

Creating and Using Page Templates in Oracle WebCenter Portal Applications

Oracle WebCenter Portal 11g R1 PS5 (11.1.1.6.0)

ORACLE

Objectives

After completing this module, you should be able to:

- Create and use page templates both at design- and run time
- Create an editable page template
- Create a portal resource from an existing page template
- Explain the round-trip development process for page templates
- Describe the differences between page templates for an Oracle WebCenter Portal Framework application and Oracle WebCenter Portal: Spaces

Agenda

- Working with Page Templates
- Page Templates for WebCenter Portal Framework Applications
- Page Templates for WebCenter Portal: Spaces

What is a Page Template

A page template controls the layout and common content of the application's pages.



Typical Elements on a Page Template: Layout Elements

The image shows a screenshot of a website page template with three callout boxes pointing to specific layout elements:

- Header:** Located at the top right, it contains the text "Welcome weblogic | Logout" and a globe icon.
- Content area:** A large central area with a blue border, containing the "Design & Build" section. It includes a sub-header, a paragraph of text, and three small images of construction professionals. A callout box points to this area.
- Footer:** Located at the bottom right, it contains the text "Administrator | Privacy Statement".

Other visible elements include the "el piju design with nature" logo on the top left, a navigation menu with "Home", "Company", "Services", and "Expertise", and a "Services" sidebar with "Preconstruction", "Construction", and "Design & Build" options.



Typical Elements on a Page Template: Brand-Specific Elements

The image shows a screenshot of a website page template with three callout boxes pointing to specific elements:

- Logo:** A yellow callout box points to the El Piju logo, which features the text "el piju" in a stylized font with a green leaf icon, and "design with nature" below it.
- Slogan:** A yellow callout box points to the slogan "Sustainability through natural building" in a green, italicized font. Above the slogan is the text "Welcome weblogic | Logout" and a globe icon. Below the slogan is a green navigation bar with links for "Home", "Company", "Services", and "Expertise".
- Copyright message:** A yellow callout box points to the copyright notice at the bottom left of the page: "Copyright © 2011, El Piju and/or its affiliates. All rights reserved."

The main content area of the page is titled "Services" and features a "Design & Build" section. The "Design & Build" section includes a description of the project delivery method and three images of construction professionals working on a project. The "Design & Build" section also includes a "Copyright message" callout box pointing to the copyright notice at the bottom left of the page.

Typical Elements on a Page Template: Navigation

Global navigation

el piju design with nature

Welcome weblogic | Logout

Sustainability through natural building

Home Company **Services** Expertise

Preconstruction
Construction
Design & Build

Services

Preconstruction
Construction
Design & Build

Design & Build

El Piju's Design & Build project delivery method offers you the security of a single-source of responsibility for both the design and construction of your project. On a Design & Build project, El Piju engages the client prior to the start of design professionals and consultants, creating a "win win" partnership environment. Key benefits include an early guarantee of project costs, a shorter overall project schedule, and fewer burdens on your management resources.

Copyright © 2011, El Piju and/or its affiliates. All rights reserved. Administrator | Privacy Statement

Typical Elements on a Page Template: Additional Links and Actions

The image shows a screenshot of a web page template for 'el piju design with nature'. The page features a header with the company logo and a navigation menu. A 'Services' section is highlighted in a dark green bar. Below this, there are three columns: 'Preconstruction', 'Construction', and 'Design & Build'. The 'Design & Build' section contains a detailed description of the project delivery method. On the right side, there are three images of construction professionals. A yellow callout box labeled 'Login/Logout' points to the top right corner. Another yellow callout box labeled 'Pop-up menus' points to a dropdown menu that appears when a user hovers over a gear icon. A third yellow callout box labeled 'Global links' points to a footer area containing 'Administrator' and 'Privacy Statement' links.

el piju design with nature

Welcome weblogic | Logout

Sustainability through i

Home Compa

Services

Preconstruction
Construction
Design & Build

Design & Build

El Piju's Design & Build project delivery method offers you the security of a single-source of responsibility for both the design and construction of your project. On a Design & Build project, El Piju engages the client prior to the start of design professionals and consultants, creating a "win win" partnership environment. Key benefits include an early guarantee of project costs, a shorter overall project schedule, and fewer burdens on your management resources.

Administrator | Privacy Statement

Pop-up menus

Global links

Login/Logout

Typical Elements on a Page Template: Conditional Elements

Elements of the page template can be displayed conditionally.

- Depending on whether the user is public or authenticated



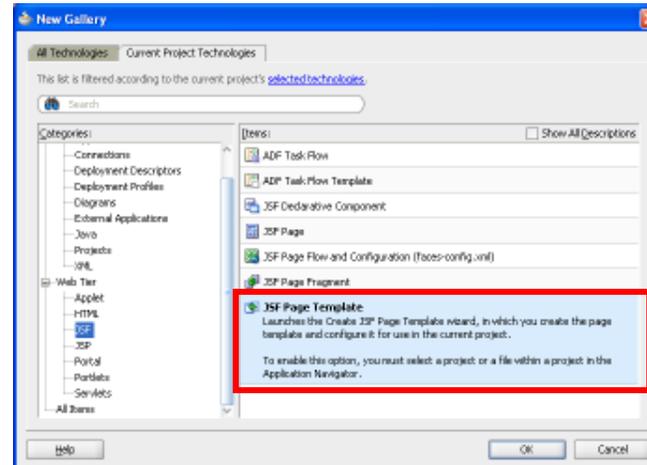
- Depending on the user's role and privileges



Working with Templates at Design Time

Create Template (1)

1. New Template



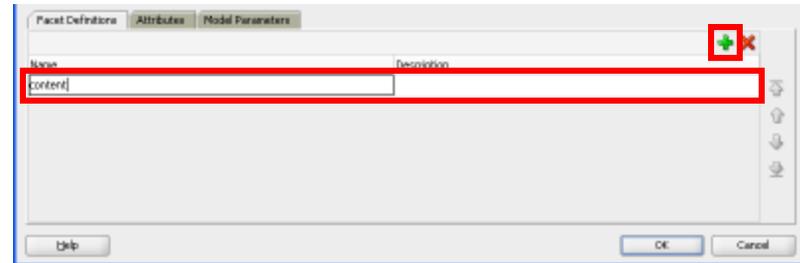
2. Define name, create page definition



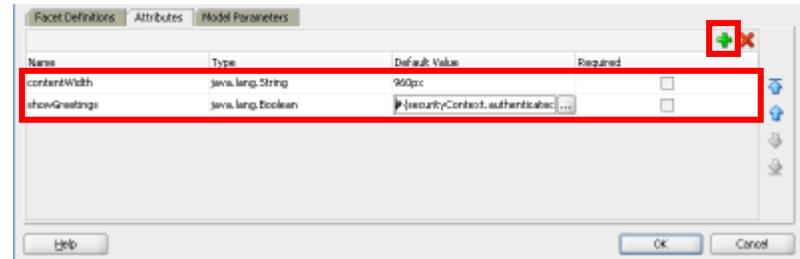
Working with Templates at Design Time

Create Template (2)

3. Create facet(s)



4. Create attribute(s)



JSF Page Template wizard is not reentrant, but you can edit the template source to add more facets and attributes.

