

Localizable resources

Localizable resources basics

Version 8.0



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Localizable resources basics



Localizable resources are resources required to display Creatio UI in the user's profile language. Localizable resources include images and localizable strings.

Localizable resources are a part of Creatio configuration resources. Creatio resources are contained in [packages](#) and bound to the base schema. When you request resources from a specific schema, Creatio collects them based on package hierarchy, levels, and positions.

Localizable resources utilize the concepts of primary and additional language.

The **primary language** (primary language culture) is the default Creatio UI language.

The **additional language** (additional language culture) is the Creatio UI language that was changed in the user profile and is different from the primary language.

To **change the primary language**, activate the new language. Learn more about activating the UI language in a separate article: [Manage UI languages](#).

The Section and Detail Wizards, Process and Case Designers, and the [*Translation*] section use every language installed in Creatio. In other cases, only activated languages (i. e., languages for which the [*Active*] checkbox is selected) are available. This separation decreases the task execution time, for example, logging in, opening the record page, etc. Learn more in the user documentation: [Manage UI languages](#), [Localize UI via the \[*Translation* \] section](#).

Creatio provides the following localizable resource **types**:

- simple localizable resources
- bound localizable resources

Display localizable resources

Creatio displays localizable resources based on the following:

- display mode
- display method

Display modes of localizable resources

Creatio implements the following **display modes of localizable resources**:

