Internationalization

Servoy provides internationalization (i18n) tools that allow developers to conveniently convert their applications into multiple languages. Developers can use i18n keys instead of hardcoded text to call the appropriate language from an i18n database table. This chapter gives an overview of the Servoy tools provided to create internationalized solutions.

> ⓘ Note: In addition to the tools discussed below, Servoy provides a scripting API for commonly used functions, accessible via the i18n node towards the bottom of Solution Explorer (separate from the Resources project). This feature is discussed in the Programming Guide.

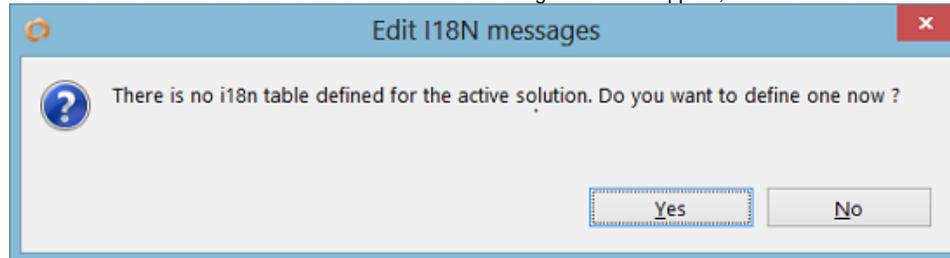## In This Chapter

I18n Databases and Tables

The data for internationalization is saved in the workspace under the **Resources** project. The table is then exported with the solution when the solution is deployed to the application server (if **Export i18n data** is checked in the **Solution Export** wizard).

Defining an i18n Table for a Solution

To add internationalization to a solution, an i18n table needs to be associated with the solution. A message dialog will prompt the developer to do this when first adding internationalization to a solution using either of the two available methods: (1) externalizing all the available text in a solution or (2) adding i18n messages one by one to forms/scripts.

- **Externalize Strings** – This option creates a list of all the items in the active solution that are available for internationalization and automatically creates corresponding i18n keys and messages.
- **Edit I18N Messages** – This option opens the defined i18n table for the developer to individually add i18n keys and their associated text. The keys can then be added to the appropriate objects in a form or script.

1. Choose either way to add internationalization to the active solution. The following window will appear, if an i18n table has not been defined yet.

2. Click **Yes** to continue. A list of available databases/tables will be displayed in a select window.
3. Choose the appropriate i18n table or create a new i18n table, as applicable. The selected i18n table will open in **Table Editor** view. In case of creating a new table, it will also open a new table containing default i18n keys that ship with Servoy.

> ⓘ Note: Changes made to i18n entries are locally saved to the workspace during development. The defined i18n table will then be added to the application server upon deployment of the solution.

> ✓ **Tip1:** To change a solution's assigned i18n table at any time, select the solution in **Solution Explorer** to show the solution's **Properties** view. Then, double-click on the i18nDataSource line item in the **Properties** view and select the desired table from the pop-up browser that appears.
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> **Tip2:** Create a single i18n database server connection and i18n table when having a solution that contains one or modules - this allows to add and /or change i18n values and/or keys from either the solution or any of the added modules.
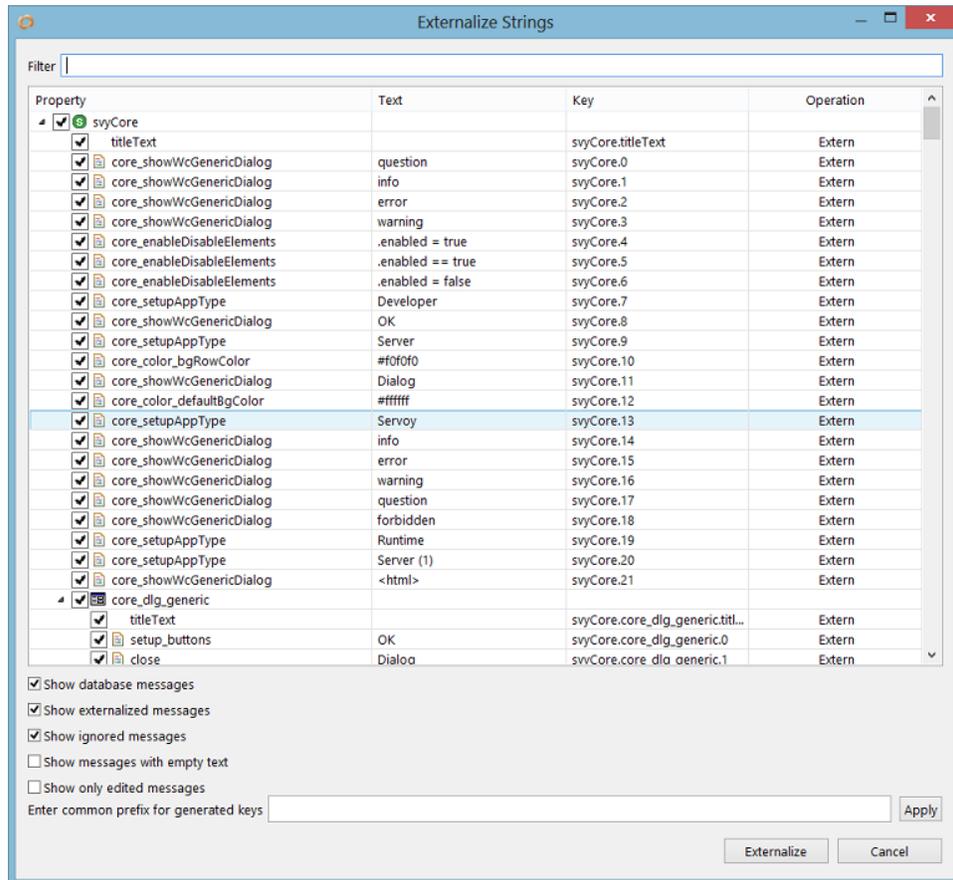
Externalizing a Solution

