Localization L10n

Introduction

DSpace ships with a number of interface translations. This page provides information on areas that can be localized by means of configuration or customization. By default, DSpace will look at the user's browser language. If it has a language file in the user's language, it will render the interface in that language. If not, it will default to English or another default that you have configured.

Areas of localization common to JSPUI and XMLUI

Enabling additional locales

Out of the box, DSpace only has English enabled as a supported locale. Additional locales and the default locale are managed through the following parameters in dspace.cfg:

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dspace.cfg configuration parameters

```
webui.supported.locales
default.locale
```

You can change default.locale to a different one than English **after** adding it to webui.supported.locales.

Localization of email messages

All email templates used by DSpace can be found in

Path to the DSpace email templates

```
[dspace]/config/emails
```

The contents of the emails can be edited and translated.

Metadata localization

DSpace associates each metadata field value with a language code (though it may be left empty, e.g. for numeric values).

Localization of input-forms.xml

The display labels for input-forms.xml are currently not managed in the messages catalogs. To localize this file, you can create versions of this file in the same folders, appending _COUNTRY at the end of the filename, before the extension. For example, input-forms_de.xml can be used to translate the submission form labels in German. This feature is available in JSPUI and XMLUI (since DSpace 6.1).

XMLUI specific localization

Message catalog

XMLUI supports multiple languages through the use of internationalization catalogues as defined by the [Cocoon Internationalization Transformer](#). Each catalog contains the translation of all user-displayed strings into a particular language or variant. Each catalog is a single xml file whose name is based upon the language it is designated for, thus:

messages_*language_country_variant*.xml

messages_*language_country*.xml

messages_*language*.xml

messages.xml

The interface will automatically determine which file to select based upon the user's browser and system configuration. For example, if the user's browser is set to Australian English then first the system will check if *messages_en_au.xml* is available. If this translation is not available it will fall back to *messages_en.xml*, and finally if that is not available, *messages.xml*.

Where to find the message catalog

The latest **English** message catalog is part of the main DSpace distribution and can be found at:

Location of the XMLUI message catalog in the DSpace source tree
`[dspace-source]/dspace-xmlui/src/main/webapp/i18n/messages.xml`

The **different translations** for this message catalog are being managed separately from the DSpace core project, in order to release updates for these files more frequently than the DSpace software itself. Visit the [dspace-xmlui-lang project on Github](#).

Where to edit

In some cases you may want to add additional keys to the message catalog or changing the particular wording of DSpace concepts. For example, you may want to change "Communities" into "Departments". These kind of changes may get automatically overwritten again when you upgrade to the newest version of DSpace. It is therefore advised to keep such changes isolated in the following location:

Recommended location for i18n customizations
`[dspace-source]/dspace/modules/xmlui/src/main/webapp/i18n/`

After rebuilding DSpace, any messages files placed in this directory will be automatically included in the XMLUI web application. Files of the same name will override any default files. By default, this full directory path may not exist or may be empty. If it does not exist, you can simply create it. You can place any number of translation catalogues in this directory. To add additional translations, just add another copy of the *messages.xml* file translated into the specific language and country variant you need.

After building and deploying, DSpace will finally read the files from the following location:

Location where your i18n files are being deployed
`[dspace]/webapps/xmlui/i18n/messages.xml`

Again, note that you will need to rebuild DSpace for these changes to take effect in your installed XMLUI web application!

Do not customize your messages in the webapps directory

While it seems like a fast option to change your messages straight in the deployed dspace directory, these changes are very volatile. If you rebuild and redeploy DSpace, these changes will get lost.

For more information about the `[dspace-source]/dspace/modules/` directory, and how it may be used to "overlay" (or customize) the default XMLUI interface, classes and files, please see: [Advanced Customisation](#)

Difference with JSPUI

In JSPUI the default.license can be localized by adding _COUNTRY at the end of the filename. This is currently not supported in XMLUI.

JSPUI specific localization
Message catalog

The [Java Standard Tag Library v1.0](#) is used to specify messages in the JSPs like this:

```
<H1><fmt:message key="jsp.search.results.title"/></H1>
```

This message can be changed using the *config/language-packs/Messages.properties* file. This must be done at build-time: *Messages.properties* is placed in the *dspace.war* Web application file.

```
jsp.search.results.title = Search Results
```

Phrases may have parameters to be passed in, to make the job of translating easier, reduce the number of 'keys' and to allow translators to make the translated text flow more appropriately for the target language. Here is an example of a phrase in which two parameters are passed in:

```
jsp.search.results.text = Results {0}-{1} of {2}
```

Multiple *Messages.properties* can be created for different languages. See ResourceBundle.getBundle. e.g. you can add German and Canadian French translations:

```
Messages_de.properties
Messages_fr_CA.properties
```

The end user's browser settings determine which language is used by default. The user can change the language by clicking a link in the UI. These links are visible if more than one language is configured in DSpace. The English language file *Messages.properties* (or the default server locale) will be used as a fallback if there's no language bundle for the end user's preferred language. Note that the English file is not called *Messages_en.properties.* This is because it is always available as a fallback, regardless of server configuration.

Where to find the message catalog

The latest **English** message catalog is part of the main DSpace distribution and can be found at:

Location of the JSPUI message catalog in the DSpace source tree

```
[dspace-source]/dspace-api/src/main/resources/Messages.properties
```

The **different translations** for this message catalog are being managed separately from the DSpace core project, in order to release updates for these files more frequently than the DSpace software itself. Visit the dspace-api-lang project on Github.

Where to edit

In some cases you may want to add additional keys to the message catalog or changing the particular wording of DSpace concepts. For example, you may want to change "Communities" into "Departments". These kind of changes may get automatically overwritten again when you upgrade to the newest version of DSpace. It is therefore advised to keep such changes isolated in the following location:

Recommended location for i18n customizations

```
[dspace-source]/dspace/modules/jspui/src/main/resources/
```

After rebuilding DSpace, any messages files placed in this directory will be automatically included in the JSPUI web application. Files of the same name will override any default files. By default, this full directory path may not exist or may be empty. If it does not exist, you can simply create it. You can place any number of translation catalogues in this directory. To add additional translations, just add another copy of the *Messages.properties* file translated into the specific language and country variant you need.

After building and deploying, DSpace will finally read the files from the dspace-api-4.0.jar file in your [tomcat]\webapps\jspui\WEB-INF\lib directory.

Again, note that you will need to rebuild DSpace for these changes to take effect in your installed JSPUI web application!

For more information about the `[dspace-source]/dspace/modules/` directory, and how it may be used to "overlay" (or customize) the default XMLUI interface, classes and files, please see: Advanced Customisation

Localization of license.default

The text in the default submission license (license.default) is currently not managed in the messages catalogs. It is translatable by appending _COUNTRY at the end of the filename, before the extension like for the localization of the input-forms.xml.

Community translations for input-forms.xml and email messages

Even though they are currently not managed on Github yet, some community translations are available for other files, such as emails and the input-forms.xml.

Click here to access an overview of community translations (DSpace wiki)