Structure of the Template Source

```
<?xml version='1.0' encoding='UTF-8'?>
<jsp:root xmlns:jsp="http://java.sun.com/JSP/Page" version="2.1" ...
    xmlns:cust="http://xmlns.oracle.com/adf/faces/customizable">
  <jsp:directive.page contentType="text/html; charset=UTF-8" ...
  <af:pageTemplateDef var="attrs">
    <af:facetRef facetName="content"/>
  <af:xmlContent>
    <component xmlns="http://xmlns.oracle.com/adf/faces/rich/component">
      <display-name>Corporate Template</display-name>
      <facet><facet-name>content</facet-name></facet>
      <attribute>
        <attribute-name>contentWidth</attribute-name>
        <attribute-class>java.lang.String</attribute-class>
        <default-value>960px</default-value>
      </attribute>
    </component>
  </af:xmlContent>
</af:pageTemplateDef>
</jsp:root>
```

Tag libraries

Template content

Template name

Facet definition(s)

Attribute(s)

Working with Templates at Design Time: Populate Template

- Add components to the template (similar to populating pages)
 - Drag-and-drop from the component palette
 - Edit the source if necessary
- Add facet reference where the page content will be displayed

```
<af:facetRef facetName="content" />
```

Template Attributes

- Define attributes in the template:

name, class, and optionally, a default value

```
<attribute>  
  <attribute-name>contentWidth</attribute-name>  
  <attribute-class>java.lang.String</attribute-class>  
  <default-value>960px</default-value>  
</attribute>
```

- Default value can be an EL expression
- Default can be overridden,
 - in the page, where the template is used
 - At run time by Composer, when the page is displayed
- Refer to an attribute:

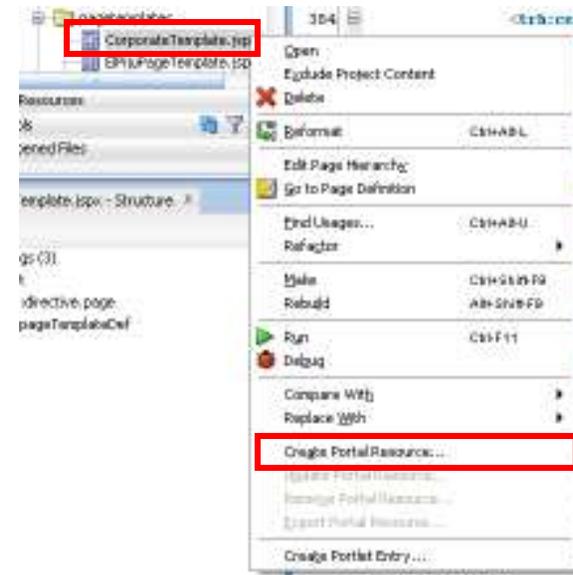
```
<trh:tableLayout id="globalPageTable"  
  width="#{attrs.contentWidth}">
```

Page Template as Portal Resource

- A page template can become a portal resource.
 - Packed in a resource archive (EAR, MAR)
 - Stored in MDS
- Rules:
 - Create under `/oracle/webcenter/portalapp/pagetemplates`
 - Must have a facet called `content`
 - Must have a reference to the `content` facet

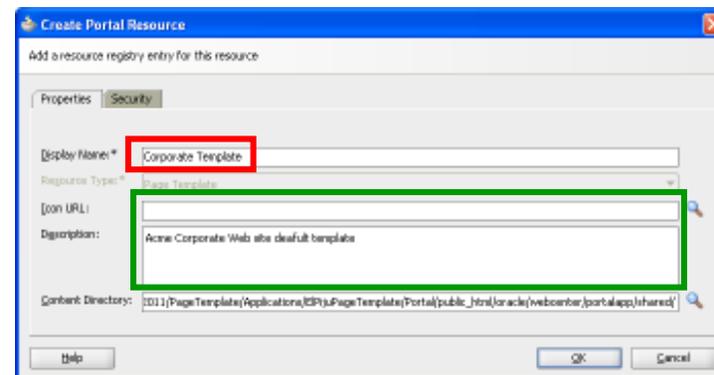
Page Template as Portal Resource: Creating the Resource

1. Create resource



2. Define properties

- Name optionally
- Description
- Icon URI, ...



Page Template as Portal Resource: Working with Resources

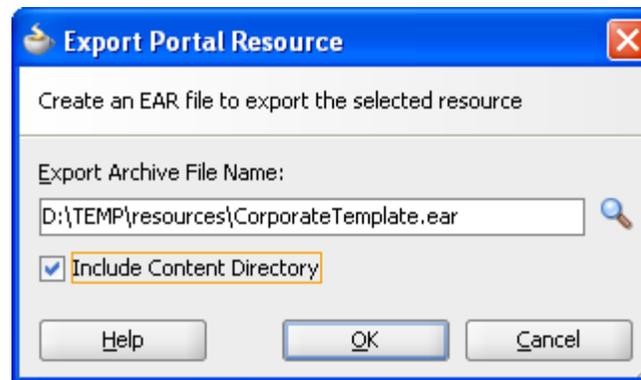
- Update, remove



- Export

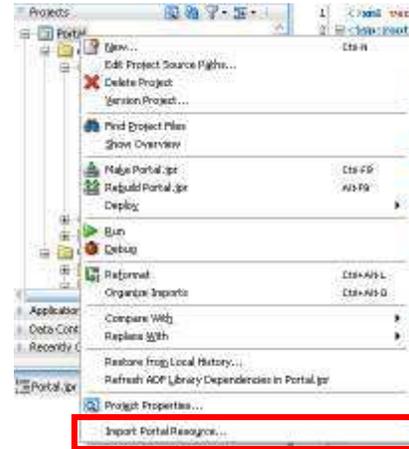


- Provide location (EAR file)
- Include the content directory, if necessary

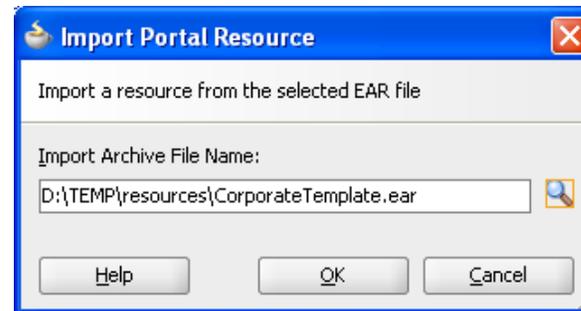


Page Template as Portal Resource: Importing a Resource

1. Menu on the project

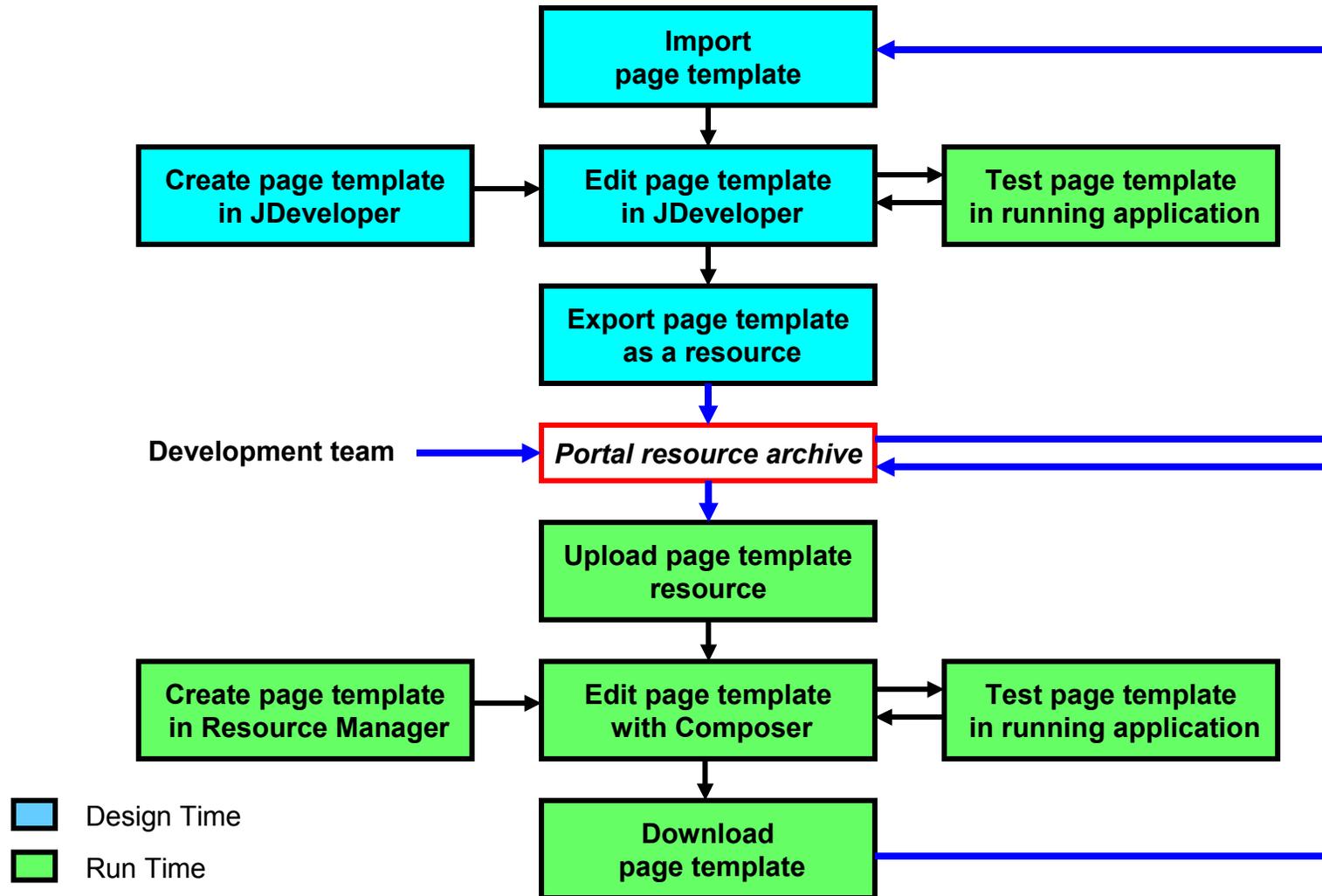


2. Provide location (EAR file)



After importing a page template, you need to edit
pagetemplate-metadata.xml
to register the newly imported template for JDeveloper.

Round-Trip Development Process for Page Templates



Working with Templates at Run Time

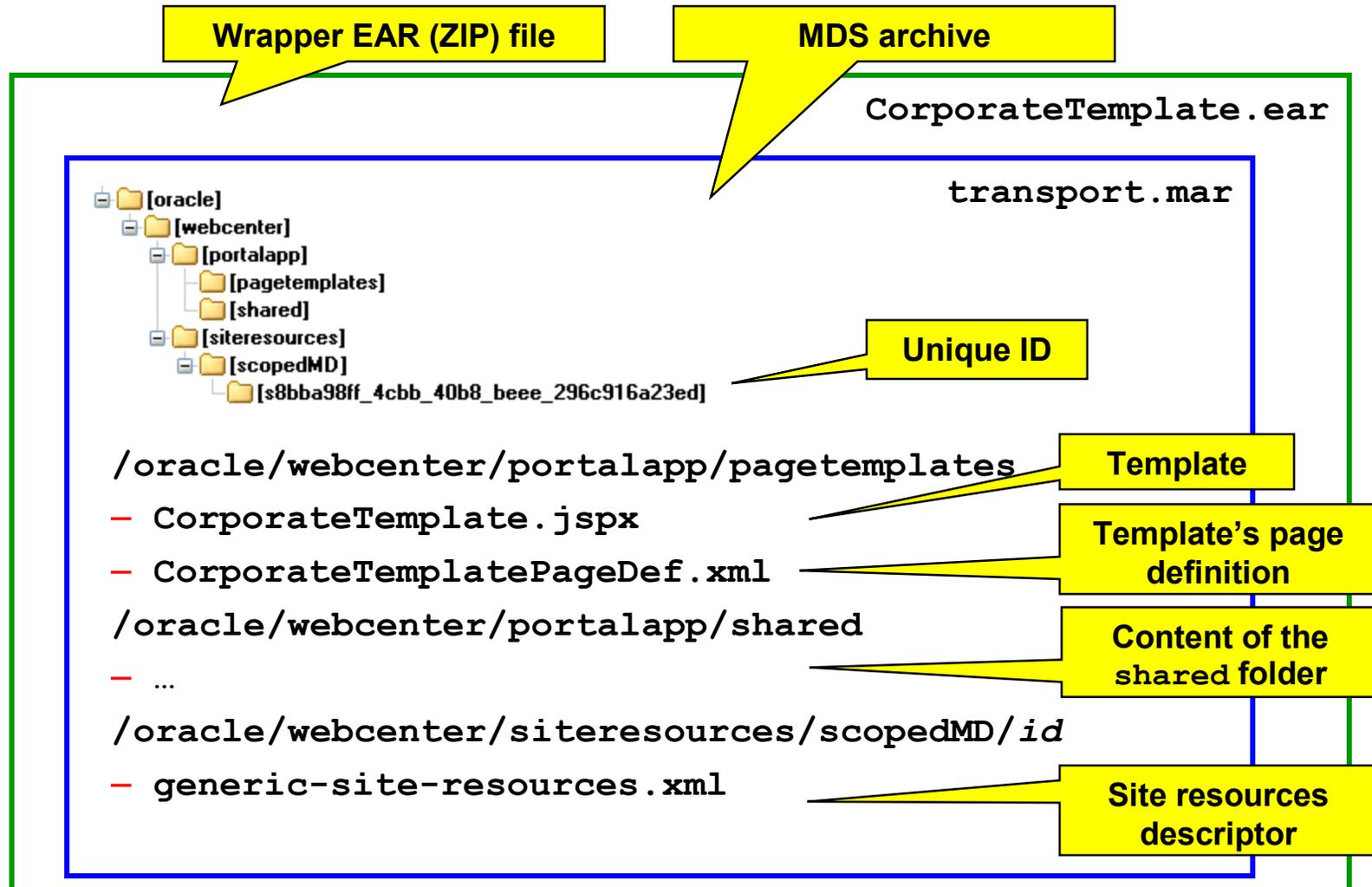
Use: Administration > Resources > Page Templates

- Create, Upload, Copy
- Delete
- Download
- Edit, Edit Source, Edit Properties, Show

The screenshot displays the Oracle WebCenter Portal Administration Console. The top navigation bar includes the Oracle logo, 'WebCenter Portal Administration Console', and a user greeting 'Welcome weblogic | Back to Portal | Logout'. Below the navigation bar, there are tabs for 'Resources', 'Services', 'Security', and 'Configuration'. The 'Resources' tab is selected and highlighted with a red box. Under 'Resources', there are sub-sections for 'Structure', 'Look and Layout', and 'Mashups'. The 'Structure' section is expanded to show 'Page Templates', which is also highlighted with a red box. A table lists the page templates, with the 'Edit' button for the selected 'Corporate Template' highlighted by a red box. A context menu is open over the 'Edit' button, showing options: Edit, Copy, Security Settings, Customize, Delete, Show, Edit Source, and Edit Properties. The table lists the following templates:

Status	Template Name	Description	Modified By	Modified On
Hidden	Corporate Template	Acme Corporate Web site default	system	On 9/14/11 4:49 PM
Available	Globe Page Template	Globe Page Template	system	On 9/9/11 7:02 PM
Available	Swooshy Page Template	Swooshy Page Template	system	On 9/9/11 7:02 PM

Page Template Resource Archive



Template Content Tips (1)

- Use CSS or JavaScript
 - Embedded in the template

```
<af:resource type="css"> ... </af:resource>
```

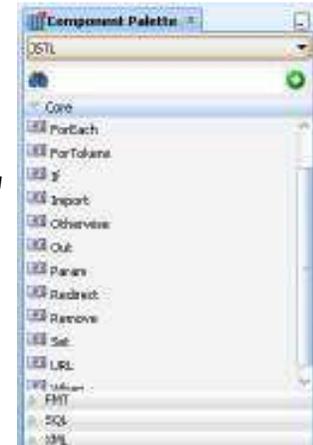
```
<af:resource type="javascript"> ... </af:resource>
```
 - Add CSS to the skin
 - Use external files

```
<af:resource type="css" source="url" />
```

```
<af:resource type="javascript" source="url" />
```
- Use JavaServer Pages Standard Tag Library
 - Add namespace

```
xmlns:c="http://java.sun.com/jsp/jstl/core"
```
 - Add source

```
<c:if test="..."> ... </c:if>
```
 - Drag from Component Palette



Template Content Tips (2)

- Use variables

```
<c:set var="contextRoot"  
    value="{facesContext.externalContext.requestContextPath}"  
    scope="session"/>  
<af:goLink id="home"  
    destination="/#{contextRoot}/spaces/  
                #{spaceContext.currentSpaceName}" >
```

- Conditional display
 - ADF tags, use **rendered** attribute
 - Other tags, surround with conditional JSTL tags

```
<c:if test="..."> ... </c:if>  
<c:choose>  
    <c:when test="..."> ... </c:when>  
    <c:otherwise> ... </c:otherwise>  
</c:choose>
```

Template Content: Use Additional Files

Page template might refer to external files: images, JavaScript, CSS.

- Deploy separately, use fix context root
- Deploy together with the application
 - Place under the context root
 - Use PortalWebAssets project
 - Does not work with packaged resources
- Use the `/oracle/webcenter/porta1app/shared` folder
 - Shared folder content packed into the resource archive
 - In PS3, PS4, only images files are accessible
 - In PS5, you can use other file types, for example CSS or JavaScript; you can use folder hierarchy

Editable Templates

A page template can be edited at run time if it contains editable components.

Panel Customizable

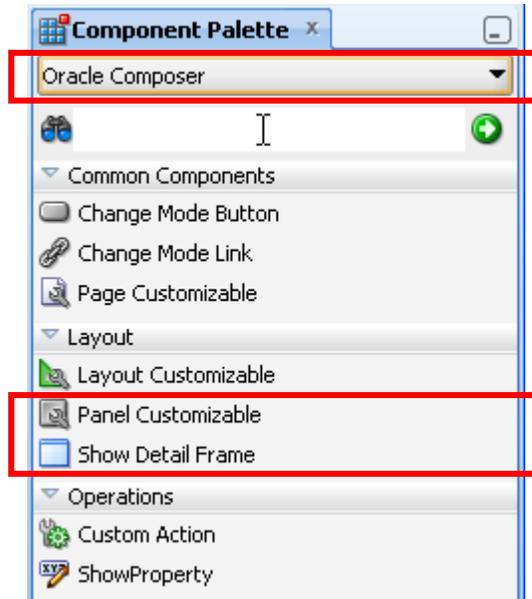
- Container with horizontal or vertical layout
- Holds other components

Show Detail Frame

- Chrome for an actual component
- Add actions, like show, hide, move
- Enables editing the frame or the embedded component properties

Editable Templates: Design Time

- Add from the Oracle Composer component group
- **Must not add Page Customizable**
- Add at least one Panel Customizable
- Add ADF components surrounded by Show Detail Frame
 - Output Text
 - Rich Text Editor
 - Go Image Link
 - Go Link
 - ...



Editable Templates: Source Example

```
<cust:panelCustomizable id="pt_pc2">
  <cust:showDetailFrame id="pt_sdf1"
    text="HTML Fragment"
    displayHeader="#{changeModeBean.inEditMode}"
    showMinimizeAction="none"
    showResizer="never"
    stretchContent="false">
    <f:attribute name="sdf_selection_rule"
      value="sdf_for_edit_mode_only"/>
    <af:outputText id="pt_ot3" value="Any HTML fragment" />
  </cust:showDetailFrame>
  <cust:showDetailFrame id="pt_sdf2"
    text="Rich Text" ... >
    <af:richTextEditor label="Label 1" id="pt_rtel"
      contentStyle="width:100%" clientComponent="true"
      simple="true" toolboxLayout="font formatCommon color list"/>
  </cust:showDetailFrame>
</cust:panelCustomizable>
```

1. Add Panel Customizable

2. Wrap components into
Show Detail Frame

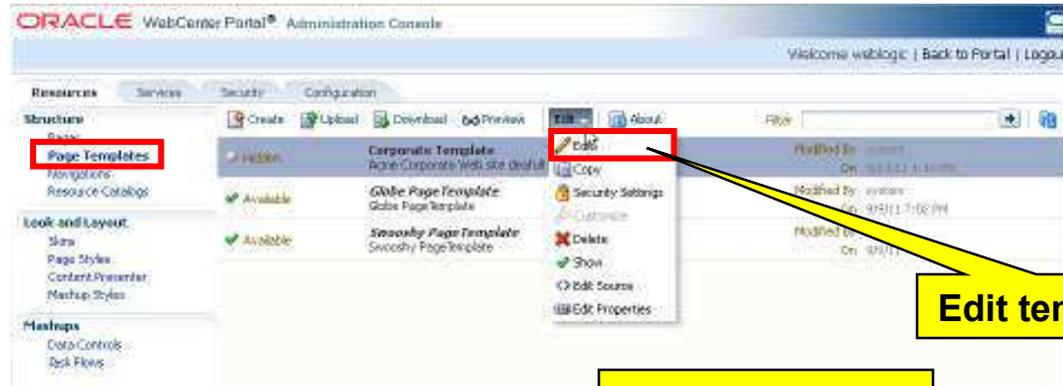
3. Set this attribute that Show
Detail Frame will customize
the embedded component

4. Use ADF component,
Output Text

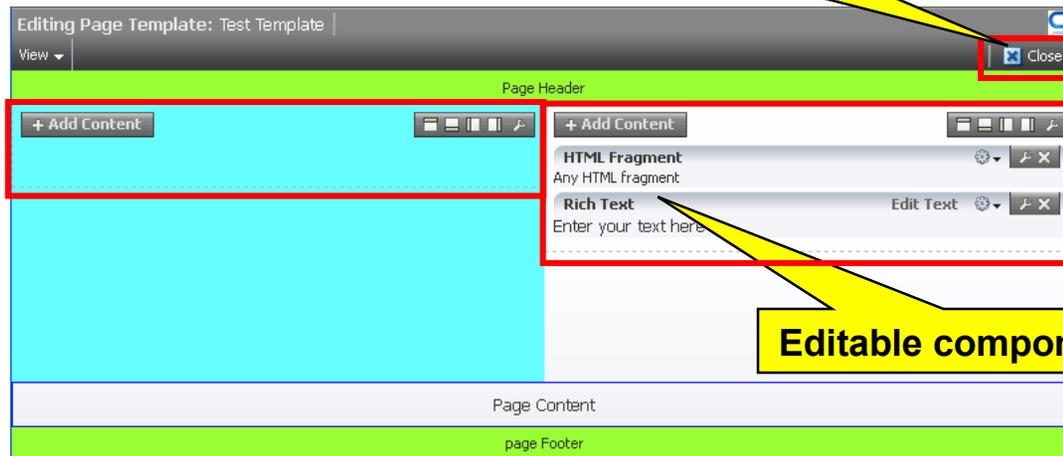
5. Rich Text Editor component
No need for the attribute here

Editing Templates at Run Time

- Resource Manager



- Composer



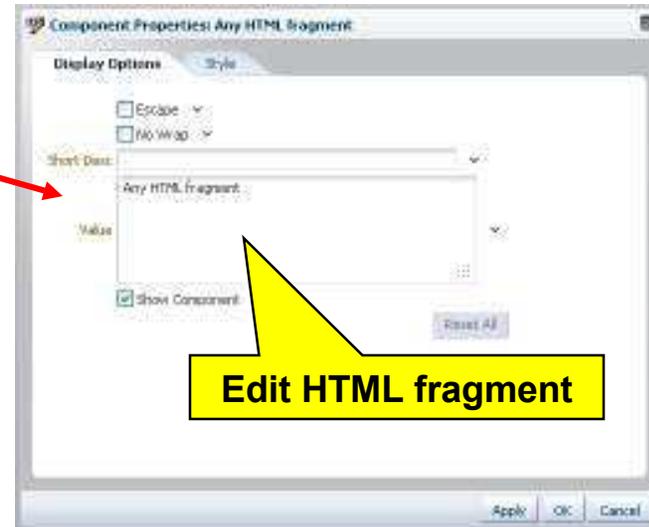
Editing Templates: Run-Time Example



Editing Templates: Run-Time Example



Editing Templates: Run-Time Example



Editing Templates: Run-Time Example



Rich Text Editor

Editing Templates: Run-Time Example

The diagram illustrates the run-time process of editing templates through several steps:

- Add Content:** A button labeled "+ Add Content" is highlighted with a red box. A yellow callout box labeled "Add Box" points to this button.
- Component Properties:** A yellow callout box labeled "Edit properties" points to the "Edit" icon (a gear) in the component selection pane.
- Component Properties Dialog:** A dialog box titled "Component Properties: Any HTML Fragment" is shown. A yellow callout box labeled "Edit HTML fragment" points to the "Value" field within the "Short Desc" section.
- Resource Catalog:** A window titled "Add Content" displays a list of resources. A yellow callout box labeled "Resource Catalog" points to this window.
- Rich Text Editor:** A window titled "Rich Text" is shown with a text area. A yellow callout box labeled "Rich Text Editor" points to this window.