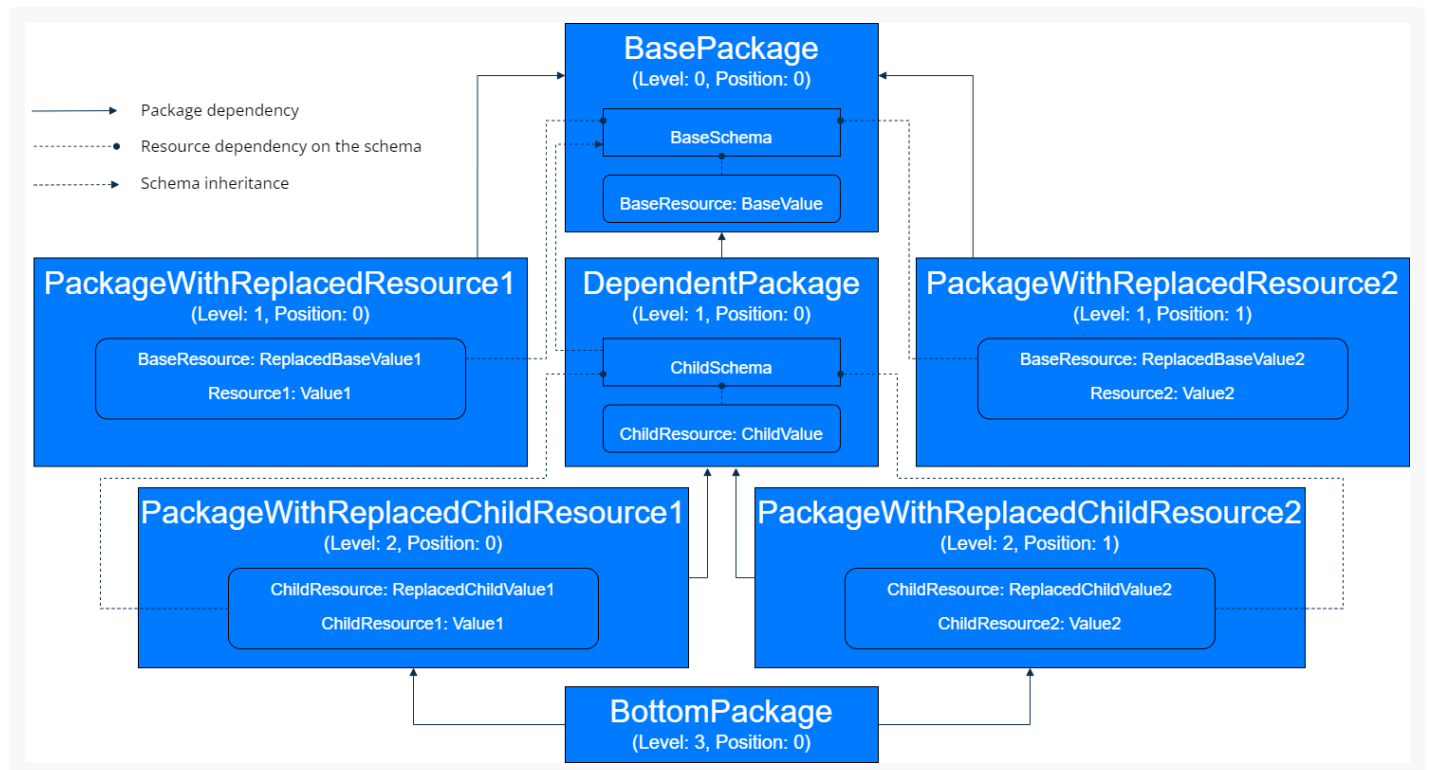
- design-time mode
- run-time mode

The package hierarchy is applied when displaying localizable resources.

Design-time mode

The **purpose** of design-time mode is to display localizable resources in Designers and Wizards. In this mode, the localizable resource hierarchy of configuration element schemas is built only up to the level of the package that contains the scheme with the requested resources. Creatio builds the hierarchy based on the localizable package resources that are added to the hierarchy via [direct connections](#).

The example mechanism that displays localizable resources is provided below. The example uses the `ChildResource: ChildValue` resource of the `ChildSchema` schema in the `DependentPackage` package. View the package hierarchy in the figure below.



The **resulting resources** for the `ChildSchema` schema in design-time mode are as follows:

- `BaseResource: BaseValue`
- `ChildResource: ChildValue`

In design-time mode, resources do not depend on the following:

- resources of the `PackageWithReplacedResource1` and `PackageWithReplacedResource2` packages because these packages are not involved in the hierarchy
- resources of the `PackageWithReplacedChildResource1` and `PackageWithReplacedChildResource2` packages because these packages are lower in the hierarchy compared to the requested schema

If a start package (the package from which the resource collection starts) is specified for the requested schema, Creatio generates the resulting set of resources up to the level of the specified package.

The **resulting resources** for the `ChildSchema` schema up to the level of the `BottomPackage` package in design-time mode are as follows:

- `BaseResource: BaseValue`

- `ChildResource: ReplacedChildValue2`
- `ChildResource1: Value1`
- `ChildResource2: Value2`

The `ChildResource` value is changed to `ReplacedChildValue2` because the original resource was replaced in packages that are one level below in the hierarchy (`Level 2`). The position and name of the package are considered. Package that has a higher position value is prioritized. Packages that have the same position value are sorted in alphabetical order.

Run-time mode

The **purpose** of run-time mode is to display localizable resources in Creatio sections, excluding Designers and Wizards. **Unlike** run-time mode, design-time mode includes package resources that are not part of the hierarchy in the resulting resource index when requesting a schema.

The **resulting resources** for the `ChildSchema` schema in run-time mode are as follows:

- `BaseResource: ReplacedBaseValue2`
- `Resource1: Value1`
- `Resource2: Value2`
- `ChildResource: ReplacedChildValue2`
- `ChildResource1: Value1`
- `ChildResource2: Value2`

Display methods of localizable resources

Creatio implements the following **display methods of localizable resources**:

- if a **primary language is active** in the user profile, Creatio displays the localizable resource value in the primary language
- if an **additional language is activated** in the user profile and the **localizable resource value in this language exists**, Creatio displays the localizable resource value in the additional language.
- if an **additional language is activated** in the user profile and the **localizable resource value in this language does not exist**, Creatio displays the localizable resource value in the primary language

The following **classes** implement the mechanism that displays localizable resources:

- `Terrasoft.Common.LocalizableString`. Manages localizable strings.
- `Terrasoft.Common.LocalizableImage`. Manages localizable images.

To retrieve the localizable resource values, use the following **properties and methods**:

- The `Value` property. Returns the localizable object value for the current language. If Creatio cannot find the localizable object value for the current language, the value for the primary language is returned.
- The `HasValue` property. Returns a flag that specifies whether the localizable object has a value for the current language. If Creatio cannot find the localizable object value for the current language, the value for the primary

language is returned.

