The DSpace Course - Language Customisation

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Module: Language Customization

Module overview:
This module looks at the concepts of Localization and Internationalization and the implications this has for the DSpace software. It explores what features DSpace can be customized to support multilingualism and how this can be done. The module concludes with a practical on enabling multilingualism support in DSpace.

Module objectives:
By the end of this module you will:

1. Understand what Localization (l10n) & Internationalization (i18n) are
2. Understand how i18n & l10n fits in with DSpace
3. Understand what can be customised in DSpace
   a. Messages File
   b. Emails
   c. News

Note
For the practical exercise, please refer to your sheet ‘Local instructions’ for details of the following:

- How to launch a terminal window and a web browser
- What the path to [dspace]
- How to restart Tomcat
- What the URL of your DSpace installation is
Internationalization and Localization

- What is Internationalization?
  - This is the process of adapting software for non-native languages and regions
  - Language throughout the software should be able to be switched without engineering changes

- What is Localization?
  - Localization is the process of adapting software for a specific region or language by adding locale-specific components and translating text.

- The term internationalization is often abbreviated to i18n
- The term localization is often abbreviated to l10n

Sub heading

What is Internationalization?

- This is the process of adapting software for non-native languages and regions
- Language throughout the software should be able to be switched without engineering changes

What is Localization?

- Localization is the process of adapting software for a specific region or language by adding locale-specific components and translating text.

The term localization is often abbreviated to i18n
How Do i18n & l10n fit in with DSpace

As of version 1.4.2 DSpace has i18n support for a range of languages

Enabling multilingual support will result in:
- Language switch in the default header
- A choice of preferred language (stored in the user profile)
- Wording of emails
  - Emails to registered users e.g. alerting service will use the preferred language of the user
  - Emails to unregistered users e.g. suggest an item will use the language of the session
- News Items will be dependent on the chosen locale
Locale Example

- DSpace UI with German locale selected
How to Enable Multilingualism

- Setting the default language for the application
  - The default language for the application is set in the [dspace]/config/dspace.cfg
    ```
    default.locale = en
    # If no default locale is specified the server locale will be used instead.
    ```

- Supporting more than one language
  - Additional languages are also configured through the [dspace]/config/dspace.cfg
  - As a comma separated list
    ```
    webui.supported.locales = en, cy
    ```
  - A restart of Tomcat is required to enable these changes
The Message Properties File

- Within the JSP code, message keys are used
  ```xml
  <fmt:message key="jsp.home.com1"/>
  ```
- Each key relates to a key found in a `Messages.properties` file

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>jsp.helpformats.whattodo</td>
<td>What To Do If Your Format Isn’t Listed</td>
</tr>
<tr>
<td>jsp.home.com1</td>
<td>Communities in DSpace</td>
</tr>
<tr>
<td>jsp.home.com2</td>
<td>Choose a community to browse its collections.</td>
</tr>
</tbody>
</table>

- When the page is rendered, the associated text for the key is displayed

How to Enable Multilingualism

- Setting the default language for the application
  ```
  default.locale = en
  ```
  - If not default locale is specified the server locale will be used instead.

- Supporting more than one language
  ```
  webui.supported.locales = en, cy
  ```
  - As a comma separated list
  - A restart of Tomcat is required to enable these changes
How to Enable Multilingualism

- When the language is switched, the page is re-rendered reading from a different properties file

```
[jsp_home_icon] = W&uuml;ssen Sie einen Bereich aus, um seine neueren Arbeiten zu sehen
[jsp_home_icon] = Wählen Sie einen Bereich aus, um seine neueren Arbeiten zu sehen
```

```
Bereiche in DSpace
Wählen Sie einen Bereich aus, um seine Teilbereiche und Sammlungen einzusehen.
```

- The default Messages.properties file is located at:

```
[dspace-src]/dspace/modules/jspui/src/main/resources/Messages.properties
```

- If you wish to customise other message.properties files they will need to be placed in this directory

```
[dspace-src]/dspace/modules/jspui/src/main/resources/Messages.properties
[dspace-src]/dspace/modules/jspui/src/main/resources/Messages_de.properties
```

- Otherwise if the language is enabled in dspace.cfg the Messages.properties are pulled in from external sources (GoogleCode)
Other Files to be Localized

- In addition to the Messages.properties file the following files need to be translated:

  Submission Forms
  - [dspace]/config/input-forms_LOCALE.xml
  Licence
  - [dspace]/config/default_LOCALE.license should be pure ascii
  News
  - [dspace]/config/news-top_LOCALE.html
  - [dspace]/config/news-side_LOCALE.html
  Emails
  - [dspace]/config/emails/change_password_LOCALE
  ................
  Help Files
  - [dspace]/jsp/help/collection-admin_LOCALE.html
  ................

- LOCALE should correspond to the locale set in webui.supported.locales (en, de ....)

Other files to be localized

[DSpace]/modules/jspui/src/main/resources/Messages_LOCALE.properties
[DSpace]/config/input-forms_LOCALE.xml
[DSpace]/config/default_LOCALE.license should be pure ascii
[DSpace]/config/news-top_LOCALE.html
[DSpace]/config/news-side_LOCALE.html
[DSpace]/config/emails/change_password_LOCALE
[DSpace]/config/emails/feedback_LOCALE
[DSpace]/config/emails/internal_error_LOCALE
[DSpace]/config/emails/register_LOCALE
[DSpace]/config/emails/submit_archive_LOCALE
[DSpace]/config/emails/submit_reject_LOCALE
[DSpace]/config/emails/submit_task_LOCALE
[DSpace]/config/emails/subscription_LOCALE
[DSpace]/config/emails/suggest_LOCALE
[DSpace]/jsp/help/collection-admin_LOCALE.html
[DSpace]/jsp/help/index_LOCALE.html
[DSpace]/jsp/help/site-admin_LOCALE.html
Practical: Enable Multilingualism in DSpace

Open a web browser and view the DSpace JSP UI

Open a terminal window

Navigate to [DSpace]/config

Open the DSpace.cfg using gedit: type `gedit DSpace.cfg`

Locate the line:

Modify the line setting a new locale i.e. (fr, de, it etc.)

Note these MUST be comma separated

Restart Tomcat

Refresh the DSpace UI page in web browser
Practical: Editing the Messages.properties key

- Open a terminal window (refer to the local instructions sheet)
- Open the Messages.properties file with gedit
  
  gedit [DSpace-src]/DSpace/modules/jspui/src/main/resources/Messages.properties

- Locate the key jsp.home.com1 and edit “Communities in DSpace” to your own text

  | jsp.help.formats.whattodo | = What To Do If Your Format Isn't Listed
  | jsp.home.com1 | = Communities in DSpace
  | jsp.home.com2 | = Choose a community to browse its collections

- Change Directory to [dspace-src]/dspace and rebuild DSpace

  cd [dspace-src]/dspace
  mvn package

- Redeploy DSpace

  cd [dspace-src]/dspace/target/dspace_[VERSION]/
  ant -Dconfig=[dspace]/config/dspace.cfg

- Restart Tomcat
- Refresh the DSpace UI page in web browser
- The Communities in DSpace should now read as your text
Credits

- These notes have been produced by:
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