

# **Oracle Application Express Workshop I**

**Acticity Guide – Volume II**

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**ORACLE**

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## **Practices for Lesson 12: Adding Shared Components That Aid Navigation**

**Chapter 12**

## Practices for Lesson 12: Overview

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### Practices Overview

There are five practices for this lesson. You create a list and list region, create and edit tabs, manage help text, add a navigation bar entry, and add a breadcrumb.

## Practice 12-1: Creating Lists and List Regions

---

### Overview

Create a list of links that aid navigation. Using these links, a user will be able to navigate to the Customers, Products, and Orders pages.

### Assumptions

You have performed the previous practices or imported the `LAB112_SOLN.sql` file.

### Tasks

- a. In the Order Management application, create a list called Home Page List with the following list entries:
  - View Customers (linked to the Customers page)
  - View Products (linked to the Products page)
  - View Orders (linked to the Orders page)
- b. Create a list region called Tasks in the Home region.
- c. Create a Dynamic List showing all the Products on the Products page. Create the List Region on the Products page by using the same Create List Wizard.

## Practice 12-2: Creating and Editing Standard Tabs

---

### Overview

In this practice, you create tabs for the application and assign pages to the tabs. You also create a Help page and a Help tab to add to the existing tab set.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create a tab called Orders for the Order Management application. It should be the current tab for the List of Orders page. Sequence the Orders tab before the Products tab.
- b. Assign the Master Detail page to the Orders tab. Run the application and confirm that the tab is created successfully.
- c. Create a page called Help, and then add a new tab called Help, to the existing tab set. The new Help tab will link to the new Help page.

## Practice 12-3: Adding Navigation Bar Entries

---

### Overview

In this practice, you add a navigation bar entry that, when clicked, will show the page-level help. You also modify the name of an existing navigation bar entry and add another navigation bar entry that is displayed on all pages except the page that it navigates to.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create a navigation bar entry called Help that navigates to the Help page. Run the page and click the Help navigation bar entry.
- b. Change the name of the navigation bar entry for Logout to Sign Off.
- c. Add a navigation bar entry called Home. Display the navigation bar entry on all pages except the Home page.

## Practice 12-4: Adding Breadcrumbs and Tabs to an Existing Page

---

### Overview

In this practice, you create a breadcrumb and add a tab set to an existing page.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Edit the existing breadcrumb for the Order Management application and create a breadcrumb entry for the Customers page. Run the customers page. Is the breadcrumb displayed on the page?
- b. Create a breadcrumb region on the Customers page and run the page.
- c. On the Customer Details page, create a breadcrumb called Customer Details whose parent entry is Customers (page 3).

## Solution 12-1: Creating Lists and List Regions

### Overview

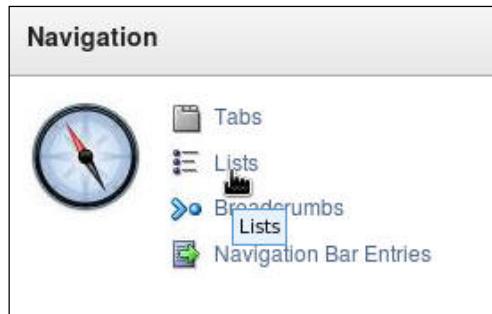
Create a list of links that aid navigation. Using these links, a user will be able to navigate to the Customers, Products, and Orders pages.

### Steps

- a. In the Order Management application, create a list called Home Page List with the following list entries:
  - View Customers (linked to the Customers page)
  - View Products (linked to the Products page)
  - View Orders (linked to the Orders page)
- 1) Navigate to your **Order Management** application home page and select **Shared Components**.



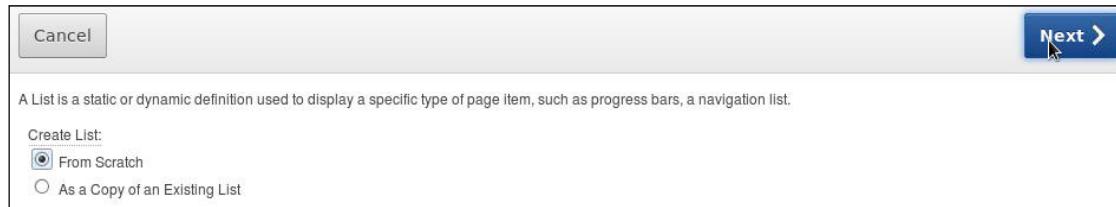
- 2) In the Navigation section, click **Lists**.



- 3) Click **Create >**.



- 4) Accept the default and click **Next >**.



- 5) For Name, enter **Home Page List** and click **Next >**.

A list is a shared collection of links, each link is called a list entry. You control the appearance of a list through list templates. You add a list to a page by creating a list region. Deleting a list will cause referencing regions to be removed.

\* Name

Type:  Static  Dynamic

Build Option

- 6) Enter **View Customers** in the first List Entry Label field. Then click the corresponding up button and select the Customers page for Target ID. Similarly, enter **View Products** and **View Orders** in the second and third List Entry Label fields. Then select the Products and List of Orders pages respectively by clicking the up arrow. Click **Next >**.

List Entry Label	Target Page ID or custom URL
1 View Customers	3
2 View Products	16
3 View Orders	9
4	
5	

- 7) Accept the default and click **Create List**.

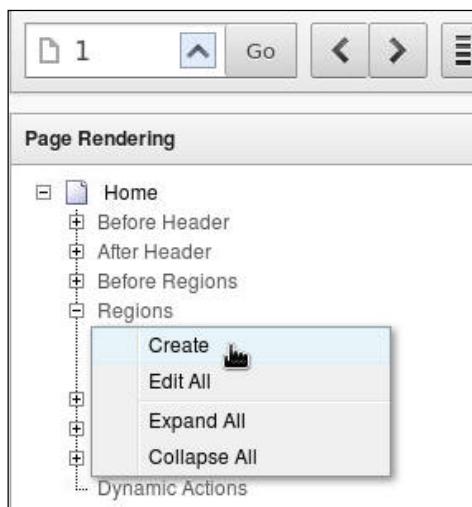
List Entry Label	Target Page ID or custom URL
1 View Customers	3
2 View Products	16
3 View Orders	9
4	

- 8) Search for page 1 in your Order Management application.



- b. Create a list region called Tasks on the Home page.

1) From the Home page definition, right-click the **Regions** and select **Create**.



2) Select the **List** option, and click **Next >**.

Page: 1 - Home  
Identify the type of region to add to this page:

HTML       Multiple HTML       Report       Form

Plug-ins       Chart       Map       Tree

Calendar       List       Breadcrumb       PL/SQL Dynamic Content

3) For Title, enter **Tasks** and click **Next >**.

Page: 1 - Home  
Region Source Type: LIST

\* Title: Tasks

Region Template: Chart List

Parent Region: - Select a Parent -

Display Point: Page Template Body (3)

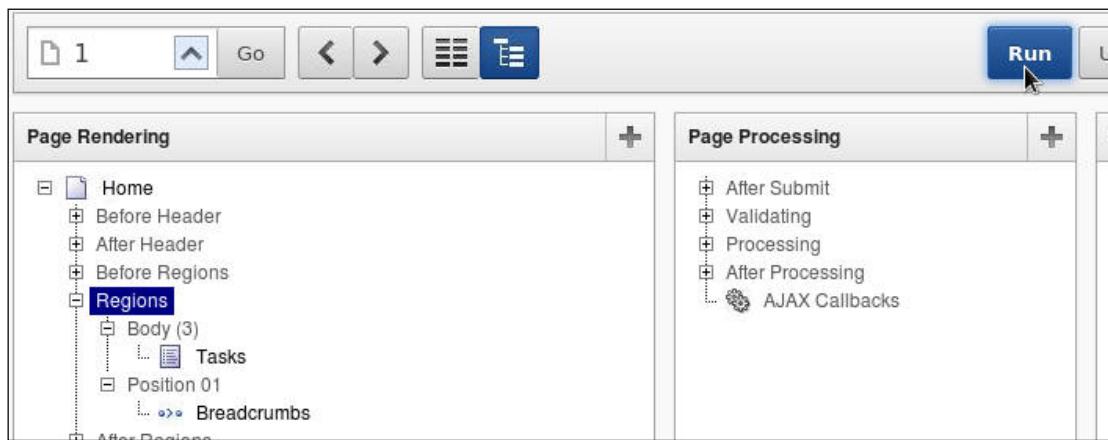
[Body] [Pos.1] [Pos.2] [Pos.3] [Pos.4] [Pos.5]

\* Sequence: 20

- 4) From the List drop-down list, select **Home Page List** and click **Create List Region**.



- 5) To view the list, run the page. Click **Run**.



- 6) The list is displayed. Click the **View Products** link.

- 7) The Products page is displayed. Click the **Edit Page** link on the Developer toolbar.

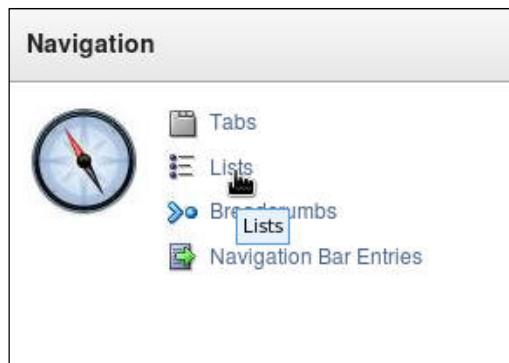
PRODUCT_ID	PRODUCT_NAME	CATEGORY_ID	PRODUCT_STATUS	LIST_PRICE
1726	LCD Monitor 11/PM	11	under development	259
2359	LCD Monitor 9/PM	11	orderable	249

- c. Create a Dynamic List showing all the Products on the Products page. Create the List Region on the Products page using the same Create List Wizard.

- 1) On the **Products** page, click the **Shared Components** icon.



- 2) Click **Lists** under Navigation.



- 3) Click **Create >**.



- 4) Accept the default and click **Next >**.

A List is a static or dynamic definition used to display a specific type of page item, such as progress bars, a navigation list.

Create List:

From Scratch  
 As a Copy of an Existing List

- 5) Enter **List of Products** for Name, select **Dynamic** for Type, and click **Next >**.

Name: List of Products

Type:  Static  Dynamic

Build Option: - No Build Option -

A list is a shared collection of links, each link is called a list entry. You control the appearance of a list through list templates. You add a list to a page by creating a list region. Deleting a list will cause referencing regions to be removed.

- 6) Click the **Create Dynamic List** link.

List Name: List of Products

Query Source Type: SQL Query

\* Query (SELECT LEVEL, LABEL\_VALUE, TARGET\_VALUE FROM...):

Create Dynamic List

- 7) Select **OEHR\_PRODUCTS** for Table or View and click **Next >**.

Create Dynamic List

\* Table / View Owner: ORA01

\* Table or View: OEHR\_PRODUCTS

Cancel Next >

- 8) Select **PRODUCT\_NAME** for Label Column and **CATALOG\_URL** for Target Column. Click **Next >**.

**Create Dynamic List**

Owner: ORA01  
Table: OEHR\_PRODUCTS

\* Label Column: PRODUCT\_NAME  
Target Column: CATALOG\_URL URL:

Is Current Column: - select value -  
Image Column: - select value -  
Image Attributes: - select value -  
Image Alt Attribute: - select value -

**Cancel** **< Previous** **Next >**

- 9) Click **Finish**.

**Create Dynamic List**

**!**

```
select null as level_value
, "PRODUCT_NAME" as label_value
, "CATALOG_URL" as target_value
, null as is_current
, null as image_value
, null as image_attr_value
```

**Cancel** **< Previous** **Finish**

- 10) Click **Next >**.

**Cancel** **Next >**

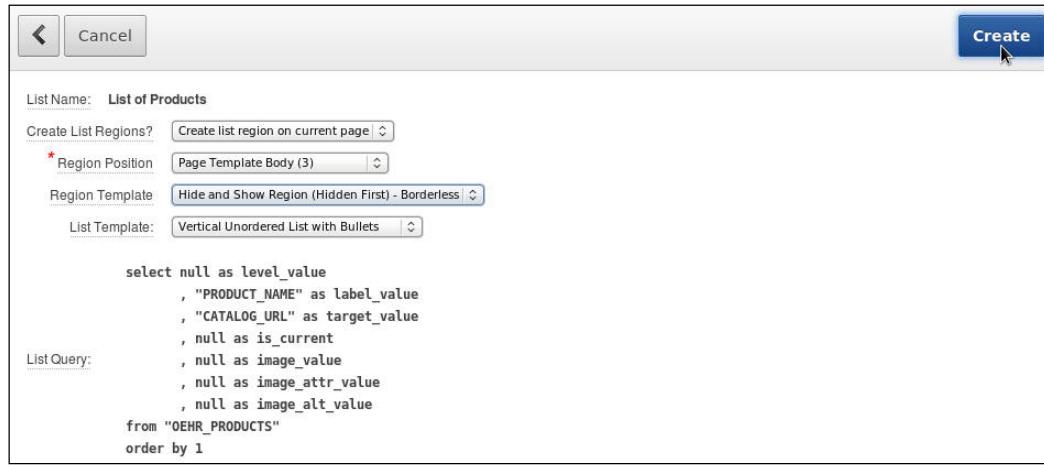
List Name: List of Products  
Query Source Type: SQL Query

\* Query (SELECT LEVEL, LABEL\_VALUE, TARGET\_VALUE FROM...):

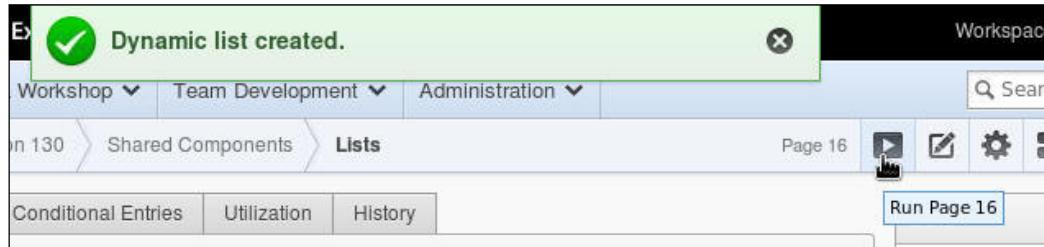
```
select null as level_value
, "PRODUCT_NAME" as label_value
, "CATALOG_URL" as target_value
, null as is_current
, null as image_value
, null as image_attr_value
, null as image_alt_value
from "OEHR_PRODUCTS"
order by 1
```

**Create Dynamic List**

- 11) Select **Create list region on current page** for “Create List Regions?”, select **Page Template Body (3)** for Region Position, and select **Hide and Show Region (Hidden first) – Borderless** for Region Template. Click **Create**.



- 12) The Dynamic list is created. Click the **Run Page** icon.



- 13) Scroll to the bottom of the page. You had selected the region as a hide and show region. Click the right arrow to show the list.

PRODUCT_ID	PRODUCT_NAME	CATEGORY_ID	PRODUCT_STATUS	LIST_PRICE
1726	LCD Monitor 11/PM	11	under development	259
2359	LCD Monitor 9/PM	11	orderable	249
3060	Monitor 17/HR	11	orderable	299
2243	Monitor 17/HR/F	11	orderable	350
3057	Monitor 17/SD	11	orderable	369
3061	Monitor 19/SD	11	orderable	499
2245	Monitor 19/SD/M	11	orderable	512
3065	Monitor 21/D	11	orderable	999
3331	Monitor 21/HR	11	orderable	879
2252	Monitor 21/HR/M	11	obsolete	889

- 14) The list is displayed. Click the **Application <n>** link on the Developer toolbar.

The screenshot shows a list of products under the heading "List of Products". The products listed are:

- > LCD Monitor 11/PM
- > LCD Monitor 9/PM
- > Monitor 17/HR
- > Monitor 17/HR/F
- > Monitor 17/SD
- > Monitor 19/SD
- > Monitor 19/SD/M
- > Monitor 21/D
- > Monitor 21/HR
- > Monitor 21/HR/M
- > Monitor 21/SD
- > Monitor Hinge - HD
- > Monitor Hinge - STD
- > Plasma Monitor 10/LE/VGA
- > Plasma Monitor 10/TFT/XGA
- > Plasma Monitor 10/XGA
- > Compact 400/DQ
- > Compact 400/LQ
- > Industrial 600/DQ
- > Industrial 700/HD
- > Inkjet B/6
- > Inkjet C/4
- > Inkjet C/8/HQ
- > LaserPro 1200/8/BW
- > LaserPro 600/6/BW
- > HD 10GB /I

In the bottom right corner of the list area, there is a button labeled "Application 130". Below the list is a dark navigation bar containing the following items: Home, Application 130 (which is highlighted), Edit Page 16, Create, and S.

## Solution 12-2: Creating and Editing Standard Tabs

### Overview

In this practice, you create tabs for the application and assign pages to the tabs. You also create a Help page and a Help tab to add to the existing tab set.

### Tasks

- Create a tab called Orders for the Order Management application. It should be the current tab for the List of Orders page. Sequence the Orders tab before the Products tab.

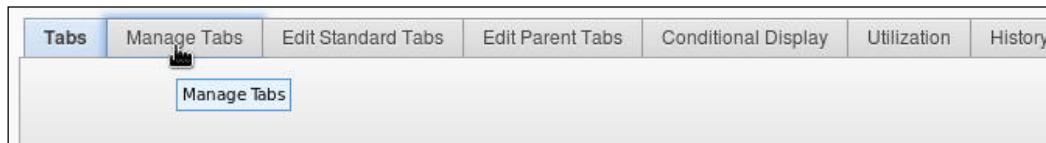
1) Click the **Shared Components** icon.



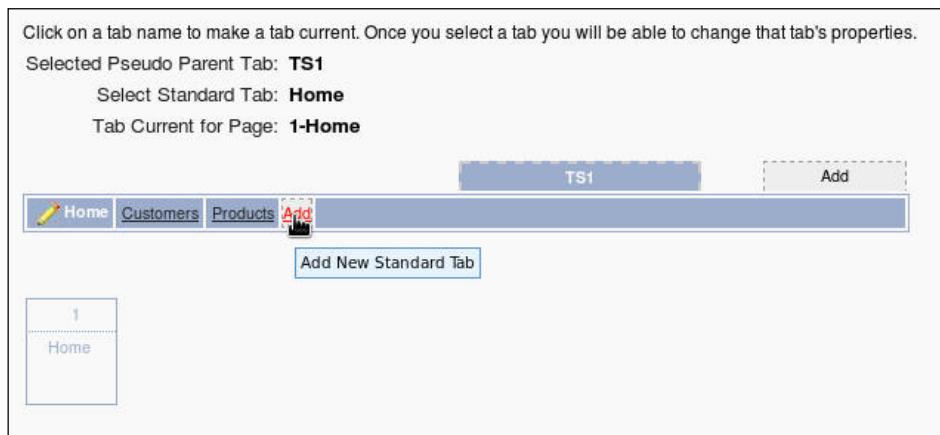
2) In the Navigation region, click **Tabs**.



3) Click the **Manage Tabs** tab.



4) Click the **Add** link next to Products to add a New Standard tab.



- 5) Enter **Orders** for Tab Label and click **Next >**.

Tabs are part of a tab set. Use this page to specify a tab within the tab set.

Tab Set: TS1

\* Tab Label: Orders

- 6) For "Tab Current for Page," click the up arrow and select the **List of Orders** page link. Click **Next >**.

You must define a "current page" for this tab. When the user clicks on the tab, the application will branch to this page.

Application: 130

\* Tab Current for Page: 9

- 7) Enter **25** for sequence number and click **Next >**.

Identify the tab sequence and optional image attributes. If no images are provided the tab will be displayed as text.

Tab Set: TS1

Label: Orders

Sequence: 25

Current Image:

Non Current Image:

Image Attributes:

- 8) Accept the defaults and click **Next >**.

Tab Name: Orders

Tab Set: TS1

Current for Page: 9

Condition Type

- No Display Condition -  
[PL/SQL] [item / column=value] [item / column not null] [item / column null] [request=e1] [page in] [page not in] [exists] [never] [none]

Build Option - No Build Option -

- 9) Review the details and click **Create Tab**.

Confirm Create-Standard Tab in Application 130.  
Page 9 will use the existing tab set "TS1".

Tab Set	TS1
Tab Text	Orders
Current Page	9
Parent Tab Set	TS1
Parent Tab Set New	
Parent Tab Text	-
Tab Sequence	25
Current Image	
Non Current Image	
Image Attributes	
Display Condition	
Display Condition Text	

- b. Assign the Master Detail page to the Orders tab. Run the application and confirm that the tab is created successfully.

- 1) Click the **Edit Standard Tabs** tab.

Click on a tab name to make a tab current. Once you select a tab you will be able to change that tab's properties.

Selected Pseudo Parent Tab: **TS1**

Select Standard Tab: **Home**

Tab Current for Page: **1-Home**

Home	Customers	Orders	Products	Add
------	-----------	--------	----------	-----

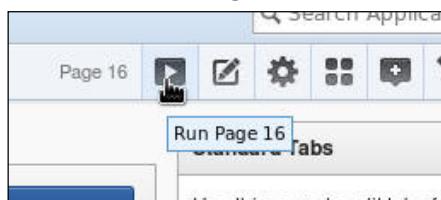
1  
Home

- 2) Make the following changes (in bold) and click **Apply Changes**.

Name	Also Current Pages
<b>Home</b>	
Customers	<b>8</b>
<b>Orders</b>	<b>10</b>
Products	16

Tabs		Manage Tabs		Edit Standard Tabs		Edit Parent Tabs		Conditional Display		Utilization		History	
		Standard Tab Set		- All Tab Sets -		Rows		20		Go			
Edit	Tab Set ▲	Sequence	Name	Label		Page	Also Current Pages		Parent Tab Set				
	TS1	10	Home	Home		1				(null)			
	TS1	20	Customers	Customers		3	8			(null)			
	TS1	25	Orders	Orders		9	10			TS1			
	TS1	30	Products	Products		16	16			(null)			

- 3) Click the **Run Page** icon.



- 4) The Orders tab is displayed. Click the **Orders** tab.

**Order Management**

Home Customers **Orders** Products

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Products

Products List

PRODUCT_ID	PRODUCT_NAME	CATEGORY_ID	PRODUCT_STATUS	LIST_PRICE
1726	LCD Monitor 11/PM	11	under development	259
2359	LCD Monitor 9/PM	11	orderable	249

- 5) The List of Orders page is displayed. Click the **Edit** icon for one of the order entries.

**Order Management**

Home Customers Orders Products

List of Orders

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

List of Orders

Edit	Order Date	Order Mode	Customer Id	Order Status	Order Total	Sales Rep
	16-AUG-99 02.34.12.234359 PM	direct	101	0	78279.6	153
	19-NOV-99 03.41.54.696211 PM	direct	102	1	42283.2	154
	02-OCT-99 04.49.34.678340 PM	direct	103	1	6653.4	154
	14-JUL-00 05.18.23.234567 PM	direct	104	0	46257	155

- 6) The Master Detail page (10) is displayed. Notice that the Orders tab is still active. Click the **Application <n>** link on the Developer toolbar.

- c. Create a page called Help, and then add a new tab called Help, to the existing tab set. The new Help tab will link to the new Help page.

- 1) You want to create a new page that will contain the help information. Click **Create Page >**.

- 2) Select **Blank page** and click **Next >**.

Application: 130 - Order Management

User Interface:  Desktop  jQuery Mobile  Smartphone

Select a page type:

Blank Page  Multiple Blank Pages  Report  Form

Plug-ins  Chart  Map  Tree

- 3) Accept the default page number and click **Next >**.

Select an unused numeric page identifier. Global page functions as a master page. Global page components are rendered on every page within your application.

Application: 130 - Order Management

\* Page Number:

Page Alias:

- 4) For Name, enter **Help** and click **Next >**.

Page: 7

\* Name:

Breadcrumb:

Optional HTML Regions

HTML Region 1:

- 5) Select the **Use an existing tab set and create a new tab within the existing tab set** option. Enter **Help** for New Tab Label, and then click **Next >**.

Page: 7

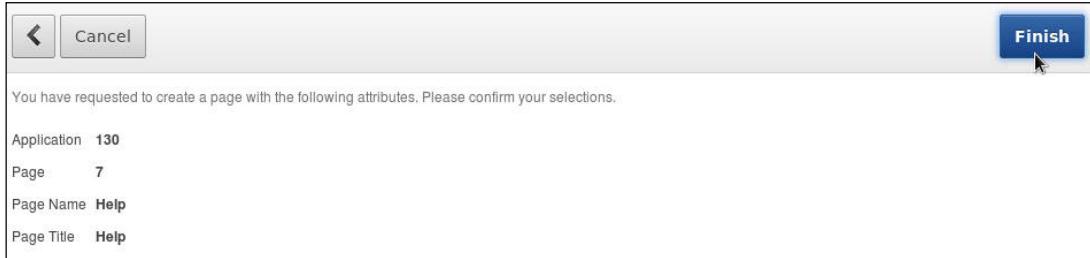
Tab Options:

- Do not use tabs
- Use an existing tab set and create a new tab within the existing tab set.
- Use an existing tab set and reuse an existing tab within that tab set.

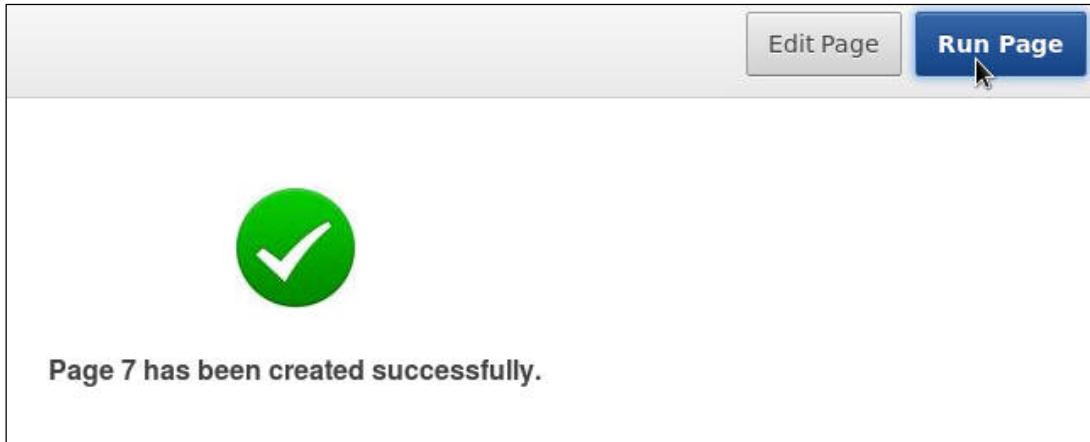
\* Tab Set:

\* New Tab Label:

- 6) Click **Finish**.