- The `GetCultureValue()` method. Returns the localizable object value for the current language. If Creatio cannot find the localizable object value for the current language, the value for the primary language is returned.
- The `HasCultureValue()` method. Returns a flag that specifies whether the localizable object has a value for the requested language regardless of the primary language.

View the description of the `Terrasoft.Common.LocalizableString` class in the [.NET class library](#). View The description of the `Terrasoft.Common.LocalizableImage` class in the [.NET class library](#).

Store localizable resources

The storing features depend on the localizable resource type.

Store simple localizable resources

Creatio can store simple localizable resources in the following **repositories**:

- **Database** Stores resources required for Creatio operation. The main repository for localizable resources.
- **SVN repository** Stores resources that must be installed into Creatio or transferred among [development environments](#). Pre-export the localizable resources to the SVN repository.

Store simple localizable resources in the database

The `[SysLocalizableValue]` database table stores localizable resources in text format as "key-value" pairs. Each record is bound to a package and base schema ID.

View the primary columns of the `[SysLocalizableValue]` database table below.

Primary columns of the `[SysLocalizableValue]` database table

Column	Description
<code>[Id]</code>	Record ID.
<code>[SysPackageId]</code>	Package ID.
<code>[SysSchemaId]</code>	Base schema ID. Populated only for configuration resources.
<code>[ResourceManager]</code>	Resource manager name. Populated only for core resources.
<code>[SysCultureId]</code>	Language culture ID.
<code>[ResourceType]</code>	Resource type.
<code>[IsChanged]</code>	Flag that specifies whether the user changed the localizable resource.
<code>[Key]</code>	Localizable resource key.
<code>[Value]</code>	String resource value.
<code>[ImageData]</code>	Graphic resource value.

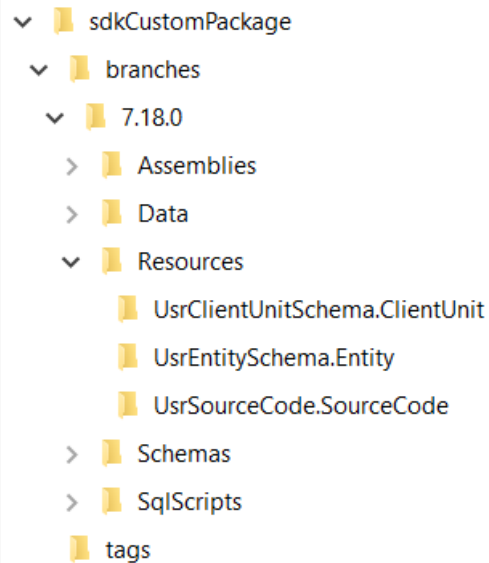
If an additional language culture is activated in the user profile, Creatio adds a corresponding record to the `[SysLocalizableValue]` database table when you add a localizable resource. Users that have other language cultures can access the added localizable resource using the **mechanism that duplicates the resource to the primary language culture**. The purpose of the mechanism is to create a similar localizable resource record that has a link to the primary language culture. If the value of the current localizable resource is not specified for other language cultures, the value of the primary language culture is displayed.

The `[SysPackageResourceChecksum]` database table stores a **checksum** for each set of schema resources in the package – schema – culture chain. The checksum lets you identify resource changes when the package is updated. The checksum separates schemas from resources, which lets you create translation packages.

Store simple localizable resources in the SVN repository

The `Resources` directory of the SVN repository stores localizable package resources. Use the directory to create a translation package. A **translation package** is a package that contains only localizable resources and does not contain configuration element schemas. A translation package can contain localizable resources for a schema in a different package.

To store localizable schema resources that have the same name but different managers, for example, `Entity` and `ClientUnit`, the schema Manager name without the `SchemaManager` prefix are added to the localizable resources names of the package. Creatio stores the localizable resources in exported schemas as *.xml files.



Store bound localizable resources

The repositories for bound localizable resources and [simple localizable resources](#) are similar.

Store bound localizable resources in the database

The `[SysPackageDataLcz]` database table stores bound localizable resources.