As mentioned previously, the **Externalize Strings** function adds internationalization to a solution by creating a list of all the items in the active solution that are available for internationalization. It then generates i18n keys and messages from all the text properties in the solution (form objects such as button labels, column titles) and replaces the hardcoded text with the i18n keys, with the default text being the original text property that was assigned to the item.

To externalize a solution:

1. Choose either of the two options: (a) Click on the **Externalize Strings** button on the toolbar or (b) go to **Actions** > **Show Externalize Strings Dialog**.
   The i18n externalize dialog box will open, showing the following three columns (from left to right):
   - The text property to be externalized
   - The hardcoded text that will become the default text
   - The i18n key name to be assigned to the property

2. Customize/edit the keys by double-clicking on a desired key.
3. Deselect any items that are not desired to be shown in the list, hence not externalized.
4. Enter common prefix for generated keys, if desired. Click **Apply** for the prefix to be applied on the key values.
5. Click **Externalize**. An externalize dialog will appear, showing the status of the externalize process. Once completed, this dialog disappears and all item properties will be converted to i18n keys.
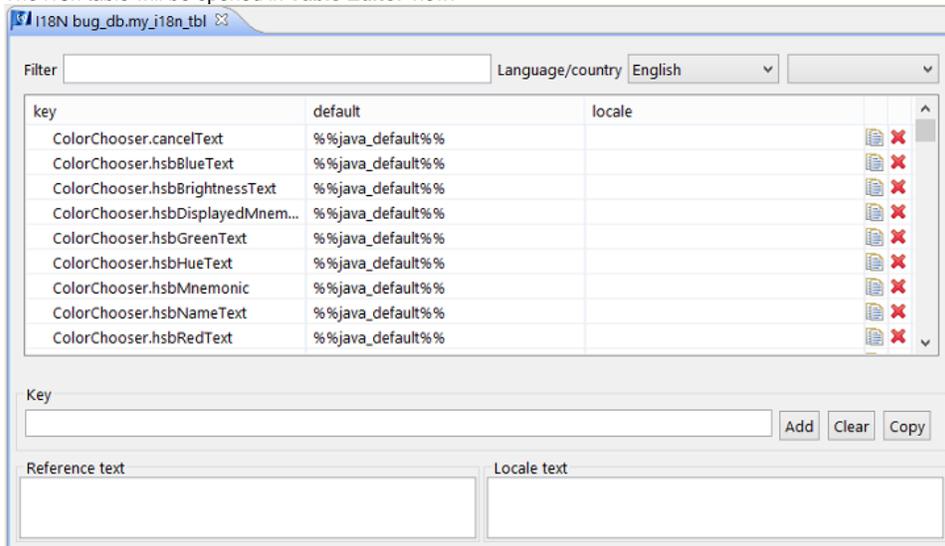
Editing i18n Messages

Internationalization can be added one by one to a solution by editing i18n keys in the i18n table using the **Table Editor**.

To view and edit an i18n table:

1. Choose either of the three options: (a) click on the **Edit I18N Messages** button on the toolbar or (b) go to **Solution Explorer** > **Resources** > **I18N files** or (c) go to **Actions** > **Show I18N Dialog**.
   In case of choosing (b) the **Solution Explorer**, either double click on the node itself or double click on the desired i18n file in the contextual list at

the bottom of the **Solution Explorer**.
The i18n table will be opened in **Table Editor** view.

2. Along the top of this view is a filter that enables users to quickly find a i18n key. The next two items at the top are the **Language** and **Country** drop-downs. To edit an i18n key:
    a. Select the key and the language/country to be edited.
    b. Click on the desired i18n key from the list.
    c. Enter the reference text (which is the default language text) and the locale text appropriate to that language/country.
3. To add a new i18n key:
    a. Type in a name for the new key in the **Key** text box.
    b. Enter the reference text and the locale text in their respective boxes.
    c. Click **Add**.

Note that the i18n keys can be sorted ascending/descending on the **key**, **default** or **locale** columns by clicking on the header of the desired column.

I18n messages can be added to objects in both the **Form Editor** and the **Script Editor**:

- In the **Form Editor**, simply type in the i18n key where one would normally type in the hardcoded text (for example, inside a text box or label, or via the **Properties** view in `text`, `toolTipText`, or `titleText` properties.
- In the **Script Editor**, type in the i18n key inside the string in place of hardcoded text.

Setting I18N Globally

Internationalization can be set globally via preferences.

Go to **Window** > **Preferences** > **Servoy** > **Internationalization** to set default formats, language, timezone, I18N server and table.

When no i18n table is defined at solution level, the solution will use the global settings. Otherwise, the i18n settings at solution level will override the default preferences.

Importing / Exporting I18N Data

When importing a solution, the **Import** wizard provides options to import:

- All i18n data
- Only the new i18n language keys

When exporting a solution, the **Solution Export** wizard provides an option in the **Choose export options** page to export i18n data.