- 7) Run the page to see the new tab. Click **Run Page**.



- 8) The tab is displayed. In the next practice, you add a region to the Help page and add it as a navigation bar entry. Click the **Edit Page** link on the Developer toolbar.

## Solution 12-3: Adding Navigation Bar Entries

### Overview

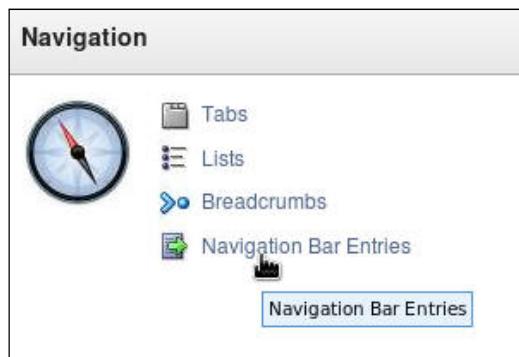
In this practice, you add a navigation bar entry that, when clicked, will show the page-level help. You also modify the name of an existing navigation bar entry and add another navigation bar entry that is displayed on all pages except the page that it navigates to.

### Tasks

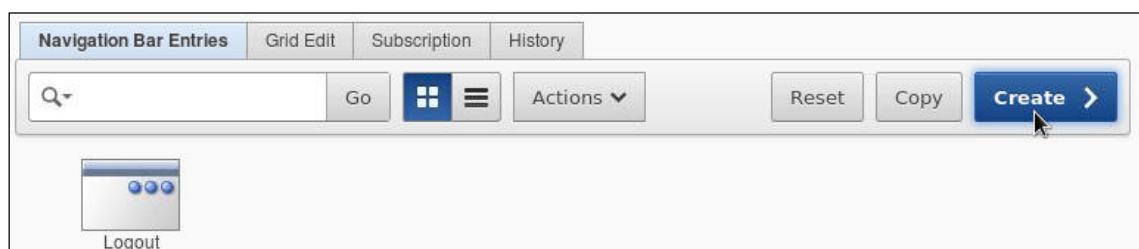
- Create a navigation bar entry called Help that navigates to the help page. Run the page and click the Help navigation bar entry.
  - Click the **Shared Components** icon.



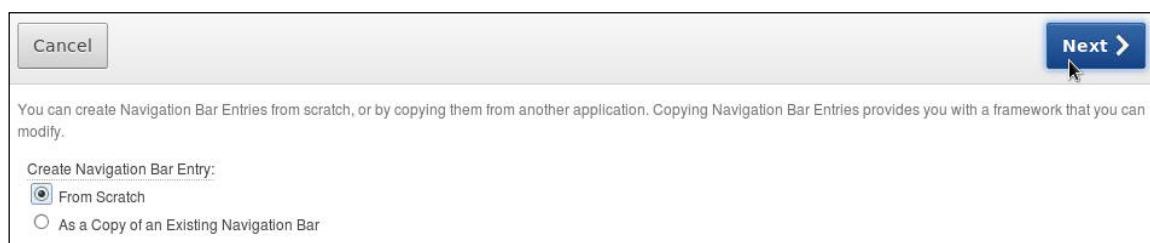
- Under Navigation, click **Navigation Bar Entries**.



- Click **Create >**.



- Make sure that **From Scratch** is selected and click **Next >**.



- 5) Select **Navigation to URL** and click **Next >**.

Select Navigation Bar Entry Type:

Navigation to URL     Feedback

- 6) For Entry Label, enter **Help** and click **Next >**.

Sequence: 10

Entry Label: Help

Icon Image Name:

Image ALT:

Image Height:  Width:

- 7) Click the icon to the right of the Page field and click the Help page link. In Request, enter **&APP\_PAGE\_ID.** (including the period) and click **Next >**.

**Note:** By specifying the **&APP\_PAGE\_ID.** bind variable as the request, you are instructing the Oracle Application Express engine to display the help text for the current page when the user clicks the navigation bar entry link.

Application: 130

Target is a: Page in this Application

\* Page: 7

reset pagination for this page

Printer Friendly

Request: &APP\_PAGE\_ID.

Clear Cache:  (comma separated page numbers)

Set these items:  (comma separated name list)

With these values:  (comma separated value list)

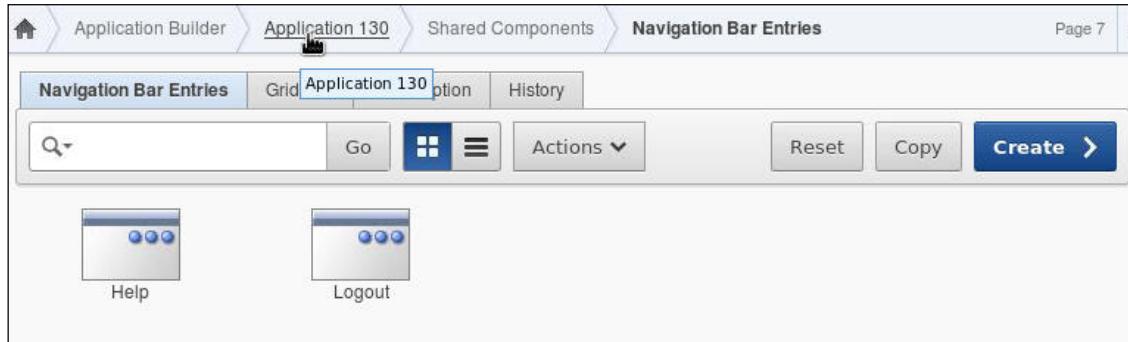
\* URL Target:

- 8) Click **Create**.

Condition Type: No Condition

[PL/SQL] [item / column=value] [item / column not null] [item / column null] [request=e1] [page in] [page not in] [exists] [never] [none]

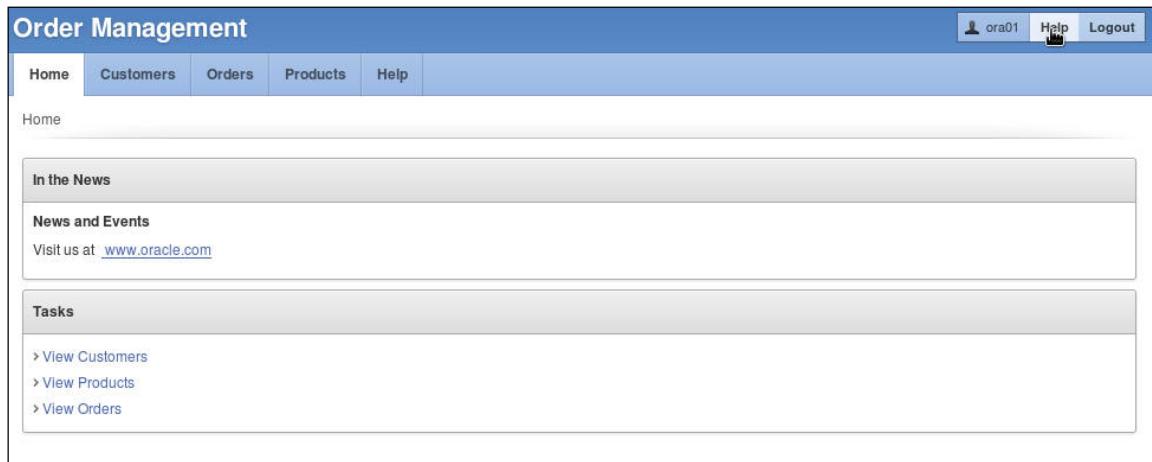
- 9) Click the **Application <n>** breadcrumb.



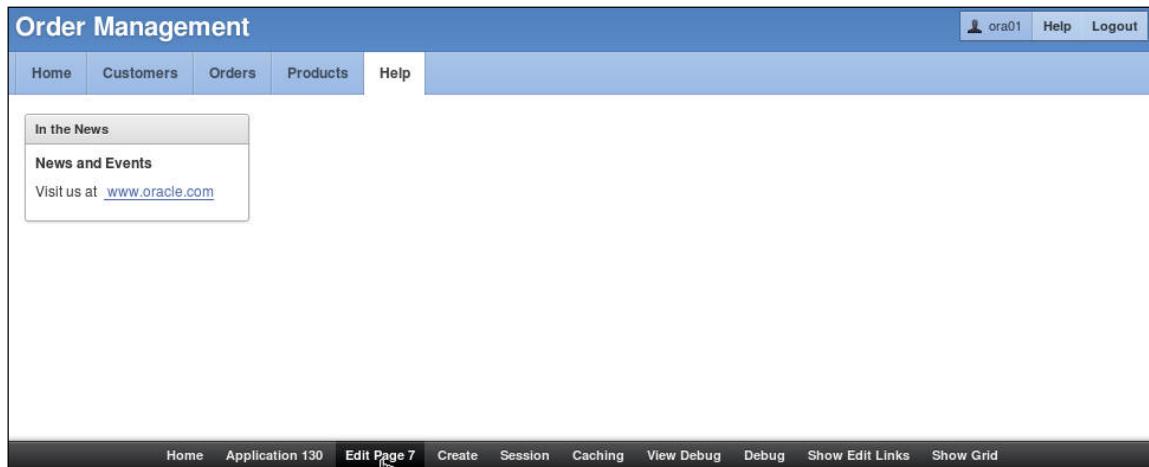
- 10) Click **Run Application**.



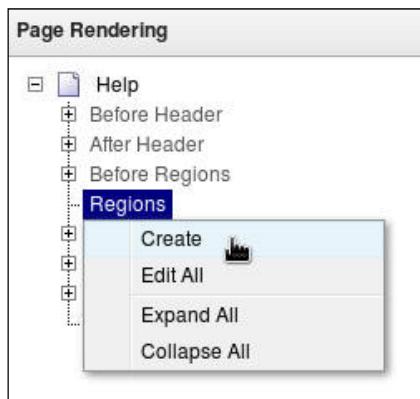
- 11) Click the **Help** navigation bar entry.



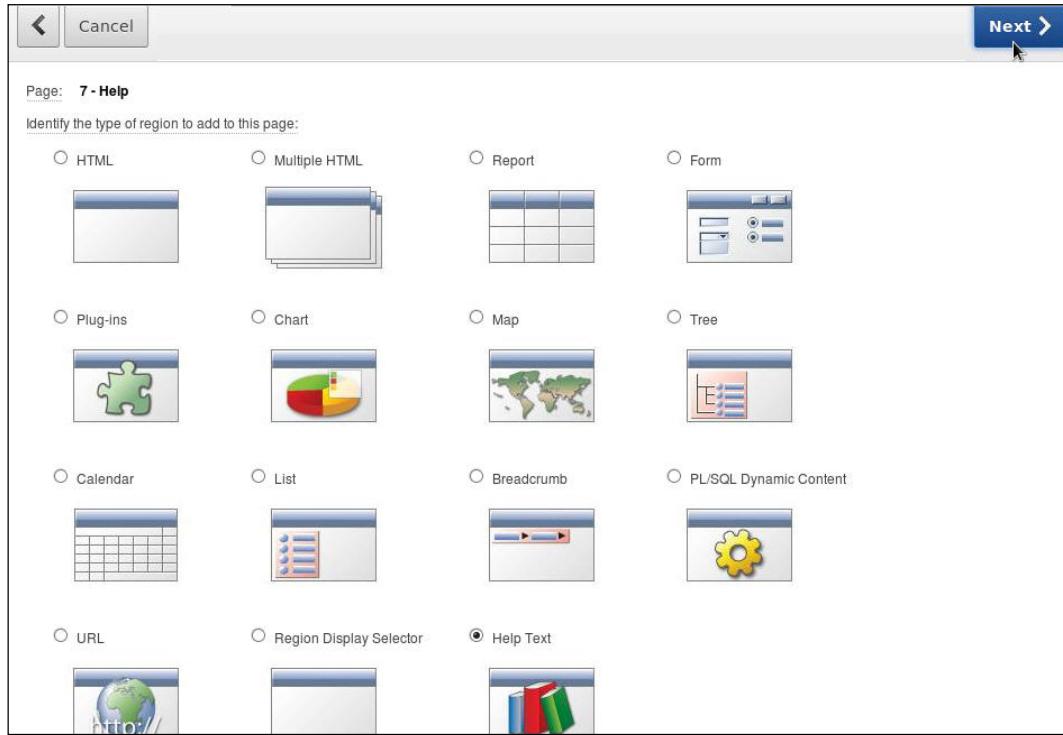
- 12) The page help page is displayed. You want to add a help text region on the Help page so that the help for the active page will be displayed. Click the **Edit Page** link on the Developer toolbar.



- 13) Right-click **Regions** and select **Create**.



14) Select the Region Type **Help Text** and click **Next >**.



15) Enter **Help** for Title and click **Next >**.



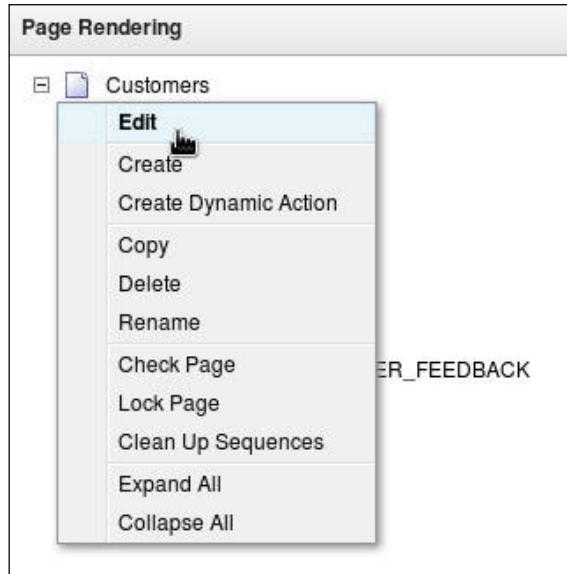
16) Click **Create Region**.



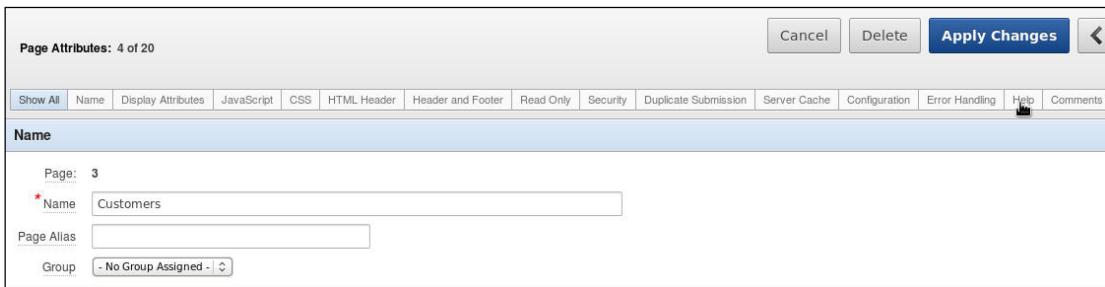
17) You need to enter some help text for a page. Enter **3** (or the page number for the Customers page) in the Page area and click **Go**.



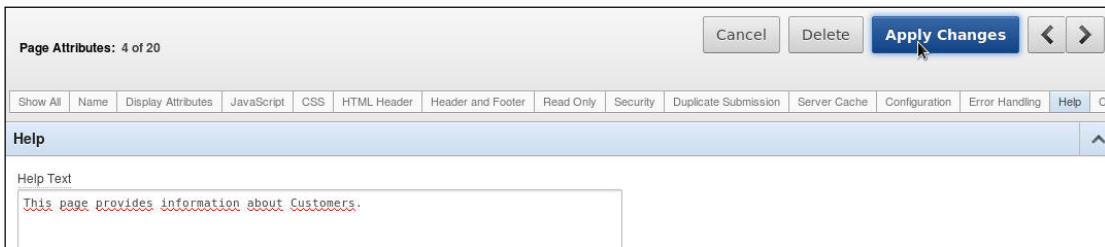
18) Right-click **Customers** page node and select **Edit**.



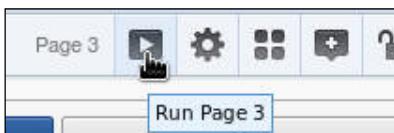
19) Click the **Help** subtab.



20) Enter something in the Help Text area and click **Apply Changes**.



21) Click the **Run Page** icon.



- 22) On the Customers page, select the **Help** Navigation Bar entry.

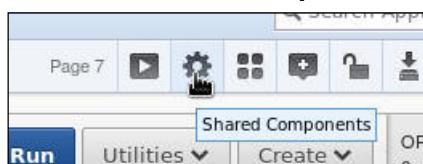
The screenshot shows the Order Management application interface. At the top, there is a blue header bar with the title "Order Management". Below the header is a navigation bar with links: Home, Customers, Orders, Products, and Help. The "Help" link is highlighted with a blue background. In the top right corner, there are icons for "ora01", "Help", and "Logout". The main content area contains a section titled "In the News" with a link to "www.oracle.com". Below it is a search bar with a magnifying glass icon and a "Go" button. To the right of the search bar are buttons for "Reports", "1. Primary Report", "Customer Feedback", and "Create". The main table area displays customer data with columns: Customer Id, First Name, Cust Last Name, Street Address, Postal Code, City, State Province, and Country. Two rows of data are shown:

	Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US

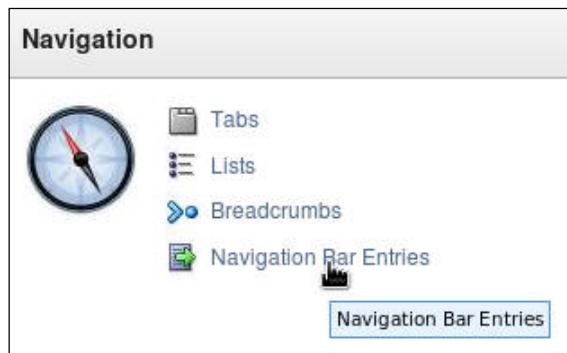
- 23) Notice that the Help text from the page definition is displayed. Click the **Edit Page** link on the Developer toolbar.

The screenshot shows the Order Management application interface. The "Help" link in the navigation bar is now active, indicated by a blue background. The main content area has two panels: "In the News" on the left and "Help" on the right. The "Help" panel contains the text: "This page provides information about Customers." At the bottom of the screen, there is a dark toolbar with various buttons. The "Edit Page" button is highlighted with a blue background and a cursor is hovering over it.

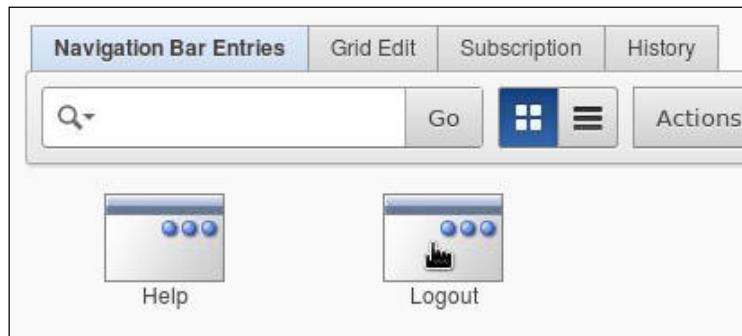
- 24) Click the **Shared Components** icon.



- b. Change the name of the navigation bar entry for Logout to Sign Off.
- 1) In the Navigation region, click the **Navigation Bar Entries** link.



- 2) Click the **Logout** icon.

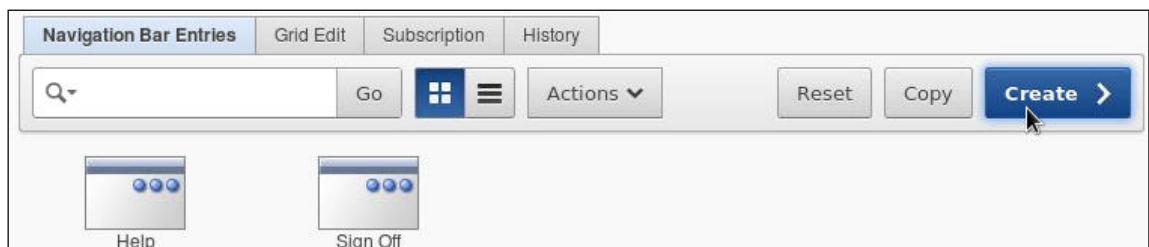


- 3) In the Image Attributes region, change the Entry Label and Icon Image Alt text to **Sign Off** and click **Apply Changes**.

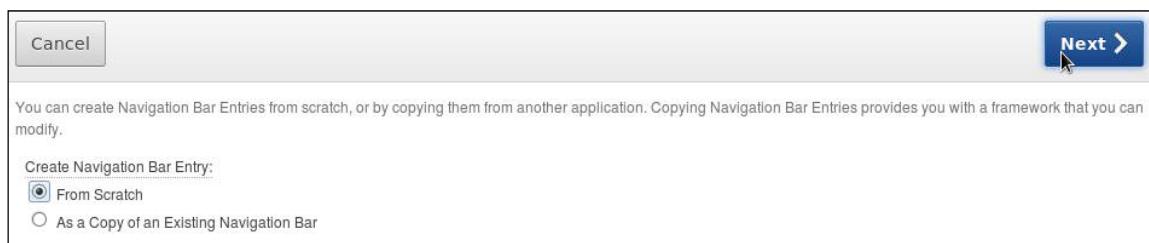
Navigation Bar Entry: 2 of 2		<input type="button" value="Cancel"/>	<input type="button" value="Delete"/>	<input style="background-color: #0070C0; color: white; font-weight: bold; font-size: 10pt; padding: 2px 10px; border: none; border-radius: 5px; width: 150px; height: 30px; vertical-align: middle;" type="button" value="Apply Changes"/>
<input type="button" value="Show All"/> <input type="button" value="Entry Display"/> <input type="button" value="Entry Image"/> <input type="button" value="Feedback Entry"/> <input type="button" value="Target"/> <input type="button" value="Conditions"/> <input type="button" value="Authorization"/> <input type="button" value="Configuration"/> <input type="button" value="Subscription"/>				
<b>Entry Display</b>				
* Sequence	<input type="text" value="200"/>			
Begins On New Line	<input type="button" value="No"/>			
Cell Column Span	<input type="text" value="1"/>			
Entry Label	<input type="text" value="Sign Off"/>			
<b>Entry Image</b>				
Image	<input type="text"/>			
Icon Image Alt	<input type="text" value="Sign Off"/>			
Image Height	<input type="text" value="32"/>			
Width	<input type="text" value="32"/>			

- c. Add a navigation bar entry called Home. Display the navigation bar entry on all pages except the Home page.

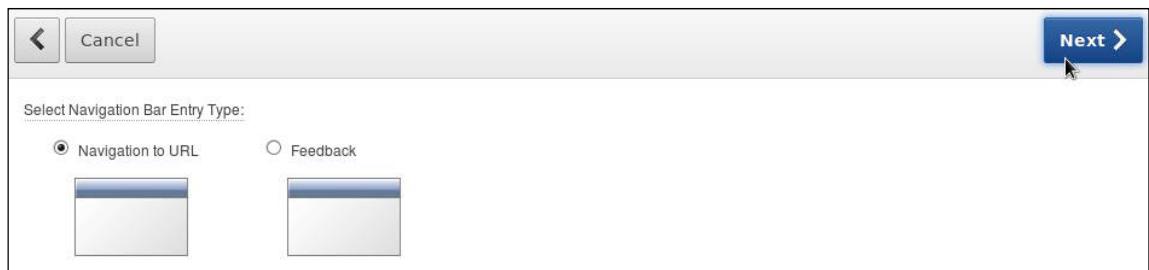
1) Click **Create >**



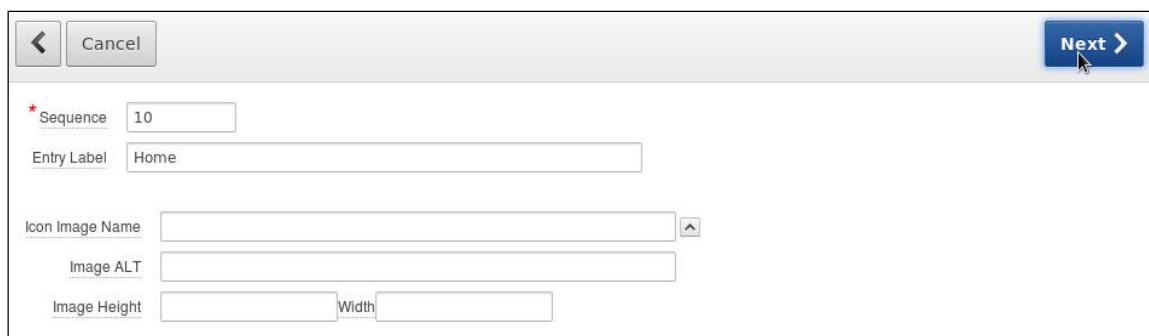
2) Ensure that the **From Scratch** option is selected. Click **Next >**.



3) Select **Navigation to URL** and click **Next >**.



4) For **Entry Label** and enter **Home**. Then click **Next >**.



- 5) Click the icon next to Page and select **Home**. Click **Next >**.

Application: 130

Target is a: Page in this Application

\* Page: 1

reset pagination for this page

Printer Friendly

Request: [empty]

Clear Cache: [empty] (comma separated page numbers)

Set these items: [empty] (comma separated name list)

With these values: [empty] (comma separated value list)

\* URL Target: [empty]

Next >

- 6) From the list of links below the Condition Type drop-down list, click **[page not in]**. In Expression 1, enter 1 and click **Create**.