Red arrows indicate the flow of the process: from the "+ Add Content" button to the "Edit" icon, then to the "Component Properties" dialog, then to the "Resource Catalog" window, and finally to the "Rich Text" editor.

Editable Templates: Resource Catalog

Web development components

The screenshot shows the 'Add Content' dialog box with the following components and their descriptions:

- Data Controls**: Data controls created at design time and through SRM
- Box**: A box in which content can flow vertically or horizontally
- HTML Markup**: Raw HTML and JavaScript
- Hyperlink**: Link to a page or a Web site
- Image**: An image with a hyperlink
- Links**: Add links to the current page
- Movable Box**: A box in which content can flow vertically or horizontally. It also provides customization options such as move, expand or collapse, and resize.
- Text**: Formatted text
- Web Page**: Includes another Web page

Callout boxes point to the following components:

- Panel Customizable (points to Box)
- Output Text (points to HTML Markup)
- Go Link (points to Hyperlink)
- Go Image Link (points to Image)
- Show Detail Frame (points to Movable Box)
- Rich Text Editor (points to Text)
- Inline Frame (points to Web Page)

Page Layout

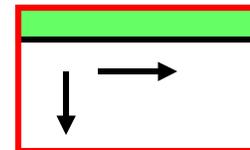
The biggest challenge in page template design is how to lay out components:

- elements of the template
- page content

There are two basic strategies:

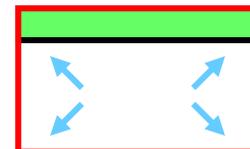
- Flow layout:

- Components have fixed sizes and are arranged side by side.
- If necessary, the [browser](#) displays scroll bar(s).



- Stretch layout:

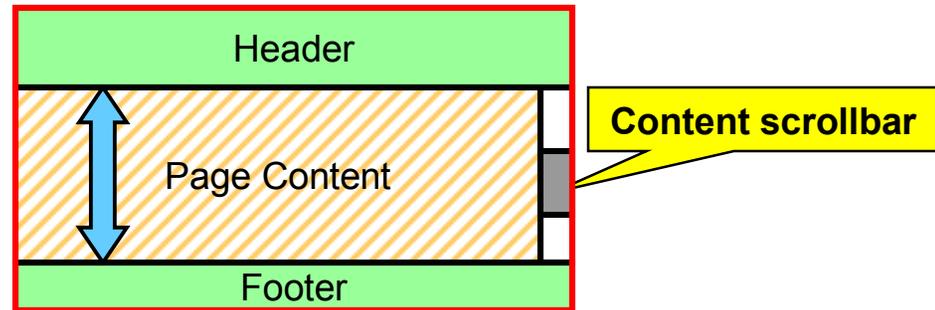
- Components will be stretched to occupy the available space on the page.
- If necessary, [individual components](#) may have scroll bars.



Page Template Layout: Vertical Behavior

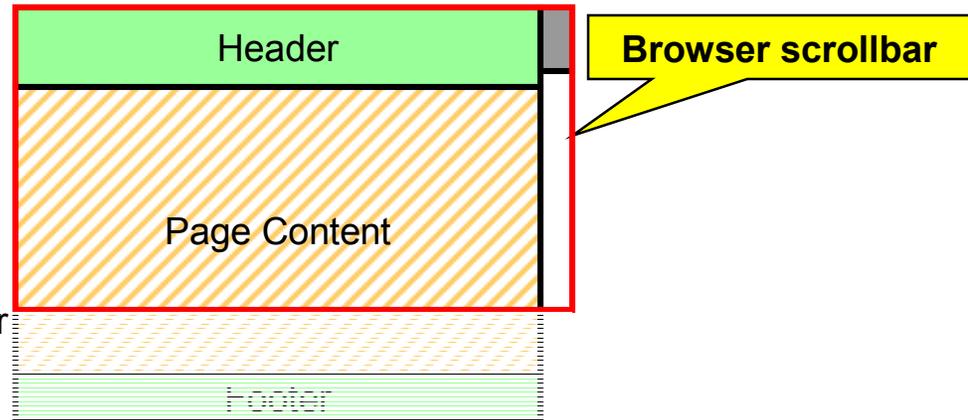
- **Stretching:**

- Header & footer always visible
- Height of the page is determined by the browser window
- Content stretched vertically
- Content might have scroll bar



- **Flowing:**

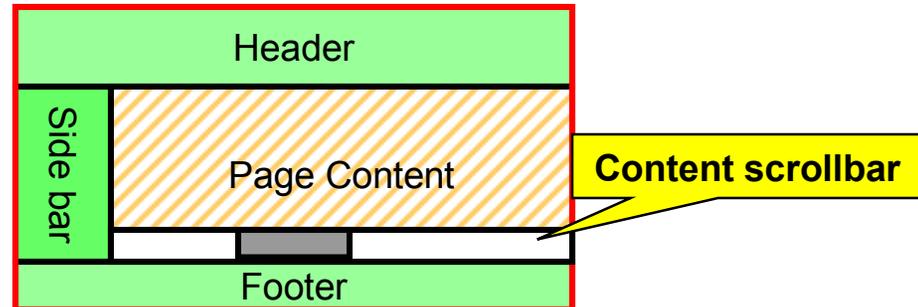
- Content never stretched vertically
- Height of the page is calculated based on the components
- Browser might display scroll bar
- Header and/or footer not necessarily visible



Page Template Layout: Horizontal Behavior

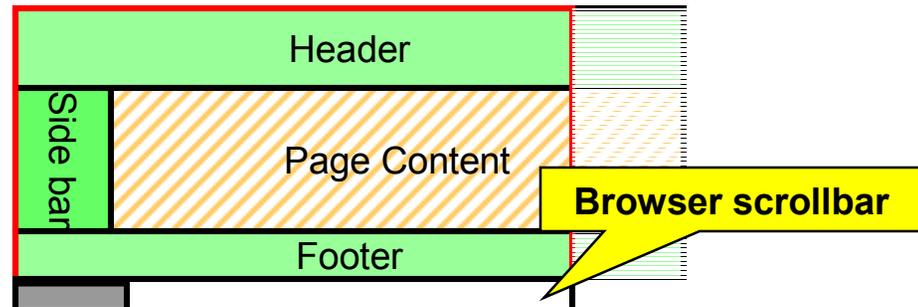
- **Stretching**

- Content stretched horizontally
- Content might have scroll bar
- Other components have fixed width

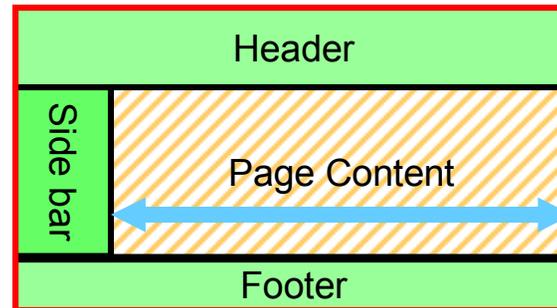


- **Flowing**

- Content width is fixed
- Browser might show scroll bar



- Some components might be stretched to fill up existing space



Page Layout Usage

- Majority of web sites use flow-type layout.
- “Application” type web sites prefer stretch-type layout.
- As a template developer, you can control whether the content facet is in a stretching or flowing region of the page.
- Page content must be created taking the layout strategy into consideration.
- Since a page template can be changed dynamically, create pages and design custom components that display properly in stretching and flowing context.
- We recommend using ADF Faces containers to create the layout.

Page Template Layout ADF UI Components (1)

Stretching layouts:

- Build outer structure with containers that can be stretched and stretch its children.
 - `PanelStretchLayout`, `PanelSplitter`, ...
- Create flowing islands.
 - Use `PanelGroupLayout` with `type="scroll"` or `type="vertical"`
this can be stretched, but will not stretch its children
- You should not embed stretching components inside flowing islands.
- Never try to stretch something vertically when inside of a flowing container. Do not use height with percent unit.

Page Template Layout

ADF UI Components (2)

Flowing layouts:

- Use non-stretching containers
 - `PanelGroupLayout`, `PanelBorderLayout`, ...
 - `PanelBorderLayout` can be used to approximate HTML table component
- To avoid multiple scroll bars, do not nest scrolling `PanelGroupLayout` components. Consider `type="vertical"`
- Most stretchable ADF components also work in flowing context with `dimensionsFrom="auto"`
- To stretch a component horizontally, use `styleClass="AFStretchWidth"` instead of ~~`inlineStyle="width:100.0%"`~~

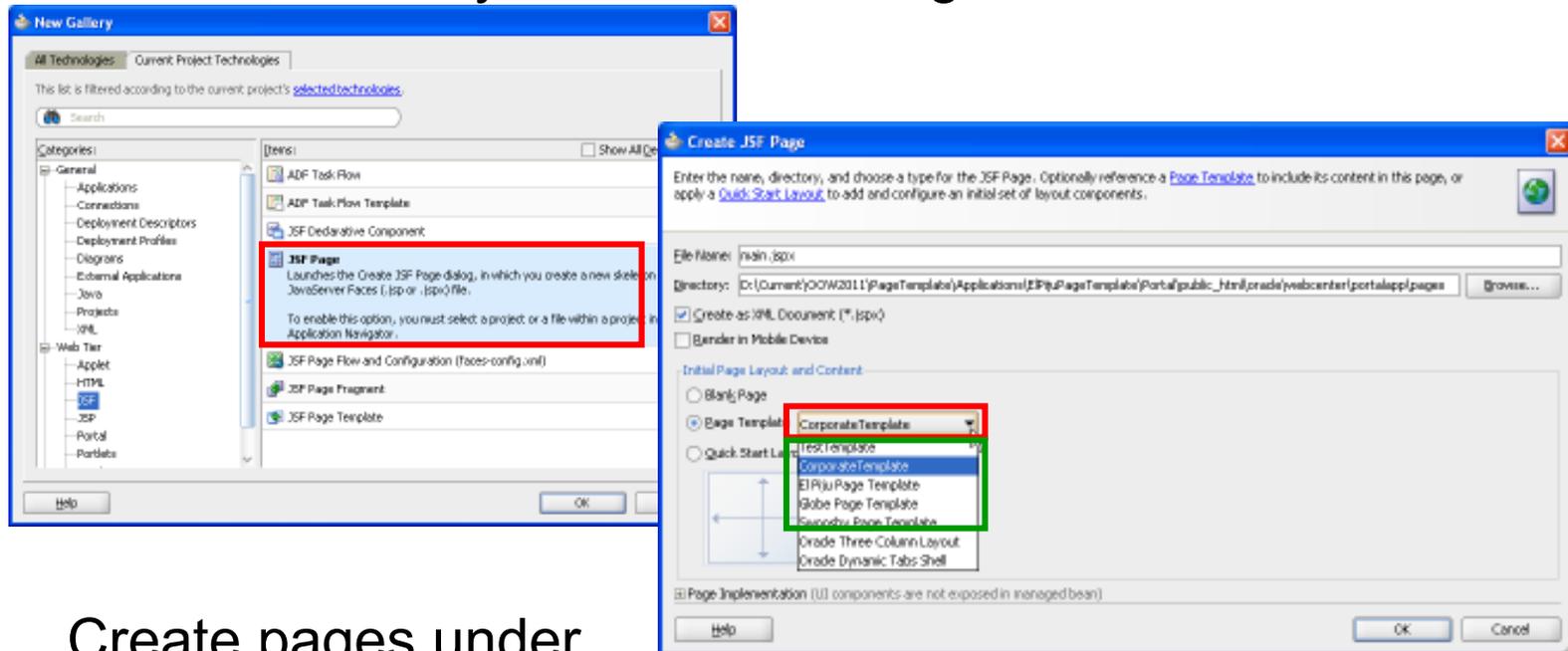
Page Template Layout ADF UI Components (3)

Customizable components:

- In `PanelCustomizable`, use `layout="auto"` to detect whether to stretch its children or not.
- In order to support flow and stretch layouts, use `ShowDetailFrame` with `stretchChildren="auto"`

Creating Pages Using Page Templates: Design Time

- Use New Gallery > JSF > JSF Page

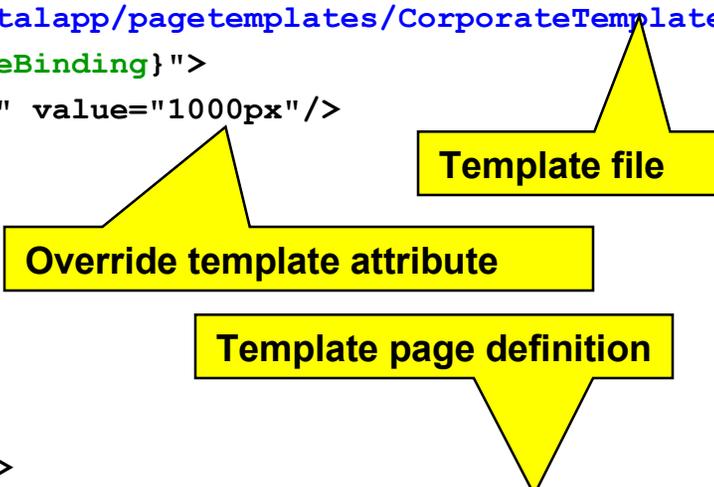


- Create pages under `/oracle/webcenter/portalapp/pages`
- Choose page template
- Find available templates in `pagetemplate-metadata.xml`

Creating Pages Using Page Templates: Page Source

- *main.jspx*

```
<af:form id="f1">  
  <af:pageTemplate id="pt1"  
    viewId="/oracle/webcenter/portalapp/pagetemplates/CorporateTemplate.jspx"  
    value="#{bindings.pageTemplateBinding}">  
    <f:attribute name="contentWidth" value="1000px"/>  
    <f:facet name="content"/>  
  </af:pageTemplate>  
</af:form>
```



- *mainPageDef.xml*

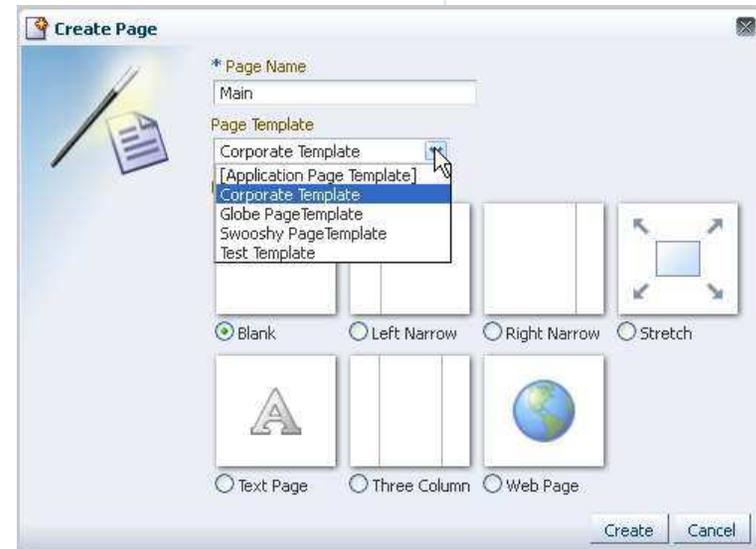
```
<executables>  
  <variableIterator id="variables"/>  
  <page path="oracle.webcenter.portalapp.pagetemplates.CorporateTemplatePageDef"  
    id="pageTemplateBinding" Refresh="ifNeeded"/>  
</executables>
```

Creating Pages Using Page Templates: Run Time

- Use Administration > Resources > Pages > Create Page



- Choose page template
- Choose page style



Agenda

- Working with Page Templates
- Page Templates for WebCenter Portal Framework Applications
- Page Templates for WebCenter Portal: Spaces

Default Page Template

- There is a preference bean that stores default values for the application UI.
 - Page Template
 - Navigation Model, Resource Catalog, Skin
 - others
- To use the default template, change the source of the page.

- *main.jspx*

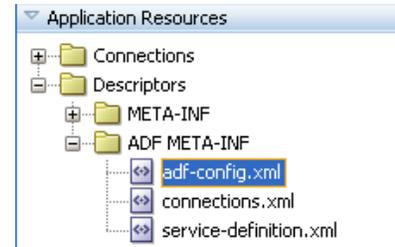
```
<af:pageTemplate id="pt1"  
    value="#{bindings.pageTemplateBinding.templateModel}">
```

- *mainPageDef.xml*

```
<page path="{preferenceBean.defaultPageTemplate}"  
    id="pageTemplateBinding" Refresh="ifNeeded"/>
```

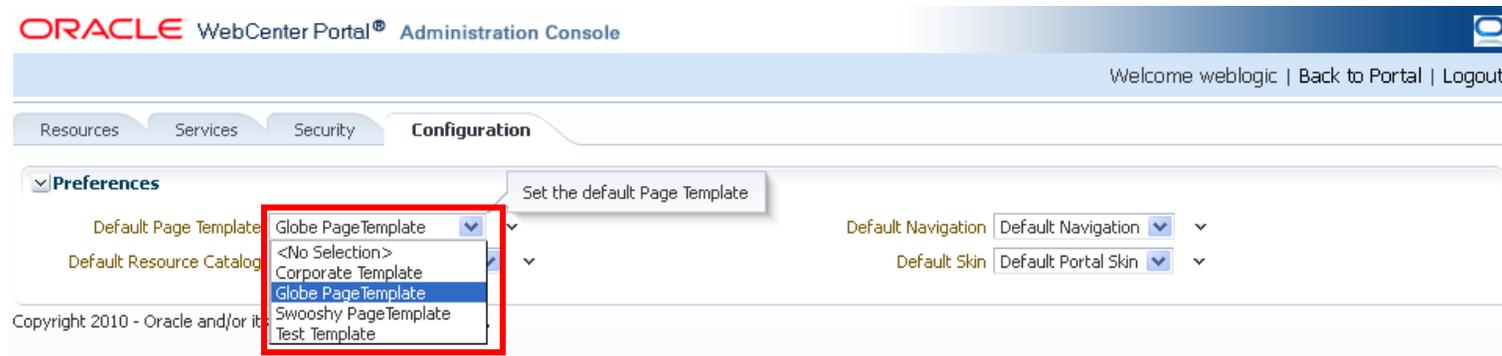
Default Page Template: Setting the Default Template

- Design time: edit `adf-config.xml`



```
<portal:preference
  id="oracle.webcenter.portalapp.pagetemplate.pageTemplate"
  desc="Default Page Template"
  value="/oracle/webcenter/portalapp/pagetemplates/CorporateTemplate.jspx"
  resourceType="Template" display="true"/>
```

- Run time: Administration > Configuration



Out-of-the-Box Templates

A WebCenter Portal application has two OOTB page templates:

- **Globe: `pageTemplate_globe.jspx`**



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- **Swooshy: `pageTemplate_swooshy.jspx`**



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Out-of-the-Box Templates: Template Attributes

Name	Type	Default
<code>contentWidth</code>	String	<code>960px</code>
<code>showNavigation</code>	Boolean	<code>true</code>
<code>showGreetings</code>	Boolean	<code>{securityContext.authenticated}</code>
<code>showLogin</code>	Boolean	<code>true</code>
<code>showAdmin</code>	Boolean	<code>{securityContext.authenticated}</code>
<code>isAdminPage</code>	Boolean	<code>false</code>
<code>isEditingTemplate</code>	Boolean	<code>false</code>

Out-of-the-Box Templates: Template Attributes (continued)

- In OOTB `login.jspx`, `error.jspx`
`showNavigation = false`, `showLogin = false`
- In built-in administration pages
`isAdminPage = true`
- When editing the template, Resource Manager sets
`isEditingTemplate = true`

Use these attributes in your custom application template if the template will be used as default template or you intend to use the OOTB login page.

Hiding the Template from Page Editing

Hide the template content, *except the facet reference*, when editing the page.

- For example, use the rendered attribute:

```
rendered = "#{!composerContext.inEditMode or attrs.isEditingTemplate}"
```

```
<af:panelGroupLayout id="..." layout="vertical" halign="center" ... >
  <af:panelGroupLayout id="..." ... inlineStyle="width:#{attrs.contentWidth};">
    <af:panelBorderLayout id="headerRow" rendered="...">...</af:panelBorderLayout>
    <af:panelGroupLayout id="bodyRow" layout="horizontal" valign="top" ...>
      <af:panelGroupLayout id="contentCell" layout="vertical" valign="top"
        styleClass="AFStretchWidth">
        <af:facetRef facetName="content"/>
      </af:panelGroupLayout>
    </af:panelGroupLayout>
  </af:panelGroupLayout>
  <af:panelBorderLayout id="footerRow" rendered="...">...</af:panelBorderLayout>
</af:panelGroupLayout>
```



- Essential only when the template has editable components

Login/Logout

- Use ADF security – redirect to login page

```
<af:goLink id="pt_glnk3" text="Login"
  destination="/adfAuthentication?success_url=/"
  rendered="#{!securityContext.authenticated}"/>
```

```
<af:goLink id="pt_glnk4" text="Logout"
  destination="/adfAuthentication?logout=true&end_url=/"
  rendered="#{securityContext.authenticated}"/>
```

- Use utility Java Bean: `o_w_s_l_LoginBackingBean`

- Set attributes: `username`, `password`

- Invoke methods: `doLogin`, `doLogout`

```
<af:commandLink id="pt_logincb" text="Login"
  action="#{o_w_s_l_LoginBackingBean.doLogin}"
  rendered="#{!securityContext.authenticated}"/>
```

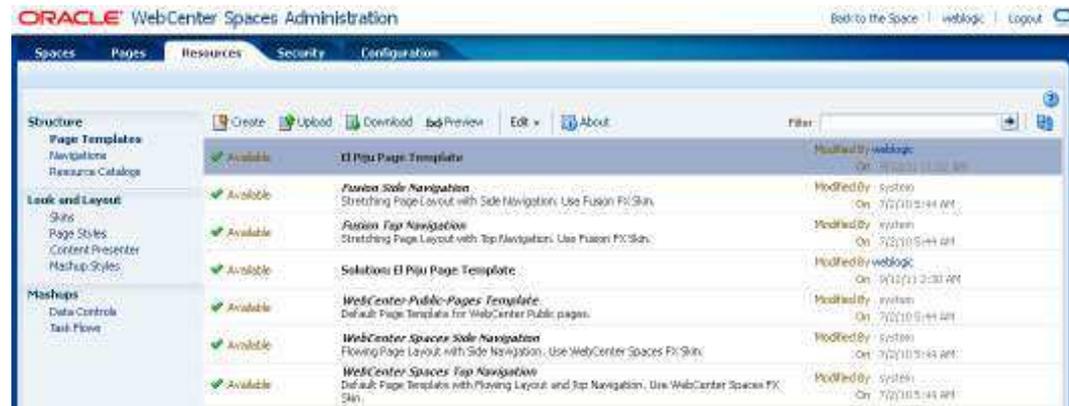
```
<af:commandLink id="pt_glnk4" text="Logout"
  action="#{o_w_s_l_LoginBackingBean.doLogout}"
  rendered="#{securityContext.authenticated}"/>
```

Agenda

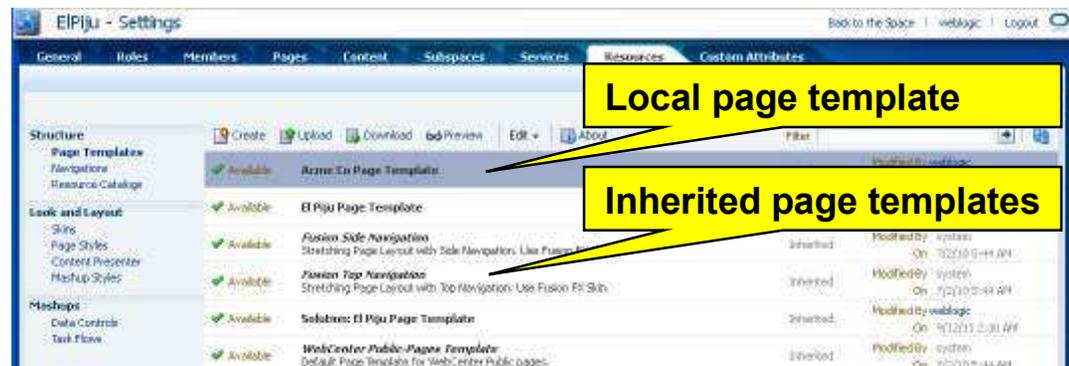
- Working with Page Templates
- Page Templates for WebCenter Portal Framework Applications
- Page Templates for Oracle WebCenter Portal: Spaces

Run-Time Resource Management

Global templates:



Space templates:



- Global templates inherited in a space
- Template created in JDeveloper uploads as global template

Out-of-the-Box Templates

PS5 (11.1.1.6.0)

In PS5 release, new OOTB page templates will be introduced:

Flowing layout:

- Top Navigation
- Side Navigation
- Collaborative with Top Navigation
- Portal-Centric with Top Navigation

Stretching Layout:

- Top Navigation (Stretch)
- Side Navigation (Stretch)
- Fusion Side Navigation
- Fusion Top Navigation
- Public Pages Template

Creating a Page Using Page Templates

- Pages are created only at run time.
- Pages always use a template defined by Spaces.
 - Defined at application level: Administration > Configuration.
 - Defined in each Space



- Defined in the navigation

Template Content: Spaces Components

Examples

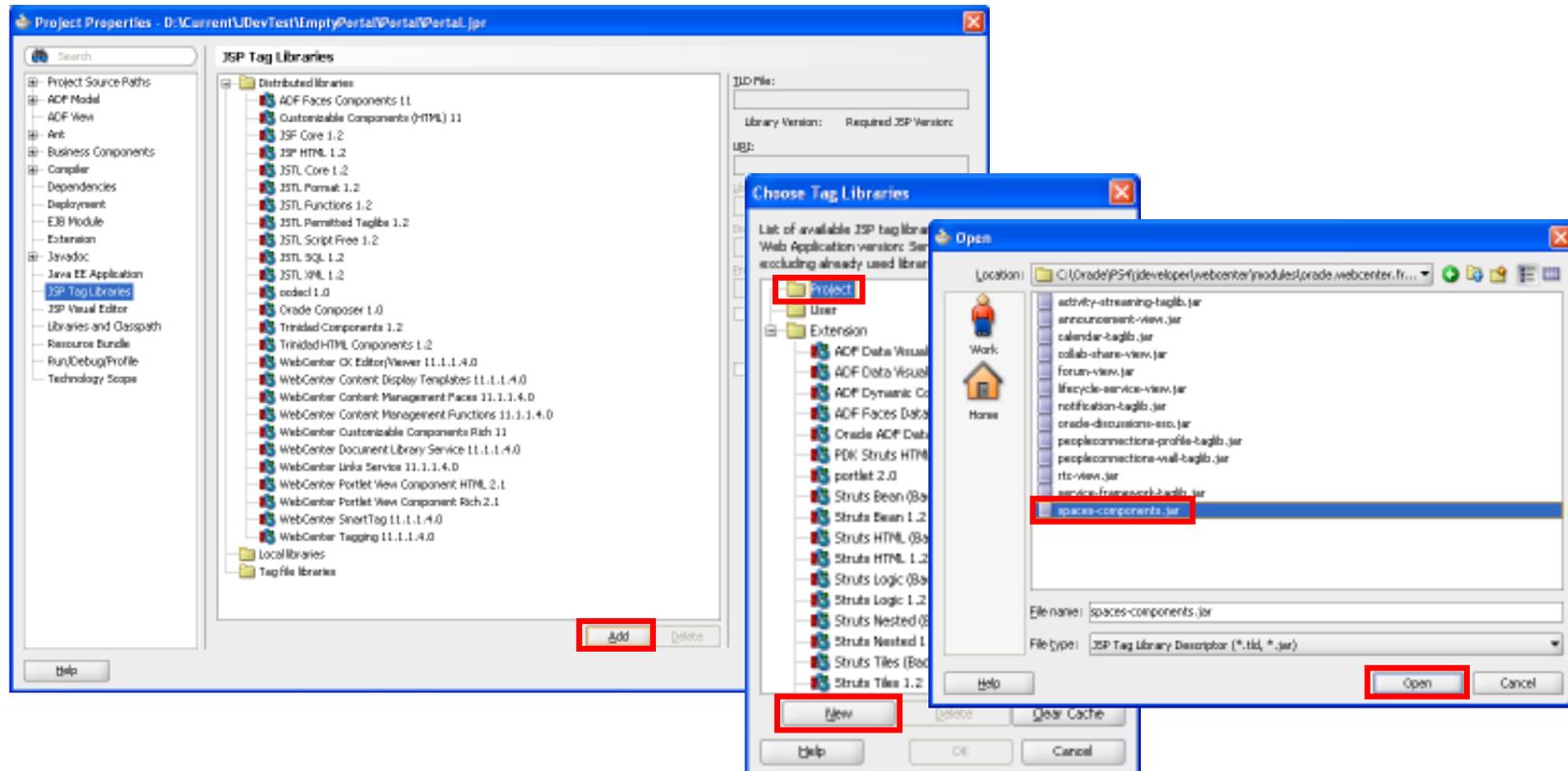
- Login/Logout
- User profile/User preferences
- Edit Page/Create Page/Manage Pages
- Home space
- Spaces Switcher
- Contact Administrator
- Copyright Message, ...



Spaces Components: Design Time (1)

- Add JSP Library to project:

`<JDev_HOME>/jdeveloper/webcenter/modules/
oracle.webcenter.framework_11.1.1/spaces-components.jar`



Spaces Components: Design Time (2)

- Drop from Spaces Declarative Components

Result in source:

- Added namespace definition

```
xmlns:wcdc=
```

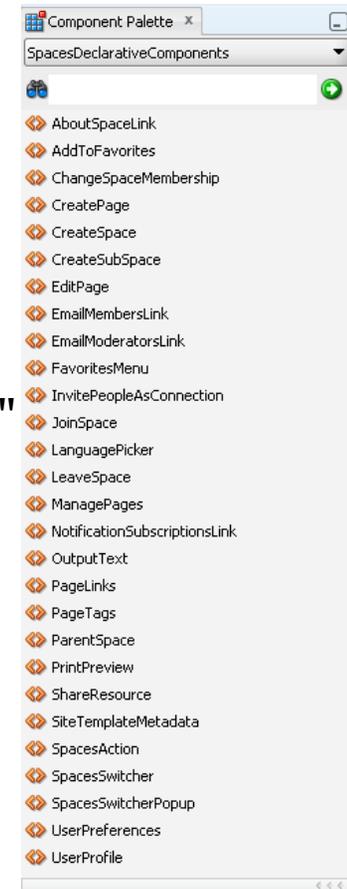
```
"http://xmlns.oracle.com/webcenter/spaces/taglib"
```

- Added tags

```
<wcdc:spacesAction id="..."  
    type="login" text="Login"/>
```

```
<wcdc:spacesAction id="..."  
    type="logout" text="Logout"/>
```

```
<wcdc:editPage ... />
```



Spaces Components: Run Time

- Add from Resource Catalog > Template Development



Template Content: Miscellaneous Tips

- No need to hide the template when editing the page
- Surround template with special tags:

```
<wcdc:siteTemplateMetadata type="start"/>
```

```
<wcdc:siteTemplateMetadata type="end"/>
```

- If you use `wcdc:spacesAction`, add the following:

```
<af:resource type="javascript">
```

```
function wcNavigate(event) {  
    window.location =  
        event.getSource().getProperty('wcDestination');  
    event.cancel(); }  
function wcLaunchWindow(event) {  
    window.open(event.getSource().  
        getProperty('wcDestination'));  
    event.cancel(); }  
</af:resource>
```

Summary

In this module you should have learned how to:

- Create and use page templates both at design- and run time
- Create an editable page template
- Create a portal resource from an existing page template
- Explain the round-trip development process for page templates
- Describe the differences between page templates for an Oracle WebCenter Portal Framework application and Oracle WebCenter Portal: Spaces