View the primary columns of the `[SysPackageDataLcz]` database table below.

Primary columns of the `[SysPackageDataLcz]` database table

Column	Description
<code>[Id]</code>	Record ID.
<code>[SysPackageSchemaDataId]</code>	Binding ID from the <code>[SysPackageSchemaData]</code> database table.
<code>[SysCultureId]</code>	Language culture ID.
<code>[Data]</code>	Bound localizable data.

The storage of bound localizable resources has the following **special features**:

- If a schema **contains bound localizable resources**, Creatio saves data to the `[SysPackageDataLcz]` database table.
- If a schema **does not contain bound localizable resources**, Creatio saves data to the `[SysPackageSchemaData]` database table.

A record of the `[SysPackageDataLcz]` database table contains the following **data**:

- link to the corresponding record ID from the `[SysPackageSchemaData]` database table

- link to the corresponding language culture ID from the `[SysCulture]` database table

For example, if the Creatio instance uses English and Ukrainian language cultures, each record of the `[SysPackageSchemaData]` database table corresponds to two records of the `[SysPackageDataLcz]` database table.

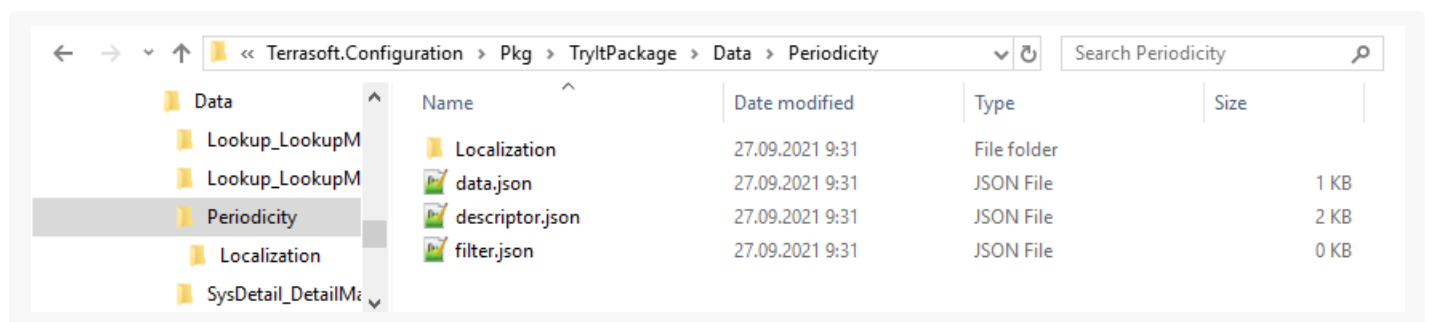
Store bound localizable resources in the SVN repository

The `Data` directory of the SVN repository stores bound localizable resources.

Data directory structure:

- The `data.json` file. Non-localizable resources.
- The `Localization` directory. Bound localizable resources. The directory contains the corresponding files for the language cultures. The file names follow this pattern: `data.LanguageCultureCode.json`, for example, `data.en-US.json`.

View an example that displays the structure of the stored bound localizable resources below. The example uses the `Periodicity` schema in the `TryItPackage` package.



Install bound localizable resources

The installation of bound localizable resources has the following **special features**:

- If the schema **does not contain bound localizable resources**, Creatio installs the resources into the primary table of the `Entity` object.
- If the schema **contains bound localizable resources** (i. e., the `[SysPackageDataLcz]` database table contains the appropriate records), Creatio installs the resources into the primary database table of the corresponding schema and into the localization table.

The template for the localization table name is as follows: `[SysPrimaryTableNameLcz]`.

For example, the installation order of the bound localizable resources for the `ContactType` scheme is as follows:

- non-localizable data is installed into the `[ContactType]` database table
- localizable data is installed into the `[ContactType]` and `[SysContactTypeLcz]` database tables

Note. Creatio does not add another `sys` prefix for the localization table that matches the system table (i. e., the name starts with the `sys` prefix). For example, the localization table for the `[SysTestSchema]` database table is named `[SysTestSchemaLcz]`, not `[SysSysTestSchemaLcz]`.