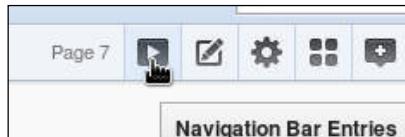
Condition Type: Current Page Is NOT in Expression 1 (comma delimited list of pages)

[PL/SQL] [item / column=value] [item / column not null] [request=e1] [page in] [page not in] [exists] [never] [none]

Expression 1: 1

Create

- 7) Click the **Run Page** icon.



- 8) Note that the Home link is displayed at the top of the page. Click the **Home** tab.

Order Management

Home Customers Orders Products Help

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Help

This page provides information about Customer Details.

- 9) You see that the Home link is no longer displayed in the Navigation bar list. Click the **Customers** tab.

The screenshot shows the Order Management application interface. At the top, there is a navigation bar with tabs: Home, Customers (which is highlighted in blue), Orders, Products, and Help. To the right of the tabs, there is a user session indicator (ora01) and links for Help and Sign Off. Below the navigation bar, the main content area has a header "Home". Underneath it, there is a section titled "In the News" which contains a link to "News and Events" and a note to visit [www.oracle.com](http://www.oracle.com). Another section titled "Tasks" lists three items: "View Customers", "View Products", and "View Orders".

- 10) Notice that the Home navigation bar entry is displayed again.

The screenshot shows the Order Management application interface. The navigation bar now displays the Home tab as selected (highlighted in blue). The other tabs are Customers, Orders, Products, and Help. The main content area includes sections for "In the News" (with a link to "News and Events" and a note to visit [www.oracle.com](http://www.oracle.com)), "Customer Feedback" (with a "Create" button), and a "Reports" section showing "1. Primary Report". Below these sections is a table listing customer data. The table has columns for Customer Id, First Name, Cust Last Name, Street Address, Postal Code, City, State Province, and Country. Three rows of data are shown:

	Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	USA
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	USA
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	USA

At the bottom of the page, there is a footer with links: Home, Application 130, Edit Page 3, Create, Session, Caching, View Debug, Debug, Show Edit Links, and Show Grid.

## **Solution 12-4: Adding Breadcrumbs and Tabs to an Existing Page**

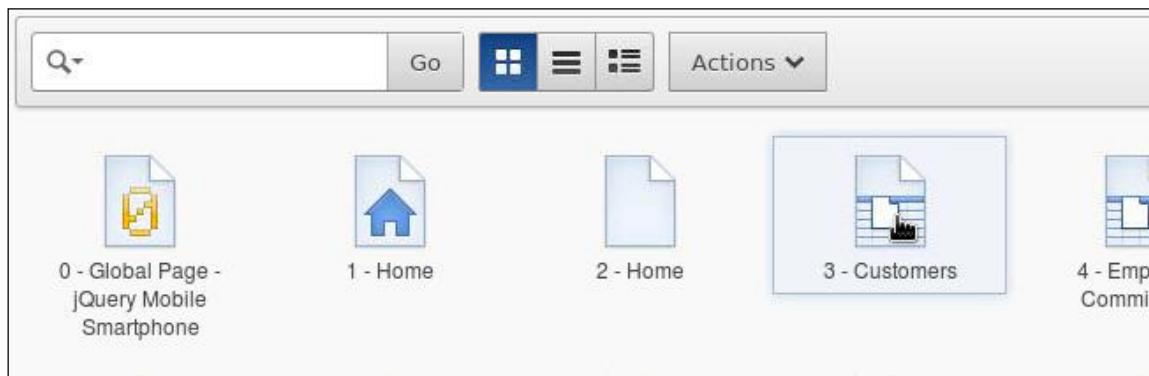
---

### **Overview**

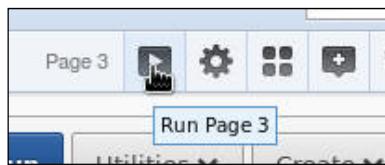
In this practice, you create a breadcrumb and add a tab set to an existing page.

### **Tasks**

- a. Edit the existing breadcrumb for the Order Management application and create a breadcrumb entry for the Customers page. Run the customers page. Is the breadcrumb displayed on the page?
  - 1) From the Order Management application page, select the **Customers** page.



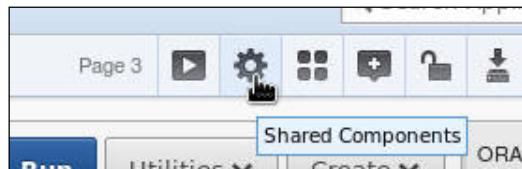
- 2) Click the **Run Page 3** icon.



- 3) The Customers page is displayed. Notice there is no Breadcrumb on this page. Click the **Edit Page** link on the Developer toolbar.

Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City	State P
101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN
104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN
105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN
106	Matthias	Hannah	1608 Portage Ave	46616	South Bend	IN
107	Matthias	Or拳	80042 14th Street	46517	Elkhart	IN

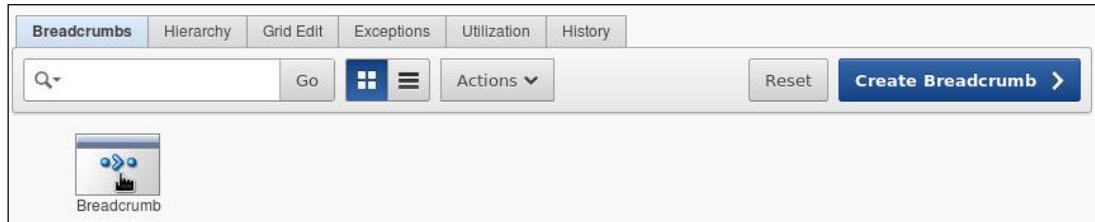
- 4) Click the **Shared Components** icon.



- 5) Click the **Breadcrumbs** link.



- 6) Click the **Breadcrumb** icon.



- 7) Click **Create Breadcrumb Entry >**.

	Name	Sequence	Page	Parent	Page Exists	Authorization Scheme	Page Authorization Scheme
	Home	10	<u>1</u>	(null)	Yes	(null)	(null)
	Employee Commission	10	<u>4</u>	1. Home	Yes	(null)	(null)
	List of Orders	10	<u>11</u>	(null)	Yes	(null)	(null)
	Master Detail	10	<u>12</u>	11. List of Orders	Yes	(null)	(null)

- 8) Click the [3] quick pick for Page on the Breadcrumb tab. Select **Home (Page 1)** for Parent Entry and enter **Customers** for Short Name under Entry. Enter 3 for Page under Target and click **Create Breadcrumb Entry**.

Show All	Breadcrumb	Entry	Target	Conditions	Authorization	Configuration	<b>Create Breadcrumb Entry</b>
----------	------------	-------	--------	------------	---------------	---------------	--------------------------------

**Breadcrumb**

Breadcrumb

\* Page

[3]

**Entry**

Sequence

Parent Entry

\* Short Name

Long Name

**Target**

Target is a

Page

reset pagination for this page

Request

Clear Cache  (comma separated page numbers)

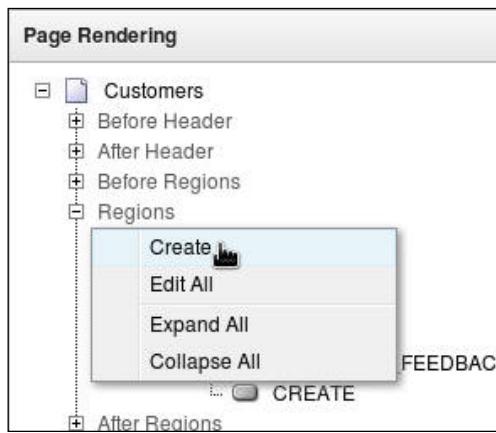
9) Click the **Run Page** icon.

Name	Sequence	Page	Parent	Page Exists	Authorization Scheme	Page Authorization Scheme
Home	10	1	(null)	Yes	(null)	(null)
Customers	10	2	1. Home	Yes	(null)	(null)
Employee Commission	10	4	1. Home	Yes	(null)	(null)
List of Orders	10	9	(null)	Yes	(null)	(null)
Master Detail	10	10	9. List of Orders	Yes	(null)	(null)

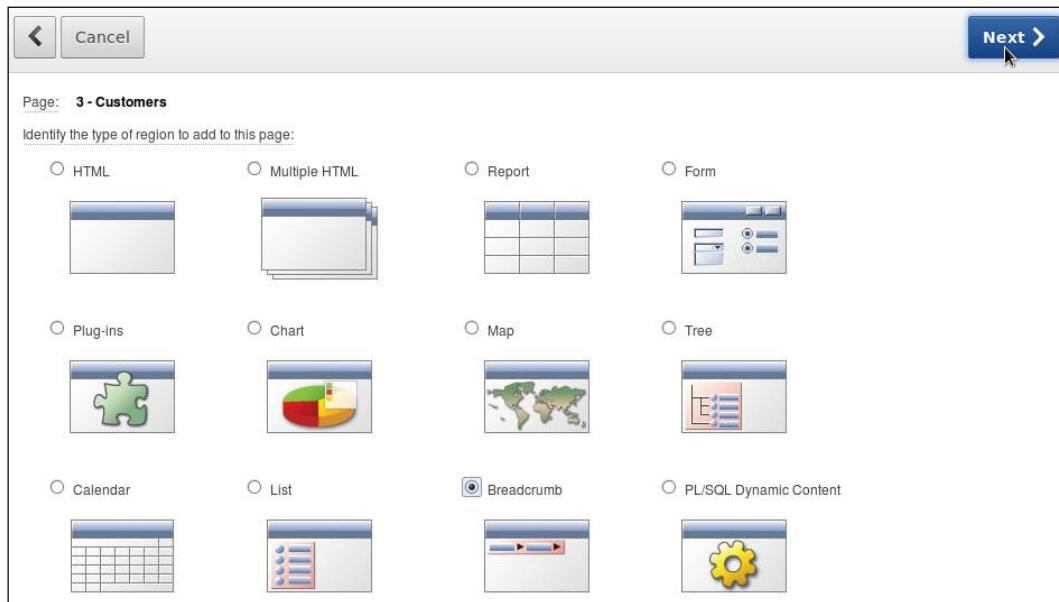
- 10) Note that the breadcrumb you created is not reflected. This is because there is no breadcrumb region on this page. Click the **Edit Page** link on the Developer toolbar.

Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City
101	Constantin	Welles	514 W Superior St	46901	Kokomo
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington
104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis
105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington
106	Matthias	Hannah	1608 Portage Ave	46616	South Bend

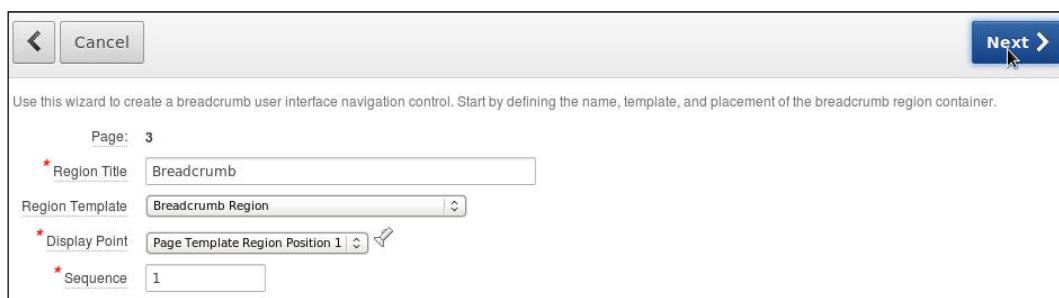
- b. Create a breadcrumb region on the Customers page and run the page.
- 1) Right-click Regions and select **Create**.



- 2) Select the **Breadcrumb** option and click **Next >**.



- 3) Accept the defaults and click **Next >**.



- 4) Accept the defaults and click **Next >**.

Identify the breadcrumb, the named hierarchical list of pages, that you wish to have displayed on this page.

Page: 3

Region to be created: Breadcrumb

Breadcrumb: BREADCRUMB: Breadcrumb

Breadcrumb Template: Breadcrumb Menu

- 5) Review the details and click **Next >**.

Page: 3

Region to be created: Breadcrumb

Breadcrumb: Breadcrumb

Existing Entry Label: Customers

Existing Parent: Home

- 6) Click **Finish**.

You have requested to create a breadcrumb region and breadcrumb option with the following attributes. Please confirm your selections.

**Breadcrumb** Home > Customers

**Breadcrumb Pages** 1 > 3

**Breadcrumb** Breadcrumb

**Display Point** Page Template Region Position 1

**Breadcrumb Template** Breadcrumb Menu

**Region Template** Breadcrumb Region

- 7) Click **Run Page** to view the page.

The breadcrumb has been created successfully.

Run Page    Edit Page

The breadcrumb has been created successfully.

- 8) Note that now the breadcrumb is seen. Click the edit icon next to any row in the report.

The screenshot shows the Order Management application interface. At the top, there is a blue header bar with the title "Order Management". Below the header is a navigation menu with five items: "Home", "Customers", "Orders", "Products", and "Help". The "Customers" item is highlighted. Underneath the menu, a breadcrumb trail shows "Home > Customers". The main content area has a grey header "In the News" followed by a section titled "News and Events" with the text "Visit us at [www.oracle.com](http://www.oracle.com)". Below this is a search bar with a magnifying glass icon and a "Go" button. To the right of the search bar are buttons for "Reports" and "1. Primary Report". A table follows, displaying customer data with columns: Customer Id, First Name, Cust Last Name, Street Address, Postal Code, City, and Country. Each row contains an edit icon (pencil symbol) in the first column. The data in the table is as follows:

	Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City	Country
	101	Constantin	Welles	514 W Superior St	46901	Kol	USA
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Ind	USA
	103	Manisha	Taylor	8768 N State Rd 37	47404	Blo	USA
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Ind	USA

- c. On the Customer Details page, create a breadcrumb called Customer Details whose parent entry is Customers (page 3).
- 1) The Customer Details page does not have any breadcrumbs. You want to add one that has a parent entry to the Customers report on page 3. Click the **Edit Page** link on the Developer toolbar.

**Order Management**

Home Customers Orders Products Help

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Manisha Taylor Customer Details

Cust First Name \* Manisha

Cust Last Name \* Taylor

Cust Email Manisha.Taylor@AUKLE

Account Manager Bates, Elizabeth

Bates, Elizabeth, Russell, John, Cambrault, Gerald

Country United States of America

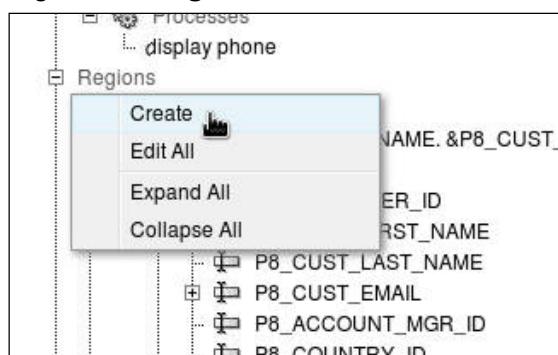
City Bloomington

Phone Number +1 812 123 4115

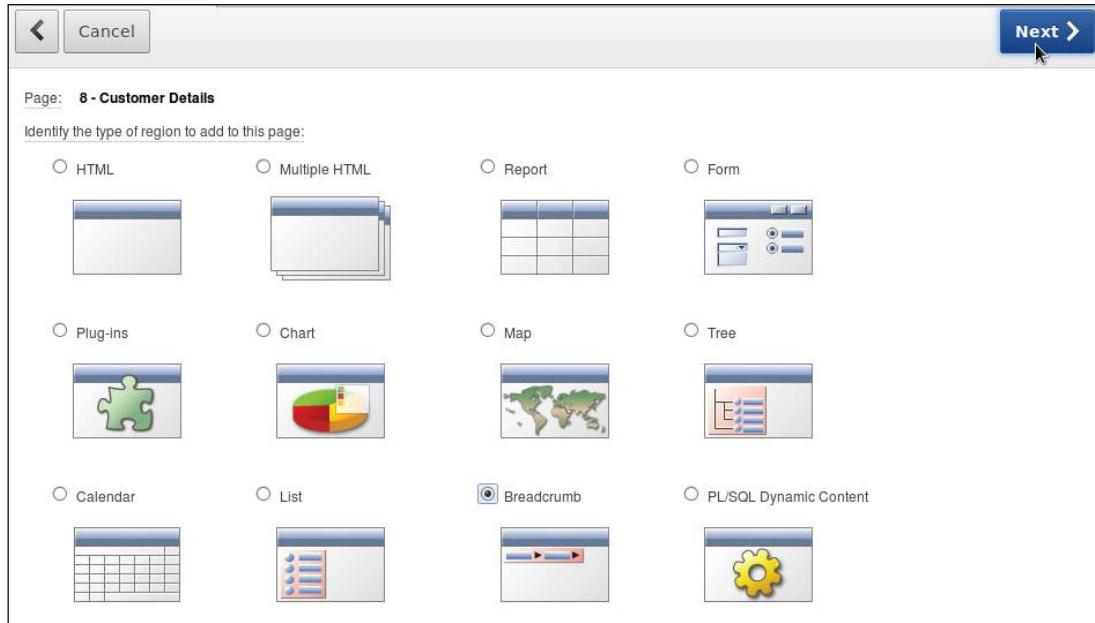
The record created or modified in this form is reflected in the Customer Report.

Home Application 130 Edit Page 8 Create Session Caching View

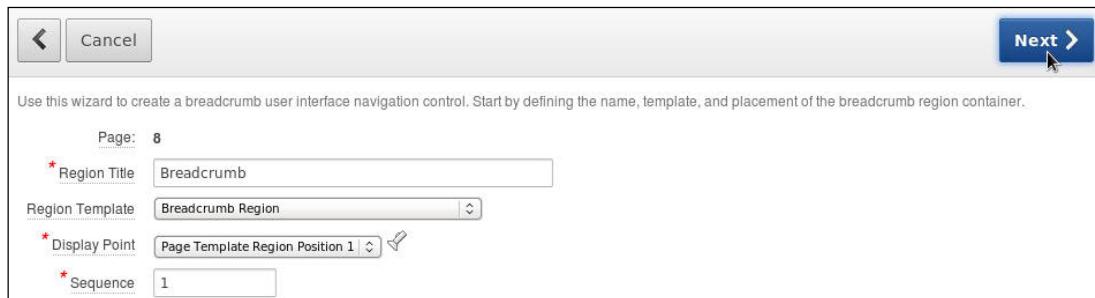
- 2) Right-click **Regions** and select **Create**.



- 3) Select **Breadcrumb** for type and click **Next >**.



- 4) Accept the defaults and click **Next >**.



- 5) Accept the defaults and click **Next >**.



- 6) Ensure that **Customer Details** is entered for Breadcrumb Entry Label, select **Customers (3)** for Parent Entry, and click **Next >**.



7) Click **Finish**.



8) Click **Run Page**.



- 9) Notice that the breadcrumb is now displayed. Click the **Application <n>** link on the Developer toolbar.

**Order Management**

Home Customers Orders Products Help

Home > Customers > Customer Details

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Manisha Taylor Customer Details

Cust First Name *	Manisha
Cust Last Name *	Taylor
Cust Email	Manisha.Taylor@AUKLE
Account Manager	Bates, Elizabeth ▾



# **Practices for Lesson 13: Working with Themes, Templates, and Files**

**Chapter 13**

## Practices for Lesson 13: Overview

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### Practices Overview

There is one practice for this lesson. In this practice, you examine how to work with various themes, templates, and files.

## Practice 13-1: Working with Themes, Templates, and Files

---

### Overview

In this practice, you switch to a different theme for the Order Management application and upload an image and add it as an application logo. You change an existing region to use a different template. You copy an existing region template, make a change to the custom template, and associate it with a region on your page. Finally, you upload a cascading style sheet, and change the custom template to use the class from the style sheet and also add the class to what is displayed for help text.

### Assumptions

You have performed the previous practices.

### Tasks

- Create a new theme (Theme 23) for your application. After creating the theme, switch the theme of your application to that theme.
- Upload the `logo.png` image from your `/home/oracle/labs/files` directory and add it as a logo for your application.
- On your Home page (Page 1), change the template for the Tasks to use the Navigation Region template in Region Position 2 and override the List Template to use the Vertical Sidebar List. In addition, change the Page Template so that it has a left sidebar.
- Copy the “Region without Buttons and Titles” template to the “Region without Buttons and Titles – Custom” template.
- Add the following line (located in `/home/oracle/labs/files/lab13_1.txt`) right after the last line in the template definition.

```
<div>Oracle Confidential - Internal Only</div>
```

- Change the template used for the Customer Address List Region on the Customer Address List page so that it uses the custom template that you just modified.
- Upload the `apexstyle.css` file from the `/home/oracle/labs/files` directory.
- Add the cascading style sheet to the One Level Tabs – No Sidebar Page Template on the Customer Address List page. The line of code is as follows (located in `/home/oracle/labs/files/lab13_2.txt`):

```
#WORKSPACE_IMAGES#apexstyle.css
```

- Change the custom region template to use the new style, `bigblue`, for the text you added at the bottom of the template so that it looks like the following (located in `/home/oracle/labs/files/lab13_3.txt`):

```
<div class="bigblue">Oracle Confidential - Internal Only</div>
```

- Change the Page Template on the Help page and add the `<span>` tag to the help text (located in `/home/oracle/labs/files/lab13_4.txt`) on the Customers page.

```
<span class="bigblue">This page provides information about  
Customers.</span>
```

## Solution 13-1: Working with Themes, Templates, and Files

---

### Overview

In this practice, you switch to a different theme for the Order Management application and upload an image and add it as an application logo. You change an existing region to use a different template. You copy an existing region template, make a change to the custom template, and associate it with a region on your page. Finally, you upload a cascading style sheet, and change the custom template to use the class from the style sheet and also add the class to what is displayed for help text.

### Tasks

- Create a new theme (Theme 23) for your application. After creating the theme, switch the theme of your application to that theme.
  - Navigate to the **Order Management** application home page and click **Shared Components**.



- In the User Interface region, click **Themes**.



- Click **Create >**.



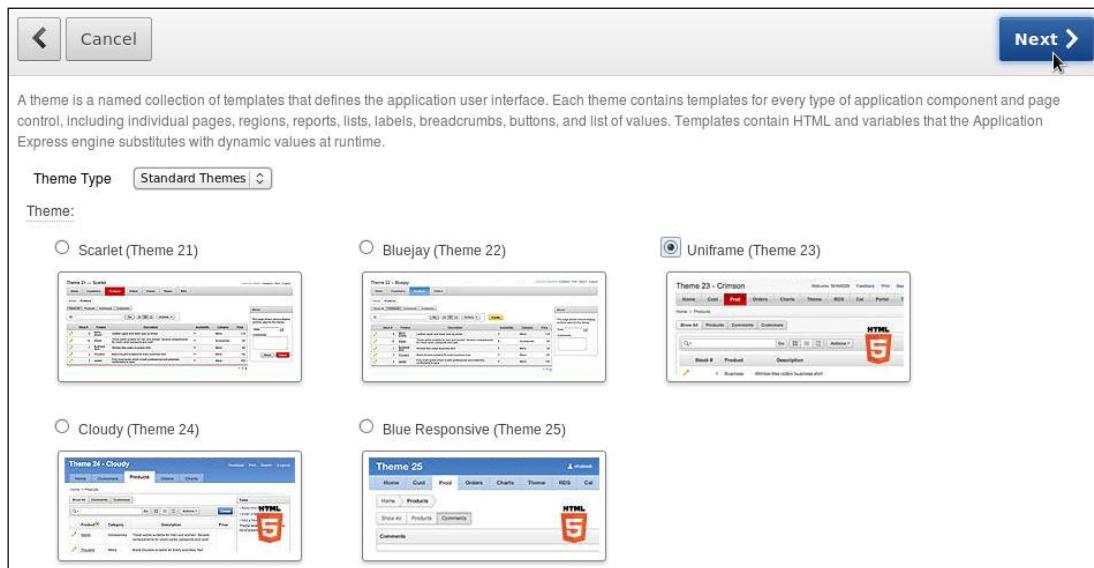
- 4) Ensure that **From the Repository** is selected and click **Next >**.



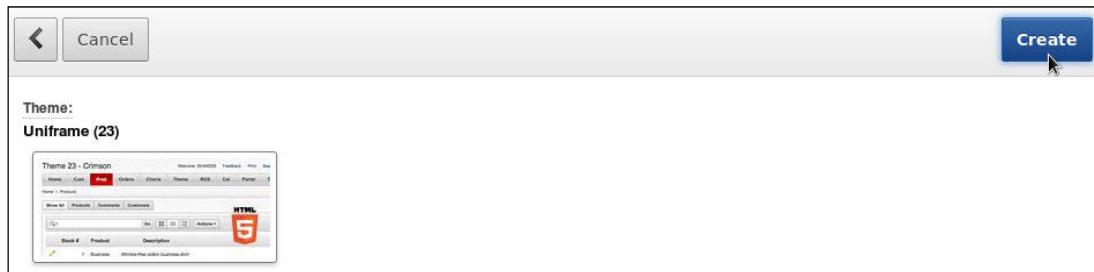
- 5) Select User Interface as **Desktop** and click **Next >**.



- 6) Select **Uniframe (Theme 23)** and click **Next >**.



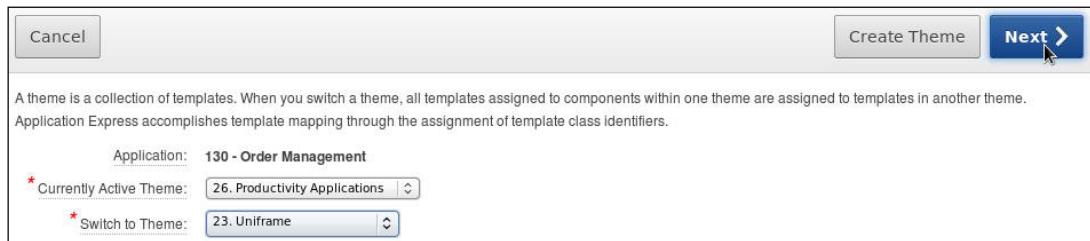
- 7) Click **Create**.



- 8) To use the theme that you just created in your application, you must switch to that theme. Click **Switch Theme**.



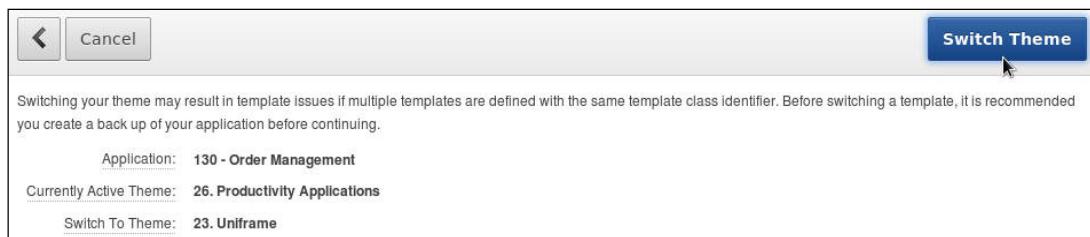
- 9) Select Currently Active Theme from the drop-down list, in this case, **26. Productivity Applications**. Make sure **23. Uniframe** is selected for Switch to Theme and click **Next >**.



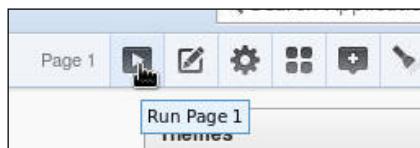
- 10) Note that the page shows the compatibility between the old and new templates. Click **Next >**.

Template Type ▾	From Template Class	To Template Class	Status
Breadcrumb	Breadcrumb Menu	Breadcrumb Menu	✓
Button	Large Button	Large Button	✓
	Button	Button	✓
Label	Required with help	Required with help	✓
	Optional	Optional	✓
	Optional with help	Optional with help	✓
List	Vertical Unordered List with Bullets	Vertical Unordered List with Bullets	✓
Page	Printer Friendly	Printer Friendly	✓
	One Level Tabs - Left Sidebar	One Level Tabs - Left Sidebar	Warning: multiple matching templates found
	One Level Tabs - Right Sidebar	One Level Tabs - Left Sidebar	Warning: multiple matching templates found

- 11) Click **Switch Theme**.



- 12) Run the page. Click the **Run Page 1** icon.



- 13) Note that the Login window uses a different theme. Enter your login information and click **Login**.

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Login

Username: ora01

Password: \*\*\*\*\*

**Login**

- 14) Notice that the new theme is used. You want to add a logo to the application. Click the **Application <n>** link on the Developer toolbar.

Order Management

Home Customers Orders Products Help

Home

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Tasks

> View Customers  
> View Products  
> View Orders

release 1.0

Home Application 130 Edit Page 1 Create Session Caching View

- b. Upload the logo.png image from your /home/oracle/labs/files directory and add it as a logo for your application.
- 1) You must upload the image to the image repository. Click **Shared Components**.



- 2) Under Files, click **Images**.



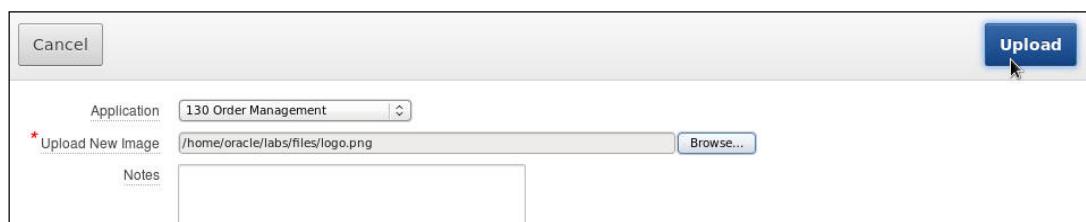
- 3) Click **Create >**.



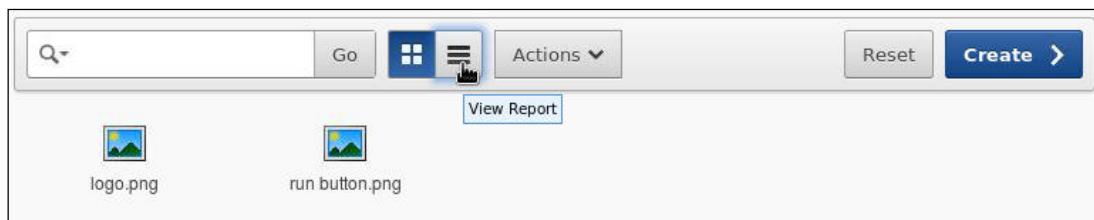
- 4) Make sure your current application is selected for Application and click **Browse**.



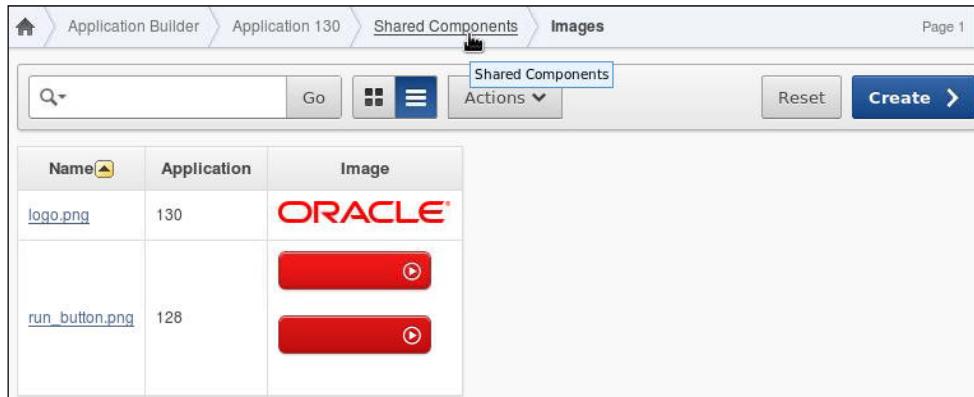
- 5) Select the logo.png file in your /home/oracle/labs/files folder. Click **Upload**.



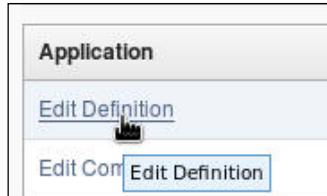
- 6) You can see what the images look like in the Review view. Click the **View Report** icon.



- 7) You can add the logo to your application. Click the **Shared Components** breadcrumb.



- 8) Click **Edit Definition** in the Application section.



- 9) In the list of links displayed at the top of the page, click **User Interface**.

The screenshot shows the 'User Interface' configuration page for 'Application 130'. The top navigation bar includes tabs for 'Definition', 'Security', 'Globalization', and 'User Interface', with 'User Interface' being the active tab. Below the tabs, there are 'Cancel' and 'Delete' buttons. The main area displays the following configuration details:

Application	130
* Name	Order Management
Application Alias	F_130
* Version	release 1.0
Application Group	- Unassigned -

Below these fields is a 'Properties' section.

- 10) Click the **Logo** link.

The screenshot shows the Oracle Application Builder interface. At the top, there are tabs: Definition, Security, Globalization, and User Interface (which is selected). Below the tabs, the title "Application 130" is displayed. Underneath the title, there is a sub-navigation bar with links: Show All, General Properties, Logo (which is highlighted), JavaScript, User Interface Detection, and User Interfaces. The main content area is titled "General Properties". It contains two input fields: "Image Prefix" with the value "/i/" and "Content Delivery Network" with the value "None (use Web Server)".

- 11) Click the Image option. Enter `#APP_IMAGES#logo.png` in the Logo field. Click **Apply Changes**.

The screenshot shows the "Logo" configuration screen. At the top, there are tabs: Definition, Security, Globalization, and User Interface (selected). Below the tabs, the title "Application 130" is displayed. A "Cancel" button is on the left, and a "Apply Changes" button is on the right, which has a cursor pointing at it. The main content area is titled "Logo". It contains three sections: "Logo Type:" with a radio button selected for "Image", "Logo:" with the value "#APP\_IMAGES#logo.png", and "Logo Attributes:" with a large text area below it.

- 12) Run the page. Click the **Run Page** icon.

The screenshot shows the Oracle Application Builder toolbar. The "Page 1" tab is selected. On the toolbar, there are several icons, including a play button (Run Page), a pencil (Edit), a gear (Properties), and a refresh symbol. The "Run Page" icon is highlighted with a cursor. To the right of the toolbar, there is a "Run Page 1" button.

- 13) Note that all your pages display the logo. You want to change the templates used on this page. Click the **Edit Page** link on the Developer toolbar.

- c. On your Home page (Page 1), change the template for the Tasks to use the Navigation Region template in Region Position 2 and override the List Template to use the Vertical Sidebar List. In addition, change the Page Template so that it has a left sidebar.
- 1) You want to modify the templates used in the Tasks Region. Right-click **Tasks** and select **Edit**.

- 2) Under Source, select **Vertical Sidebar List** for List Template and click the **User Interface** subtab.

**Region Definition**

Region: 2 of 2 Name: Tasks

Show All Identification Source User Interface Grid Layout Attributes Header and Footer Conditions Read Only

**Identification**

Page: 1 Home

Title: Tasks

Type: LIST: Home Page List

**Source**

List Template: Vertical Sidebar List

Sequence	Text	Target
10	View Customers	f?p=&APP_ID.:3:&SESSION
20	View Products	f?p=&APP_ID.:16:&SESSION

- 3) Select **Page Template Region Position 2** for Display Point and select **Navigation Region** for Template. Then click **Apply Changes**.

**Region Definition**

Region: 2 of 2 Name: Tasks

Show All Identification Source User Interface Grid Layout Attributes Header and Footer Conditions Read Only

**User Interface**

Sequence: 20

Parent Region: - Select a Parent -

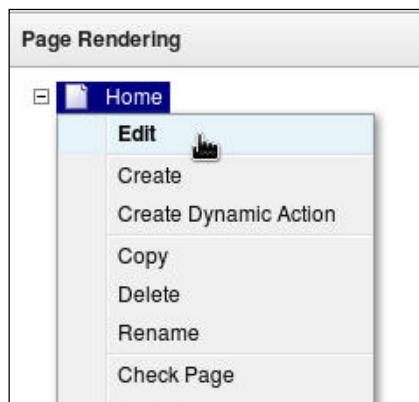
Display Point: Page Template Region Position 2

[Body] [Pos.1] [Pos.2] [Pos.3] [Pos.4] [Pos.5] [Pos.6] [Pos.7] [Pos.8]

Template: Navigation Region

Item Display Position: Above Content

- 4) The default page template does not have a sidebar. To add a sidebar, you need to change the page template. Right-click **Home** and select **Edit**.



- 5) Change the Page Template to **One Level Tabs – Left Sidebar** and click **Apply Changes**.

The screenshot shows the 'Page Attributes' dialog for page 1. The 'Name' field is set to 'Home'. The 'Page Template' dropdown is set to 'One Level Tabs - Left Sidebar'. The 'Apply Changes' button is highlighted with a cursor. Other tabs like 'Display Attributes', 'JavaScript', 'CSS', etc., are visible but not selected.

Page Attributes: 2 of 20	
Cancel	Delete
<b>Apply Changes</b>	
Show All	Name
Display Attributes	JavaScript
CSS	HTML Header
Header and Footer	Read Only
Security	Duplic

**Name**

Page: 1  
\* Name: Home

Page Alias:

Group: - No Group Assigned -

**Display Attributes**

User Interface: Desktop

Page Template: One Level Tabs - Left Sidebar

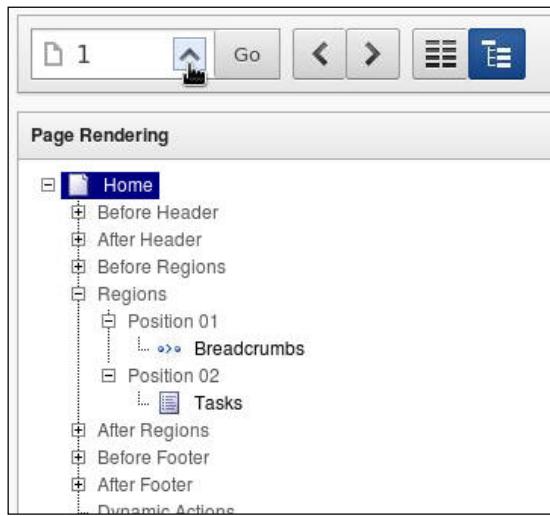
Standard Tab Set: T51 (Home, Customers, Orders...)

Title: Home

Cursor Focus: First item on page

Media Type:

- 6) Before you run the page, you want to change the place where the “In the News Region” is displayed on the Global Page. Click the up arrow to find the Global Page for the desktop.



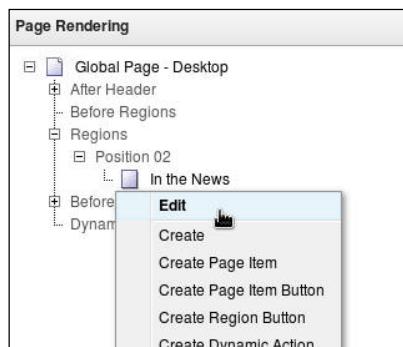
- 7) Enter **global** in the Find area and click **Go**.

To edit a page click on the page name.				
Page	Name	Alias	Title	Update
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>		Global Page - jQuery Mobile Smartphone	ORA0
1	<a href="#">Home</a>		Home	ORA0
2	<a href="#">Home</a>	HOME_JQM_SMARTPHONE	Home	ORA0
3	<a href="#">Customers</a>		Customers	ORA0
4	<a href="#">Employee Commission</a>		Employee Commission	ORA0
5	<a href="#">Top Tier Salary</a>		Top Tier Salary	ORA0

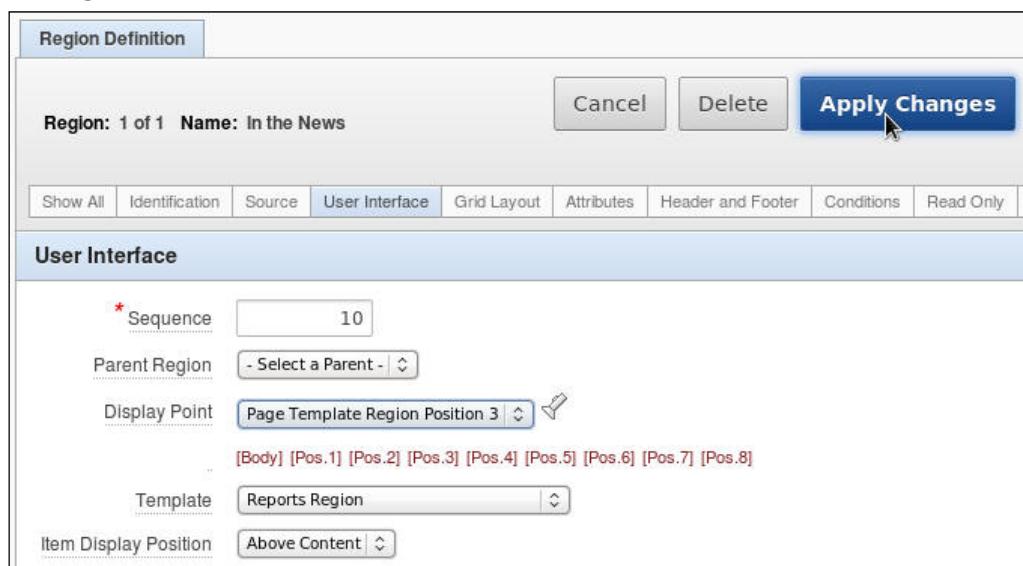
- 8) Click the **Global Page – Desktop** link.

To edit a page click on the page name.				
Page	Name	Alias	Title	Update
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>		Global Page - jQuery Mobile Smartphone	ORA0
17	<a href="#">Global Page - Desktop</a>		Global Page - Desktop	ORA0

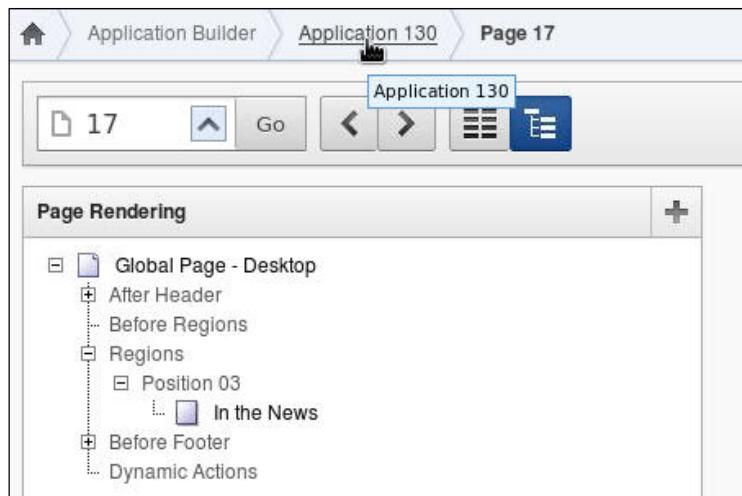
- 9) Note that the “In the News” region is also in Position 2. You want to change the display point. Right-click **In the News** and select **Edit**.



- 10) Select **Page Template Region Position 3** for Display Point and click **Apply Changes**.



- 11) Click the **Application <n>** breadcrumb.



12) Click **Run Application**.



- 13) The new template is set for the list. If you place your cursor over one of the options, notice that the vertical bar next to the option turns red, indicating the active region.

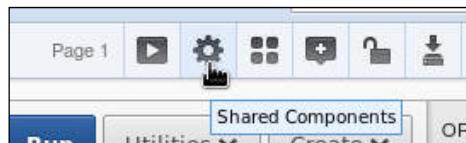


- 14) You want to make a change to one of the templates. Click the **Edit Page** link on the Developer toolbar.

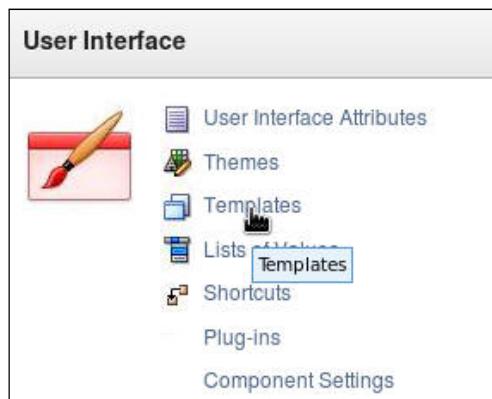


- d. Copy the "Region without Buttons and Titles" template to the "Region without Buttons and Titles – Custom" template.

- 1) Click the **Shared Components** icon.



- 2) Under User Interface, click **Templates**.



- 3) Select **23. Uniframe** for Theme and **Region** for Type and click **Go**.

Templates	Subscription	Publish	Utilization	History				
					<input type="button" value="Reset"/> <input type="button" value="Create"/>			
Template Name: <input type="text"/> Theme: <input type="text" value="23. Uniframe"/> Since: <input type="text" value="- All -"/> Type: <input type="text" value="Region"/> Referenced: <input type="text" value="All Templates"/> Subscribed: <input type="text" value="All Templates"/>					<input type="button" value="Go"/>			
Type	Name	References	Updated	Updated By	Subscribed	Default	Theme	Preview
Breadcrumb	<a href="#">Breadcrumb</a>	0	9 days ago	ora01	-	-	50	-

- 4) You want to make a copy of the **Region without Buttons and Titles** template. Click the **Copy** icon for this template.

<a href="#">Hide and Show Region (Hidden First)</a>	0	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Hide and Show Region - Borderless</a>	1	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Navigation Region</a>	1	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Navigation Region - Heading Inside</a>	0	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Region without Buttons and Titles</a>	0	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Region without Title</a>	0	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Report Filter - Single Row</a>	1	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Report List</a>	0	3 hours ago	ora01	-	-	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>
<a href="#">Reports Region</a>	12	3 hours ago	ora01	-	<input checked="" type="checkbox"/>	23	<input type="button" value="Play"/>	<input type="button" value="Copy"/>

- 5) Enter **Region without Buttons and Titles – Custom** for New Template Name, and click **Copy**.

<input type="button" value="Cancel"/>	<input type="button" value="Copy"/>
Template: <a href="#">Region without Buttons and Titles</a>	
New Template Name	<input type="text" value="Region without Buttons and Titles - Custom"/>

- 6) Leave the Theme and Type selection as is and enter **Custom** for Template Name and click **Go**.

Template Name: custom  
Theme: 23. Uniframe  
Type: Region

Since: - All -  
Referenced: All Templates  
Subscribed: All Templates

**Go**

- e. Add the following line (located in /home/oracle/labs/files/lab13\_1.txt) right after the last line in the template definition:

```
<div>Oracle Confidential - Internal Only</div>
```

- 1) Click the **Region without Buttons and Titles – Custom** link.

Type	Name	References	Updated	Updated By	Subscribed	Default	Theme	Preview	Copy
Region	<a href="#">Region without Buttons and Titles - Custom</a>	0	10 minutes ago	ora01	-	-	23		

- 2) Add the following line (located in /home/oracle/labs/files/lab13\_1.txt) to the template definition right after the last line `</div>` and click **Apply Changes**:

```
<div>Oracle Confidential - Internal Only</div>
```

Region Template: 53 of 77 Name: Region without Buttons and Titles - Custom

**Apply Changes**

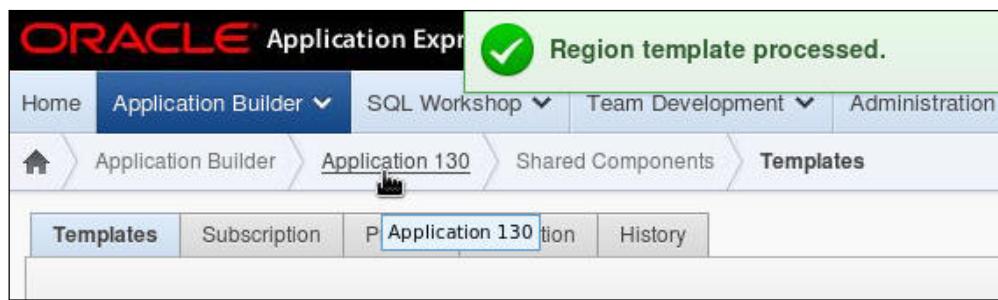
Show All Name Subscription Definition Grid Layout Sub Regions Display Points Comments Substitution Strings

**Definition**

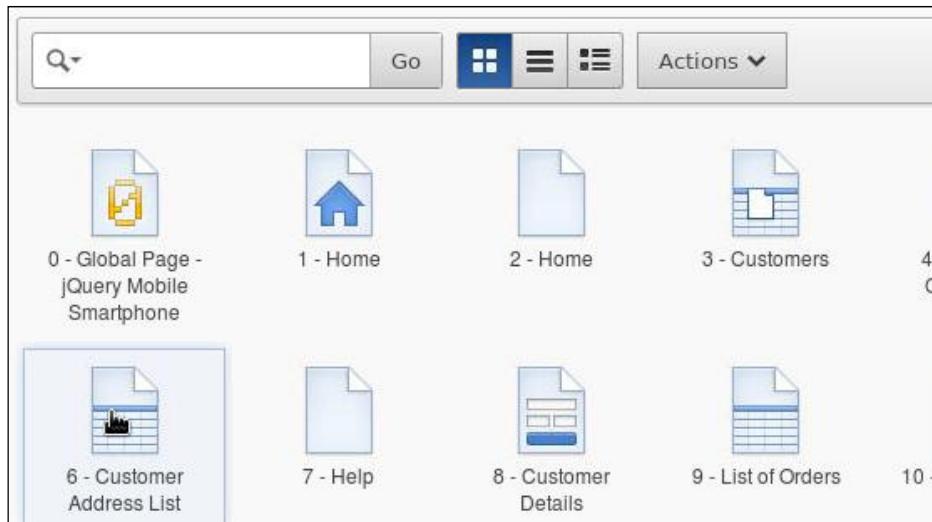
Template

```
<section class="uRegion #REGION_CSS_CLASSES# uNoHeading clearfix" id="#REGION_STATIC_ID#" #REGION_ATTRIBUTES#>
  <div class="uRegionContent clearfix">
    #BODY#
  </div>
  <div>Oracle Confidential - Internal Only</div>
</section>
```

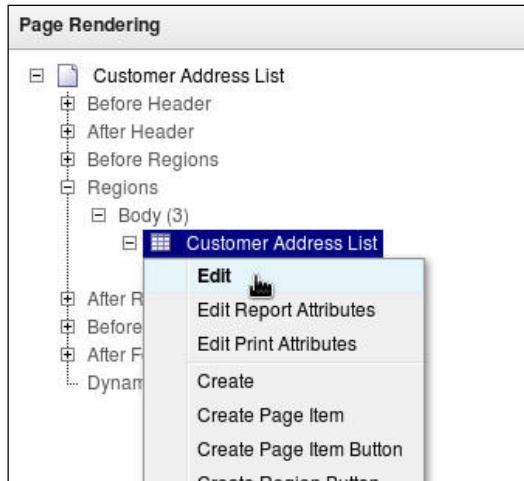
- 3) Click the **Application <n>** breadcrumb.



- f. Change the template used for the Customer Address List Region on the Customer Address List page so that it uses the custom template that you just modified.
- 1) You must change the template used for a region to the template that you just modified. Navigate to the Order Management application and click the **Customer Address List** page.



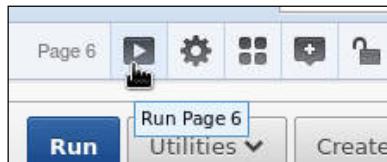
- 2) Under regions, right-click the **Customer Address List** region and select **Edit**.



- 3) Under User Interface, select **Region without Buttons and Titles – Custom** from the list of templates and click **Apply Changes**.

The screenshot shows the 'Region Definition' dialog box. At the top, there are tabs for 'Region Definition', 'Report Attributes', 'Query Definition', and 'Print Attributes'. Below the tabs, the 'Region' name is 'Customer Address List'. There are 'Cancel', 'Delete', and 'Apply Changes' buttons, with 'Apply Changes' being the active one. The main area is divided into sections: 'Identification', 'Source', and 'User Interface'. In the 'Identification' section, 'Page' is set to '6 Customer Address List' and 'Title' is 'Customer Address List'. In the 'Source' section, '[Show Source]' is shown. In the 'User Interface' section, 'Sequence' is '10', 'Parent Region' is '- Select a Parent -', 'Display Point' is 'Page Template Body (3)', 'Template' is 'Region without Buttons and Titles - Custom', and 'Item Display Position' is 'Above Content'.

- 4) Click the **Run Page** icon.



- 5) Notice that your report contains the Oracle Confidential message at the bottom of the page. You want to change the style of this text to use a class in a custom style sheet. Click the **Edit Page** link on the Developer toolbar.

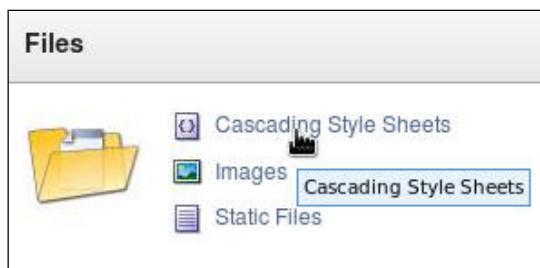
The screenshot shows a report page with the Oracle logo at the top. The menu bar includes Home, Customers, Orders, Products, Help, and a separator. Below the menu is a table with columns: First Name, Last Name, Country Name, Street Address, City, and State Province. The data grid contains 15 rows of customer information. At the bottom of the page, there is a footer with the text "row(s) 1 - 15 of 318" and a "Next >" link. Below the footer, the text "Oracle Confidential – Internal Only" is displayed. The developer toolbar at the bottom has icons for Page 6, Application 130, Edit Page 6 (which is highlighted), Create, Session, Caching, View Debug, and Debug.

- g. Upload the apexstyle.css file from the /home/oracle/labs/files directory.

- 1) Click the **Shared Components** icon.



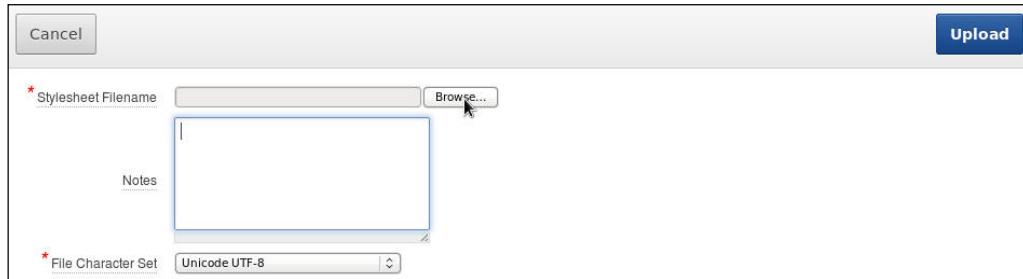
- 2) Under Files, select **Cascading Style Sheets**.



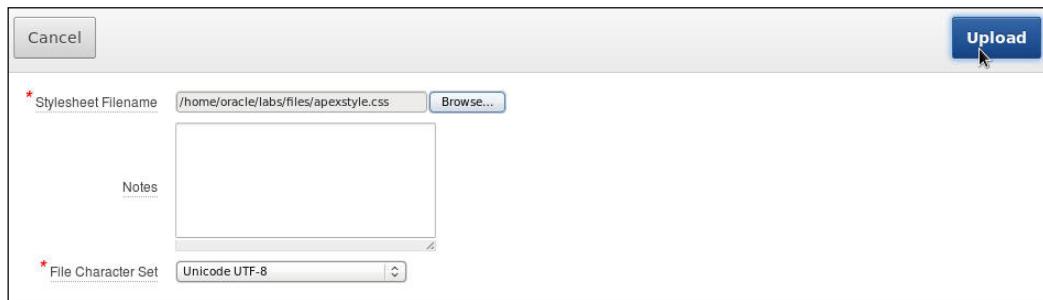
- 3) Click **Create >**.



- 4) Click **Browse**.



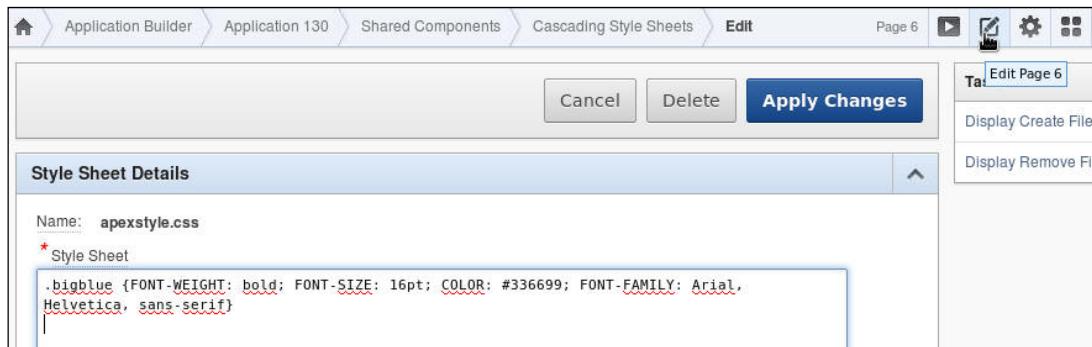
- 5) Select the `apexstyle.css` file from the `/home/oracle/labs/files` directory and click **Open**. Click **Upload**.



- 6) To view the style sheet, select `apexstyle.css`.



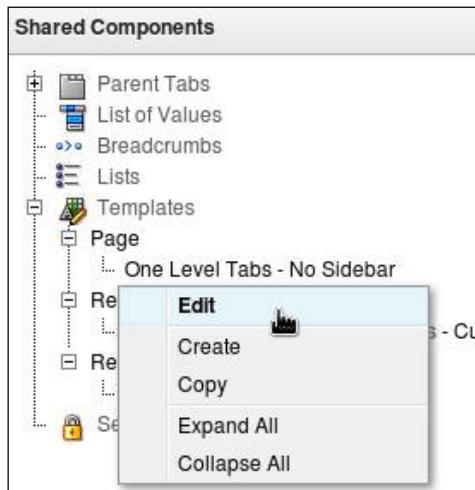
- 7) Notice that the name of the style is **bigblue**. Click the **Edit Page** icon for the Customer Address List page.



- h. Add the cascading style sheet to the One Level Tabs – No Sidebar Page Template on the Customer Address List page. The line of code is as follows (located in `/home/oracle/labs/files/lab13_2.txt`):

```
#WORKSPACE_IMAGES#apexstyle.css
```

- 1) You first need to add the style sheet to the Page template. Under Shared Components, expand **Templates**. Right-click **One Level Tabs – No Sidebar** under Page and select **Edit**.



- 2) Click the **Cascading Style Sheet** subtab.

Page Template: 18 of 36 Name: One Level Tabs - I Cancel Delete Apply Changes

Show All	Name	Subscription	Definition	JavaScript	<b>Cascading Style Sheet</b>	Subtemplate	Standard Tab Attributes
----------	------	--------------	------------	------------	------------------------------	-------------	-------------------------

**Name**

\* Name: One Level Tabs - No Sidebar

Theme: 23. Uniframe

Template Class: One Level Tabs Translatable

**Subscription**

- 3) Enter the following line of code (located in /home/oracle/labs/files/lab13\_2.txt) in the File URLs area. Then click **Apply Changes**.

```
#WORKSPACE_IMAGES#apexstyle.css
```

Page Template: 18 of 36 Name: One Level Tabs - I Cancel Delete Apply Changes

Show All Name Subscription Definition JavaScript Cascading Style Sheet Subtemplate Standard Tab Attributes

### Cascading Style Sheet

File URLs

```
#WORKSPACE_IMAGES#apexstyle.css
```

Inline

- i. Change the custom region template to use the new style, bigblue, for the text you added at the bottom of the template so that it looks like the following (located in /home/oracle/labs/files/lab13\_3.txt):

```
<div class="bigblue">Oracle Confidential - Internal Only</div>
```

- 1) Under Templates > Region, right-click **Region without Buttons and Titles - Custom** and select **Edit**.

Shared Components +

- + Parent Tabs
- + List of Values
- +>> Breadcrumbs
- + Lists
- + Templates
- + Page
  - One Level Tabs - No Sidebar
- + Region
  - Region without Buttons and Titles - Custom**
- Re
- Se

Edit

Create

Copy

Expand All

- 2) Add **class="bigblue"** to the line that you added previously (located in /home/oracle/labs/files/lab13\_3.txt) so that it reads as follows (changes in bold). Then click **Apply Changes**.

```
<div class="bigblue">Oracle Confidential - Internal Only</div>
```

Region Template: 53 of 77 Name: Region without a Theme

[Cancel](#) [Delete](#) [Apply Changes](#)

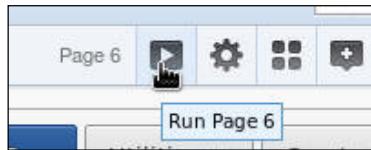
Show All Name Subscription Definition Grid Layout Sub Regions Display Points Comments Substitution Strings

### Definition

Template

```
<section class="uRegion #REGION_CSS_CLASSES# uNoHeading clearfix"
id="#REGION_STATIC_ID#" #REGION_ATTRIBUTES#>
<div class="uRegionContent clearfix">
#BODY#
</div>
<div class="bigblue">Oracle Confidential - Internal Only</div>
</section>
```

- 3) Click the **Run Page** icon.



- 4) Notice that the bigblue style was applied. You can also add the style to a section on your page. Click the **Edit Page** link on the Developer toolbar.

**ORACLE**

Home Customers Orders Products Help

First Name	Last Name	Country Name	Street Address	City	State Province
Harry Mean	Taylor	Canada	1822 Ironweed St	Toronto	ONT
Glenda	Bates	China	1796 Tsing Tao	Muang Nonthaburi	
Daniel	Gueney	China	1668 Chong Tao	Beijing	
Helmut	Capshaw	China	1831 No Wong	Peking	
Glenda	Dunaway	China	1795 Wu Meng	Muang Chonburi	
Hal	Olin	Germany	Walpurgisstr 69	Munich	
Hannah	Field	Germany	Theresienstr 15	Munich	
Hannah	Kanth	Germany	Sendlinger Tor 4	Munich	
Billy	Hershey	India	1592 Silverado St	Bangalore	Kar
Sivaji	Gielgud	India	1667 2010 St	Batavia	Ker
Blake	Mastroianni	India	1596 Commando Blvd	Bangalore	Kar
Bo	Dickinson	India	1598 Legend St	Bangalore	Kar
Bo	Ashby	India	1599 Legend Rd	Bangalore	Kar
Bob	Sharif	India	1600 Target Crt	Bangalore	Kar
Brian	Douglas	India	1603 Rebel St	Bangalore	Kar

row(s) 1 - 15 of 318 [Next >](#)

**Oracle Confidential – Internal Only**

In the Name

Home Application 130 [Edit Page 6](#) Create Session Caching View Debug Debu

- j. Change the Page Template on the Help page and add the <span> tag to the help text (located in /home/oracle/labs/files/lab13\_4.txt) on the Customers page.

```
<span class="bigblue">This page provides information about  
Customers.</span>
```

- 1) Click the up arrow to find a page.



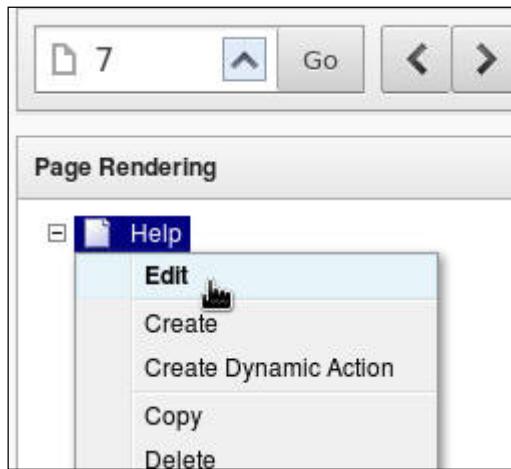
- 2) Enter **help** in the Find area and click **Go**.

Page	Name	Alias	Title	Update
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>		Global Page - jQuery Mobile Smartphone	ORA01
1	<a href="#">Home</a>		Home	ORA01
2	<a href="#">Home</a>	HOME_JQM_SMARTPHONE	Home	ORA01
3	<a href="#">Customers</a>		Customers	ORA01

- 3) Click the **Help** link to open the page definition.

Page	Name	Alias	Title	Updated	Date
7	<a href="#">Help</a>		Help	ORA01	17 hours ago
row(s) 1 - 1 of 1					

- 4) Change the Page template on the Help page to the same template you added the style sheet to in the previous steps. Right-click the **Help** page definition node and select **Edit**.



- 5) Select **One Level Tabs - No Sidebar** for Page Template and click **Apply Changes**.

Page Attributes: 8 of 20

Show All Name Display Attributes JavaScript CSS HTML Header Header and Footer Read Only Security Duplicate Submission Server Cache Configuration Error Han

**Name**

Page: 7  
Name: Help

Page Alias:

Group: - No Group Assigned -

**Display Attributes**

User Interface: Desktop

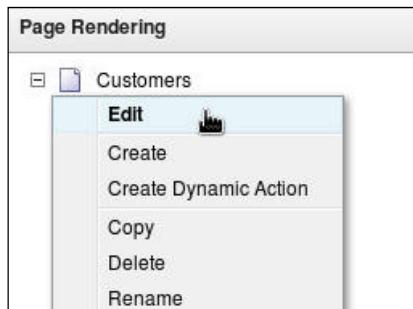
Page Template: One Level Tabs - No Sidebar

Standard Tab Set: TS1 (Home, Customers, Orders..)

- 6) Go to the Customers page. Enter 3 in the page area and click **Go**.



- 7) Right-click the **Customers** Page Rendering node and select **Edit**.



- 8) Click the **Help** tab.

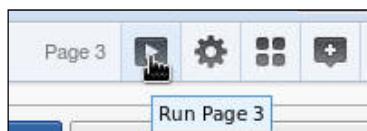
The screenshot shows the 'Page Attributes' dialog box with the 'Help' tab selected. The 'Name' section contains fields for 'Page' (3), 'Name' (Customers), 'Page Alias', and 'Group'. The 'Display Attributes' section includes settings for 'User Interface' (Desktop), 'Page Template' (Use Theme Default), 'Standard Tab Set' (TS1 (Home, Customers, Orders...)), and 'Title' (Customers). At the top right are 'Cancel', 'Delete', and 'Apply Changes' buttons.

- 9) Change the help text to the following (located in /home/oracle/labs/scripts/lab13\_4.txt) and click **Apply Changes**.

```
<span class="bigblue">This page provides information about Customers.</span>
```

The screenshot shows the 'Page Attributes' dialog box with the 'Help' tab selected. The 'Help Text' field contains the provided HTML code. The 'Apply Changes' button is highlighted with a cursor icon.

- 10) Click the **Run Page** icon.



- 11) Click the **Help** navigation bar entry to show the page-level help.

The screenshot shows the Oracle Application interface. The top navigation bar includes links for Home, Customers (which is highlighted in red), Orders, Products, and Help. The 'Customer Report' page displays a table of customer data. The 'Help' link in the top navigation bar is underlined and highlighted with a red box.

Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone
101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1
104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US	+1

- 12) Notice that the bigblue class has been applied to the help text.

The screenshot shows a web-based application interface. At the top, there is a horizontal navigation bar with the 'ORACLE' logo on the left. To the right of the logo are five menu items: 'Home', 'Customers', 'Orders', 'Products', and 'Help'. The 'Help' button is highlighted with a red background. On the far right of the top bar, there is a sign-in message 'Welcome: ORA01' followed by links for 'Help', 'Home', and 'Sign Off'. Below the top bar, there is a vertical stack of several grey rectangular boxes. The first box contains the text 'This page provides information about Customers.' in blue. The second box contains the text 'In the News'. The third box contains the text 'News and Events'. The fourth box contains the text 'Visit us at [www.oracle.com](http://www.oracle.com)'. The entire interface is contained within a light gray frame.



## **Practices for Lesson 14: Implementing Security**

**Chapter 14**

## Practices for Lesson 14: Overview

---

### Practices Overview

There are three practices for this lesson. In these practices, you examine how to implement security within your application.

## Practice 14-1: Creating an Authentication Scheme

---

### Overview

In this practice, you create an authentication scheme, and then make it the current default.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create an authentication scheme called OpenDoor based on the Open Door credentials.
- b. Switch the current authentication schema to Application Express.

## Practice 14-2: Restricting Users by Using Access Control

---

### Overview

In this practice, you create an access control page, set the application mode to restrict access, create the access control list, and assign application components to an authorization scheme.

### Assumptions

You have performed the previous practices

### Tasks

- Create the following users to add to the access control list.

Name	User Type
Brad.Knight	Developer
Susie.Parker	Workspace Administrator
John.Bell	End User

- Create an access control page for the Order Management application.
- Set the application mode to Restricted access. Only users defined in the access control list are allowed.
- Add users to the access control list:
  - `john.bell` can only view the information in the application; he cannot make any changes to application data.
  - `brad.knight` should be allowed to edit application data, but he cannot change application administration settings (application mode and the access control list).
  - `susie.parker` is the administrator of the application, so she can change anything in addition to changing the user privileges.
  - `ora<n>` is also an administrator of the application.
- Define and apply the authorization schemes to each application component. This will restrict access to application pages and components.
  - Users with the View privilege can review customer information, but cannot change or create information.
  - Users with the Edit privilege can make changes to customer information but cannot make changes to the application mode and the access control list.
  - Users with the Administrator privilege can make any changes, including administering the Order Management application.
- Run the application and log in as a different user. What do you observe?

## Practice 14-3: Using Session State Protection

---

### Overview

In this practice, you enable Session State Protection, set the Session State Protection for a particular item, and review the various options for page access protection so that you can examine their differences.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Set the item session state protection for the P<n>\_ORDER\_ID on the Master Detail page to Checksum Required – Session Level. Run the page to see the error message.
- b. Set the Page Access Protection for the Master Detail page to Arguments Must Have Checksum. Run the page, and edit an order to see the checksum that is passed to the Master Detail page.
- c. Set the Page Access Protection for the Employee Commission page to No URL Access.
- d. Add a Commission button to the Top Tier Salary page that redirects to the Employee Commission page. Run the page to see that there is an error because of the branch.
- e. Edit the Commission button to submit the page and create a Branch to Page branch that will go to the Employee Commission page without passing the URL.

## Solution 14-1: Creating an Authentication Scheme

### Overview

In this practice, you create an authentication scheme, and then make it the current default.

### Tasks

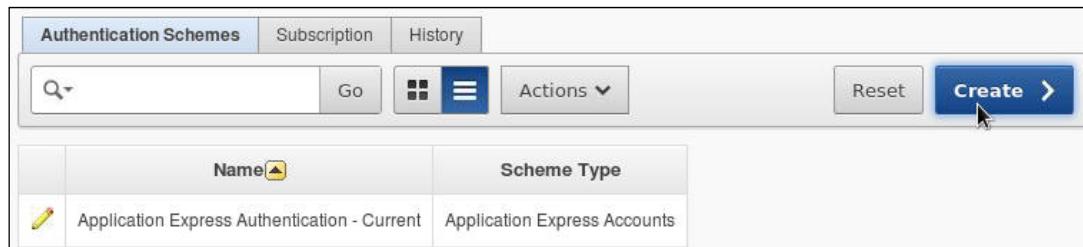
- Create an authentication scheme called OpenDoor based on the Open Door credentials.
- On the application home page, click **Shared Components**.



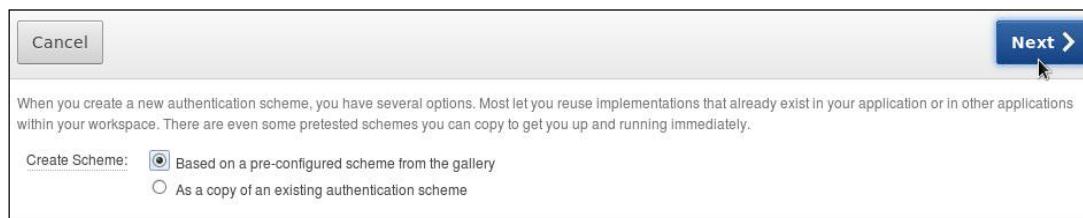
- In the Security region, click the **Authentication Schemes** link.



- Click **Create >**.



- Leave the default value of "Based on a pre-configured scheme from the gallery" and click **Next >**.



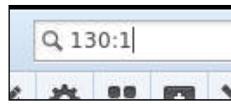
- 5) For Name, enter **OpenDoor** and select the **Open Door Credentials** option from the Scheme Type list. Click **Create Authentication Scheme**.

The screenshot shows a dialog box titled "Authentication Scheme". At the top right are "Cancel" and "Create Authentication Scheme" buttons, with the latter being blue and bold. Below the title is a "Name" field containing "Open Door" and a "Scheme Type" dropdown set to "Open Door Credentials".

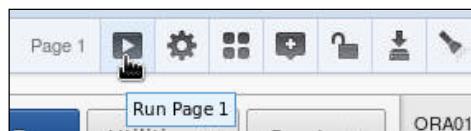
- 6) The scheme is created and made the current authentication scheme for the Order Management application.

The screenshot shows a table titled "Authentication Schemes" with columns "Name" and "Scheme Type". It lists two entries: "Application Express Authentication" (Scheme Type: Application Express Accounts) and "Open Door - Current" (Scheme Type: Open Door Credentials).

- 7) Search for the Home page of the Order Management application.



- 8) Click the **Run page** icon.



- 9) To log in to the system, enter your name in the Username field, and then click **Login**. If you are already logged in, click Logout.

The screenshot shows a login form with a "Username" field containing "yourname" and a "Login" button below it. A tooltip above the button says "Enter your credentials in this form to start a new session in this Application Express application." Below the form, text indicates the language is "en" and the version is "Application Express 4.2.0.00.27". Copyright information for Oracle is also present at the bottom.

- 10) The Home page is displayed. Notice that the name that you entered appears in the Welcome area. In the next practice, you will use access control to set up authorization to certain pages and buttons. Click the **Application <n>** link on the Developer toolbar.

- b. Switch the current authentication scheme to Application Express Authentication.

- 1) Navigate to **Shared Components > Authentication Schemes**.

- 2) Click the pencil icon next to Application Express Authentication.

Name	Scheme Type
Application Express Authentication	Application Express Accounts
Open Door - Current	Open Door Credentials

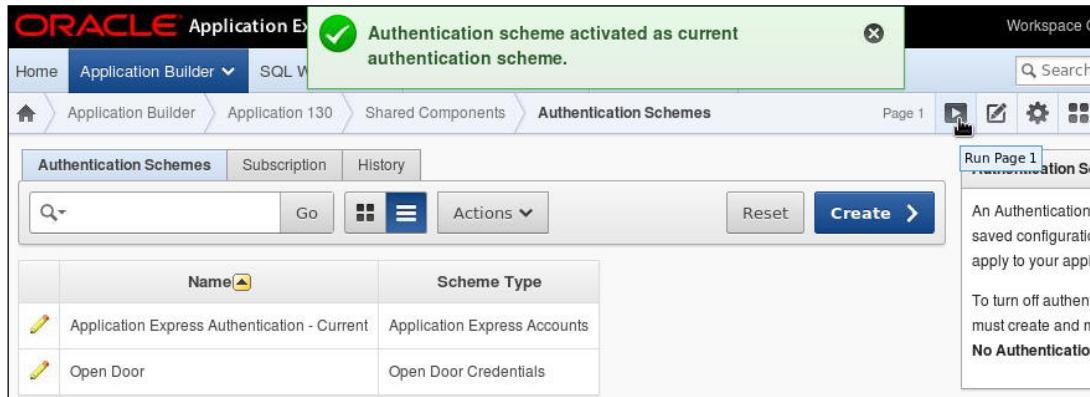
**3) Click Make Current Scheme.**

The screenshot shows the 'Authentication Scheme' configuration screen. At the top, there are buttons for 'Cancel', 'Delete', 'Make Current Scheme' (which has a mouse cursor over it), and 'Apply Changes'. Below this is a toolbar with buttons for 'Show All', 'Name', 'Subscription', 'Source', 'Session Not Valid', 'Login Processing', 'Post-Logout URL', 'Session Cookie Attributes', and 'Comments'. The main area is titled 'Name' and contains fields for 'Name' (set to 'Application Express Authentication') and 'Scheme Type' (set to 'Application Express Accounts'). Below this is a section titled 'Subscription' with a checkbox for 'Refresh'. A note at the bottom states, 'This is the "master" copy of this authentication scheme.'

**4) Click OK.**



**5) Application Express Authentication is now the current scheme. Click the Run Page icon again.**



**6) Click Sign Off.**



- 7) Notice that the Login page uses the Application Express authentication login now instead of the OpenDoor login. Click the **Application <n>** link on the Developer toolbar.

The screenshot shows a web browser window with the Oracle Application Express developer toolbar at the top. The toolbar has several buttons: Home, Application 130 (which is highlighted with a red border), Edit Page 101, Create, Session, Caching, View Debug, Debug, Show Edit Links, and others. Below the toolbar is a login form with fields for Username and Password, and a red Login button. Further down, there's a section titled 'In the News' with a link to 'News and Events' and a note to visit oracle.com. The background of the page is white.

## Solution 14-2: Restricting Users by Using Access Control

### Overview

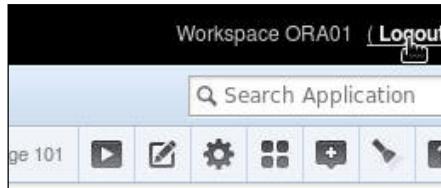
In this practice, you create an access control page, set the application mode to restrict access, create the access control list, and assign application components to an authorization scheme.

### Tasks

- Create the following users to add to the access control list.

Name	User Type
Brad.Knight	Developer
Susie.Parker	Workspace Administrator
John.Bell	End User

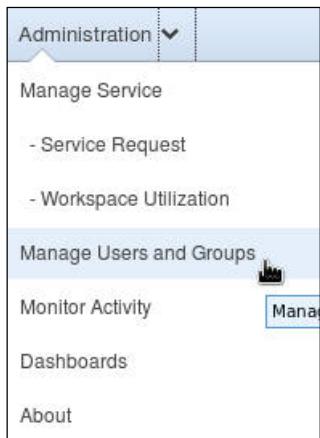
- Log out of Application Express. Click **Logout**.



- Log in as a workspace administrator. You might be prompted to change the password and log in again.

The screenshot shows the Application Express Login interface. On the left, there's a decorative graphic of a cylinder and a pencil. Below it, a paragraph of text介绍 Oracle Application Express. The right side contains three input fields: 'Workspace' with 'ora01', 'Username' with 'ORA01\_admin', and 'Password' with five black dots. A 'Reset Password' link is next to the password field. At the bottom is a large blue 'Login to Application Express' button with a cursor pointing to it.

- 3) Click the down arrow next to **Administration** and select **Manage Users and Groups**.



- 4) Click **Create User >**.

A screenshot of the 'Users' management interface. At the top, there are tabs for 'Users' and 'Groups'. Below them are buttons for 'View Dashboard', 'Reset', and a prominent blue 'Create User >' button with a cursor icon hovering over it. The main area shows a table of existing users:

Edit	User	Email	Account Type	Default Schema	Locked	Password Status	Builder Last Login	Created	Group Name
	ORA01	ora01@oracle.com	Developer	ORA01	No	Password Valid	36 minutes ago	2 weeks ago	-
	ORA01_ADMIN	ora01@ora01.com	Workspace Administrator	-	No	Password Valid	29 seconds ago	4 weeks ago	-

- 5) Enter the following information and click **Create and Create Another**.

- User Name: **Brad.Knight**
- Email address: [brad.knight@oracle.com](mailto:brad.knight@oracle.com)
- Select **No** for the **User is a workspace administrator** option.
- Select **Yes** for the **User is a developer** option.
- Password: **welcome1**

- Confirm Password: **welcome1**
- Select **No** for **Require Change of Password on First Use**.

The screenshot shows the 'User Identification' section with the following fields filled:

- Username: Brad.Knight
- Email Address: brad.knight@oracle.com
- First Name: (empty)
- Last Name: (empty)
- Description: (empty)
- Default Date Format: (empty)

The 'Account Privileges' section includes:

- Default Schema: ORA01
- Accessible Schemas (null for all): (empty)
- User is a workspace administrator:  Yes  No
- User is a developer:  Yes  No
- Application Builder Access: Yes
- SQL Workshop Access: Yes
- Team Development Access: Yes
- Set Account Availability: Unlocked

The 'Password' section contains:

- Password: **\*\*\*\*\***
- Confirm Password: **\*\*\*\*\***
- Require Change of Password on First Use: **No**

- 6) Enter the following information and click **Create and Create Another**.
- User Name: **Susie.Parker**
  - Email address: **susie.parker@oracle.com**
  - Select **Yes** for the **User is a workspace administrator** option.
  - Password: **welcome1**
  - Confirm Password: **welcome1**

- Select **No** for **Require Change of Password on First Use**.

The screenshot shows the 'Create User' dialog box with the following details:

- User Identification:**
  - Username: Susie.Parker
  - Email Address: susie.parker@oracle.com
  - First Name: (empty)
  - Last Name: (empty)
  - Description: (empty)
  - Default Date Format: (empty)
- Account Privileges:**
  - Default Schema: ORA01
  - Accessible Schemas (null for all): (empty)
  - User is a workspace administrator:  Yes  No
  - User is a developer:  Yes  No
  - Application Builder Access: Yes
  - SQL Workshop Access: Yes
  - Team Development Access: Yes
  - Set Account Availability: Unlocked
- Password:**
  - Password:  (REDACTED) Passwords are case sensitive
  - Confirm Password:  (REDACTED)
  - Require Change of Password on First Use:  No

7) Enter the following information and click **Create User**.

- User Name: John.Bell
- Email address: [john.bell@oracle.com](mailto:john.bell@oracle.com)
- Select **No** for the **User is a workspace administrator** option.
- Select **No** for the **User is a developer** option.
- Password: welcome1
- Confirm Password: welcome1
- Select **No** for **Require Change of Password on First Use**.

Cancel **Create User** Create and Create Another

### User Identification

\* Username: John.Bell  
 \* Email Address: john.bell@oracle.com  
 First Name:   
 Last Name:   
 Description:   
 Default Date Format:

### Account Privileges

Default Schema: ORA01   
 Accessible Schemas (null for all):   
 User is a workspace administrator:  Yes  No  
 User is a developer:  Yes  No  
 Application Builder Access:    
 SQL Workshop Access:    
 Team Development Access:    
 Set Account Availability:

### Password

\* Password:  Passwords are case sensitive  
 \* Confirm Password:   
 Require Change of Password on First Use:

- 8) The new users are now in the list. Click the **View icons** button.

Users Groups

View Dashboard

Edit	User 	Email	Account Type	Default Schema	Locked	Password Status	Builder
	BRAD.KNIGHT	brad.knight@oracle.com	Developer	ORA01	No	Password Valid	-
	JOHN.BELL	john.bell@oracle.com	End User	ORA01	No	No Developer Privilege	-
	ORA01	ora01@oracle.com	Developer	ORA01	No	Password Valid	42 minutes
	ORA01_ADMIN	ora01@ora01.com	Workspace Administrator	-	No	Password Valid	7 minutes
	SUSIE.PARKER	susie.parker@oracle.com	Workspace Administrator	ORA01	No	Password Valid	-

9) Click Logout.

The screenshot shows the Oracle Application Express Administration interface. The top navigation bar includes Home, Application Builder, SQL Workshop, Team Development, Administration, and a Logout link. Below the navigation is a breadcrumb path: Administration > Users. The main content area is titled "Users" and contains a list of users with their icons and names: BRAD. KNIGHT, JOHN. BELL, ORA01, ORA01 ADMIN, and SUSIE. PARKER. At the bottom of the list is a "Manage Users" section with a brief description and a note about workspace administrators.

- b. Create an access control page for the Order Management application.

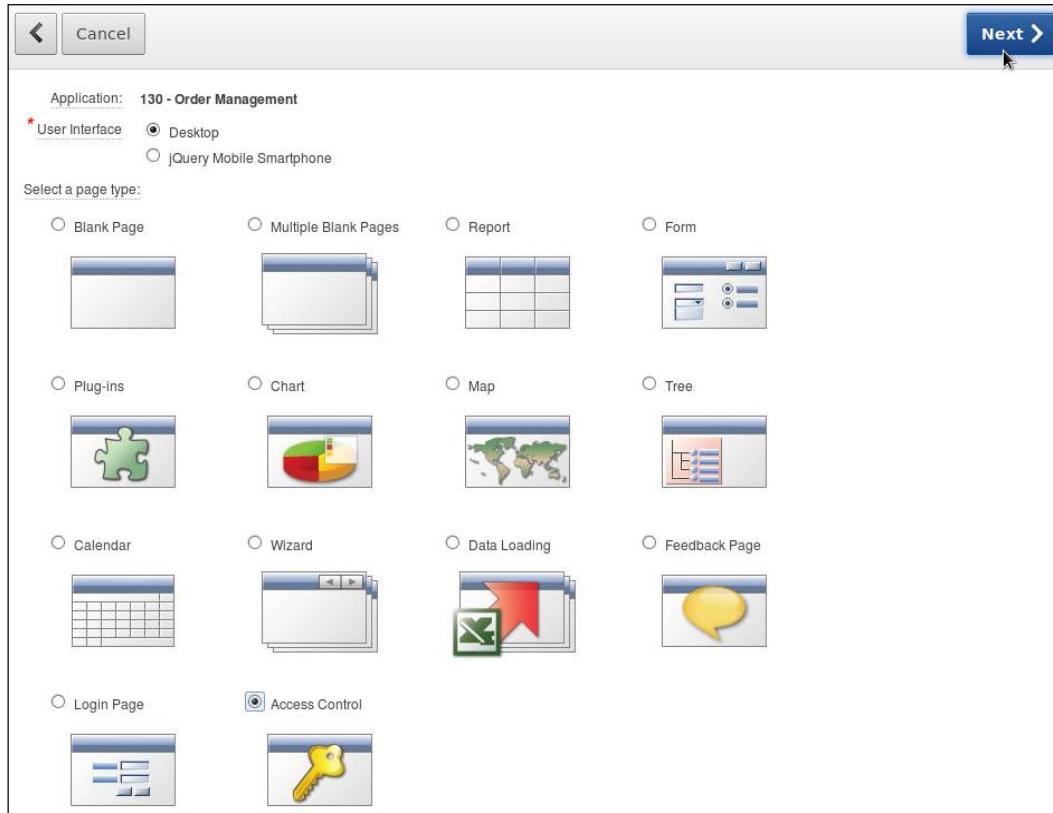
1) Log in to the workspace as the ora<n> developer.

The screenshot shows the Application Express Login page. It features a database icon with a ruler and pencil. The workspace is set to "ora01". The username is "ORA01" and the password is masked as "•••••". A "Reset Password" link is available. The "Login to Application Express" button is at the bottom.

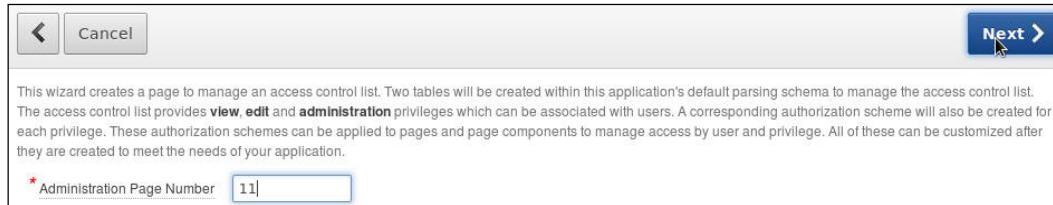
- 2) Navigate to your **Order Management** application home page and click **Create Page >**.

The screenshot shows the Application 130 - Order Management home page. It has a toolbar with icons for Run Application, Supporting Objects, Shared Components, Utilities, and Export / Import. Below the toolbar is a search bar and an actions menu. The "Create Page" button is highlighted with a cursor.

- 3) Select **Access Control** and click **Next >**.



- 4) Accept the default page value and click **Next >**.



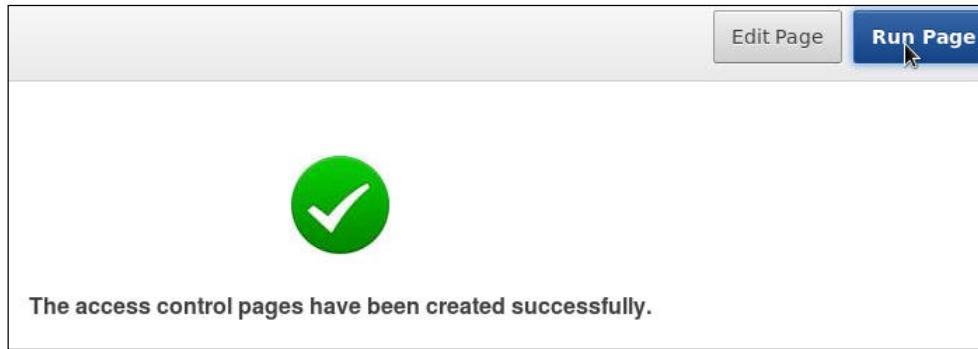
- 5) For Tab Options, select **Use an existing tab set and create a new tab within the existing tab set**, ensure **TS1** is selected for the Tab Set, and enter **Admin** for the New Tab Label. Then click **Next >**.



6) Click **Create**.

You have requested to create a page with the following attributes. Please confirm your selections.

Application	130
Page	11
Page Name	Access Control Administration Page
Page Title	Access Control Administration Page
Tab Set	TS1
Tab Label	Admin
Create Table	APEX_ACCESS_SETUP
Create Table	APEX_ACCESS_CONTROL
Create Authorization Scheme	access control - administrator
Create Authorization Scheme	access control - edit
Create Authorization Scheme	access control - view

7) Click **Run Page**.

## 8) Log in as the ora&lt;n&gt; user.

- c. Set the application mode to Restricted access. Only users defined in the access control list are allowed.
  - 1) The access control page is displayed. Here is where you set the application mode and add users to the access control list. For Application Mode, select **Restricted access, Only users defined in the access control list are allowed**, and click **Set Application Mode**.

Welcome: ORA01 Help Home Sign Off

Application Administration Set Application Mode

Application Mode  Full access to all, access control list not used.  
 Restricted access. Only users defined in the access control list are allowed.  
 Public read only. Edit and administrative privileges controlled by access control list.  
 Administrative access only.

Access Control List Delete Apply Changes

Identify usernames which correspond to this application's authentication scheme.

Find Go

<input type="checkbox"/> Username	Privilege	Last Changed By	Date
No data found.			

Add User

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

b. Add users to the access control list.

- `john.bell` can only view the information in the application; he cannot make any changes to application data.
- `brad.knight` should be allowed to edit application data, but he cannot change application administration settings (application mode and the access control list).
- `susie.parker` is the administrator of the application, so she can change anything in addition to changing the user privileges.
- `ora<n>` is also an administrator of the application.

- 1) The application mode has been set. Now, users whose credentials are defined in the access control list can access your Order Management application. To add your privileged users, click **Add User**.

Welcome: ORA01 Help Home Sign Off

Application Administration Set Application Mode

Application Mode  Full access to all, access control list not used.  
 Restricted access. Only users defined in the access control list are allowed.  
 Public read only. Edit and administrative privileges controlled by access control list.  
 Administrative access only.

Access Control List Delete Apply Changes

Identify usernames which correspond to this application's authentication scheme.

Find Go

<input type="checkbox"/> Username	Privilege	Last Changed By	Date
No data found.			

Add User

- 2) You want John Bell to only be able to view the information in your application. He cannot make any changes to application data. Enter `john.bell` as the username and select **View** from the list of privileges. Then click **Add User**.

The screenshot shows the 'Access Control List' interface. At the top right are 'Delete' and 'Apply Changes' buttons. Below is a search bar with 'Find' and 'Go' buttons. A table header row has columns: 'Username' (sorted), 'Privilege', 'Last Changed By', and 'Date'. One row is visible, showing 'john.bell' in the 'Username' column, 'View' in the 'Privilege' column, '(null)' in 'Last Changed By', and '(null)' in 'Date'. At the bottom right is an 'Add User' button.

- 3) You want Brad Knight to be able to edit the information in your application, but not be able to change any of the administration options. Enter `brad.knight` as the username and select **Edit** from the Privilege list. Click **Add User**.

The screenshot shows the 'Access Control List' interface. At the top right are 'Delete' and 'Apply Changes' buttons. Below is a search bar with 'Find' and 'Go' buttons. A table header row has columns: 'Username' (sorted), 'Privilege', 'Last Changed By', and 'Date'. Two rows are visible: one for 'john.bell' with 'View' privilege and one for 'brad.knight' with 'Edit' privilege. Both rows show '(null)' for 'Last Changed By' and '(null)' for 'Date'. At the bottom right is an 'Add User' button.

- 4) You want Susie Parker to be able to edit the information in your application as well as update the administration access control list. Enter `susie.parker` as the username and select **Administrator** from the Privilege list. Click **Add User**.

The screenshot shows the 'Access Control List' interface. At the top right are 'Delete' and 'Apply Changes' buttons. Below is a search bar with 'Find' and 'Go' buttons. A table header row has columns: 'Username' (sorted), 'Privilege', 'Last Changed By', and 'Date'. Three rows are visible: one for 'brad.knight' with 'Edit' privilege, one for 'john.bell' with 'View' privilege, and one for 'susie.parker' with 'Administrator' privilege. All rows show 'ora01' in 'Last Changed By' and '22 hours ago' in 'Date'. At the bottom right is an 'Add User' button. A page number '1 - 3' is at the bottom center.

- 5) Lastly, you want `ora<n>` to have administrator access. Enter `ora<n>` as the username and select **Administrator** from the Privilege list. Click **Apply Changes**.

The screenshot shows the 'Access Control List' interface. At the top right are 'Delete' and 'Apply Changes' buttons. Below is a search bar with 'Find' and 'Go' buttons. A table header row has columns: 'Username' (sorted), 'Privilege', 'Last Changed By', and 'Date'. Four rows are visible: one for 'brad.knight' with 'Edit' privilege, one for 'john.bell' with 'View' privilege, one for 'susie.parker' with 'Administrator' privilege, and one for 'ora01' with 'Administrator' privilege. All rows show '(null)' in 'Last Changed By' and '(null)' in 'Date'. At the bottom right is an 'Add User' button. A page number '1 - 3' is at the bottom center.

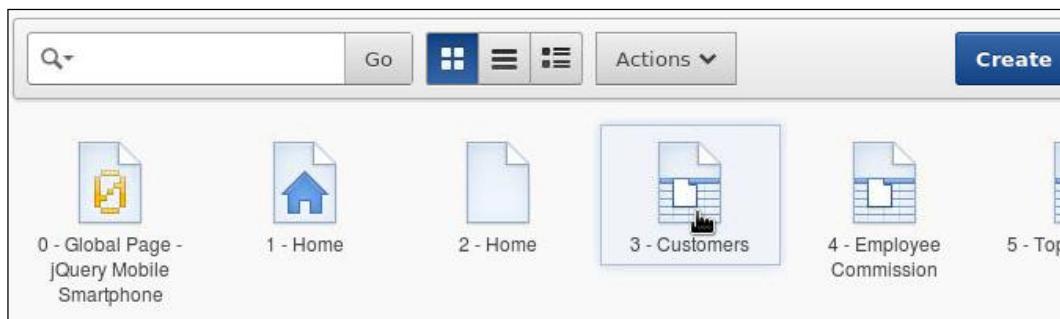
- c. Define and apply the authorization schemes to each application component. This will restrict access to application pages and components.
- Users with the View privilege can review customer information, but cannot change or create information.
  - Users with the Edit privilege can make changes to customer information but cannot make changes to the application mode and the access control list.
  - Users with the Administrator privilege can make any changes, including administering the Order Management application.
- 1) You can define which areas of the application are restricted. Click the **Application <n>** link on the Developer toolbar.

The screenshot shows the Oracle Application Administration interface. At the top, there is a message: "0 row(s) updated, 4 row(s) inserted." Below this, the "Application Mode" section is visible, with the "Restricted access. Only users defined in the access control list are allowed." option selected. The "Access Control List" section shows a table of users:

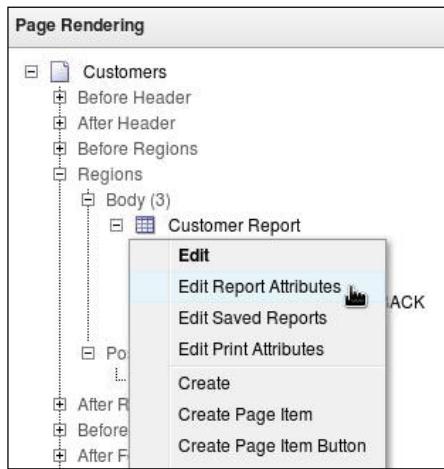
	Username	Privilege	Last Changed By	Date
<input type="checkbox"/>	brad.knight	Edit	ora01	1 seconds ago
<input type="checkbox"/>	john.bell	View	ora01	1 seconds ago
<input type="checkbox"/>	ora01	Administrator	ora01	1 seconds ago
<input type="checkbox"/>	susie.parker	Administrator	ora01	1 seconds ago

At the bottom of the page, the URL is shown as <http://localhost:8080/apex/f?p>.

- 2) You can restrict access for users with the View privilege to customer information. On the **Order Management** application home page, click the **Customers** page.

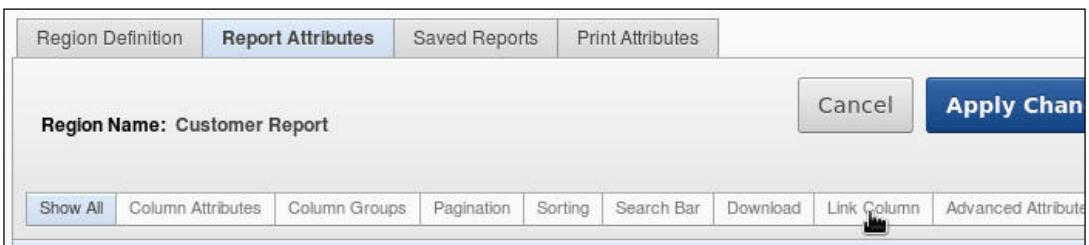


- 3) Right-click the **Customer Report** region and select **Edit Report Attributes**.



- 4) Click the **Link Column** tab.

**Note:** If the report were a classic report, you would modify the CUSTOMER\_ID attribute and set the authorization in the column attribute definition instead of at the report level (as in an interactive report).



5) Select **access control - edit** for Authorization Scheme and click **Apply Changes**.

Region Definition Report Attributes Saved Reports Print Attributes

Region Name: Customer Report

Cancel Apply Changes

Show All Column Attributes Column Groups Pagination Sorting Search Bar Download Link Column Advanced Attributes Icon View

**Link Column**

Link Column Link to Custom Target

Single Row View  Allow Exclude Null Values  
 Allow Displayed Columns

Uniquely Identify Rows by ROWID

Unique Column

\* Link Icon 

[Icon 1] [Icon 2] [Icon 3] [Icon 4] [Icon 5] [Icon 6] [Icon 7] [Icon 8]

Link Attributes

Target Page in this Application Page 8  Reset Pagination

Request Clear Cache

Name	Value
Item 1 P8_CUSTOMER_ID	#CUSTOMER_ID#
Item 2 P8_CUST_FIRST_NAME	#CUST_FIRST_NAME#
Item 3	

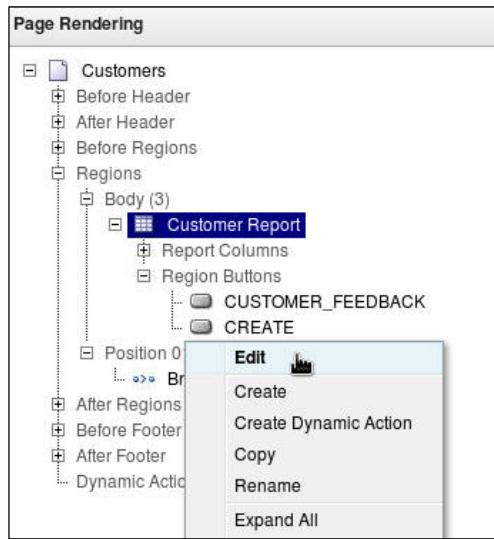
Page Checksum - Use default -

Condition Type - No Condition -

[PL/SQL] [item / column=value] [item / column not null] [item / column null] [request=e1] [page in] [page not in] [exists] [never] [none]

Authorization Scheme access control - edit

- 6) Because you want the Create Button to appear only if the user has the Edit or Administrator privilege, you must set the authorization scheme accordingly. Under Region Buttons for the Customer Report region, right-click **CREATE** and select **Edit**.



- 7) Click the **Security** tab.

Page Button: 1 of 2 Name: CREATE																									
<a href="#">Show All</a>		<a href="#">Name</a>	<a href="#">Displayed</a>	<a href="#">Attributes</a>	<a href="#">Action When Button Clicked</a>	<a href="#">Conditions</a>	<a href="#">Cancel</a> <a href="#">Delete</a> <a href="#">Apply Changes</a>																		
<table border="1"> <thead> <tr> <th>Show All</th> <th>Name</th> <th>Displayed</th> <th>Attributes</th> <th>Action When Button Clicked</th> <th>Conditions</th> <th><a href="#">Security</a></th> <th><a href="#">Configuration</a></th> <th><a href="#">Comments</a></th> </tr> </thead> <tbody> <tr> <td colspan="9"> <b>Name</b>            Page: 3 Customers            * Button Name: CREATE            * Text Label / Alt: Create         </td> </tr> </tbody> </table>								Show All	Name	Displayed	Attributes	Action When Button Clicked	Conditions	<a href="#">Security</a>	<a href="#">Configuration</a>	<a href="#">Comments</a>	<b>Name</b> Page: 3 Customers * Button Name: CREATE * Text Label / Alt: Create								
Show All	Name	Displayed	Attributes	Action When Button Clicked	Conditions	<a href="#">Security</a>	<a href="#">Configuration</a>	<a href="#">Comments</a>																	
<b>Name</b> Page: 3 Customers * Button Name: CREATE * Text Label / Alt: Create																									

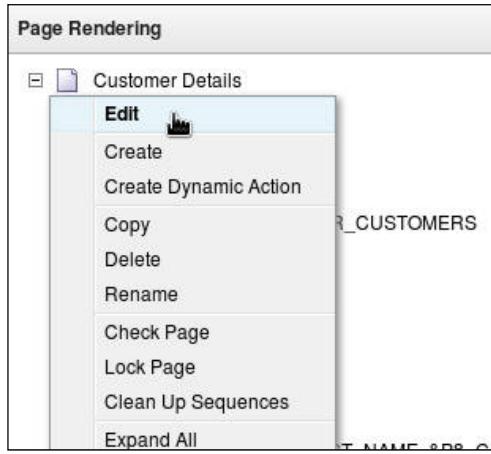
- 8) Select the **access control - edit** authorization scheme and click **Apply Changes**.

Page Button: 2 of 2 Name: CREATE																									
<a href="#">Show All</a>		<a href="#">Name</a>	<a href="#">Displayed</a>	<a href="#">Attributes</a>	<a href="#">Action When Button Clicked</a>	<a href="#">Conditions</a>	<a href="#">Cancel</a> <a href="#">Delete</a> <a href="#">Apply Changes</a>																		
<table border="1"> <thead> <tr> <th>Show All</th> <th>Name</th> <th>Displayed</th> <th>Attributes</th> <th>Action When Button Clicked</th> <th>Conditions</th> <th><a href="#">Security</a></th> <th><a href="#">Configuration</a></th> <th><a href="#">Comments</a></th> </tr> </thead> <tbody> <tr> <td colspan="9"> <b>Security</b>            Authorization Scheme: access control - edit         </td> </tr> </tbody> </table>								Show All	Name	Displayed	Attributes	Action When Button Clicked	Conditions	<a href="#">Security</a>	<a href="#">Configuration</a>	<a href="#">Comments</a>	<b>Security</b> Authorization Scheme: access control - edit								
Show All	Name	Displayed	Attributes	Action When Button Clicked	Conditions	<a href="#">Security</a>	<a href="#">Configuration</a>	<a href="#">Comments</a>																	
<b>Security</b> Authorization Scheme: access control - edit																									

- 9) You also want to protect against direct access to a page. Even though you restricted a user who did not have the Edit privilege from editing or creating users on the Customers page, he or she can still access Customer Details if the correct URL is entered. To prevent this from happening, you must restrict Customer Details to only users with the Edit privilege. Enter the page number of the **Customer Details** page (in this case, 9) and click Go.



10) Right-click the **Customer Details** page and select **Edit**.



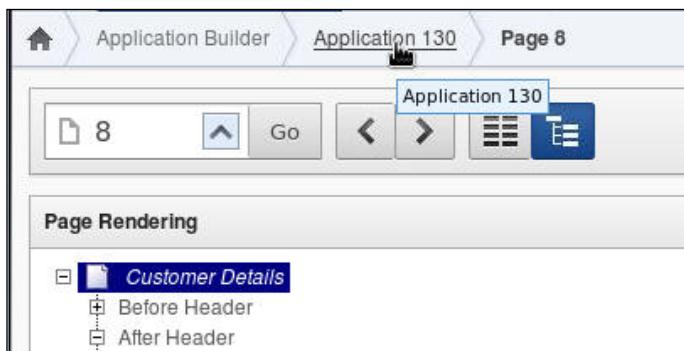
11) Click the **Security** tab.

The screenshot shows the 'Page Attributes' dialog for page 8. The 'Security' tab is selected. The 'Name' field contains 'Customer Details'. The 'Group' dropdown shows '- No Group Assigned -'. The 'Apply Changes' button is visible at the top right.

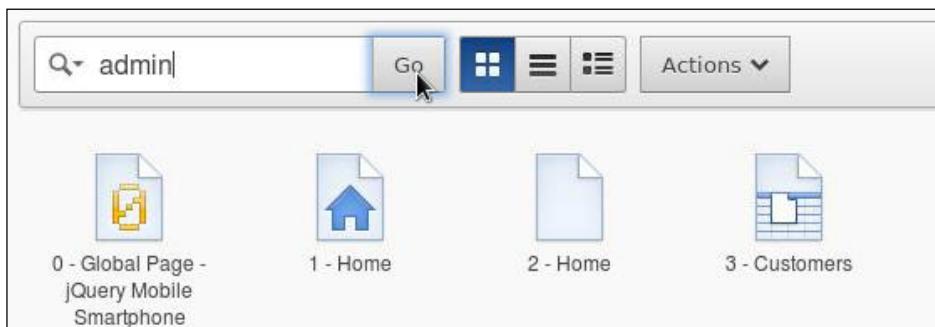
12) For Authorization Scheme, select **access control - edit**. Click **Apply Changes**.

The screenshot shows the 'Page Attributes' dialog for page 9. The 'Security' tab is selected. The 'Authorization Scheme' dropdown is set to 'access control - edit'. Other settings include 'Page Requires Authentication', 'Application Default' for Deep Linking, 'Unrestricted' for Page Access Protection, 'On' for Form Auto Complete, and 'Application Default' for Browser Cache. The 'Apply Changes' button is visible at the top right.

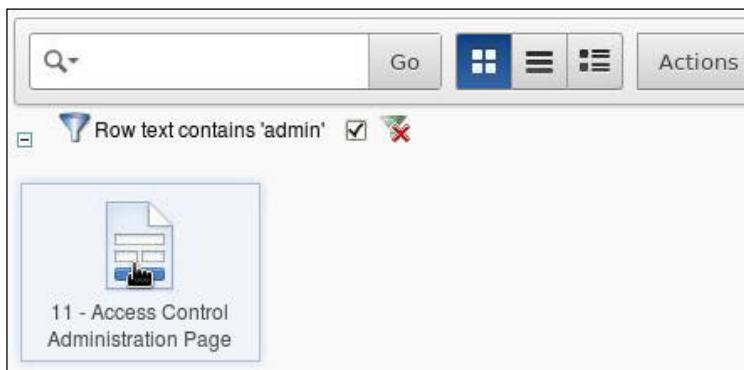
- 13) Click the **Application<n>** breadcrumb to return to the Order Management application home page.



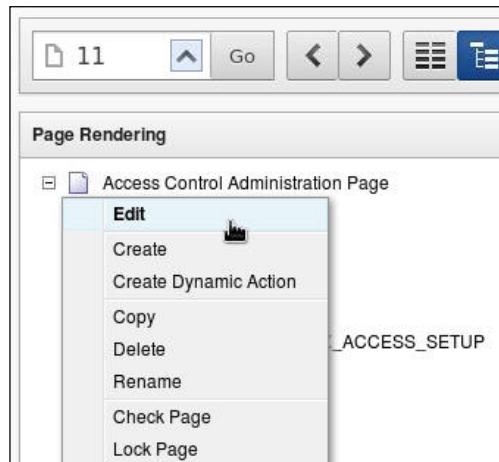
- 14) Enter **admin** in the search area and click **Go**.



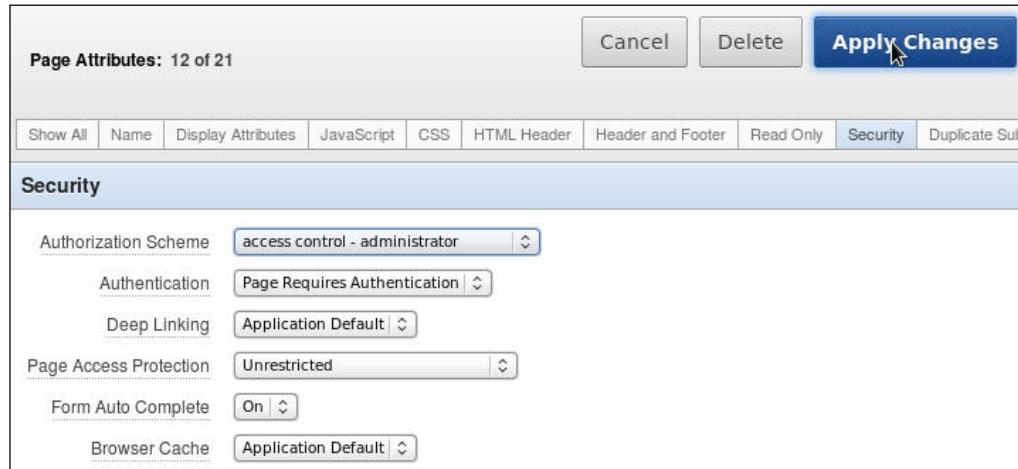
- 15) Because users with the Administrator privilege are only allowed to make changes to the access control list, you must set the authorization scheme for the Access Control Administration page. Click **Access Control Administration Page**. Note that you may have to advance to the second page of icons to see this page.



16) Right-click **Access Control Administration Page** and select **Edit**.



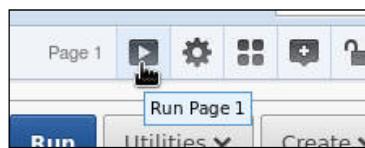
17) Select **access control - administrator** for the Authorization Scheme and click **Apply Changes**.



- d. Run the application and log in as a different user. What do you observe?  
 1) Now you are ready to run the application. Enter 1 for Page and click Go.



- 2) Click the Run Page icon.



- 3) If you are already logged in, click **Sign Off**.

The screenshot shows the Oracle application's main menu bar with tabs: Home, Customers, Orders, Products, Help, Admin. In the top right corner, it says "Welcome: ORA01" and has links for Help and Sign Off. Below the menu is a sidebar titled "Tasks" with options: View Customers, View Products, and View Orders. To the right of the sidebar is a "In the News" section with a link to "www.oracle.com".

- 4) Enter **brad.knight** and **welcome1** for the username and password, respectively. Then click **Login**.

The screenshot shows a login form with fields for Username and Password. The Username field contains "brad.knight" and the Password field contains "\*\*\*\*\*". A red "Login" button is visible to the right of the password field, with a cursor pointing at it.

- 5) Click **View Customers**.

The screenshot shows the same application interface as before, but now the "View Customers" link in the "Tasks" sidebar is highlighted in red. The rest of the interface remains the same, including the "In the News" section.

- 6) Notice that Brad can edit customer information, and he has the Create button. Click the **Admin** tab.

The screenshot shows the application interface with the "Admin" tab selected in the top menu bar. The main content area displays a "Customer Report" table with four rows of customer data. Each row includes a "Edit" icon in the first column. A "Create" button is located in the top right corner of the report area. The table columns are: Customer Id, First Name, Cust Last Name, Street Address, Postal Code, City, State Province, and Co.

	Customer Id	First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Co
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US

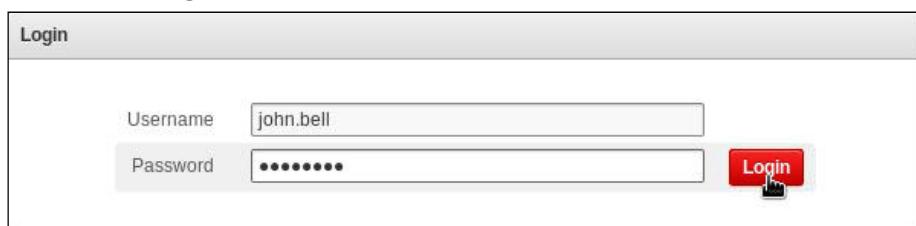
- 7) You receive an error because you need the Administration privilege to access this page. Click **OK**.



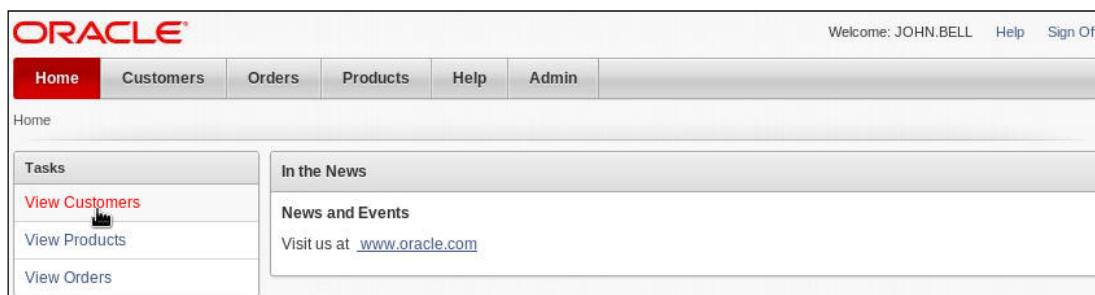
- 8) Click **Sign Off**.



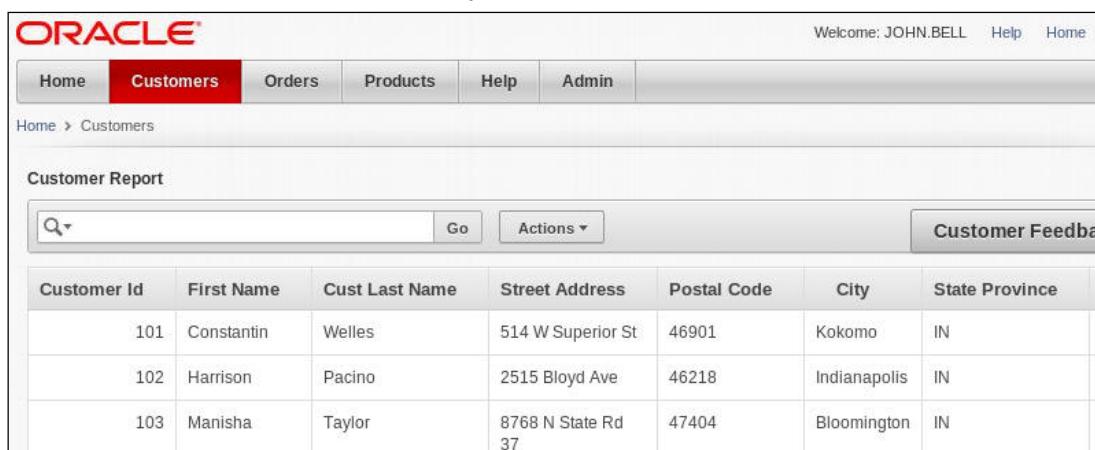
- 9) Enter `john.bell` and `welcome1` as the username and password, respectively. Then click **Login**.



- 10) Click **View Customers**.



- 11) John has the View privilege only and, therefore, cannot edit customer information. Also, the Create button is not displayed for him.



- 12) Change the page number in your URL to try to access the Customer Details page.  
Press the **Enter** key:

Example url .../f?p=104:8:2101953412249296357::NO

Change to .../f?p=104:<b>customer details page number</b>:2101953412249296357::NO



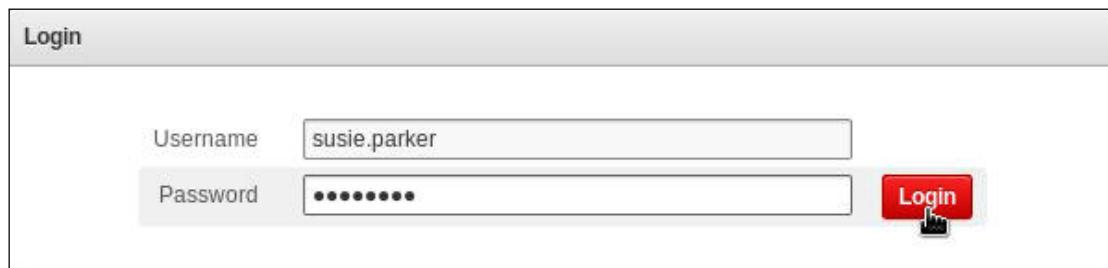
- 13) Notice that you receive a message denying access to the page, because access to the Customer Details page is restricted to the Edit privilege users. Click **OK**.



- 14) Lastly, you want to log in as Susie Parker who is an administrator. Click **Sign Off**.



- 15) Enter **susie.parker** for Username and **welcome1** for Password and click **Login**.



- 16) Click the **Admin** tab.



- 17) Notice that because Susie is an Administrator, you can access this page. Click the **Application <n>** link on the Developer toolbar.

The screenshot shows the Oracle Application Administration interface. At the top, there is a navigation bar with links for Home, Customers, Orders, Products, Help, and Admin. The Admin link is highlighted with a red box. Below the navigation bar, the title "Application Administration" is displayed. Under "Application Mode", the "Restricted access" option is selected. In the "Access Control List" section, there is a search bar labeled "Find" and a "Go" button. A table lists four users: brad.knight, john.bell, ora01, and susie.parker. Each user has a checkbox next to their name, a dropdown menu for privilege (Edit, View, Administrator), and fields for Last Changed By (ora01) and Date (8 minutes ago). The URL in the browser's address bar is http://localhost:8080/apex/f?p=130:130.

	Username	Privilege	Last Changed By	Date
<input type="checkbox"/>	brad.knight	Edit	ora01	8 minutes ago
<input type="checkbox"/>	john.bell	View	ora01	8 minutes ago
<input type="checkbox"/>	ora01	Administrator	ora01	8 minutes ago
<input type="checkbox"/>	susie.parker	Administrator	ora01	8 minutes ago

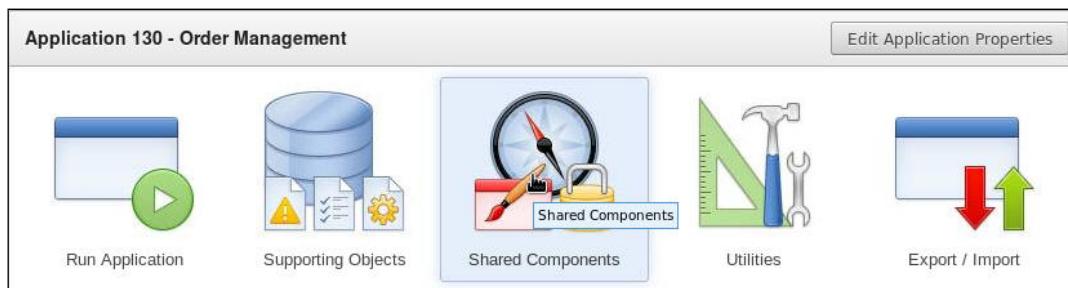
## Solution 14-3: Using Session State Protection

### Overview

In this practice, you enable Session State Protection, set the Session State Protection for a particular item, and review the various options for page access protection so that you can examine their differences.

### Tasks

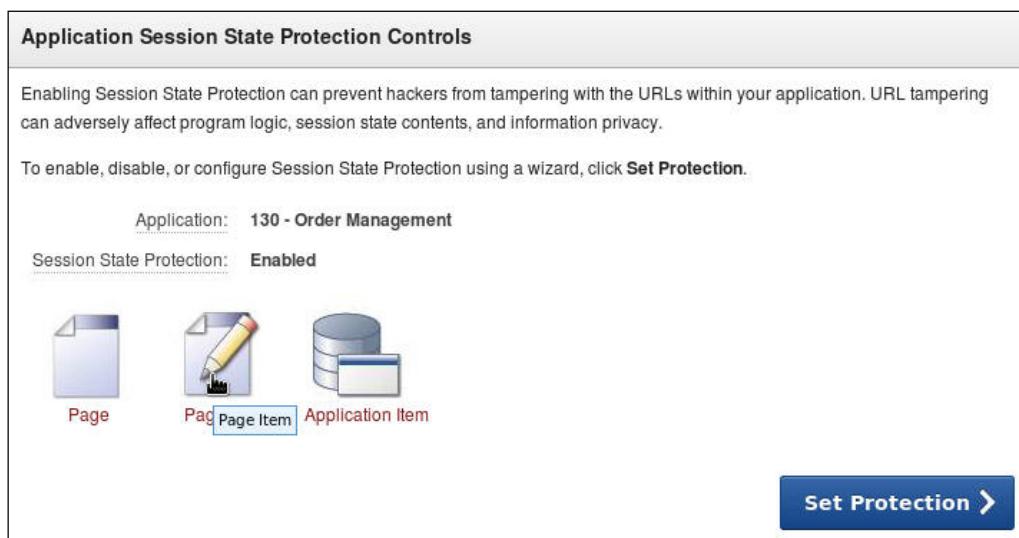
- Set the item session state protection for the P<n>\_ORDER\_ID on the Master Detail page to be Checksum Required – Session Level. Run the page to see the error message.
- On your Order Management application home page, select **Shared Components**.



- Under Security, select **Session State Protection**.



- Notice that Session Protection is enabled. On the Master Details page, you want to set the item security for P<n>\_ORDER\_ID to Checksum required – Session Level. Click Page Item.



- 4) Enter **order\_id** in the search area and click **Go**.

Application: 130 - Order Management Session State Protection: Enabled					
<input type="text" value="order_id"/> Go		Actions ▾			
Page	Page Name	Item Name	Sequence	Region	Item Session State Protection
5	Top Tier Salary	P5_ROWS	20	Search	Unrestricted
5	Top Tier Salary	P5_GO	30	Search	Unrestricted
5	Top Tier Salary	P5_REPORT_SEARCH	10	Search	Unrestricted
5	Top Tier Salary	P5_RESET	40	Search	Unrestricted
Customer			00	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME.	Unrestricted

- 5) Click the Page link for the P<n>\_ORDER\_ID item.

Application: 130 - Order Management Session State Protection: Enabled					
<input type="text"/> Go		Actions ▾			
<input checked="" type="checkbox"/>	Row text contains 'order_id'	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Page	Page Name	Item Name	Sequence	Region	Item Session State Protection
10	Master Detail	P10_ORDER_ID_COUNT	130	Order Master	Unrestricted
10	Master Detail	P10_ORDER_ID_PREV	120	Order Master	Unrestricted
10	Master Detail	P10_ORDER_ID_NEXT	110	Order Master	Unrestricted
10	Master Detail	P10_ORDER_ID	10	Order Master	Unrestricted

- 6) Select **Checksum Required – Session Level** for Item Session State Protection for P<n>\_ORDER\_ID.

**Set Page and Item Protection**

Item Name	Region ▲	Sequence	Label	Item Session State Protection
P10_ORDER_ID	Order Master	10	Order Id	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/> <input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/> <input style="width: 150px; height: 20px;" type="button" value="Checksum Required - Application Level"/> <input style="width: 150px; height: 20px;" type="button" value="Checksum Required - User Level"/> <input style="width: 150px; height: 20px; background-color: #0070C0; color: white; font-weight: bold;" type="button" value="Checksum Required - Session Level"/>
P10_ORDER_DATE	Order Master	20	Order Date	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>
P10_ORDER_MODE	Order Master	30	Order Mode	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>
P10_ORDER_STATUS	Order Master	40	Order Status	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>
P10_CUSTOMER_ID	Order Master	60	Customer Id	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>

- 7) Click **Apply Changes**.

**Set Page and Item Protection**

Item Name	Region ▲	Sequence	Label	Item Session State Protection
P10_ORDER_ID	Order Master	10	Order Id	<input style="width: 150px; height: 20px; background-color: #0070C0; color: white; font-weight: bold;" type="button" value="Checksum Required - Session Level"/>
P10_ORDER_DATE	Order Master	20	Order Date	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>
P10_ORDER_MODE	Order Master	30	Order Mode	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>
P10_ORDER_STATUS	Order Master	40	Order Status	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>
P10_CUSTOMER_ID	Order Master	60	Customer Id	<input style="width: 150px; height: 20px;" type="button" value="Unrestricted"/>

- 8) Click the **Application <n>** breadcrumb.

Item Name	Region	Sequence	Label	Item Session State Protection
P10_ORDER_ID	Order Master	10	Order Id	Checksum Required - Session Level
P10_ORDER_DATE	Order Master	20	Order Date	Unrestricted
P10_ORDER_MODE	Order Master	30	Order Mode	Unrestricted

- 9) Select the **List of Orders** page.

- 10) Click the **Run Page** icon.

- 11) The List of Orders page is displayed. Click the Edit icon next to one of the Orders.

Edit	Order Date	Order Mode	Customer Id	Order Status	Order Total	Sales Rep
	16-AUG-99 02.34.12.234359 PM	direct	101	0	78279.6	153
	19-NOV-99 03.41.54.696211 PM	direct	102	1	42283.2	154
	02-OCT-99 04.49.34.678340 PM	direct	103	1	6653.4	154
	14-JUL-00 05.18.23.234567 PM	direct	104	0	46257	155
	08-JAN-00 06.03.12.654278 PM	direct	105	2	7826	155

- 12) Notice that you receive an error indicating that the item has Internal Only protection. This is because it did not have a checksum. Click the **Edit Page** link on the Developer toolbar.

Attempt to save item P10\_ORDER\_ID in session state during show processing, item has Internal Only protection.

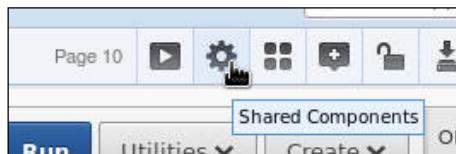
Contact your application administrator.

[Technical Info \(only visible for developers\)](#)

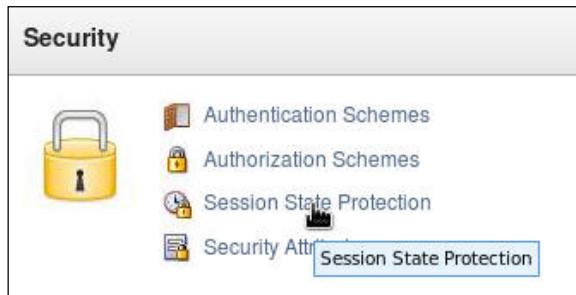
**OK**

- b. Set the Page Access Protection for the Master Detail page to **Arguments Must Have Checksum**. Run the page, edit an order to see the checksum that is passed to the Master Detail page.

- 1) Click the **Shared Components** icon.



- 2) Under Security, select **Session State Protection**.



- 3) You want to set the Page Access Protection for the Master Detail page. Click **Page**.



- 4) Click the Page link for the Master Detail page.

Application: 130 - Order Management Session State Protection: Enabled				
Page	Name	Page Access Protection	Page Items	Page Type
0	Global Page - jQuery Mobile Smartphone	No URL Access	0	Global Page
1	Home	Unrestricted	0	Home
2	Home	Unrestricted	0	Static HTML
3	Customers	Unrestricted	0	Interactive Report
4	Employee Commission	Unrestricted	0	Interactive Report
5	Top Tier Salary	Unrestricted	4	Report
6	Customer Address List	Unrestricted	0	Report
7	Help	Unrestricted	0	Static HTML
8	Customer Details	Unrestricted	8	DML Form
9	List of Orders	Unrestricted	0	Report
10	Master Detail	Unrestricted	11	DML Form
11	Access Control Administration Page	Unrestricted	4	DML Form

- 5) Select Arguments Must Have Checksum for Page Access Protection.

**Set Page and Item Protection**

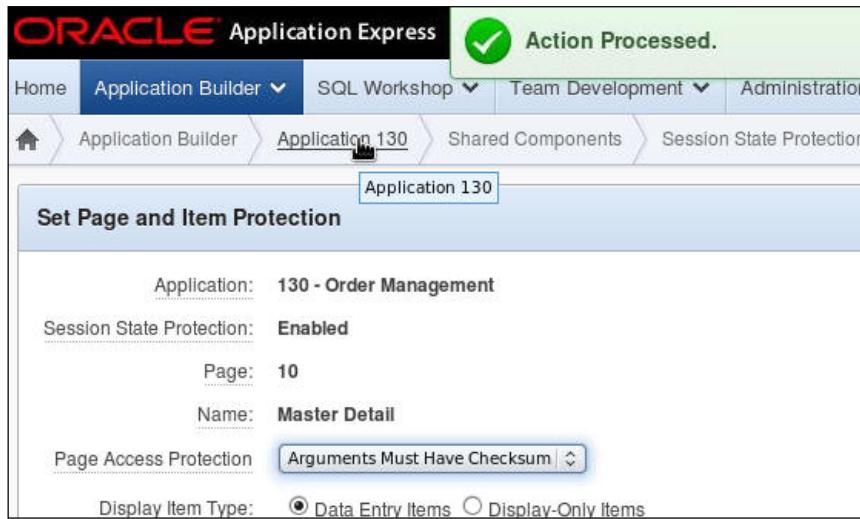
Application:	130 - Order Management	Cancel	Apply	
Session State Protection:	Enabled			
Page:	10			
Name:	Master Detail			
Page Access Protection:	Unrestricted			
Display Item Type:	<input type="checkbox"/> Unrestricted <input checked="" type="checkbox"/> Arguments Must Have Checksum <input type="checkbox"/> No Arguments Allowed <input type="checkbox"/> Display-Only Items <input type="checkbox"/> No URL Access			
Item Name	Region ▲	Sequence	Label	Item Session State Protection
P10_ORDER_ID	Order Master	10	Order Id	Checksum Required - Session Level
P10_ORDER_DATE	Order Master	20	Order Date	Unrestricted

- 6) Click Apply Changes.

**Set Page and Item Protection**

Application:	130 - Order Management	Cancel	Apply Changes	
Session State Protection:	Enabled			
Page:	10			
Name:	Master Detail			
Page Access Protection:	Arguments Must Have Checksum			
Display Item Type:	<input checked="" type="radio"/> Data Entry Items <input type="radio"/> Display-Only Items			

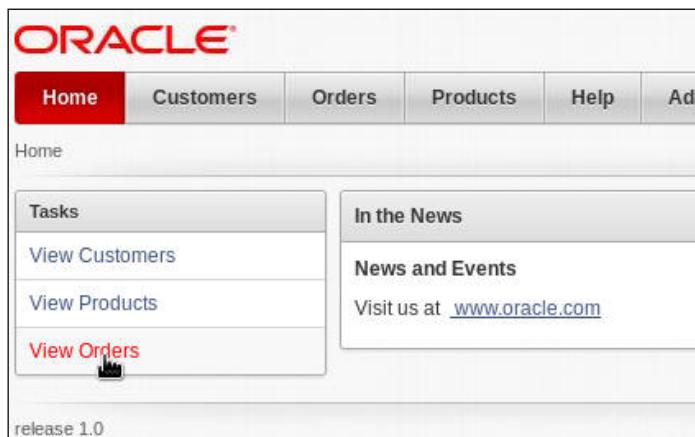
- 7) Click the **Application <n>** breadcrumb.



- 8) Click **Run Application**.



- 9) From the Home page, select **View Orders**.



- 10) Click the Edit icon next to one of the Orders.

Edit	Order Date	Order Mode	Customer Id	Order Status	Order Total	Sales Rep
	16-AUG-99 02.34.12.234359 PM	direct	101	0	78279.6	153
	19-NOV-99 03.41.54.696211 PM	direct	102	1	42283.2	154
	02-OCT-99 04.49.34.678340 PM	direct	103	1	6653.4	154
	14-JUL-00 05.18.23.234567 PM	direct	104	0	46257	155
	08-JAN-00 06.03.12.654278 PM	direct	105	2	7826	155
	14-MAY-00 07.59.08.843679 PM	direct	106	3	23034.6	156
	21-AUG-00 08.52.06.009765 PM	direct	107	3	70576.0	156

- 11) Notice that the Order is now displayed because there is a checksum in the URL.  
Click the **Application <n>** link on the Developer toolbar.

Order Date *	19-NOV-1999
Order Mode	direct
Order Status	1
Customer Id *	102
Order Total	42283.2
Sales Rep Id	154
Promotion Id	

44 of 105

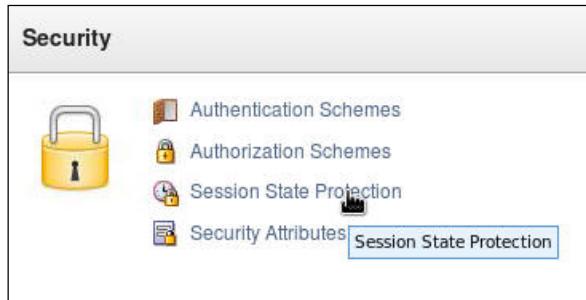
Line Item Id	Product Id	Unit Price	Quantity
1	2976	52	2
2	2986	120	8

- c. Set the Page Access Protection for the Employee Commission page to No URL Access.

- 1) Click **Shared Components**.



- 2) Under Security, select **Session State Protection**.



- 3) Click **Page**.



- 4) Click the Page link for the Employee Commission page.

Application: 130 - Order Management Session State Protection: Enabled					
Page	Name	Page Access Protection	Page Items	Page Type	
0	Global Page - jQuery Mobile Smartphone	No URL Access	0	Global Page	
1	Home	Unrestricted	0	Home	
2	Home	Unrestricted	0	Static HTML	
3	Customers	Unrestricted	0	Interactive Report	
4	Employee Commission	Unrestricted	0	Interactive Report	
5	Top Tier Salary	Unrestricted	4	Report	
6	Customer Address List	Unrestricted	0	Report	

- 5) Select No URL Access for **Page Access Protection**.

**Set Page and Item Protection**

Application:	130 - Order Management
Session State Protection:	Enabled
Page:	4
Name:	Employee Commission
Page Access Protection:	<input type="button" value="Unrestricted"/> <input type="button" value="Unrestricted"/> <input type="button" value="Arguments Must Have Checksum"/> <input type="button" value="No Arguments Allowed"/> <input style="background-color: #0070C0; color: white; border: 1px solid #0070C0; border-radius: 5px; padding: 2px 10px; width: fit-content; margin-left: 10px;" type="button" value="No URL Access"/>
Display Item Type:	<input type="radio"/> Data Entry Items <input type="radio"/> Display-Only Items

- 6) Click **Apply Changes**.

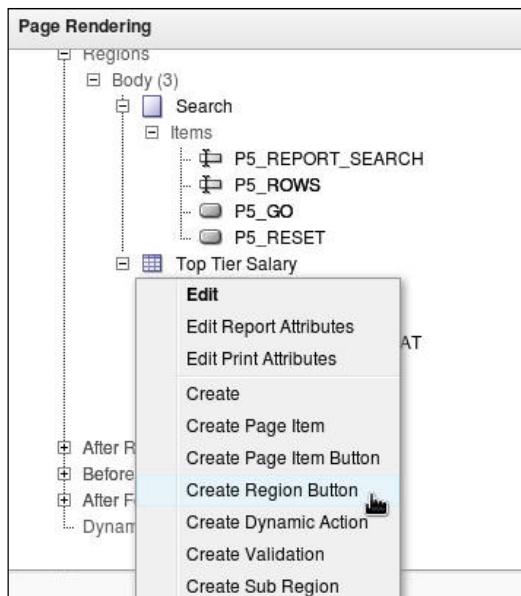
**Set Page and Item Protection**

Application:	130 - Order Management	<input type="button" value="Cancel"/>	<input style="background-color: #0070C0; color: white; border: 1px solid #0070C0; border-radius: 5px; padding: 2px 10px; width: fit-content; margin-left: 10px;" type="button" value="Apply Changes"/>
Session State Protection:	Enabled		
Page:	4		
Name:	Employee Commission		
Page Access Protection:	<input type="button" value="No URL Access"/>		
Display Item Type:	<input checked="" type="radio"/> Data Entry Items <input type="radio"/> Display-Only Items		

- d. Add a Commission button to the Top Tier Salary page that redirects to the Employee Commission page. Run the page to see that there is an error because of the branch.
- 1) Search for the Employee Commission page in your Order Management application.



- 2) Right-click the **Top Tier Salary** Region and select **Create Region Button**.



- 3) Enter **Commission** for Button Name and click **Next >**.

Page:	5 - Top Tier Salary
Region:	Top Tier Salary
* Button Name:	COMMISSION
<input type="button" value="[Cancel]"/> <input type="button" value="Create Button"/> <input type="button" value="Next &gt;"/>	
<input type="button" value="[Cancel]"/> <input type="button" value="[Next]"/> <input type="button" value="[Previous]"/> <input type="button" value="[Apply]"/> <input type="button" value="[Submit]"/> <input type="button" value="[Delete]"/> <input type="button" value="[Finish]"/> <input type="button" value="[Create]"/> <input type="button" value="[Reset]"/>	
* Label:	Commission
Button Style:	HTML Button
Button Attributes:	

- 4) Accept the defaults and click **Next >**.

Page:	5 - Top Tier Salary
Region:	Top Tier Salary
Button Name:	COMMISSION
* Sequence:	1.0
Position:	Top of Region
<input type="button" value="[Top]"/> <input type="button" value="[Close]"/> <input type="button" value="[Edit]"/> <input type="button" value="[Create]"/> <input type="button" value="[Change]"/> <input type="button" value="[Previous]"/> <input type="button" value="[Next]"/>	
Alignment:	Right
<input type="button" value="[Cancel]"/> <input type="button" value="Create Button"/> <input type="button" value="Next &gt;"/>	

- 5) Select **Redirect to Page in this Application** for Action and enter the Employee Commission page for Page and click **Create Button**.

Page: 5 - Top Tier Salary  
Region: Top Tier Salary  
Button Name: COMMISSION  
Action: Redirect to Page in this Application  
\* Page: 4  
 reset pagination for this page  
Request:  
Clear Cache: (comma separated page numbers)  
Set these items: (comma separated name list)  
With these values: (comma separated value list)

- 6) Click **Run**.

Page Rendering  
Top Tier Salary  
Before Header  
After Header  
Before Regions  
Regions (3)  
Body (3)  
Search  
Items  
P5\_REPORT\_SEARCH  
P5\_ROWS  
P5\_GO  
P5\_RESET  
Top Tier Salary  
Report Columns  
Region Buttons  
COMMISSION  
After Regions

Page Processing  
After Submit  
Validating  
Processing  
Branches  
Processes  
Reset Pagination  
Reset report search  
After Processing  
Branches  
Go To Page 5  
AJAX Callbacks

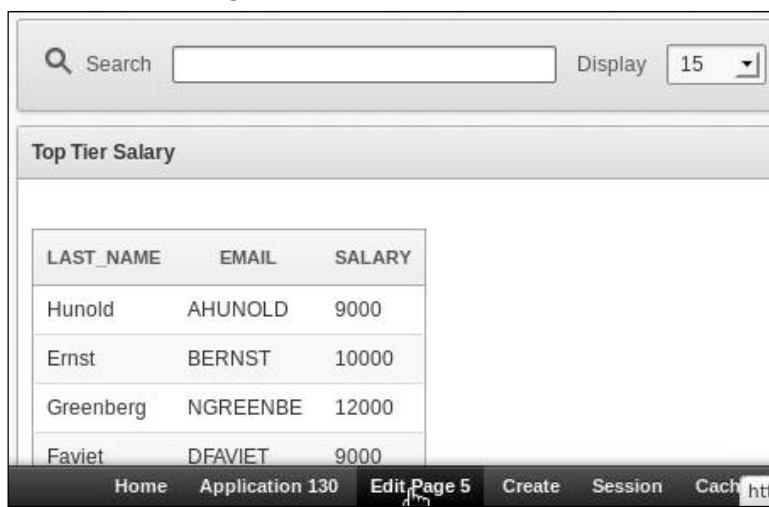
- 7) Click **Commission**.

LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700
Urman	JMURMAN	7800
Popp	LPOPP	6900
Raphaely	DRAPHEAL	11000

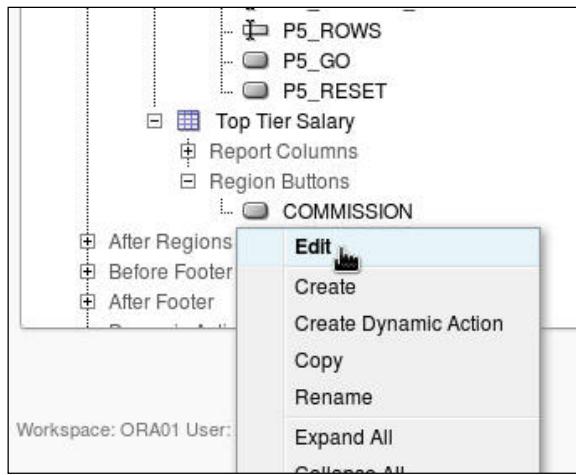
- 8) Notice you receive an error indicating that you must create a Branch to Page branch that generates a page without a URL. Click **OK**.



- e. Edit the Commission button to submit the page and create a Branch to Page branch that will go to the Employee Commission page without passing the URL.
    - 1) Click the **Edit Page** link on the Developer toolbar.



- 2) Right-click the Region Button **Commission** and select **Edit**.



- 3) Click the **Action When Button Clicked** subtab.

Page Button: 1 of 1 Name: COMMISSION

Show All Name Displayed Attributes Action When Button Clicked Conditions Security Configuration Comments

**Name**

Page: 5 Top Tier Salary

\* Button Name: COMMISSION

\* Text Label / Alt: Commission

**Displayed**

- 4) Select **Submit Page** for Action.

Page Button: 1 of 1 Name: COMMISSION

Show All Name Displayed Attributes Action When Button Clicked Conditions

**Action When Button Clicked**

Action: Redirect to Page in this Application

\* Page: Submit Page

- Submit Page
- Redirect to Page in this Application
- Redirect to URL
- Defined by Dynamic Action

Request:

- 5) Click **Apply Changes**.

Page Button: 1 of 1 Name: COMMISSION

Show All Name Displayed Attributes Action When Button Clicked Conditions Security Configuration Comments

**Action When Button Clicked**

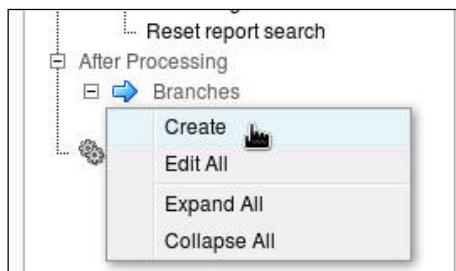
Action: Submit Page

Execute Validations: Yes

Database Action: - No Database Action -

Cancel Delete Apply Changes

- 6) Now you need to create a Branch to Page branch. Under After Processing, right-click **Branches** and select **Create**.

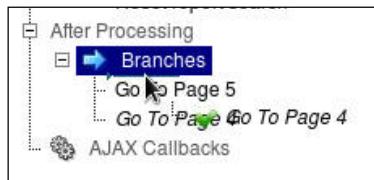


- 7) Select **Branch to Page** for Branch Type and click **Next >**.

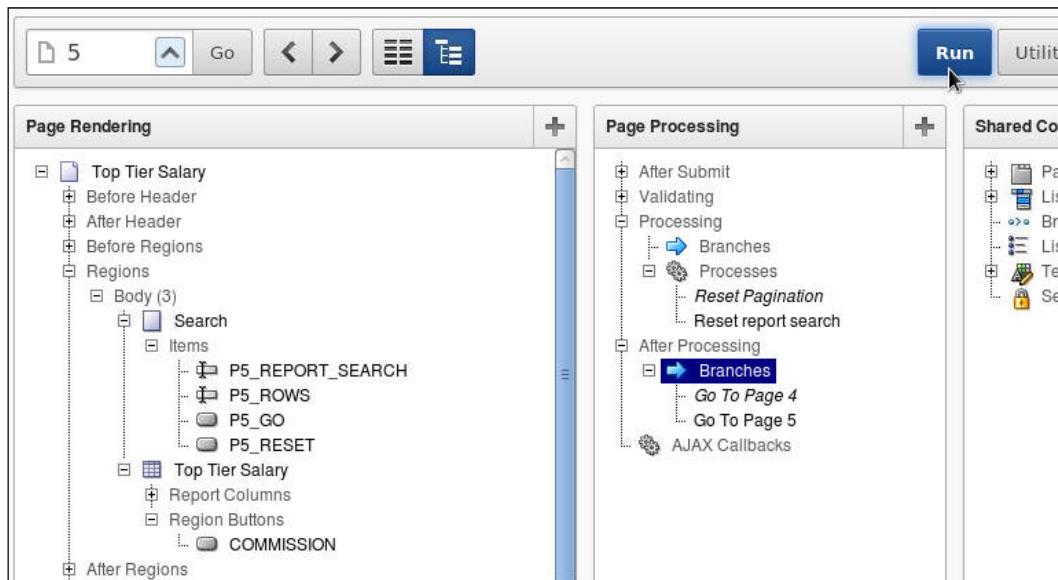
- 8) Select the Employee Commission page for Branch to Page and deselect the **branch to page using redirect** check box. Then click **Next >**.

- 9) Select the **Commission** button for When Button Pressed and click **Create Branch**.

- 10) You want the branch you just created to be run before the one with no condition.  
 Move the branch you just created before the Go to Page branch without a condition.



- 11) Click **Run**.



- 12) Click **Commission**.

LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700
Urman	JMURMAN	7800
Popp	LPOPP	6900
Raphaely	DRAPHEAL	11000
Weiss	MWEISS	8000

- 13) The Employee Commission page is displayed. Review the URL. Notice that it no longer passes the f?p= in the URL and it is rendered successfully.

The screenshot shows a web browser window with the URL `localhost:8080/apex/www_flow.accept`. The page title is **ORACLE**. The top navigation bar includes links for Home, Customers, Orders, Products, Help, and Admin. A welcome message "Welcome: O" is visible. Below the navigation, a breadcrumb trail shows "Home > Employee Commission". The main content area is titled "Employee Commission". It features a search bar with a dropdown menu, a "Go" button, and a "Reports" link. A report titled "1. Primary Report" is displayed below. The report table has columns: First Name, Last Name, Commission Pct, and Manager. The data rows are:

First Name	Last Name	Commission Pct	Manager
Valli	Pataballa	.3	Alexander Hunold
John	Russell	.4	Steven King
Karen	Partners	.3	Steven King
Alberto	Errazuriz	.3	Steven King



# **Practices for Lesson 15: Managing Application Navigation**

**Chapter 15**

## Practices for Lesson 15: Overview

---

### Practices Overview

In these practices, you build a hierarchical list with images, a database-driven report, and a site map, and enforce authorization on the site map.

## Practice 15-1: Building a Hierarchical List with Images

---

### Overview

In this practice, you upload the images to the Home Page List that you have created in the previous practices, assign the Pull-down menu with the images template to the List, change the attributes of the Tasks region, and associate the region with each Parent List Entry.

### Assumptions

You have performed the previous practices. You can import the `LAB142_SOLN.sql` packaged application.

### Tasks

- Load the images that your Hierarchical List will use into the APEX Repository. Upload the following images from your `/home/oracle/labs/files` directory:

File Name
customers.png
products.png
orders.png

- Change the Home Page List to the following list structure.

Parent List Entry	Sequence	List Entry Label	Page Number
	10	Manage Customers	
Manage Customers	12	View Customers	3
	20	Manage Products	
Manage Products	22	View Products	17
	30	Manage Orders	
Manage Orders	32	View Orders	11

- In your Navigation region on the Home page, change the template to No Template and the List Template to Pull Down Menu with Image.
- Run the page to see the Home Page List. Click the arrow next to each image to show the sublist entries.

## Practice 15-2: Building a Database-Driven Report

---

### Overview

In this practice, you build a report based on the data in a table, and then navigate to the detail. You also change the template to the Navigation Region template.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create a new page with a Classic Report called **List of Customers**.
- b. Hide the CUSTOMER\_ID column in the report and turn off pagination. If you want to display the Customer Name column heading in blue, edit the column definition and enter the following for Column Heading.

`<font color="blue">CUSTOMERS</font>`
- c. Create a link to the Customer Details page on the NAME column. Pass the P<sub>n</sub>\_CUSTOMER\_ID item from the Customer Details page with the value #CUSTOMER\_ID# from this page.
- d. Run the page to see the database-driven report.

## Practice 15-3: Building a Site Map

---

### Overview

In this practice, you build a site map page that will be added as a navigation bar entry.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Assign each page that you want in the site map to the same page group. Create a Page Group called Site Map and assign the following pages to the Site Map page group.

Customers
Products
List of Orders
Customer Feedback
Access Control Administration Page
- b. Create a new page called Site Map with a Classic Report that shows only the pages in the Site Map page group.
- c. Change the Pagination Scheme to None and do not show the PAGE\_ID column. Link the PAGE\_NAME column to the #PAGE\_ID# so that it opens the corresponding page when clicked.
- d. Add this page to your navigation bar and call it Site Map.
- e. Run the page and click one of the page names to view the corresponding page.

## Practice 15-4: Enforcing Authorization in Site Map

---

### Overview

In this practice, you add a function that determines whether you are authorized to see a particular page in your site map. You also change the SQL Report query for the Site Map to make sure that the page is selected only if you are authorized to see it.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Navigate to **SQL Workshop > SQL Commands**. Copy and paste the following code (located in the /home/oracle/labs/files/lab15\_4\_1.txt file) to create the authorization\_check function. Click Run.

```
create or replace function authorization_check(
    p_scheme in varchar2)
return varchar2
is
begin
    if apex_util.public_check_authorization(p_scheme) then
        return 'true';
    else
        return 'false';
    end if;
end;
```

- b. For the Site Map, change the Source for your Classic Report to the following code (located in the /home/oracle/labs/files/lab15\_4\_2.txt file), so that only the pages that are authorized will be shown based on the user logged in.

```
select distinct PAGE_ID, PAGE_NAME
from APEX_APPLICATION_PAGES p, apex_application_authorization a
where p.APPLICATION_ID = :APP_ID
and a.application_id = p.application_id
and (p.authorization_scheme is null or
     (a.authorization_scheme_id = p.authorization_scheme_id and
      authorization_check(a.authorization_scheme_name) = 'true'))
and PAGE_GROUP = 'Site Map'
```

- c. You do not want end users or developers to see the Access Control Administration page. Make sure that the authorization schemes for this page is set to **access control - Administrator**. Run the page to see if only an authorized user can view it.

## Solution 15-1: Building a Hierarchical List with Images

---

### Overview

In this solution, you upload the images to the Home Page List that you have created in the previous practices, assign the Pull-down menu with the images template to the List, change the attributes of the Tasks region, and associate the region with each Parent List Entry.

### Tasks

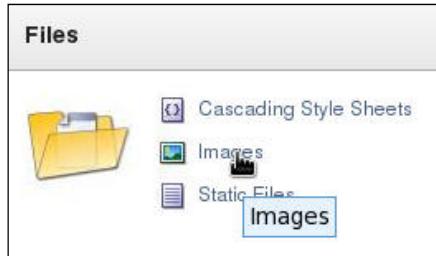
- Load the images that your Hierarchical List will use into the APEX Repository. Upload the following images from your /home/oracle/labs/files directory:

File Name
customers.png
products.png
orders.png

- 1) Navigate to **Shared Components** for Order Management application.



- 2) Select **Files > Images**.



- 3) Click **Create >**.



- 4) Select your application name for **Application** and click **Browse**.

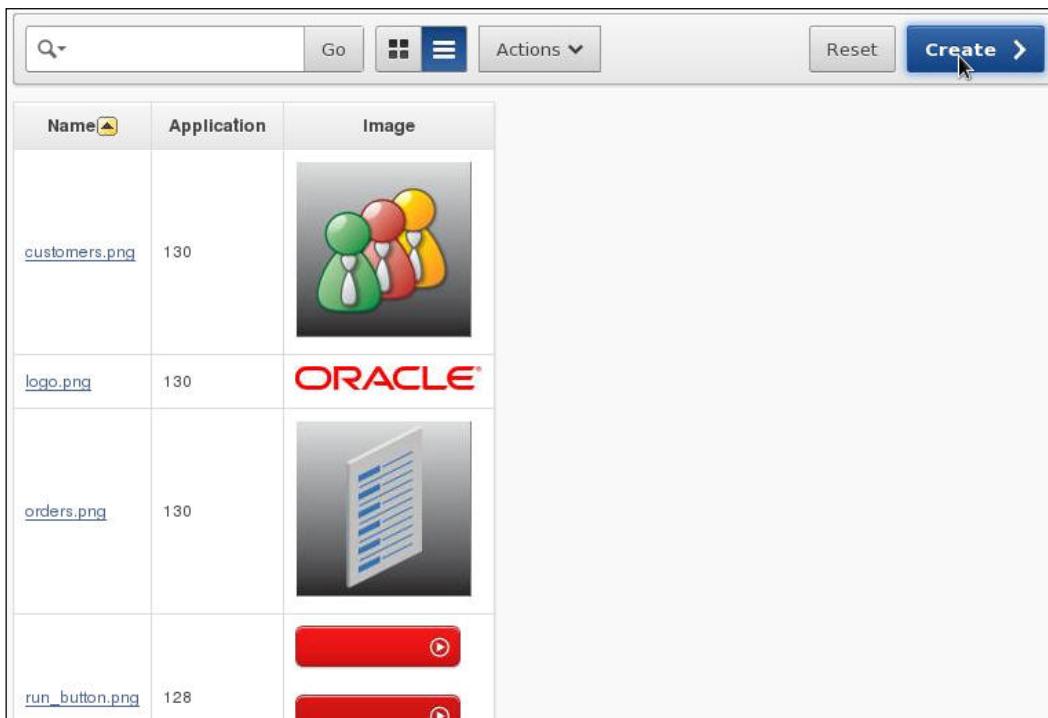
- 5) Select **customers.png** from the `home/oracle/labs/files` folder and click **Open**. Click **Upload**.

- 6) Click **Create**.

Name	Application	Image
<a href="#">customers.png</a>	130	
<a href="#">logo.png</a>	130	
<a href="#">run_button.png</a>	128	

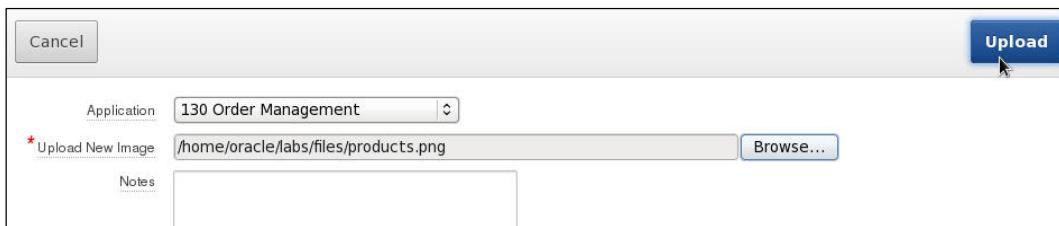
Select your application name for **Application** and click **Browse**. Select **orders.png** from the `home/oracle/labs/files` folder and click **Open**. Click **Upload**.

- 7) Click **Create >**.



Name	Application	Image
customers.png	130	
logo.png	130	
orders.png	130	
run_button.png	128	

- 8) