  FROM "SysSettingsValue"
WHERE "SysSettingsId" = CONFIG_URL_SETTING_ID;
  SELECT MAX("Id") INTO IND_API_VAL_ID  FROM "SysSettingsValue" WHERE
"SysSettingsId" = IND_API_SETTING_ID;

  IF (URL_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (URL_SETTING_ID, SYS_ADMIN_UID, '1', ES_IND);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = ES_IND WHERE
"SysSettingsId" = URL_SETTING_ID;
  END IF;

  IF (CONFIG_URL_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (CONFIG_URL_SETTING_ID, SYS_ADMIN_UID, '1', CONFIG_URL);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = CONFIG_URL WHERE
"SysSettingsId" = CONFIG_URL_SETTING_ID;
  END IF;

  IF (IND_API_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (IND_API_SETTING_ID, SYS_ADMIN_UID, '1', IND_API_URL);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = IND_API_URL WHERE
"SysSettingsId" = IND_API_SETTING_ID;
  END IF;
END;
```

3. Restart the Creatio application, clear Redis and log into the application.

For PostgreSql DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2) by running the following SQL script:

```
DO $$

DECLARE
    GlobalSearchFeature VARCHAR(50) := 'GlobalSearch';
    GlobalSearchFeatureId uuid;
    GlobalSearchV2Feature VARCHAR(50) := 'GlobalSearch_V2';
    GlobalSearchV2FeatureId uuid;
    allEmployeesId uuid := 'A29A3BA5-4B0D-DE11-9A51-005056C00008';

BEGIN

   SELECT "Id" INTO GlobalSearchFeatureId FROM "Feature"
   WHERE "Code" = GlobalSearchFeature
   LIMIT 1;
   IF (GlobalSearchFeatureId IS NOT NULL)
      THEN
          IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE
"FeatureId" = GlobalSearchFeatureId) THEN
             UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1
WHERE "FeatureId" = GlobalSearchFeatureId;
          ELSE
              INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId);
          END IF;
   ELSE
       GlobalSearchFeatureId := uuid_generate_v4();
       INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchFeatureId, GlobalSearchFeature, GlobalSearchFeature);
       INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId);
   END IF;

   SELECT "Id" INTO GlobalSearchV2FeatureId FROM "Feature”
   WHERE "Code" = GlobalSearchV2Feature
   LIMIT 1;
   IF (GlobalSearchV2FeatureId IS NOT NULL)
    THEN
        IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE
"FeatureId" = GlobalSearchV2FeatureId) THEN
           UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchV2FeatureId;
        ELSE
           INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
```

```
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId);
        END IF;
   ELSE
       GlobalSearchV2FeatureId := uuid_generate_v4();
       INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchV2FeatureId, GlobalSearchV2Feature,
GlobalSearchV2Feature);
       INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId);
   END IF;
END $$;
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the ElasticSearch index, string of the
following type - http://external.elasticsearch:9200/indexname]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
 'GlobalSearchUrl' LIMIT 1 );

UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the Global Search Service, string of
the following type - http://gs-web-api:81]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
'GlobalSearchConfigServiceUrl' LIMIT 1 );

UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the Global Indexing Service, string of
the following type - http://gs-web-indexing-service:82]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
'GlobalSearchIndexingApiUrl' LIMIT 1 );
```

3. Restart Creatio, clear Redis and log into the application.

Initial population of the database

The database is populated with system records once the GSS is launched. Prior to that, there is not even a database file, since the database is automatically generated.

SEE ALSO

- API global search service description
- Global search

Setting up the global search service (version 1.5)

Global search components

Deployed on separate servers:

rabbitmq – message broker.

elasticsearch – search engine.

mysql – database of global search component configuration.

redis – database used for caching and speed.

Deployed on a single server:

gs-web-api – web-service for global search component configuration.

gs-scheduler – scheduler of data indexing from Creatio into ElasticSearch.

gs-worker – component of data indexing from Creatio into ElasticSearch as per the scheduler tasks.

gs-worker-replay – component processing indexing results (gs-worker operation results).

gs-worker-single — a component for targeted indexing of business process data in ElasticSearch on request from the business process.

gs-worker-single-replay – component processing indexing results (gs-worker operation results).

gs-worker-single-task — component for scheduling tasks for gs-worker-single.

gs-worker-queried-single-task — component for scheduling tasks for gs-worker-single.

ATTENTION

To create a productive environment, we recommend deploying the ElasticSearch, RabbitMQ and MySQL components in fault-tolerant clusters. If the listed components are deployed separately, disable the deployment of these components in the Docker container via the RUN_RABBITMQ, RUN_ELASTICSEARCH and RUN_MYSQL variables.

To set up the components, download the source files. Download files.

NOTE

You can deploy all global search components on a single server for demonstration purposes. To do this, To do this, in the linux / onsite-custom-env file, set the RUN_RABBITMQ, RUN_ELASTICSEARCH, RUN_MYSQL variable values to "1".

List of ports used by global search components

Component name	Outgoing port	Incoming port	Notes
gs-web-api	6379	81	Incoming port is configured with the WEB_API_PORT variable
gs-web-indexing-service	5672	82	Incoming port is configured with the WEB_INDEXING_SERVICE_PORT variable
gs-worker	5672 9200 MSSQL or Oracle port		MSSQL or Oracle port - port communicating with the Creatio database
gs-worker-single	5672 9200 MSSQL or Oracle port		MSSQL or Oracle port - port communicating with the Creatio database
gs-scheduler	3306 5672		
gs-worker-replay	3306 5672		
gs-worker-single-task	3306 5672 6379		
gs-worker-single-replay	3306 5672		
rabbitmq		5672	
elasticsearch		9200	
mysql		3306	
redis		6379	

Global search setup procedure

1. Install Docker on a physical or virtual machine with Linux OS. Read more >>>
2. Install ElasticSearch. Read more >>>
3. Install RabbitMQ. Read more >>>
4. Set up MySQL. Read more >>>

5. Set up the container variables. Read more >>>
6. Install and run the Global Search Service components. Read more >>>
7. Enable the global search function in Creatio. Read more >>>
8. Populate the database with initial data. Read more >>>.

NOTE

Skip steps 2-4 for demo applications with all global search components installed on a single server.

CONTENTS

Docker setup

Install Docker to Linux OS to deploy global search components. The installation is covered in the Docker documentation. Read more >>>

Run the **docker --version** command on a Linux machine to verify the installed Docker version.

Installing RabbitMQ

Instructions on RabbitMQ cluster setup **for Docker**, are available in a separate guide. Read more >>>

Instructions on RabbitMQ cluster setup **without Docker**, are available in RabbitMQ guide documentation. Read more >>>

Installing ElasticSearch

1. Install ElasticSearch version 5.6.8. See ElasticSearch documentation for more information on the setup procedure. Read more >>>
2. After installing ElasticSearch, install the plugin for morphology search. Download the current version of the Morphological Analysis Plugin for ElasticSearch using the following link. You can find the morphology plugin installation instruction in ElasticSearch guide. Read more >>>
3. Add the following command to ElasticSearch docker file to install the plugin:

```
RUN bin/elasticsearch-plugin install http://dl.bintray.com/content/
imotov/elasticsearch-plugins/org/elasticsearch/elasticsearch-
analysis-morphology/5.6.8/elasticsearch-analysis-morphology-5.6.8.zip
```

Installing MySQL

Instructions on MySQL cluster installation **for Docker** are available in the Docker documentation. Read more >>>

To install the MySQL cluster **without Docker**, use the instructions in the MySQL guide. Read more >>>

Setting up container variables

All global search component containers are configured via a file with environment variables. The variables are contained in the Docker/linux/onsite-custom-env base file. Edit this file to set the values of variables,

ATTENTION

During the update of global search containers, set the value of "1" for the CLEAR_ELASTICSEARCH_DATA, CLEAR_RABBITMQ_DATA, CLEAR_MYSQL_DATA variables in the Docker/linux/onsite-custom-env file.

Variable name	Details	Default value
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for MS SQL)	Creatio database connection template. Specify the **[DBLogin]** user, the **[DBPassword]** password, the **[DBServerName]** Creatio database server (for example, dbserver\\mssql2016) and the **[DBName]** Creatio database name. Since containers are run under Linux OS control, Windows does not support authorization. For authorization, create a new SQL user or use an existing one.	Server=[DBServerName]; Database=[DBName]; User Id=[DBLogin]; Password=[DBPassword]; Connection Timeout=10
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for Oracle)	Creatio database connection template. Change the GS_WORKER_DB_CONNECTION_STRING_PATTERN variable in the Docker/linux/oracle-env file for Creatio applications using the Oracle database.	The example of a variable value can be found in the Docker/linux/oracle-env file.
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for PostgreSQL)	Creatio database connection template. Change the GS_WORKER_DB_CONNECTION_STRING_PATTERN variable in the Docker/linux/oracle-env file for Creatio applications using the Oracle database.	The example of a variable value can be found in the Docker/linux/oracle-env file.

Variable name	Details	Default value
GS_ES_URL	Internal host for ElasticSearch. For applications that have global search components deployed on different servers, specify a host for which ElasticSearch will be available. For demo applications where all components of the global search are deployed on one server ((RUN_ELASTICSEARCH = 1), the internal host is available in the gs-web-api and gs-worker-xx docker containers.	http://elasticsearch:9200
GS_PUBLIC_ES_URL	The external elasticsearch host, ehich is used for access from Creatio. If ElasticSearch is deployed in the DOCKER container (RUN_ELASTICSEARCH = 1) - specify the external host, or ip-address of the machine with DOCKER deployed.	http://[external.elasticSearchHostName]:9200
RUN_RABBITMQ	A container with RabbitMQ will run if the value is set to “1”. If you do not need to run the container with RabbitMQ, set the value to “0”.	1
RUN_ELASTICSEARCH	A container with ElasticSearch will run if the value is set to “1”. If you do not need to run the container with ElasticSearch, set the value to “0”.	1
RUN_MYSQL	A container with MySQL will run if the value is set to “1”. If you do not need to run the container with MySQL, set the value to “0”.	1
RUN_REDIS	A container with REDIS will run if the value is set to “1”. If REDIS is already deployed on an external server, set the value to “0”.	1

Set the values of the below listed parameters only if the RabbitMQ, ElasticSearch or MySQL components are deployed separately.

Parameter	Function
GS_ES_LOGIN	If ElasticSearch does not require base64 authorization, leave the parameter unpopulated.
GS_ES_PASSWORD	If ElasticSearch does not require base64 authorization, leave the parameter unpopulated.
GS_RABBITMQ_AMQP	Access to external RabbitMQ. You need to change the parameter if the RabbitMq component is deployed separately.
GS_DB_CONNECTION _STRING	MySQL connection string. Change this parameter in the Docker/linux/ mysql-env file if the MySQL component is deployed separately. • Server=gs-mysql – host; • ser id=$MYSQL_USER – user; • pwd=$MYSQL_PASSWORD – password.
GS_REDIS_CONNECTI ON_STRING	Access to external REDIS. You need to change the parameter if the REDIS component is deployed separately.

Additional variables that control the data indexing parameters in ElasticSearch

Variable name	Details	Default value
GS_DB_BATCH_SIZE	The number of records that form the batch for an indexing bulk request on ElasticSearch.	2000 records
GS_DB_INCREMENT_DAYS	Number of days to be indexed per one iteration of the scheduler. The ModifiedOn columns of system records are used for comparison.	500 days
GS_DB_FILL_QUEUE_INTERVAL	The interval for collecting data from the Creatio database by a regular scheduler. The load of the Creatio database depends on how small this parameter is. However, the primary indexing will happen faster if this parameter is smaller.	30000 (specified in milliseconds)

Running containers with the Global Search Service components

ATTENTION

For the correct container operation, the UTC-time on linux-machine with Docker installed should correspond to the UTC-time on Creatio DB server. Permissible deviation is up to five minutes. Otherwise, the global search may not index all records.

1. Copy the Docker folder from the application setup files to the linux machine.
2. Run the command.
    - For Creatio applications, deployed on **MS SQL**:

```
sh Docker/linux/run.sh mysql mssql 1.5 onsite
```

    - For Creatio applications, deployed on **Oracle**:

```
sh Docker/linux/run.sh mysql oracle 1.5 onsite
```

    - For Creatio applications, deployed on **PostgreSQL**:

```
sh Docker/linux/run.sh mysql postgre 1.5 onsite
```

NOTE

The "Error response from daemon: network with name net1 already exists" error may occur after restarting the sh Docker/linux/run.sh command, because the docker network named "net1" was created the at the time the command was run. This message is shown because the docker network with the "net1" name was created when you first started the command.

The following Docker volumes will automatically be mounted upon successful container running:

- es1, if RUN_ELASTICSEARCH=1 (es-node1);
- es2, if RUN_ELASTICSEARCH=1 (es-node2);

- mysql, if RUN_MYSQL=1;
- rabbitmq, if RUN_RABBITMQ=1.

NOTE

The “docker volume list” command displays the information about created volumes.
If one of the containers (MySQL, RabbitMQ or ElasticSearch) stops working, the data will be stored on external disk outside the Docker-container. You can learn more about volumes in Docker guide. Read more >>>

Verifying successful running of containers

Enter the **docker ps -a** command in the console to see all the containers that have been run.

The following containers should be run:

- gs-web-api;
- gs-web-indexing-service;
- gs-scheduler;
- gs-worker:
  - gs-worker1;
  - gs-worker2;
  - gs-worker3;
- gs-worker-replay;
- gs-worker-single;
- gs-worker-single-replay;
- gs-worker-single-task;
- gs-worker-queried-single-task;
- ES, if RUN_ELASTICSEARCH = 1:
  - es-node1;
  - es-node2;
- rabbitmq, if RUN_RABBITMQ = 1;
- gs-mysql, if RUN_MYSQL = 1;
- gs-redis, if RUN_REDIS=1.

Logging

By default logging is performed during the “stdout” container command execution.

NOTE

docker logs --tail 100 gs-worker displays 100 last log strings from the gs-worker container.

NOTE

When you first run the global search components you may receive an error about the failed mysql or rabbitmq connection attempt in their logs. At startup, it is possible that mysql or rabbitmq containers are temporarily unavailable. In this case, continue the connection attempts until the message about the successful connection and start of the container is displayed in stdout: “Now listening on: http://[::]:80 Application started. Press Ctrl+C to shut down”.

Connecting global search service to Creatio

Actions on the server

To connect global search to Creatio, perform the following steps on the server:

1. Install the curl utility for http queries.

```
apt-get install curl
```

2. Perform the AddSite API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

```
curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
-H "Content-Type: application/json" http://[gs-web-api]:81/addsite
```

3. Perform the AddSearch API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

```
curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
-H "Content-Type: application/json" http://gs-web-api:81/addsearch
```

NOTE

The indicated query will return URL to the index created in ElasticSearch. Save the URL and use it in the system setting installation SQL-script below.

Settings on the Creatio side

For MS SQL DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2, GlobalSearchRelatedEntityIndexing) by running the following SQL script:

```
DECLARE @GS_REIndexingFeature NVARCHAR(50) =
'GlobalSearchRelatedEntityIndexing';
DECLARE @GS_REIndexingFeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE
Code = @GS_REIndexingFeature);

DECLARE @GlobalSearchFeature NVARCHAR(50) = 'GlobalSearch';
DECLARE @GlobalSearchFeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE Code = @GlobalSearchFeature);

DECLARE @GlobalSearchV2Feature NVARCHAR(50) = 'GlobalSearch_V2';
DECLARE @GlobalSearchV2FeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE Code = @GlobalSearchV2Feature);
DECLARE @allEmployeesId UNIQUEIDENTIFIER = 'A29A3BA5-4B0D-DE11-9A51-
005056C00008';

IF (@GlobalSearchFeatureId IS NOT NULL)
 BEGIN
   IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId
=@GlobalSearchFeatureId)
     UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId
= @GlobalSearchFeatureId
```

```
    ELSE
     INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchFeatureId)
 END
ELSE
 BEGIN
   SET @GlobalSearchFeatureId = NEWID()
   INSERT INTO Feature (Id, Name, Code) VALUES
(@GlobalSearchFeatureId, @GlobalSearchFeature, @GlobalSearchFeature)
   INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
 FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchFeatureId)
 END

IF (@GlobalSearchV2FeatureId IS NOT NULL)
 BEGIN
   IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GlobalSearchV2FeatureId)
     UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId
= @GlobalSearchV2FeatureId
    ELSE
     INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchV2FeatureId)
 END
ELSE
 BEGIN
   SET @GlobalSearchV2FeatureId = NEWID()
   INSERT INTO Feature (Id, Name, Code) VALUES
(@GlobalSearchV2FeatureId, @GlobalSearchV2Feature,
@GlobalSearchV2Feature)
   INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
 FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchV2FeatureId)
 END

IF (@GS_REIndexingFeatureId IS NOT NULL)
BEGIN
 IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GS_REIndexingFeatureId)
  UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId =
@GS_REIndexingFeatureId
  ELSE
  INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1',
@GS_REIndexingFeatureId)
END
ELSE
BEGIN
 SET @GS_REIndexingFeatureId = NEWID()
 INSERT INTO Feature (Id, Name, Code) VALUES (@GS_REIndexingFeatureId,
@GS_REIndexingFeature, @GS_REIndexingFeature)
 INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GS_REIndexingFeatureId)
```

```
END
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
UPDATE SysSettingsValue
SET TextValue = [specify URL to the ElasticSearch index, string of the
following type - http://external.elasticsearch:9200/indexname]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code =
'GlobalSearchUrl')

UPDATE SysSettingsValue
SET TextValue = [specify URL to the Global Search Service, string of
the following type - http://gs-web-api:81]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code
='GlobalSearchConfigServiceUrl')

UPDATE SysSettingsValue
SET TextValue = [specify URL to the Global Indexing Service, string of
the following type - http://gs-web-indexing-service:82]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code
='GlobalSearchConfigServiceUrl')
```

3. Restart Creatio, clear Redis and log into the application.

For Oracle DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2, GlobalSearchRelatedEntityIndexing) by running the following SQL script:

```
CREATE OR REPLACE FUNCTION
generate_uuid return varchar2 is
    v_uuid varchar2(38);
    v_guid varchar2(32);
BEGIN
    v_guid := sys_guid();
    v_uuid := lower(
                '{' ||
                substr(v_guid, 1,8) || '-' ||
                substr(v_guid, 9,4) || '-' ||
                substr(v_guid, 13,4) || '-' ||
                substr(v_guid, 17,4) || '-' ||
                substr(v_guid, 21) ||
                '}'
                );
    RETURN v_uuid;
END;
/

DECLARE
 GS_REIndexingFeature VARCHAR(50) :=
'GlobalSearchRelatedEntityIndexing';
 GS_REIndexingFeatureId VARCHAR(38) := NULL;
```

```
 GS_REIndexingFeatureId_GUID VARCHAR(38) := generate_uuid();

GlobalSearchFeature VARCHAR(50) := 'GlobalSearch';
  GlobalSearchFeatureId VARCHAR(38) := NULL;
  GlobalSearchFeatureId_GUID VARCHAR(38) := generate_uuid();
  GlobalSearchV2Feature VARCHAR(50) := 'GlobalSearch_V2';
  GlobalSearchV2FeatureId VARCHAR(38) := NULL;
  GlobalSearchV2FeatureId_GUID VARCHAR(38) := generate_uuid();
  allEmployeesId VARCHAR(38) := '{7F3B869F-34F3-4F20-AB4D-
7480A5FDF647}';
  State_GlobalSearch VARCHAR(1) := NULL;
  State_GlobalSearchV2 VARCHAR(1) := NULL;
  State_GS_REI VARCHAR(1) := NULL;

BEGIN
  SELECT MAX("Id") INTO GlobalSearchFeatureId FROM "Feature" WHERE
"Code" = GlobalSearchFeature AND rownum = 1;
  SELECT MAX("Id") INTO GlobalSearchV2FeatureId FROM "Feature" WHERE
"Code" = GlobalSearchV2Feature AND rownum = 1;
SELECT MAX("Id") INTO GS_REIndexingFeatureId FROM "Feature" WHERE
"Code" = GS_REIndexingFeature AND rownum = 1;

  SELECT MAX("FeatureState") INTO State_GlobalSearch FROM
"AdminUnitFeatureState" WHERE "FeatureId" = GlobalSearchFeatureId AND
rownum = 1;
  SELECT MAX("FeatureState") INTO State_GlobalSearchV2 FROM
"AdminUnitFeatureState" WHERE "FeatureId" = GlobalSearchV2FeatureId
AND rownum = 1;
  SELECT MAX("FeatureState") INTO State_GS_REI FROM
"AdminUnitFeatureState" WHERE FeatureId" = GS_REIndexingFeatureId AND
rownum = 1;

  IF (GlobalSearchFeatureId IS NULL) THEN
      INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchFeatureId_GUID, GlobalSearchFeature,
GlobalSearchFeature);
      INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId_GUID);
    ELSE
      IF (State_GlobalSearch IS NOT NULL) THEN
          UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchFeatureId;
        ELSE
          INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId_GUID);
      END IF;
  END IF;

  IF (GlobalSearchV2FeatureId IS NULL) THEN
```

```
      INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchV2FeatureId_GUID, GlobalSearchV2Feature,
GlobalSearchV2Feature);
      INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId_GUID);
    ELSE
      IF (State_GlobalSearchV2 IS NOT NULL) THEN
          UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchV2FeatureId;
        ELSE
          INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId_GUID);
      END IF;
  END IF;

 IF (GS_REIndexingFeatureId IS NULL) THEN
  INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GS_REIndexingFeatureId_GUID,GS_REIndexingFeature,
GS_REIndexingFeature);
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_REIndexingFeatureId_GUID);
  ELSE
  IF (State_GS_REI IS NOT NULL) THEN
  UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" =GS_REIndexingFeatureId;
  ELSE
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_REIndexingFeatureId_GUID);
  END IF;
 END IF;

END;
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
DECLARE
  URL_SETTING_ID VARCHAR(38) := NULL;
  CONFIG_URL_SETTING_ID VARCHAR(38) := NULL;
  IND_API_SETTING_ID VARCHAR(38) := NULL;

  URL_VAL_ID VARCHAR(38) := NULL;
  CONFIG_URL_VAL_ID VARCHAR(38) := NULL;
  IND_API_VAL_ID VARCHAR(38) := NULL;

  SYS_ADMIN_UID VARCHAR(38) := '{A29A3BA5-4B0D-DE11-9A51-
005056C00008}';
```

```
  ES_IND VARCHAR(500) := '[enter the URL to the ElasticSearch index,
string of the following type - http://external.elasticsearch:9200/
indexname]';
  CONFIG_URL VARCHAR(500) := '[enter the URL to the Global Search
Service, string of the following type - http://gs-web-api:81]';
  IND_API_URL VARCHAR (500): = '[enter the URL to the Global Search
Indexing Service, string of the following type - http://gs-web-
indexing-service: 82]'
BEGIN
  SELECT "Id" INTO URL_SETTING_ID FROM "SysSettings" WHERE "Code" =
'GlobalSearchUrl';
  SELECT "Id" INTO CONFIG_URL_SETTING_ID FROM "SysSettings" WHERE
"Code" = 'GlobalSearchConfigServiceUrl';
  SELECT "Id" INTO IND_API_SETTING_ID FROM "SysSettings" WHERE "Code"
= 'GlobalSearchIndexingApiUrl';

  SELECT MAX("Id") INTO URL_VAL_ID  FROM "SysSettingsValue" WHERE
"SysSettingsId" = URL_SETTING_ID;
  SELECT MAX("Id") INTO CONFIG_URL_VAL_ID  FROM "SysSettingsValue"
WHERE "SysSettingsId" = CONFIG_URL_SETTING_ID;
  SELECT MAX("Id") INTO IND_API_VAL_ID  FROM "SysSettingsValue" WHERE
"SysSettingsId" = IND_API_SETTING_ID;

  IF (URL_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (URL_SETTING_ID, SYS_ADMIN_UID, '1', ES_IND);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = ES_IND WHERE
"SysSettingsId" = URL_SETTING_ID;
  END IF;

  IF (CONFIG_URL_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (CONFIG_URL_SETTING_ID, SYS_ADMIN_UID, '1', CONFIG_URL);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = CONFIG_URL WHERE
"SysSettingsId" = CONFIG_URL_SETTING_ID;
  END IF;

  IF (IND_API_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (IND_API_SETTING_ID, SYS_ADMIN_UID, '1', IND_API_URL);
```

```
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = IND_API_URL WHERE
"SysSettingsId" = IND_API_SETTING_ID;
  END IF;
END;
```

3. Restart the Creatio application, clear Redis and log into the application.

For PostgreSql DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2, GlobalSearchRelatedEntityIndexing) by running the following SQL script:

```
DO $$

DECLARE
    GlobalSearchFeature VARCHAR(50) := 'GlobalSearch';
    GlobalSearchFeatureId uuid;
    GlobalSearchV2Feature VARCHAR(50) := 'GlobalSearch_V2';
    GlobalSearchV2FeatureId uuid;
    GS_RelatedEntityIndexingFeature VARCHAR(50) :=
'GlobalSearchRelatedEntityIndexing';
    GS_RelatedEntityIndexingFeatureId uuid;
    allEmployeesId uuid := 'A29A3BA5-4B0D-DE11-9A51-005056C00008';

BEGIN

   SELECT "Id" INTO GlobalSearchFeatureId FROM "Feature"
   WHERE "Code" = GlobalSearchFeature
   LIMIT 1;
   IF (GlobalSearchFeatureId IS NOT NULL)
      THEN
          IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE
"FeatureId" = GlobalSearchFeatureId) THEN
               UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1
WHERE "FeatureId" = GlobalSearchFeatureId;
          ELSE
              INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId);
          END IF;
   ELSE
       GlobalSearchFeatureId := uuid_generate_v4();
       INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchFeatureId, GlobalSearchFeature, GlobalSearchFeature);
       INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId);
   END IF;

   SELECT "Id" INTO GlobalSearchV2FeatureId FROM "Feature”
   WHERE "Code" = GlobalSearchV2Feature
   LIMIT 1;
```

```
   IF (GlobalSearchV2FeatureId IS NOT NULL)
    THEN
        IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE
"FeatureId" = GlobalSearchV2FeatureId) THEN
            UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchV2FeatureId;
        ELSE
            INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId);
        END IF;
   ELSE
       GlobalSearchV2FeatureId := uuid_generate_v4();
       INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchV2FeatureId, GlobalSearchV2Feature,
GlobalSearchV2Feature);
       INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId);
   END IF;

  SELECT "Id" INTO GS_RelatedEntityIndexingFeatureId FROM "Feature"
WHERE "Code" =GS_RelatedEntityIndexingFeature LIMIT 1;
  IF (GS_RelatedEntityIndexingFeatureId IS NOT NULL)
  THEN
  IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE "FeatureId" =
Bulk_ES_DD_FeatureId) THEN
  UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GS_RelatedEntityIndexingFeatureId;
  ELSE
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_RelatedEntityIndexingFeatureId);
  END IF;
  ELSE
  GS_RelatedEntityIndexingFeatureId := uuid_generate_v4();
  INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GS_RelatedEntityIndexingFeatureId, GS_RelatedEntityIndexingFeature,
GS_RelatedEntityIndexingFeature);
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_RelatedEntityIndexingFeatureId);
  END IF;
END $$;
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the ElasticSearch index, string of the
following type - http://external.elasticsearch:9200/indexname]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
```

```
 'GlobalSearchUrl' LIMIT 1 );

UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the Global Search Service, string of
the following type - http://gs-web-api:81]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
'GlobalSearchConfigServiceUrl' LIMIT 1 );

UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the Global Indexing Service, string of
the following type - http://gs-web-indexing-service:82]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
'GlobalSearchIndexingApiUrl' LIMIT 1 );
```

3. Restart Creatio, clear Redis and log into the application.

Initial population of the database

The database is populated with system records once the GSS is launched. Prior to that, there is not even a database file, since the database is automatically generated.

SEE ALSO

- API global search service description
- Global search

Setting up the global search service (version 1.6)

Global search components

Deployed on separate servers:

rabbitmq – message broker.

elasticsearch – search engine.

mysql – database of global search component configuration.

redis – database used for caching and speed.

Deployed on a single server:

gs-web-api – web-service for global search component configuration.

gs-scheduler – scheduler of data indexing from Creatio into ElasticSearch.

gs-worker – component of data indexing from Creatio into ElasticSearch as per the scheduler tasks.

gs-worker-replay – component processing indexing results (gs-worker operation results).

gs-worker-single — a component for targeted indexing of business process data in ElasticSearch on request from the business process.

gs-worker-single-replay – component processing indexing results (gs-worker operation results).

gs-worker-single-task — component for scheduling tasks for gs-worker-single.

gs-worker-queried-single-task — component for scheduling tasks for gs-worker-single.

> **ATTENTION**
> To create a productive environment, we recommend deploying the ElasticSearch, RabbitMQ and MySQL components in fault-tolerant clusters. If the listed components are deployed separately, disable the

deployment of these components in the Docker container via the RUN_RABBITMQ, RUN_ELASTICSEARCH and RUN_MYSQL variables.

To set up the components, download the source files. Download files.

NOTE

You can deploy all global search components on a single server for demonstration purposes. To do this, To do this, in the linux / onsite-custom-env file, set the RUN_RABBITMQ, RUN_ELASTICSEARCH, RUN_MYSQL variable values to "1".

List of ports used by global search components

Component name	Outgoing port	Incoming port	Notes
gs-web-api	6379	81	Incoming port is configured with the WEB_API_PORT variable
gs-web-indexing-service	5672	82	Incoming port is configured with the WEB_INDEXING_SERVICE_PORT variable
gs-worker	5672 9200 MSSQL or Oracle port		MSSQL or Oracle port - port communicating with the Creatio database
gs-worker-single	5672 9200 MSSQL or Oracle port		MSSQL or Oracle port - port communicating with the Creatio database
gs-scheduler	3306 5672		
gs-worker-replay	3306 5672		
gs-worker-single-task	3306 5672 6379		
gs-worker-single-replay	3306 5672		
rabbitmq		5672	
elasticsearch		9200	
mysql		3306	
redis		6379	

Global search setup procedure

1. Install Docker on a physical or virtual machine with Linux OS. Read more >>>
2. Install ElasticSearch. Read more >>>
3. Install RabbitMQ. Read more >>>
4. Set up MySQL. Read more >>>

5. Set up the container variables. Read more >>>
6. Install and run the Global Search Service components. Read more >>>
7. Enable the global search function in Creatio. Read more >>>
8. Populate the database with initial data. Read more >>>.

NOTE

Skip steps 2-4 for demo applications with all global search components installed on a single server.

CONTENTS

Docker setup

Install Docker to Linux OS to deploy global search components. The installation is covered in the Docker documentation. Read more >>>

Run the **docker --version** command on a Linux machine to verify the installed Docker version.

Installing RabbitMQ

Instructions on RabbitMQ cluster setup **for Docker**, are available in a separate guide. Read more >>>

Instructions on RabbitMQ cluster setup **without Docker**, are available in RabbitMQ guide documentation. Read more >>>

Installing ElasticSearch

1. Install ElasticSearch version 5.6.8. See ElasticSearch documentation for more information on the setup procedure. Read more >>>
2. After installing ElasticSearch, install the plugin for morphology search. Download the current version of the Morphological Analysis Plugin for ElasticSearch using the following link. You can find the morphology plugin installation instruction in ElasticSearch guide. Read more >>>
3. Add the following command to ElasticSearch docker file to install the plugin:

```
RUN bin/elasticsearch-plugin install http://dl.bintray.com/content/
imotov/elasticsearch-plugins/org/elasticsearch/elasticsearch-
analysis-morphology/5.6.8/elasticsearch-analysis-morphology-5.6.8.zip
```

Installing MySQL

Instructions on MySQL cluster installation **for Docker** are available in the Docker documentation. Read more >>>

ACCELERATE

To install the MySQL cluster **without Docker**, use the instructions in the MySQL guide. Read more >>>

Setting up container variables

All global search component containers are configured via a file with environment variables. The variables are contained in the Docker/linux/onsite-custom-env base file. Edit this file to set the values of variables,

ATTENTION

During the update of global search containers, set the value of "1" for the CLEAR_ELASTICSEARCH_DATA, CLEAR_RABBITMQ_DATA, CLEAR_MYSQL_DATA variables in the Docker/linux/onsite-custom-env file.

Variable name	Details	Default value
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for MS SQL)	Creatio database connection template. Specify the **[DBLogin]** user, the **[DBPassword]** password, the **[DBServerName]** Creatio database server (for example, dbserver\\mssql2016) and the **[DBName]** Creatio database name. Since containers are run under Linux OS control, Windows does not support authorization. For authorization, create a new SQL user or use an existing one.	Server=[DBServerName]; Database=[DBName]; User Id=[DBLogin]; Password=[DBPassword]; Connection Timeout=10
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for Oracle)	Creatio database connection template. Change the GS_WORKER_DB_CONNECTION_STRING_PATTERN variable in the Docker/linux/oracle-env file for Creatio applications using the Oracle database.	The example of a variable value can be found in the Docker/linux/oracle-env file.
GS_WORKER_DB_CONNECTION_STRING_PATTERN (for PostgreSQL)	Creatio database connection template. Change the GS_WORKER_DB_CONNECTION_STRING_PATTERN variable in the Docker/linux/oracle-env file for Creatio applications using the Oracle database.	The example of a variable value can be found in the Docker/linux/oracle-env file.

Variable name	Details	Default value
GS_ES_URL	Internal host for ElasticSearch. For applications that have global search components deployed on different servers, specify a host for which ElasticSearch will be available. For demo applications where all components of the global search are deployed on one server ((RUN_ELASTICSEARCH = 1), the internal host is available in the gs-web-api and gs-worker-xx docker containers.	http://elasticsearch:9200
GS_PUBLIC_ES_URL	The external elasticsearch host, ehich is used for access from Creatio. If ElasticSearch is deployed in the DOCKER container (RUN_ELASTICSEARCH = 1) - specify the external host, or ip-address of the machine with DOCKER deployed.	http://[external.elasticSearchHostName]:9200
RUN_RABBITMQ	A container with RabbitMQ will run if the value is set to "1". If you do not need to run the container with RabbitMQ, set the value to "0".	1
RUN_ELASTICSEARCH	A container with ElasticSearch will run if the value is set to "1". If you do not need to run the container with ElasticSearch, set the value to "0".	1
RUN_MYSQL	A container with MySQL will run if the value is set to "1". If you do not need to run the container with MySQL, set the value to "0".	1
RUN_REDIS	A container with REDIS will run if the value is set to "1". If REDIS is already deployed on an external server, set the value to "0".	1

Set the values of the below listed parameters only if the RabbitMQ, ElasticSearch or MySQL components are deployed separately.

Parameter	Function
GS_ES_LOGIN	If ElasticSearch does not require base64 authorization, leave the parameter unpopulated.
GS_ES_PASSWORD	If ElasticSearch does not require base64 authorization, leave the parameter unpopulated.
GS_RABBITMQ_AMQP	Access to external RabbitMQ. You need to change the parameter if the RabbitMq component is deployed separately.
GS_DB_CONNECTION_STRING	MySQL connection string. Change this parameter in the Docker/linux/mysql-env file if the MySQL component is deployed separately. • Server=gs-mysql – host; • ser id=$MYSQL_USER – user; • pwd=$MYSQL_PASSWORD – password.
GS_REDIS_CONNECTION_STRING	Access to external REDIS. You need to change the parameter if the REDIS component is deployed separately.

Additional variables that control the data indexing parameters in ElasticSearch

Variable name	Details	Default value
GS_DB_BATCH_SIZE	The number of records that form the batch for an indexing bulk request on ElasticSearch.	2000 records
GS_DB_INCREMENT_DAYS	Number of days to be indexed per one iteration of the scheduler. The ModifiedOn columns of system records are used for comparison.	500 days
GS_DB_FILL_QUEUE_INTERVAL	The interval for collecting data from the Creatio database by a regular scheduler. The load of the Creatio database depends on how small this parameter is. However, the primary indexing will happen faster if this parameter is smaller.	30000 (specified in milliseconds)

Running containers with the Global Search Service components

ATTENTION

For the correct container operation, the UTC-time on linux-machine with Docker installed should correspond to the UTC-time on Creatio DB server. Permissible deviation is up to five minutes. Otherwise, the global search may not index all records.

1. Copy the Docker folder from the application setup files to the linux machine.
2. Run the command.
    - For Creatio applications, deployed on **MS SQL**:

```
sh Docker/linux/run.sh mysql mssql 1.5 onsite
```

    - For Creatio applications, deployed on **Oracle**:

```
sh Docker/linux/run.sh mysql oracle 1.5 onsite
```

    - For Creatio applications, deployed on **PostgreSQL**:

```
sh Docker/linux/run.sh mysql postgre 1.5 onsite
```

NOTE

The "Error response from daemon: network with name net1 already exists" error may occur after restarting the sh Docker/linux/run.sh command, because the docker network named "net1" was created the at the time the command was run. This message is shown because the docker network with the "net1" name was created when you first started the command.

The following Docker volumes will automatically be mounted upon successful container running:

- es1, if RUN_ELASTICSEARCH=1 (es-node1);
- es2, if RUN_ELASTICSEARCH=1 (es-node2);

- mysql, if RUN_MYSQL=1;
- rabbitmq, if RUN_RABBITMQ=1.

NOTE

The "docker volume list" command displays the information about created volumes.
If one of the containers (MySQL, RabbitMQ or ElasticSearch) stops working, the data will be stored on external disk outside the Docker-container. You can learn more about volumes in Docker guide. Read more >>>

Verifying successful running of containers

Enter the **docker ps -a** command in the console to see all the containers that have been run.

The following containers should be run:

- gs-web-api;
- gs-web-indexing-service;
- gs-scheduler;
- gs-worker:
  - gs-worker1;
  - gs-worker2;
  - gs-worker3;
- gs-worker-replay;
- gs-worker-single;
- gs-worker-single-replay;
- gs-worker-single-task;
- gs-worker-queried-single-task;
- ES, if RUN_ELASTICSEARCH = 1:
  - es-node1;
  - es-node2;
- rabbitmq, if RUN_RABBITMQ = 1;
- gs-mysql, if RUN_MYSQL = 1;
- gs-redis, if RUN_REDIS=1.

Logging

By default logging is performed during the "stdout" container command execution.

NOTE

docker logs --tail 100 gs-worker displays 100 last log strings from the gs-worker container.

NOTE

When you first run the global search components you may receive an error about the failed mysql or rabbitmq connection attempt in their logs. At startup, it is possible that mysql or rabbitmq containers are temporarily unavailable. In this case, continue the connection attempts until the message about the successful connection and start of the container is displayed in stdout: "Now listening on: http://[::]:80 Application started. Press Ctrl+C to shut down".

Connecting global search service to Creatio

Actions on the server

To connect global search to Creatio, perform the following steps on the server:

1. Install the curl utility for http queries.

```
apt-get install curl
```

2. Perform the AddSite API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

```
curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
-H "Content-Type: application/json" http://[gs-web-api]:81/addsite
```

3. Perform the AddSearch API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

```
curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
-H "Content-Type: application/json" http://gs-web-api:81/addsearch
```

NOTE

The indicated query will return URL to the index created in ElasticSearch. Save the URL and use it in the system setting installation SQL-script below.

Settings on the Creatio side

For MS SQL DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2, GlobalSearchRelatedEntityIndexing) by running the following SQL script:

```
DECLARE @GS_REIndexingFeature NVARCHAR(50) =
'GlobalSearchRelatedEntityIndexing';
DECLARE @GS_REIndexingFeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE
Code = @GS_REIndexingFeature);

DECLARE @GlobalSearchFeature NVARCHAR(50) = 'GlobalSearch';
DECLARE @GlobalSearchFeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE Code = @GlobalSearchFeature);

DECLARE @GlobalSearchV2Feature NVARCHAR(50) = 'GlobalSearch_V2';
DECLARE @GlobalSearchV2FeatureId UNIQUEIDENTIFIER = (SELECT TOP 1 Id
FROM Feature WHERE Code = @GlobalSearchV2Feature);
DECLARE @allEmployeesId UNIQUEIDENTIFIER = 'A29A3BA5-4B0D-DE11-9A51-
005056C00008';

IF (@GlobalSearchFeatureId IS NOT NULL)
 BEGIN
   IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GlobalSearchFeatureId)
     UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId
= @GlobalSearchFeatureId
```

```
    ELSE
     INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchFeatureId)
 END
ELSE
 BEGIN
   SET @GlobalSearchFeatureId = NEWID()
   INSERT INTO Feature (Id, Name, Code) VALUES
(@GlobalSearchFeatureId, @GlobalSearchFeature, @GlobalSearchFeature)
   INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchFeatureId)
 END

IF (@GlobalSearchV2FeatureId IS NOT NULL)
 BEGIN
   IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GlobalSearchV2FeatureId)
     UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId
= @GlobalSearchV2FeatureId
    ELSE
     INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchV2FeatureId)
 END
ELSE
 BEGIN
   SET @GlobalSearchV2FeatureId = NEWID()
   INSERT INTO Feature (Id, Name, Code) VALUES
(@GlobalSearchV2FeatureId, @GlobalSearchV2Feature,
@GlobalSearchV2Feature)
   INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GlobalSearchV2FeatureId)
 END

IF (@GS_REIndexingFeatureId IS NOT NULL)
BEGIN
 IF EXISTS (SELECT * FROM AdminUnitFeatureState WHERE FeatureId =
@GS_REIndexingFeatureId)
  UPDATE AdminUnitFeatureState SET FeatureState = 1 WHERE FeatureId =
@GS_REIndexingFeatureId
  ELSE
  INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GS_REIndexingFeatureId)
END
ELSE
BEGIN
 SET @GS_REIndexingFeatureId = NEWID()
 INSERT INTO Feature (Id, Name, Code) VALUES (@GS_REIndexingFeatureId,
@GS_REIndexingFeature, @GS_REIndexingFeature)
 INSERT INTO AdminUnitFeatureState (SysAdminUnitId, FeatureState,
FeatureId) VALUES (@allEmployeesId, '1', @GS_REIndexingFeatureId)
```

```
END
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
UPDATE SysSettingsValue
SET TextValue = [specify URL to the ElasticSearch index, string of the
following type - http://external.elasticsearch:9200/indexname]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code =
'GlobalSearchUrl')

UPDATE SysSettingsValue
SET TextValue = [specify URL to the Global Search Service, string of
the following type - http://gs-web-api:81]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code
='GlobalSearchConfigServiceUrl')

UPDATE SysSettingsValue
SET TextValue = [specify URL to the Global Indexing Service, string of
the following type - http://gs-web-indexing-service:82]
WHERE SysSettingsId = (SELECT TOP 1 Id FROM SysSettings WHERE Code
='GlobalSearchConfigServiceUrl')
```

3. Restart Creatio, clear Redis and log into the application.

For Oracle DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2, GlobalSearchRelatedEntityIndexing) by running the following SQL script:

```
CREATE OR REPLACE FUNCTION
generate_uuid return varchar2 is
    v_uuid varchar2(38);
    v_guid varchar2(32);
BEGIN
    v_guid := sys_guid();
    v_uuid := lower(
                '{' ||
                substr(v_guid, 1,8) || '-' ||
                substr(v_guid, 9,4) || '-' ||
                substr(v_guid, 13,4) || '-' ||
                substr(v_guid, 17,4) || '-' ||
                substr(v_guid, 21) ||
                '}'
                );
    RETURN v_uuid;
END;
/

DECLARE
 GS_REIndexingFeature VARCHAR(50) :=
'GlobalSearchRelatedEntityIndexing';
 GS_REIndexingFeatureId VARCHAR(38) := NULL;
```

```
 GS_REIndexingFeatureId_GUID VARCHAR(38) := generate_uuid();

GlobalSearchFeature VARCHAR(50) := 'GlobalSearch';
  GlobalSearchFeatureId VARCHAR(38) := NULL;
  GlobalSearchFeatureId_GUID VARCHAR(38) := generate_uuid();
  GlobalSearchV2Feature VARCHAR(50) := 'GlobalSearch_V2';
  GlobalSearchV2FeatureId VARCHAR(38) := NULL;
  GlobalSearchV2FeatureId_GUID VARCHAR(38) := generate_uuid();
  allEmployeesId VARCHAR(38) := '{7F3B869F-34F3-4F20-AB4D-
7480A5FDF647}';
  State_GlobalSearch VARCHAR(1) := NULL;
  State_GlobalSearchV2 VARCHAR(1) := NULL;
  State_GS_REI VARCHAR(1) := NULL;

BEGIN
  SELECT MAX("Id") INTO GlobalSearchFeatureId FROM "Feature" WHERE
"Code" = GlobalSearchFeature AND rownum = 1;
  SELECT MAX("Id") INTO GlobalSearchV2FeatureId FROM "Feature" WHERE
"Code" = GlobalSearchV2Feature AND rownum = 1;
SELECT MAX("Id") INTO GS_REIndexingFeatureId FROM "Feature" WHERE
"Code" = GS_REIndexingFeature AND rownum = 1;

  SELECT MAX("FeatureState") INTO State_GlobalSearch FROM
"AdminUnitFeatureState" WHERE "FeatureId" = GlobalSearchFeatureId AND
rownum = 1;
  SELECT MAX("FeatureState") INTO State_GlobalSearchV2 FROM
"AdminUnitFeatureState" WHERE "FeatureId" = GlobalSearchV2FeatureId
AND rownum = 1;
  SELECT MAX("FeatureState") INTO State_GS_REI FROM
"AdminUnitFeatureState" WHERE FeatureId" = GS_REIndexingFeatureId AND
rownum = 1;

  IF (GlobalSearchFeatureId IS NULL) THEN
      INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchFeatureId_GUID, GlobalSearchFeature,
GlobalSearchFeature);
      INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId_GUID);
    ELSE
      IF (State_GlobalSearch IS NOT NULL) THEN
          UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchFeatureId;
        ELSE
          INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId_GUID);
      END IF;
  END IF;

  IF (GlobalSearchV2FeatureId IS NULL) THEN
```

```
      INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchV2FeatureId_GUID, GlobalSearchV2Feature,
GlobalSearchV2Feature);
      INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId_GUID);
    ELSE
      IF (State_GlobalSearchV2 IS NOT NULL) THEN
          UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchV2FeatureId;
        ELSE
          INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId_GUID);
      END IF;
  END IF;

 IF (GS_REIndexingFeatureId IS NULL) THEN
  INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GS_REIndexingFeatureId_GUID,GS_REIndexingFeature,
GS_REIndexingFeature);
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_REIndexingFeatureId_GUID);
  ELSE
  IF (State_GS_REI IS NOT NULL) THEN
  UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" =GS_REIndexingFeatureId;
  ELSE
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_REIndexingFeatureId_GUID);
  END IF;
 END IF;

END;
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
DECLARE
  URL_SETTING_ID VARCHAR(38) := NULL;
  CONFIG_URL_SETTING_ID VARCHAR(38) := NULL;
  IND_API_SETTING_ID VARCHAR(38) := NULL;

  URL_VAL_ID VARCHAR(38) := NULL;
  CONFIG_URL_VAL_ID VARCHAR(38) := NULL;
  IND_API_VAL_ID VARCHAR(38) := NULL;

  SYS_ADMIN_UID VARCHAR(38) := '{A29A3BA5-4B0D-DE11-9A51-
005056C00008}';
```

```
  ES_IND VARCHAR(500) := '[enter the URL to the ElasticSearch index,
string of the following type - http://external.elasticsearch:9200/
indexname]';
  CONFIG_URL VARCHAR(500) := '[enter the URL to the Global Search
Service, string of the following type - http://gs-web-api:81]';
  IND_API_URL VARCHAR (500): = '[enter the URL to the Global Search
Indexing Service, string of the following type - http://gs-web-
indexing-service: 82]’
BEGIN
  SELECT "Id" INTO URL_SETTING_ID FROM "SysSettings" WHERE "Code" =
'GlobalSearchUrl';
  SELECT "Id" INTO CONFIG_URL_SETTING_ID FROM "SysSettings" WHERE
"Code" = 'GlobalSearchConfigServiceUrl';
  SELECT "Id" INTO IND_API_SETTING_ID FROM "SysSettings" WHERE "Code"
= 'GlobalSearchIndexingApiUrl';

  SELECT MAX("Id") INTO URL_VAL_ID  FROM "SysSettingsValue" WHERE
"SysSettingsId" = URL_SETTING_ID;
  SELECT MAX("Id") INTO CONFIG_URL_VAL_ID  FROM "SysSettingsValue"
WHERE "SysSettingsId" = CONFIG_URL_SETTING_ID;
  SELECT MAX("Id") INTO IND_API_VAL_ID  FROM "SysSettingsValue" WHERE
"SysSettingsId" = IND_API_SETTING_ID;

  IF (URL_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (URL_SETTING_ID, SYS_ADMIN_UID, '1', ES_IND);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = ES_IND WHERE
"SysSettingsId" = URL_SETTING_ID;
  END IF;

  IF (CONFIG_URL_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (CONFIG_URL_SETTING_ID, SYS_ADMIN_UID, '1', CONFIG_URL);
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = CONFIG_URL WHERE
"SysSettingsId" = CONFIG_URL_SETTING_ID;
  END IF;

  IF (IND_API_VAL_ID IS NULL)
    THEN
      INSERT INTO "SysSettingsValue"
        ("SysSettingsId", "SysAdminUnitId", "IsDef", "TextValue")
        VALUES
        (IND_API_SETTING_ID, SYS_ADMIN_UID, '1', IND_API_URL);
```

```
    ELSE
      UPDATE "SysSettingsValue" SET "TextValue" = IND_API_URL WHERE
"SysSettingsId" = IND_API_SETTING_ID;
  END IF;
END;
```

3. Restart the Creatio application, clear Redis and log into the application.

For PostgreSql DBMS:

1. Enable the Feature Toggle function of the global search (GlobalSearch, GlobalSearch_V2, GlobalSearchRelatedEntityIndexing) by running the following SQL script:

```
DO $$

DECLARE
    GlobalSearchFeature VARCHAR(50) := 'GlobalSearch';
    GlobalSearchFeatureId uuid;
    GlobalSearchV2Feature VARCHAR(50) := 'GlobalSearch_V2';
    GlobalSearchV2FeatureId uuid;
    GS_RelatedEntityIndexingFeature VARCHAR(50) :=
'GlobalSearchRelatedEntityIndexing';
    GS_RelatedEntityIndexingFeatureId uuid;
    allEmployeesId uuid := 'A29A3BA5-4B0D-DE11-9A51-005056C00008';

BEGIN

   SELECT "Id" INTO GlobalSearchFeatureId FROM "Feature"
   WHERE "Code" = GlobalSearchFeature
   LIMIT 1;
   IF (GlobalSearchFeatureId IS NOT NULL)
      THEN
          IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE
"FeatureId" = GlobalSearchFeatureId) THEN
              UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1
WHERE "FeatureId" = GlobalSearchFeatureId;
          ELSE
              INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId);
          END IF;
   ELSE
       GlobalSearchFeatureId := uuid_generate_v4();
       INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchFeatureId, GlobalSearchFeature, GlobalSearchFeature);
       INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchFeatureId);
   END IF;

   SELECT "Id" INTO GlobalSearchV2FeatureId FROM "Feature”
   WHERE "Code" = GlobalSearchV2Feature
   LIMIT 1;
```

```
   IF (GlobalSearchV2FeatureId IS NOT NULL)
    THEN
        IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE
"FeatureId" = GlobalSearchV2FeatureId) THEN
           UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GlobalSearchV2FeatureId;
        ELSE
           INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId);
        END IF;
   ELSE
       GlobalSearchV2FeatureId := uuid_generate_v4();
       INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GlobalSearchV2FeatureId, GlobalSearchV2Feature,
GlobalSearchV2Feature);
       INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState", "FeatureId") VALUES (allEmployeesId, '1',
GlobalSearchV2FeatureId);
   END IF;

  SELECT "Id" INTO GS_RelatedEntityIndexingFeatureId FROM "Feature"
WHERE "Code" =GS_RelatedEntityIndexingFeature LIMIT 1;
  IF (GS_RelatedEntityIndexingFeatureId IS NOT NULL)
  THEN
  IF EXISTS (SELECT * FROM "AdminUnitFeatureState" WHERE "FeatureId" =
Bulk_ES_DD_FeatureId) THEN
UPDATE "AdminUnitFeatureState" SET "FeatureState" = 1 WHERE
"FeatureId" = GS_RelatedEntityIndexingFeatureId;
  ELSE
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_RelatedEntityIndexingFeatureId);
  END IF;
  ELSE
  GS_RelatedEntityIndexingFeatureId := uuid_generate_v4();
  INSERT INTO "Feature" ("Id", "Name", "Code") VALUES
(GS_RelatedEntityIndexingFeatureId, GS_RelatedEntityIndexingFeature,
GS_RelatedEntityIndexingFeature);
  INSERT INTO "AdminUnitFeatureState" ("SysAdminUnitId",
"FeatureState","FeatureId") VALUES (allEmployeesId, '1',
GS_RelatedEntityIndexingFeatureId);
  END IF;
END $$;
```

2. Run the following script to install the system settings (GlobalSearchUrl, GlobalSearchConfigServiceURL and GlobalSearchIndexingApiUrl):

```
UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the ElasticSearch index, string of the
following type - http://external.elasticsearch:9200/indexname]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
```

```
 'GlobalSearchUrl' LIMIT 1 );

UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the Global Search Service, string of
the following type - http://gs-web-api:81]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
'GlobalSearchConfigServiceUrl' LIMIT 1 );

UPDATE "SysSettingsValue"
SET TextValue = [specify URL to the Global Indexing Service, string of
the following type - http://gs-web-indexing-service:82]
WHERE "SysSettingsId" = (SELECT "Id" FROM "SysSettings" WHERE "Code" =
'GlobalSearchIndexingApiUrl' LIMIT 1 );
```

3. Restart Creatio, clear Redis and log into the application.

Initial population of the database

The database is populated with system records once the GSS is launched. Prior to that, there is not even a database file, since the database is automatically generated.

Additional global search settings (Creatio 7.14.2)

When you update to version 7.14.2, the automatic indexing by two characters for communication options and preliminary columns in the global search will be enabled by default. For example, the search mechanism will now display more accurate results if two-digit phone numbers are used or if account names contain two-letter words.

Enabling such indexing for on-site applications that already use global search requires additional configuration and data re-indexing. The procedure is as follows:

1. Execute the **Deletesearch** API command. Example of a call in Powershell:

   ```
   $params = @{
   "ApiKey"= "ApiKey";
   "SiteName"="NameOfSite"
   }
   Invoke-WebRequest -Uri http://serviceUrl/deletesearch -Method POST
   -Body $params
   ```

   Read more about this operation in the "DeleteSearch" article.
2. Perform the **AddSearch** API-operation and specify:
   - [site name] – Creatio database name, for example, SalesTeamENU;
   - [gs-web-api] – external address of the gs-web-api container that was run earlier.

   ```
   curl -v -X POST -d '{"ApiKey": "testKey", "SiteName": "[site name]"}'
   -H "Content-Type: application/json" http://gs-web-api:81/addsearch
   ```

   NOTE

   If this functionality is not required, change the IndexCommunicationOptionsAndLookupsBy2Symbols setting value to "false" in the webconfig file.

SEE ALSO

- API global search service description
- Global search

API global search service description

The global search service includes the program interface (API), which is used for managing the ElasticSearch indexing and other Global Search Service parameters.

Service API includes the following actions:

- AddSearch
- DeleteSearch
- GetServiceStatus
- SaveIndexationConfigs
- AddSite
- SetSearchState

AddSearch

Creates an index with a unique name in ElasticSearch. Updates the site information in the local database (OnSite-db), saves the index name, and Id of the search service and the search status (Enabled). Returns a link to the global search index in ElasticSearch, which you need to save in the "Global search url address" system setting of the Creatio application.

- EndPoint/URL: ServiceUrl/addsearch.
- Request type: POST.
- Parameters Body:
  - ApiKey - a key for API service access (specified in Web.config);

  NOTE

  By default, ApiKey = "ApiKey". We do not recommend editing this parameter unnecessarily. All queries to the global search service must contain the ApiKey value specified when the global search service was deployed.

  - SiteName – website name.
- Response:
  - status: "ok" / "error".
  - message: "http://{ElasticSearch URL}" / "{Error message}".
  - code: 200/400.

Example of a call in Powershell:

```
$params = @{
"ApiKey"= "ApiKey";
"SiteName"="NameOfSite"
}
Invoke-WebRequest -Uri http://serviceUrl/addsearch -Method POST -Body
 $params
```

DeleteSearch

Removes the global search index from ElasticSearch, deletes the directory with *.sql files, updates the information about the site in the local database (OnSite-db), deletes the index name, and Id of the search service, changes the search status to "Disabled".

- EndPoint/URL: ServiceUrl/deletesearch.

- Request type: POST.
- Parameters Body:
    - ApiKey - a key for API service access (specified in Web.config);

    NOTE

    By default, ApiKey = "ApiKey”. We do not recommend editing this parameter unnecessarily. All queries to the global search service must contain the ApiKey value specified when the global search service was deployed.

    - SiteName – website name.
- Response:
    - status: “ok” / “error”.
    - message: “Global search deleted from site {Website name}” / “{Error name}”.
    - code: 200/400.

Example of a call in Powershell:

```
$params = @{
"ApiKey"= "ApiKey";
"SiteName"="NameOfSite"
}
Invoke-WebRequest -Uri http://serviceUrl/deletesearch -Method POST
-Body $params
```

GetSearchStat

Returns the following data: the website name and index name in ElasticSearch, index size in bytes, the date of last indexation, the status of the search (Enabled/Disabled), the list of indexed entities and their parameters. The information is collected from ElasticSearch and the local database (OnSite-db).

- EndPoint/URL: ServiceUrl/getsearchstat.
- Request type: POST.
- Parameters Body:
    - ApiKey - a key for API service access (specified in Web.config);

    NOTE

    By default, ApiKey = "ApiKey”. We do not recommend editing this parameter unnecessarily. All queries to the global search service must contain the ApiKey value specified when the global search service was deployed.

    - SiteName – website name.
- Response:
    - globalSearchStats: the object that contains the status parameters. In case of an error, this object will be missing. The object has the following properties:
        - siteName – “{website name}”.
        - indexName – “{index name}”.
        - indexSize – “100500” (index size in bytes).
        - lastIndexingDate - the date of last indexation in the UTC format (or "0001-01-01T00: 00: 00.0000000” if indexing has not yet been done).
        - globalSearchState – global search status.

- globalSearchIndexingEntities - list of all indexed website entities (the records from the GlobalSearchIndexingEntity table) in a JSON form.
- status: "ok" / "error".
- message: "Succeeded. Got global search stats for site {Website name}" / "{Error message}".
- code: 200/400.

Example of a call in Powershell:

```
$params = @{
"ApiKey"= "ApiKey";
"SiteName"="NameOfSite"
}
Invoke-WebRequest -Uri http://serviceUrl/getsearchstat -Method POST
-Body $params
```

GetServiceStatus

Returns "OK" if the service is active. Used for the Zabbix monitoring system.

- EndPoint/URL: ServiceUrl/getservicestatus.
- Request type: POST.
- Parameters Body:
  - ApiKey - a key for API service access (specified in Web.config);

NOTE

By default, ApiKey = "ApiKey". We do not recommend editing this parameter unnecessarily. All queries to the global search service must contain the ApiKey value specified when the global search service was deployed.

- Response: only returns the "OK" text

Example of a call in Powershell:

```
$params = @{
"ApiKey"= "ApiKey";
"SiteName"="NameOfSite"
}
Invoke-WebRequest -Uri http://serviceUrl/getservicestatus -Method POST
 -Body $params
```

SaveIndexationConfigs

Gets the SQL files from Creatio to retrieve data from the application database to the index. Saves the files to the configuration file catalog (RootConfigFolder\IndexName). Populates the GlobalSearchIndexingEntity table, used by the Scheduler component.

- EndPoint/URL: ServiceUrl/saveconfigs.
- Request type: POST.
- Parameters Body:
  - IndexationConfigs – JSON with SQL files.
  - IndexName – global search index name in the application.

AddSite

Adds new website to DB.

- EndPoint/URL: ServiceUrl/addsite.
- Request type: POST.
- Parameters Body:
    - ApiKey - a key for API service access (specified in Web.config);

NOTE
By default, ApiKey = "ApiKey”. We do not recommend editing this parameter unnecessarily. All queries to the global search service must contain the ApiKey value specified when the global search service was deployed.

    - SiteName – website name.
- Response:
    - status: “ok” / ”error”.
    - message: “Site {Site name} was added successfully.” / “{Error message}”.
    - code: 200/400.

Example of a call in Powershell:

```
$params = @{
"ApiKey"= "ApiKey";
"SiteName"="NameOfSite"
}
Invoke-WebRequest -Uri http://serviceUrl/addsite -Method POST -Body
 $params
```

SetSearchState

Sets the global search status (Enabled or Disabled). The website marked as “Disabled” will not participate in indexation.

- EndPoint/URL: ServiceUrl/setsearchstate.
- Request type: POST.
- Parameters Body:
    - ApiKey - a key for API service access (specified in Web.config);

NOTE
By default, ApiKey = "ApiKey”. We do not recommend editing this parameter unnecessarily. All queries to the global search service must contain the ApiKey value specified when the global search service was deployed.

    - SiteName – website name.
    - SearchState — search status (Enabled/Disabled).
- Response:
    - status: “ok” / ”error”.
    - message: ““Success. GlobalSearch for site {Site name} was {disabled/enabled}. / “{Error message}”.
    - code: 200/400.

Example of a call in Powershell:

```
$params = @{
"ApiKey"="ApiKey";
"SiteName"="NameOfSite"
"SearchState"="Enabled"
}
Invoke-WebRequest -Uri http://serviceUrl/setsearchstate -Method POST
-Body $params
```

SEE ALSO

- Global search setup
- Global search

Machine learning service setup

Machine learning service is used for predicting values based on large volumes of historical data and current facts. Read more >>>

ATTENTION

Base knowledge of Docker, Linux or Windows administration is required to set up the machine learning service.

CONTENTS

Preparing for the machine learning service setup

To set up the service, you need to have a server (physical or virtual machine) with Linux or Windows OS installed. Docker software is used for installing the service components. Download the archive containing the configuration files and installation scripts. Download archive

ATTENTION

We recommend using Linux-based server for production environment. You can only use a Windows based server for the development environment. Contact the support service to receive Docker containers that care compatible with Windows.

NOTE

Depending on your company needs you can use either Docker Community Edition (CE) or Enterprise Edition (EE). Learn more in the Docker Guide.

Recommended system requirements to the server

Processor	64-Bit processor, minimum 4 cores
RAM	8 GB or more
HDD	20 GB or more of hard drive free space
OS	Linux application setup files supporting Docker. Supported Linux families are covered in the Docker guide. We recommend using stable Ubuntu or Debian versions. 64-Bit versions of Windows 10, Windows Server 2016 that support the Hyper-V technology.
Docker	v.18.03.1 and higher

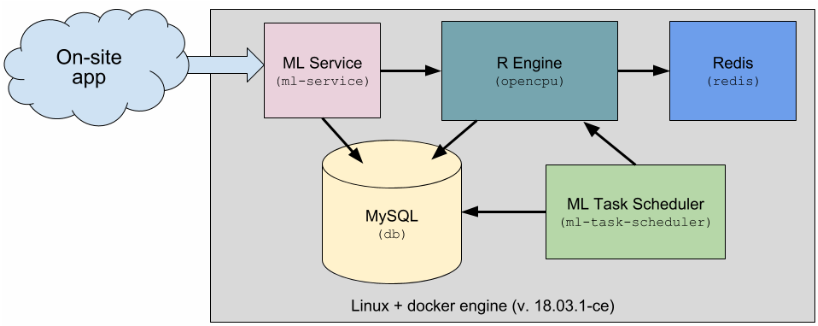
Machine learning service components

The machine learning service uses the following components (Fig. 624):

- **ML Service** – machine learning web service. The only component enabling external access.
- **R Engine** – machine learning engine, which is basically a service wrapper over open-source machine learning libraries.
- **Redis** – session and cache storage server. Read more >>>

- **ML Task Scheduler** – task scheduler.
- **MySQL**– MySQL database. You can access it via the standard 3306 port.

Fig. 624 Machine learning service components



All the components are packed as Docker images for the convenient on-site installing of the service.

Machine learning service setup

Algorithm of machine learning service setup:

1. Install Docker. Read more >>>
2. Install Docker Compose. Read more >>>
3. Install and set up the service components. Read more >>>
4. Verify the installation. Read more >>>

Installing Docker

Installing Docker for Linux OS is covered in the Docker guide.

Run the “docker --version” command on Linux machine to verify the installed Docker version.

Installing Docker Compose

Installing Docker Compose for Linux OS is covered in the Docker guide.

Run the “docker-compose --version” command on Linux machine to verify the installed Docker Compose version.

Setting up the machine learning service components

All the machine learning service component containers are deployed via the Docker Compose utility. Download the configuration files and scripts that are necessary to deploy and configure the service components. Download archive

> NOTE
> The configuration files contain all necessary default settings for a Linux based server.

The archive structure of the configuration files and scripts:

\etc\

..\ml-service\appsettings.json – the ML web service configuration.

..\ml-service\log4net.config – setup of the web service logging level.

..\redis\redis.conf – Redis server setup file.

...\r-service\config.yml – the "R Engine" configuration.

..\task-scheduler\appsettings.json – the "ML Task Scheduler" utility configuration.

..\task-scheduler\log4net.config – setup of "ML Task Scheduler" logging level.

Docker-compose.yml – the "Docker Compose" utility configuration.

.env – the file containing environment variables for running the components. For example, it contains MySql password.

ATTENTION

If you need to change the password to MySql database, you need to update it in the .env file as well as in other configuration files that contain database access setup sections.

Setting up the machine learning service components

1. Download and unzip the archive with the configuration files and scripts to a local catalog, for example, /opt/ml.
2. Using the Linux terminal, go to the /docker-compose catalog of the unzipped archive, for example, /opt/ml/docker-compose.
3. Run the "sudo docker-compose pull" command in the terminal. Wait until the download of the necessary service component images from the Docker Hub is complete.

ATTENTION

If the server has no access to the Internet, manually download all necessary images on a computer with open access (see the "docker-compose.yml" configuration file). Then use the sudo docker export and sudo docker import commands to transfer the images to the target computer as files.

4. Run the **sudo docker-compose run dbmigration** command to initialize the database structure. Wait until the command execution is complete.
5. Run the **sudo docker-compose up -d** command to launch the services. A "logs" folder will be created in the current catalog.

Verification of setting up the machine learning service components

1. To verify the installation of ML web service, run the following command in Linux:

   curl -X GET localhost:5005/readiness

   The service must return the following response:

   ML Service is ready
2. To verify the running of ML Task Scheduler, execute the following command in the Linux terminal:

   curl -X GET localhost:5004/readiness

   The service must return the following response:

   L Task Scheduler is ready
3. To verify the running of R Engine, execute the following command in the Linux terminal:

   curl -X GET localhost:8081/readiness

   The service must return the following response:

   R Service is ready

4. To verify creating of tables, run the following command in the terminal:

   docker exec -it [DB Container Id] mysql -u root --password=Supervisor ml -e "show tables;"

   where [DB Container Id] is an identifier of the container with a database component. You can find out the container identifier using the **sudo docker ps** command.

   CASE

   Verification of creating tables:

   docker exec -it [DB Container Id] mysql -u root --password=Supervisor ml -e "show tables;"

   As a result, the names of primary service tables should be displayed: “modelinstance”, “traindata”, “trainsession”, etc.

Updating the machine learning service components

ATTENTION

We recommend saving a backup copy of MySQL database, before you update the services. Learn more in the Docker Guide.

1. Using the Linux terminal, go to the docker-compose catalog with the configured files, for example, /opt/ml/docker-compose.
2. Run the **sudo docker-compose stop** command to stop the service component containers.
3. Run the **sudo docker-compose pull** command in the terminal. Wait until the download of the necessary service component images from the Docker Hub is complete.
4. Run the **sudo docker-compose run dbmigration** command to initialize the database structure. Wait until the command execution is complete.
5. Run the **sudo docker-compose up -d** command to launch the services.

SEE ALSO

- Predictive analysis
- Machine learning service (development guide)

Setting up additional parameters and integrations

After you install Creatio application on-site and enable websockets, additional setup is required for the correct operation of integrations and other functions, such as synchronization with Google and Facebook, bulk emails, cases or landings.

> **NOTE**
> All settings described in this article must be performed by the system administrator.

HOW TO SET UP INTEGRATION WITH GOOGLE

To configure the integration with Google services, you must register and configure your Google account to access the Calendar API to generate integration keys ("Client ID" and "Client Secret") and enter them in Creatio as values for the corresponding system settings. Read more in "Registering application for synchronization with Google (for on-site users only)".

HOW TO SET UP LANDING PAGES

This functionality is available in all configurations containing **the [Landing pages and web forms] section**.

Customers who have their Creatio application deployed on-site may need to perform additional setup to have the HTML code displayed correctly on the landing page. It is required when according to URL safety rules the URL displayed in the user's browser must be different from the one used for external access to Creatio. For example, when the URL gets blocked by firewall.

To set up landing pages:

1. Open the system designer by clicking the button in the top right corner of the application window. In the system designer, click the [System settings] link.
2. Open the "Landing pages data collection service URL" system setting in the [Landing pages section settings] folder.
3. In the [Default value] field, enter the external URL of your Creatio application, for example, http://creatio-marketing.mydomain.com, and save your settings.

As a result, the HTML code embedded in your landing page will use the correct URL to call the web service for creating a new lead in Creatio, for example:

```
serviceUrl: "http://mysite.creatio-marketing/ServiceModel/
GeneratedWebFormService.svc/SaveWebFormLeadData"
```

If you use a secure connection protocol, enter the URL and specify https:// in it. The web service call address in this case will be as follows:

```
serviceUrl: "https://mysite.creatio-marketing/ServiceModel/
GeneratedWebFormService.svc/SaveWebFormLeadData"
```

> **NOTE**
> By default, this setting is not configured and the application URL is generated automatically.

HOW TO SET UP CASE RESOLUTION EMAIL NOTIFICATIONS

The functionality is available in CRM bundles containing **Service Creatio, enterprise edition**; **Service Creatio**, **customer center edition** and **Financial Services Creatio, customer journey edition**.

To enable sending automatic notifications to the customers after a case status is changed to "Solved", it is necessary to additionally configure the application by specifying the Creatio website address that will be used to obtain information from the customers. Populate the [Default value] field of the **[Website URL]** system setting with the site URL used for Creatio access, for example http://creatio.com.

HOW TO SET UP DATA ENRICHMENT

Your personal cloud key and the URL to Creatio cloud services are required to use data enrichment. Use the following system settings to specify these values:

- "Account enrichment service url". By default, this setting is populated for all applications.
- "Creatio cloud services API key". This setting is populated for **cloud** applications by default, but needs to be configured for **on-site** applications.

Request your personal key for your **on-site** application from the Creatio support team at support@creatio.com. After receiving the key:

1. In the system designer, click the [System settings] link.
2. Go to the [Creatio cloud services] group, and select the [Creatio cloud services API key] system setting.
3. Specify the key in the [Default value] field and click [Save]

Data enrichment functions can now be used.

SEE ALSO

- Bulk email setup
- Setting up a web-farm for Creatio application server
- Installing Creatio
- Websockets setup
- Switching from HTTP to HTTPS
- Creatio setup FAQ

Bulk email setup

The functionality is available in **Creatio marketing** and CRM bundles.

Set up your email service integration with Creatio for sending bulk emails. All cloud email service settings for bulk emails are consolidated on the bulk email setup page in the [Email] section. You can use it to edit general settings of sending bulk emails and receiving responses, sender domains as well as to monitor the connection status.

CONTENTS

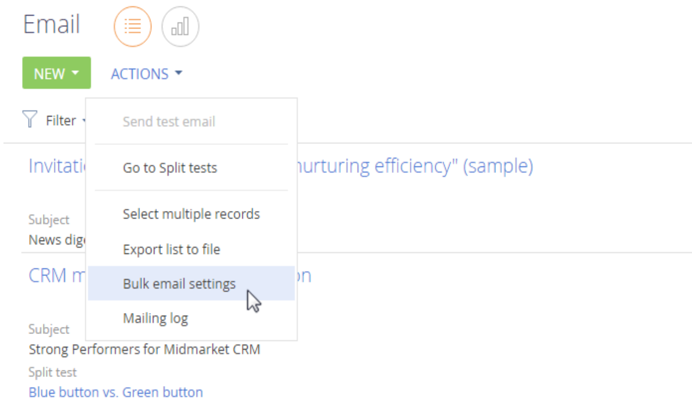
How to set up integration with Creatio cloud email service (for on-site users)

To check integration with cloud email service:

1. Go the [Email] section. Open the [Actions] menu and select **[Bulk email settings]** (Fig. 625).

ACCELERATE

Fig. 625 Opening the bulk email setting page



2. Populate the [General settings] tab fields.
    - In the **[API key]** field, specify your personal access key to the bulk email service.
    - In the **[Creatio cloud services connection URL]** field, specify the bulk email cloud service address in the "https://url_adress.com" format.
    - In the **[Auth key]** field, specify the authentication key for receiving responses.

   To obtain the API key and the Auth key, as well as the URL to bulk email cloud services after installing product licenses, please contact our support at support@creatio.com.
    - The **[Email provider]** field will be populated automatically with the name of your email service provider after the [API key] and [Creatio cloud services connection URL] fields have been populated.

   ATTENTION

   Contact Creatio support to change your bulk email service provider.

3. In the **[Domain to receive responses]** field, specify the domain address of your Creatio application in the following format: http://www.yourdomain.com.

   IMPORTANT

   POST requests should be sent and received via the 443 port. To check the connection after you have completed the settings, open the following pages in the browser:
   https://url_adress.com/metadata – checking connection via port 443;
   "url_adress.com" is the received Creatio cloud service URL.
   If the page opens, your setting has been performed correctly. If the page does not open, check whether the port is opened correctly.

How to set up sender domain list

For the sender name to be displayed correctly in the bulk email and to avoid unauthorized bulk email sent on your behalf, perform the following settings:

- Specify the list of your domains on the bulk email settings page.
- Verify each domain by using specific text SPF-, DKIM- and DMARK-records.
- Save the changes.

To do this:

1. Add the list of your domains by clicking the + button on the [Sender domains] tab.

   NOTE
   All added domains, including those that are no longer in use, are displayed in the list. Domains cannot be deleted from the list.

2. Select a domain from the list for verification. A DKIM/SPF setup manual for the selected domain will be displayed on the right side of the screen. The manual text will contain correct SPF and DKIM records generated for your domains.

   NOTE
   DKIM/SPF manuals are different for each domain. To view a specific manual, select the required domain from the list.

3. Set up domain verification. The verification setup process is covered in a separate article. Read more >>>

As a result, the bulk email settings [Connection status] field will display the " Connection active" message.

Additional settings for integration with bulk email service

Set up one of the Creatio access options for Creatio Cloud Email Service for correct operation of bulk email functions:

1. In the server firewall, permit receiving POST requests from Internet to the domain where Creatio is deployed: http://www.yourdomain.com.

2. In the server firewall, permit receiving POST requests from a specific web service. For example, if the application is deployed on http://www.yourdomain.com, then the following address must be accessible: http://www.yourdomain.com/0/ServiceModel/CESWebhooksService.svc/HandleWebHooks.

   NOTE
   There is no need to set up processing of unsubscribe requests and to check if Creatio application server is able to receive GET-requests. Creatio will process unsubscribe queries automatically.

   ATTENTION
   If the HTTPS protocol is used to access Creatio, the application server must have an active certificate installed. In case the data transfer protocol or application address are changed, make the appropriate changes on the bulk email setup page.

It is not recommended to use IP address “white lists“ to limit access to open ports because the Creatio Cloud Email Service may send analytical information about responses from different IP addresses. If the “white list“ doesn't contain the IP address that the analytical information is sent from, the data will be lost.

When using a “black list”, we recommend checking that the received IP addresses are not in this list.

How to enable bulk email monitoring on-site

We recommend that you set up monitoring of your bulk email status by the support service before you start working with bulk emails. If you do this, Creatio support will be able to resolve any potential bulk email issues faster. Support service employees will have access to aggregated bulk email metrics that does not contain personalized email message texts, email templates, etc.

> NOTE
> The procedure is different for cloud and on-site applications. The setup for cloud-based applications is described in a separate article – "How to permit monitoring bulk email status by Creatio support".

To set up:

1. Go to the system designer by clicking the button in the top right corner of the application window and click [System settings].
2. Open the [Enable monitoring of the email troubleshooting indicators] system setting and select the [Default value] checkbox. Save the changes.
3. In the application server firewall, permit the access from the Internet to the web service:

   /0/ServiceModel/CESTroubleshootingService.svc/emailstate.

   For example, if the application is deployed on http://www.yourdomain.com, then the following address must be accessible:

   http://www.yourdomain.com/0/ServiceModel/CESTroubleshootingService.svc/emailstate.

As a result, the support service employees will be able to identify and eliminate potential bulk email issues.

SEE ALSO

- Bulk email setup page
- How to send bulk emails with your company domain
- Bulk email guidelines

Setting up a web-farm for Creatio application server

You can enhance the performance of large-scale Creatio projects (up to several thousand users) through horizontal scaling, i.e., increasing the number of servers with deployed Creatio applications and distributing the workload between them.

The load balancer may be either hardware or software. To work in fault-tolerant mode, use the HTTP/HTTPS traffic balancer that supports "sticky sessions" and the WebSocket protocol. Creatio has been tested on HAProxy software load balancer. There are cases of successful implementation of other balancers, e.g., Citrix, Cisco, NginX, FortiGate, MS ARR.

This guide covers horizontal scaling of Creatio application using a free open-source load balancer (HAProxy), designed for distributing the load between several application servers.

General deployment procedure

To deploy Creatio with horizontal scaling of application servers:

1. Deploy all needed Creatio application instances in a web-farm.

   The parameters, as well as the needed number of server sessions for different scaling scenarios, are specified in the system requirements for Creatio servers.

   Creatio on-site deployment procedure is available in a separate article.

NOTE

It is recommended to specify identical names in IIS and the Application pool setting for all instances of the application.

2. Specify the same SQL and Redis databases in the ConnectionStrings.config file for all instances.

```
<add name="redis"
connectionString="host=DOMAIN.COM;db=0;port=6379;maxReadPoolSize=10;m
axWritePoolSize=500"/>
<add name="db" connectionString="Data Source=DOMAIN.COM;Initial
Catalog=DatabaseName;Integrated Security=SSPI;
MultipleActiveResultSets=True;Pooling-true;Max Pool Size=100"/>
```

3. In the <appSettings> block of the application's "Web.config" file, add the following key:

```
<add key="TenantId" value="1" />
```

The "value" number should be the same for all application instances of the web-farm.

ATTENTION

Starting with Creatio version 7.14.1, the <add key="TenantId" value="..."/> key can only be added to the internal Web.config file (Terrasoft.WebApp\Web.config). Adding the key to an external Web.config file may lead to application failures.

4. For each application, specify the same machineKey values for all sites in the Web.config file.
5. Grant access permissions to created application directories for the IUSR user and the user who launches Application pool in IIS.
6. Set up a load balancer (e.g., HAProxy) for distributing the workload between the deployed application servers.
7. If necessary, set up workload balancing for database and session servers.

NOTE

More information about the clustering setup is available in the MSSQL and Oracle user guides. The fault tolerance setup using Redis Sentinel is described in a separate article.

Installing HAProxy balancer

The HAProxy load balancer supports a range of free open-source OS. In this guide, we will cover one of the simpler methods of deploying HAProxy on the Debian OS via the haproxy.debian.net service.

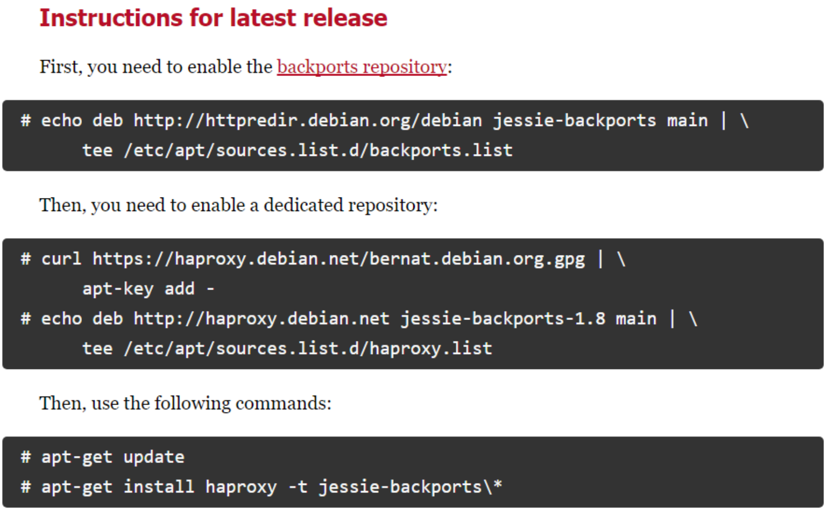
1. Open the installation service page by clicking https://haproxy.debian.net/
2. Select the OS and its version, afterwards select the HAProxy version.

NOTE

Use the cat /etc/issue command to check the version of the currently installed Debian OS.

As a result, the service will generate a set of commands that must be executed in the Debian OS to install HAProxy.

Fig. 626 Example of HAProxy installation commands generated by the haproxy.debian.net service



Instructions for latest release

First, you need to enable the backports repository:

```
# echo deb http://httpredir.debian.org/debian jessie-backports main | \
      tee /etc/apt/sources.list.d/backports.list
```

Then, you need to enable a dedicated repository:

```
# curl https://haproxy.debian.net/bernat.debian.org.gpg | \
      apt-key add -
# echo deb http://haproxy.debian.net jessie-backports-1.8 main | \
      tee /etc/apt/sources.list.d/haproxy.list
```

Then, use the following commands:

```
# apt-get update
# apt-get install haproxy -t jessie-backports\*
```

3. Execute the generated commands one after another.

HAProxy balancer setup

To set up HAProxy, modify the haproxy.cfg file. You can find the file under the following path:

```
.../etc/haproxy/haproxy.cfg
```

Primary setup (required)

Add two sections necessary for HAProxy operation: **frontend** and **backend**.

The frontend section

Add two settings to the frontend section: **bind** and **default_backend**.

- In the **bind** setting, specify the address and the port that will receive requests distributed by HAProxy.
- In the **default_backend** option, specify the name that will match the name of the backend section.

As a result, the setup will look as follows:

```
frontend front
maxconn 10000
#Using these ports for binding
bind *:80
bind *:443
#Convert cookies to be secure
rspirep ^(set-cookie:.*)  \1;\ Secure
default_backend creatio
```

The backend section

Add 2 required settings to the backend section:

- In the **balance** parameter, specify the type of balancing, e.g., **roundrobin**. More information about different types of balancing is available in HAProxy documentation.
- Use the **server** parameter to specify all servers (or "nodes") for distributing the load.

Add a separate "server" parameter for each server (i.e. the deployed Creatio application instance) and specify the server / port addresses and weight. Server weight allows the balancer to distribute the load based on the physical capabilities of the servers. The more weight is specified for the server, the more requests it receives. For example, if you need to distribute the load between 2 Creatio application servers, add 2 "server" parameters to backend:

```
server node_1 [server address]:[port] weight
server node_2 [server address]:[port] weight
```

As a result, the setup will look as follows:

```
backend creatio
#set balance type
balance roundrobin

server node_1 nodeserver1:80 check inter 10000 weight 2
server node_2 nodeserver2:80/sitename check inter 10000 weight 1
```

The new settings will be applied as soon as you restart HAProxy. To restart HAProxy, use the following command:

```
service haproxy restart
```

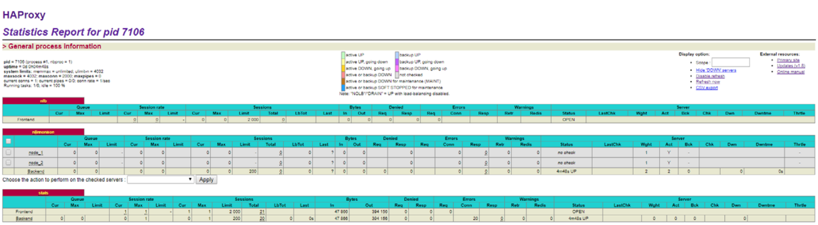
web Statistics setup (optional)

To enable web-statistics, add a new "listen" section with the following parameters: **bind**, **mode http**, **stats enable**, **stats uri**. The syntax is as follows:

```
listen stats # Define a listen section called "stats»
    bind :9000 # Listen on localhost:9000
    mode http
    stats enable  # Enable stats page
    stats uri /haproxy_stats  # Stats URI
```

As a result, the web-statistics of Creatio load balancing will be available for viewing in the browser.

Fig. 627 Example of a load balancer web-statistics



To view the statistics, follow the path: [balancer address]:9000/haproxy_stats.

SEE ALSO

- Server-side system requirements
- Installing Creatio

Creatio setup FAQ

Which Internet Information Services (IIS) components are required for Creatio?

To ensure the correct operation of Creatio on-site, enable the following components in the Windows [Programs and Features] menu:

1. .NET Framework 3.5:
    - Windows Communication Foundation Non-HTTP Activatvation
    - Windows Communication Foundation HTTP Activation
2. .NET Framework 4.7.2
    - ASP.NET 4.7.2
    - For WCF Services:
        - HTTP Activation
        - Message Queuing (MSMQ) Activation
        - Named Pipe Activation
        - TCP Activation
        - TCP Port Sharing

NOTE

Microsoft .Net Framework 4.7 or higher – for Creatio version 7.11.1 – 7.13.1, Microsoft .Net Framework 4.7.2 – for Creatio version 7.13.2 or higher;

Additionally, IIS services are key component for operation of websites and web applications deployed on Windows Server. Enable the following IIS components:

1. On the "Web Management Tools" tab:
    - IIS Management Console
    - IIS Management Script and Tools
    - IIS Management Service
2. On the "World Wide Web Services" tab:
    - For the Application Development Features component:
        - All ASP.NET elements
        - All .NET Extensibility elements
        - ISAPI extensions;
        - ISAPI Filters
        - WebSocket Protocol
    - For the Common HTTP Features component:

        - Default Document
        - HTTP Errors
        - HTTP Redirection
        - Static Content
    - For the "Health and Diagnostics" component:
        - Custom Logging
        - HTTP Logging
        - Logging Tools
        - Request Monitor
    - For the "Security" component:
        - Request filtering
        - IP and Domain Restriction

How do I switch from HTTP to HTTPS?

The detailed procedure for switching from HTTP to HTTPS is covered in a separate article.

Which account is used when you first log in to the system?

After the successful deployment of Creatio on-site, log in with these credentials: user - Supervisor, password - Supervisor.

Does the number of active Creatio users affect the number of Microsoft SQL Server?

The number Microsoft SQL Server users does not depend on the number Creatio users, though depends on the number of servers with databases. Please see the System requirements for on-site deployment

SEE ALSO

- Installing Creatio
- Websockets setup
- Switching from HTTP to HTTPS
- Setting up additional parameters and integrations

Creatio licensing

Only licensed users have access to Creatio functionality.

Licensing in Creatio covers two general types of operations with licenses: software licensing and distributing the available licenses among the user accounts.

Several types of licenses are used in Creatio:

Nominal licenses

Nominal licenses provide access to the product for specific users. Licenses of this type are connected to user accounts and cannot be used by other users. A system administrator can redistribute the available licenses among users at any time.

> NOTE
>
> Each license includes 1Gb of free disk storage space. Every additional Gb of storage space is charged separately on the annual basis.

Marketing campaign and active contact licenses

The functionality is available in **Creatio marketing** and CRM bundles.

Creatio marketing functions require the following licenses:

- Marketing campaign licenses. These licenses enable the functions of the marketing-oriented Creatio sections: [Email], [Campaigns], [Events], etc. The number of licenses must correspond to the number of Creatio users who will be working with the corresponding sections.
- Marketing active contact licenses. These licenses are used for saving records in the [Email] section. The number of licenses must correspond to (be equal or more than) the size of the database with **active contacts**, to whom bulk emails are sent.

Active contacts are contacts with whom at least one of the following communications has been made a year ago or less:

- A contact was a part of a bulk email audiences and the bulk email sent to the contact had an actual response.
- A contact was a part of an event audience.
- A contact was a part of a campaign audience.

Make sure that the number of active contacts (used licenses) does not exceed the number of available licenses. If the number of used licenses exceeds that of the available licenses, errors may occur during:

- saving or sending bulk emails
- editing bulk email templates in content designer
- moving to the [Marketing email] campaign step
- certain operations in the [Events] and [Campaigns] sections might be disabled

> NOTE
>
> If the number of active contacts exceeds the number of purchased licenses, you need to purchase additional licenses. Send a license request to Creatio technical support team – support@creatio.com.

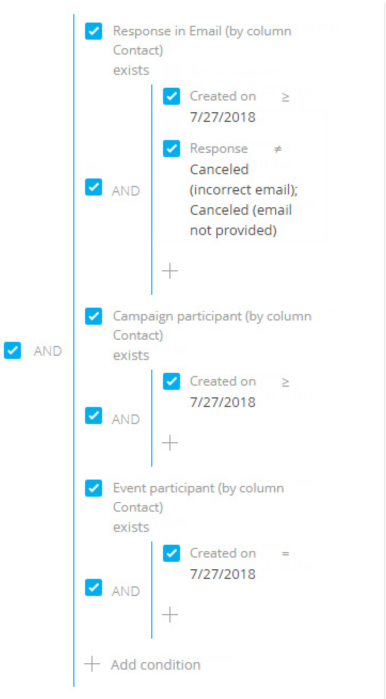
How to determine the number of licenses to request

The number of owned licenses and active contacts is available in the [Dashboards] section, on the [Licenses] tab. These indicators may be slightly different from actual indicators, because they are calculated once per day.

According to the terms of "an active contact license", one contact can receive no more than 365 marketing communications per year.

To view the list of active contacts, set up a filter in the [Contacts] section as shown on Fig. 628.

Fig. 628 A filter for viewing active marketing contacts



The filter "Created on" date is the date when the calculation of license validity term starts. It is calculated based on: "Validity period date" minus 1 year.

For calculation:

1. Open the system designer by clicking the button in the top right corner of the application window. In the [Admin area] block, click the [Advanced settings] link.
2. In the menu, select the [Manage user licenses] option.
3. In the opened License Manager, view the validity period on the [Available licenses] tab (Fig. 629).

Fig. 629 Viewing the validity period of a license

Available Licenses | Distributed Licenses

License solution	Start period	Validity period	License type	Quantity
ws dadata for cloud	2/1/2016	8/31/2018	Server	50

4. Subtract one year from the received date.

As a result, you will receive the start date of the license validity period, which needs to be populated in the [Created on] column when setting up the filter for selecting active contacts. For example, if the license validity period is 8/31/18, as show in Fig. 629, the start date for setting up the filter will be 8/31/17.

Server licenses

Server licenses provide access to additional system functionality, for example, telephony.

Unlike the nominal license, the server license does not require licensing for specific users. In other words, when distributed the license, all Creatio users that have corresponding permissions will have access to the functionality that is covered by this license.

CONTENTS

- Software licensing
- License distribution

VIDEO TUTORIALS

- User and role management, access permissions

Software licensing

The process of licensing is similar for all types of licenses used in Creatio. Software licensing is performed in the license manager.

To buy or prolong the validity of a license:

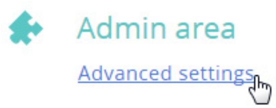
1. Generate the license request and send it to the technical support team.
2. You will receive a file in return. Upload it to the system.

Generating a license request

To generate a request:

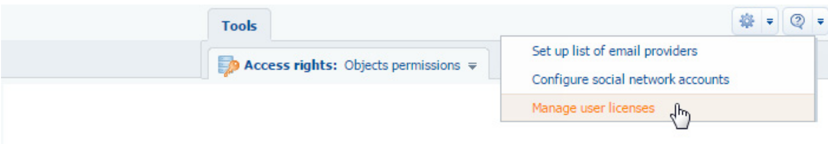
1. Open the system designer by clicking the  button in the top right corner of the application window.
2. In the [Admin area] block, click the [Advanced settings] link (Fig. 630).

   Fig. 630 Opening the advanced settings page

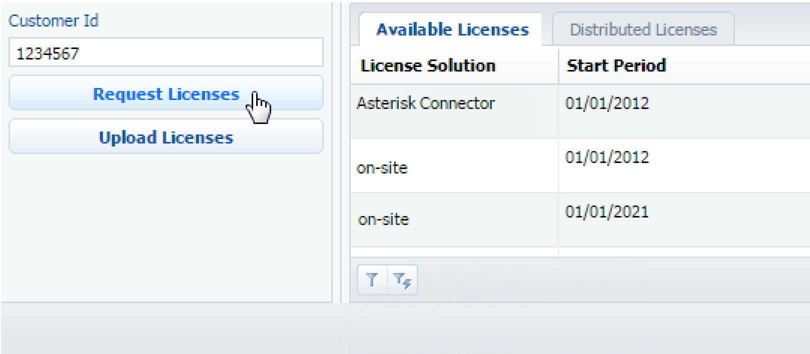
3. In the  menu, select the [Manage user licenses] option (Fig. 631). The license manager window will open.

   Fig. 631 Opening the license manager

4. In the [Customer Id] field, specify the number received from the technical support team.
5. Click the [Request Licenses] button (Fig. 632).

Fig. 632 Generating a license request



As a result, a license request file will be generated and downloaded.

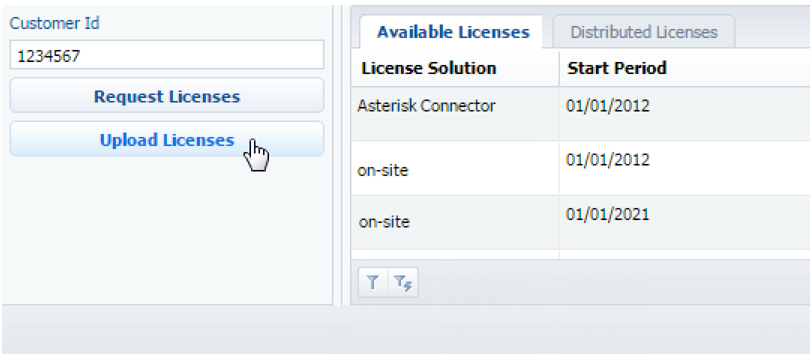
6. Send the license request file to Creatio technical support team – support@creatio.com. You will receive a file containing the information about purchased licenses.

Uploading a license file in the system:

To upload licenses:

1. Locally save the license file received from the technical support team.
2. In the license manager window, click the [Upload Licenses] button (Fig. 633).

Fig. 633 Loading a license file to Creatio



3. Specify the path to the license file you saved earlier and click the [Load Licenses] button.

   As a result, the updated license data will be loaded into the system. This may result in the licenses list being updated, particularly in increasing the number of available licenses or extending their duration.

License distribution

In order for a new employee to be able to log in, their user accounts must be licensed. A system administrator can redistribute the available licenses at any time.

> **NOTE**
> The total number of distributed nominal licenses cannot exceed the total number of purchased licenses of this type. Server licenses do not need to be distributed.

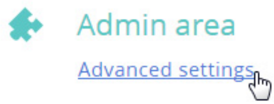
To distribute licenses, you can use either the license manager or the [Users and roles management] section.

Licensing users in the license manager

If you need to distribute licenses to several user accounts at once, use the license manager. For example, to redistribute the available licenses:

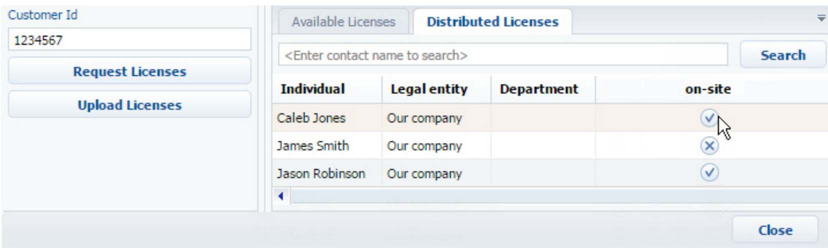
1. Open the system designer by clicking the button in the top right corner of the application window.
2. In the [Admin area] block, click the [Advanced settings] link (Fig. 634).

Fig. 634 Opening the advanced settings page



3. In the menu, select the [Manage user licenses] option.
4. In the displayed license manager window, go to the [Distributed Licenses] tab.
5. In the product column, select checkboxes next to the users' names to license their accounts (Fig. 635) or clear the checkboxes to disable the licenses for specific users.

Fig. 635 Selecting the checkbox in the license manager



6. Use the same procedure to distribute the available licenses for other purchased products.
7. Close the license manager window.

   As a result, Creatio licenses will be distributed/removed for specific user accounts.

ATTENTION!

If the number of distributed personal licenses exceeds the number of available ones, the access to the system will be restricted for all users. To unlock the system, the user, who has access to license management must log in to Creatio and decrease the number of distributed licenses.

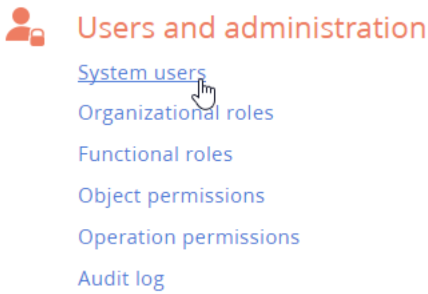
Licensing users in the [Users and roles management] section

You can also license the users in the [Users and roles management] section. This method of licensing is recommended when licensing one specific user account, for example, when a new employee is registered in the system.

To distribute or disable a license in the [Users and roles management] section:

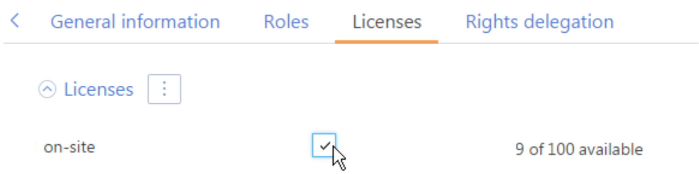
1. Open the system designer by clicking the button in the top right corner of the application window.
2. Open the system designer and click the [Users and roles management] link in the [System users] block (Fig. 636).

Fig. 636 Clicking the [System users] link



3. Select the needed user and click the [Edit] button. On the user page, on the [Licenses] tab, select the checkboxes next to the product names (Fig. 637) to license the user or clear the checkboxes to disable the licenses.

Fig. 637 Selecting a checkbox on the [Licenses] detail



4. Save the page.

   As a result, the selected user account will receive one of the available Creatio user licenses.

SEE ALSO

- Software licensing

- Managing users

VIDEO TUTORIALS

- User and role management, access permissions