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?

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What is Localization?

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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

How Does i18n fit in with DSpace

- As of version 1.4.2 DSpace support i18n for a range of languages
- Enabling multilingual support will result in:
  - **Language switch** in the default header
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  - **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
    # A Locale in the form country or country_language or country_language_variant
    # if no default locale is defined the server default locale will be used.
    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

    ```
    # All the Locales, that are supported by this instance of DSpace
    # A comma separated list of Locales. All types of Locales country, country_lang
    # may be used, e.g: webui.supported.locales = en, de
    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
  ```properties
  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.
  ```
- When the page is rendered, the associated text for the key is displayed

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 not 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
  - `webui.supported.locales = en, cy`
  - As a comma separated list
  - A restart of Tomcat is required to enable these changes
How to Enable Multilingualism

Message Properties File

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

```
{app.home.formats.whattodo} = Was tun, wenn Ihr Format nicht aufgelost wird
{app.home.cmd} = Befehle in DSpace
{app.home.com} = Wo können Sie einen Bereich aus, um seine

neuerscheinungen
- Mein DSpace
- Nur autorisierte Benutzer
- Benutzerprofil bearbeiten
- Hilfe
- Über DSpace

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

DSpace Community
```

Message Properties File

- 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’`

```
121# may be used, e.g: webui.supportedlocales = en, de
122webui.supportedlocales = en,
123```

Locate the line:

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

```
121# may be used, e.g: webui.supportedlocales = en, de
122webui.supportedlocales = en, de
123```

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

```properties
jsp.helpformats.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

```java
jsp.helpformats.whatTodo = What To Do If Your Format Isn't Listed
jsp.home.com1 = Departments in DSpace
jsp.home.com2 = Choose a community to browse its collections.
```
Credits

- These notes have been produced by:
  - Stuart Lewis & Chris Yates
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