DSpace Customization

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Why to Customize

• Your own institutional need
• User interface enhancements
• Address quality and accessibility
Ways to Customize

- **User Interface**
  - Home page, Layout, quick links
  - Logo, Header, Footer, Navigation Bar
  - Texts

- **Metadata**
  - New element
  - Updating/Deleting existing one
Ways to Customize

- Submission/Input Form
- Item Display
- Browse Fields
- Browse Layout
- Discover
- Language
Skill Required for DSpace Customization

- Understanding of HTML

- Understanding of CSS
  - layout, colors, and fonts
DSpace Directories

Source Directories ([/home/dspace/dspace-5.0-src-release/])

All customization generally takes place here

- jsp/ - DSpace JSPs
- src/ - DSpace Servlets & Classes

Installed Directories ([/dspace/])

- Home to all "live" configuration files, properties, Java libraries (including dspace.jar)
  - config/ - DSpace configurations
- Usually home to log files, reports, search indices, and "bitstreams" themselves!

Web Deployment Directory (Webapplication Directory ([/dspace/webapps/]))

- Home to all compiled servlets and JSPs
- Basic customizations can also take place here after installation
Basic Customization: Top & Sidebar News

• To change the Top/Sidebar News:
  Administer->General Settings->Edit News

Tips: Top news/Sidebar page can be designed using web designing, imaging & animation software & then pasting its HTML code in Top news/Sidebar editor.
Customization: Header/ Footer/ Navbar

Files Located in:

/dspace/webapps/jspui/layout

Change the HTML in header-default.jsp, footer-default.jsp, navbar-default.jsp, location-bar.jsp, ...

N.B. If you don’t want something to be appeared in the site, just comment it using `<%-- and --%>`

Example:

```jsp
<%-- <form method="get" action="<%= request.getContextPath() %>\simple-search"> --%>
```

Remember: After making the necessary changes, just refresh the page to get effects
Customization: Header/ Footer/ Navbar

Changing Header background & logo in NavBar

File: header-default.jsp

HEADER
<header class="navbar navbar-inverse navbar-fixed-top">
Change to:
<header style="background-color:orange;" class="navbar-fixed-top">

Changing Logo

Copy logo image file to /dspace/webapps/jspui/image

Change logo image file name “dspace-logo-only.png” in navbar-default.jsp

**Remember:** After making the necessary changes, just refresh the page to get effects
Customization: Header/ Footer/ Navbar

Changing Title & BIG Logo (below NavBar)

Changing Title, Description & 'Learn more' link:
Texts defined in Messages.Properties file (steps covered under Customization: Texts)

```java
jsp.layout.header-default.brand.heading = Dspace JSPUI
jsp.layout.header-default.brand.description = DSpace preserves and enables ...
```

Changing BIG logo:
Copy logo image file to /dspace/webapps/jspui/image
Change logo image file name “logo.gif” in header-default.jsp

Tips: You can create title graphics & use in place of separate Heading & logo

**Remember:** After making the necessary changes, just refresh the page to get effects
Customization: Header/ Footer/ Navbar

Adding menu items in Navbar

File: navbar-default.jsp

Find the word “Help” in above file & add the new menu item

```html
<li class=""><%= ( currentPage.endsWith( "/help" ) ? "active" : "" ) %>
<dspace:popup page=""><%= LocaleSupport.getLocalizedMessage(pageContext, "/help.index") %></dspace:popup></li>

<li><a href="http://www.niscair.res.in">NISCAIR</li>
```

Remember: After making the necessary changes, just refresh the page to get effects
Customization: Location Bar

Changing name:
Files Located in:
/dspace/config/dspace.cfg

Change name of the site in

dspace.name = “DSpace Short-Term Course”

Restart Tomcat to reflect changes.
Run “sh start_dspace” in /home/dspace
Customization: Location Bar

Changing background colour:

Files Located in:
/dspace/webapps/jspui/layout/location-bar.jsp

Change line:

<ol class="breadcrumb btn-success">

to:

<header style="background-color:red;">
Customization: Text

- “Messages.properties” contains almost all the text of DSpace
- Located in:

/home/dspace/dspace-5.0-src-release/dspace-api/src/main/resources

Copy to
/dspace/webapps/jspui/WEB-INF/classes

Do changes ONLY in the folder /dspace/webapps/jspui/WEB-INF/classes

Format of “Messages.properties”

jsp.layout.navbar-default.authors = Authors
(Navigation bar text “Authors” shared by pages in /jsp/layout/navbar-default.jsp)

To reflect changes, restart tomcat.
• **Keys** in Messages.properties referenced in JSP with:

```xml
<fmt:message key="jsp.layout.navbar-default.authors"/>
```

(/jspui/layout/navbar-default.jsp)

• The text corresponds to a property "key" named after the JSP or Tag in which it appears.

• **Example:**

```java
jsp.community-home.heading1` is a heading within
/jsp/community-home.jsp
jsp.general.search.button` is the text that appears on ALL search buttons in DSpace
```
Customization: Text

Before

Change “Subject” to “Keyword”
Change “Subject” to “Keyword”
To reflect changes, restart tomcat.
Customization: Text

Change “Subject” to “Keyword”

- browse.type.metadata.subject = Subject
- browse.menu.subject = Subject
- jsp.browse.items-by-subject.heading1 = Items for Subject
- jsp.browse.items-by-subject.return = Return to Browse by Subject
- jsp.browse.items-by-subject.title = Items for Subject
- jsp.browse.subject.show = Showing subjects {0}-{1} of {2}.
- jsp.browse.subject.title = Browse by Subject
Customization: Add Metadata

• Login as Administrator
  Administer->General Settings->Metadata Registry
Customization: Metadata

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<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>title</td>
<td></td>
</tr>
<tr>
<td>Qualifer</td>
<td></td>
</tr>
</tbody>
</table>

Title statement/title proper.

66

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td></td>
</tr>
<tr>
<td>Qualifer</td>
<td></td>
</tr>
</tbody>
</table>

Nature or genre of content.

Add Metadata Field

To create a new field you must provide a unique element and qualifier pair. The qualifier may be left blank if desired and the element and qualifier cannot contain spaces, underscores or periods.

Element:
- remo

Qualifier:

Scope Note:
- Reference No.

Add New
Submit: Describe this Item

Please fill in the requested information about this submission below. In most browsers, you can use the tab key to move the cursor to the next input box or button, to save you having to use the mouse each time.

Enter the names of the authors of this item.

Authors
Last name, e.g. Smith
First name(s) + "Jr", e.g. Donald Jr

Enter the main title of the item.

Title *

Enter the technical reference document Number of the item like IT100.

Reference No.

If the item has any alternative titles, please enter them here.

Other Titles

Please give the date of previous publication or public distribution. You can leave out the day and/or month if they aren't applicable.

Date of Issue *
Month: (No Month)  Day:  Year:
Customization: Submit/ Input Form

General format of *input-forms.xml (in /dspace/config)*

```xml
<page number="1">
 <field>
  <dc-element>refno</dc-element>
  <dc-qualifier></dc-qualifier>
  <repeatable></repeatable>
  <label>Reference No.</label>
  <input-type>onebox</input-type>
  <hint>Enter Reference number of document</hint>
  <required></required>
 </field>

 ................

Remember: After making any changes in the input form, re-start the Tomcat server
Customization: Item Display (in Abstract view metadata)

Title: DSpace customization
Authors: Burde, Sanjay
Keywords: Metadata <sub>2</sub>0
Issue Date: 2015
Abstract: how to customize DSpace new version 5.0
URI: http://hdl.handle.net/123456789/4
Document Reference No.: LIS100
Appears in Collections: Digital Library

Files in This Item:

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
<th>Size</th>
<th>Format</th>
</tr>
</thead>
</table>

Show full item record
Customization: Item Display

In `dspace.cfg`, add the new field to be displayed or change the order to display:

```javascript
webui.itemdisplay.default = dc.title, dc.title.alternative, dc.contributor.*, 
  dc.subject, dc.date.issued(date), dc.publisher, 
  dc.identifier.citation, dc.relation.ispartofseries, 
  dc.description.abstract, dc.description, 
  dc.identifier.govdoc, dc.identifier.uri(link), 
  dc.identifier.isbn, dc.identifier.issn, 
  dc.identifier.ismn, dc.identifier, 
  dc.refno
```

In `Messages.properties`, name the field to be displayed:

```java
metadata.dc.title = Title
metadata.dc.title.alternative = Other Titles
metadata.dc.contributor.* = Authors
metadata.dc.refno = Reference No.
```

*To reflect changes, restart Tomcat*
Customization: Browse Fields in Navigation Bar

 DSQ Space JSPUI
 DSQ Space preserves and enables access to all types of digital content including text, images, and moving images, mpegs and audio files.

Learn More

Browse by:
- Communities & Collections
- Issue Date
- Author
- Title
- Keyword

Reference No.

DSpace Short-Term Course

NISCAIR
Welcome to our digital repository of NISCAIR
Customization: Browse Fields in Navigation Bar

Community page

Recent Submissions

Browse

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Author</th>
<th>Title</th>
<th>Keyword</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference No</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Customization: Browse Fields in Navigation Bar

Collection page

Digital Library Collection home page

Browse

Issue Date Author Title Keyword Reference No.

Submit to This Collection

Subscribe to this collection to receive daily e-mail notification of new additions

Collection's Items (Sorted by Submit Date in Descending order): 1 to 1 of 1

Issue Date Title Author(s) Reference No.

2015 DSpace customization Burde, Sanjay LIS100

Discover

Author

BUrde, Sanjay

1

Subject

H2O

1

Metadata

1
Customization: Browse Fields in Navigation Bar

To modify the browse fields in navigation bar, modify `dspace.cfg` located in `/dspace/config`

In `dspace.cfg`, uncomment the following lines to specify the metadata fields for browsing in DSpace: - “Browse by Date”, “Browse Authors”, “Browse Titles” and “Browse Subjects”:-

```plaintext
#webui.browse.index.1 = dateissued:item:dateissued
#webui.browse.index.3 = title:item:title
webui.browse.index.5 = refno:metadata:dc.refno:text
```

After modification in any of the browse indices in `dspace.cfg`, one must Re-index for changes to take place.

In `Messages.Properties`

```plaintext
browse.menu.refno = Reference No.
Browse.type.metadata.refno = Reference No.
```

Remember: To reflect changes, restart Tomcat & re-index everything (go to `/dspace/bin` and execute the command, `sh dspace index-discovery -b`)
Customization: Change Browse Layout (Date | Title | Authors...)

Digital Library Collection home page

Browse

Issue Date  Author  Title  Keyword  Reference No.

Submit to This Collection

Subscribe to this collection to receive daily e-mail notification of new additions

Discover

Author

Burde, Sanjay

Subject

H2O

Metadata

Collection's Items (Sorted by Submit Date in Descending order): 1 to 1 of 1

Issue Date  Title  Author(s)  Reference No.

2015  DSpace customization  Burde, Sanjay  LUS100

Collection's Items (Sorted by Submit Date in Descending order): 1 to 1 of 1
Customization: Change Browse Layout
(Date | Title | Authors...)

In `dspace.cfg`, change metadata fields which are displayed for each item in browse or search result.

Make the required changes in the following single line in `dspace.cfg` and uncomment it:

```
webui.itemlist.columns = dc.date.issued(date), dc.title, dc.contributor.*, dc.refno
```

In `Messages.properties`

```
itemlist.dc.refno = Reference No.
```

**Remember:** To reflect changes, restart Tomcat & re-index everything (go to `/dspace/bin` and execute the command, `sh dspace index-discovery -b`)
Customization: Discovery

• The Discovery enables faceted searching & browsing your repository

• Discovery is new in Dspace 5.0, but familiar for other platforms like Aquabrowser or Amazon, where facets help to select the right product according to facets like price and brand

More Details: https://wiki.duraspace.org/display/DSDOC4x/Discovery
Sidebar Facet

• From the user perspective, faceted search (also called faceted navigation, guided navigation, or parametric search) breaks up search results into multiple categories, typically showing counts for each, and allows the user to "drill down" or further restrict their search results based on those facets.
Customization: Discovery

Search Filter

• In a standard search operation, a user specifies complete query

• If the results are not satisfactory, the user starts over again with a (slightly) altered query
Customization: Discovery

Search

Search Filter

Sorting Search

Sidebar Facet
Customization: Discovery

Custom (metadata) Discovery Settings

Adding metadata dc.refno (Reference No.) to Discovery
Refer word document “DiscoverySettings.docx” for discovery.xml (located at /dspace/config/spring/api/discovery.xml)

Steps for customizing discovery:
• First create bean id
• This bean ID set in the property of
  • SearchFilter
  • FacetSidebar
• SearchFilter and FacetSidebar place at two place
  • defaultConfiguration
  • homepageConfiguration

Note: After every changing need to re-index discovery and restart Apache-Tomcat
Customization: Discovery

Custom Discovery Settings ...

**Bean ID**

```xml
<bean id="searchFilterRefNo" class="org.dspace.discovery.configuration.DiscoverySearchFilterFacet">
  <property name="indexFieldName" value="refno"/>
  <property name="metadataFields">
    <list>
      <value>dc.refno</value>
    </list>
  </property>
  <property name="facetLimit" value="10"/>
  <property name="sortOrder" value="COUNT"/>
</bean>
```
Customization: Discovery

Custom Discovery Settings ...

**SidebarFacets**
<property name="sidebarFacets">
<list>
<ref bean="searchFilterAuthor"/>
<ref bean="searchFilterSubject"/>
<ref bean="searchFilterIssued"/>
<ref bean="searchFilterRefNo"/>
</list>
</property>

**SearchFilter**
<property name="searchFilters">
<list>
<ref bean="searchFilterTitle"/>
<ref bean="searchFilterAuthor"/>
<ref bean="searchFilterSubject"/>
<ref bean="searchFilterIssued"/>
<ref bean="searchFilterRefNo"/>
</list>
</property>
Customization: Discovery

Custom Discovery Settings ...

defaultConfiguration

<bean id="defaultConfiguration" class="org.dspace.discovery.configuration.DiscoveryConfiguration" scope="prototype">
<!-- Which sidebar facets are to be displayed -->
<property name="sidebarFacets">
<list>
.
.
.
</list>

homepageConfiguration

<bean id="homepageConfiguration" class="org.dspace.discovery.configuration.DiscoveryConfiguration" scope="prototype">
<!-- Which sidebar facets are to be displayed (same as defaultConfiguration above) -->
<property name="sidebarFacets">
<list>
.
.
.
</list>
Customization: Discovery

Custom Discovery Settings ...

For Setting of sort Items order by

Create bean for Sorting

```xml
<bean id="sortRefNo" class="org.dspace.discovery.configuration.DiscoverySortFieldConfiguration">
    <property name="metadataField" value="dc.refno"/>
</bean>
</beans>
```

Set bean in

```xml
<property name="searchSortConfiguration">
    <bean class="org.dspace.discovery.configuration.DiscoverySortConfiguration">
        <!--
        .
        .
        .
        .

        <ref bean="sortRefNo"/>
        
        
        At two places: defaultConfiguration and homepageConfiguration
        
        <bean id="defaultConfiguration" class="org.dspace.discovery.configuration.DiscoveryConfiguration" scope="prototype">
            AND
            
            <bean id="homepageConfiguration" class="org.dspace.discovery.configuration.DiscoveryConfiguration" scope="prototype">
            
        ```
Customization: Discovery

Add key in Messages.property file

1. For Home, community page & search side facet: jsp.search.facet.refine.refno = Reference No.

1. For Search Filter: jsp.search.filter.refno = Reference No.

1. For Sort item by: search.sort-by.dc.refno_sort = Reference No.
Thank you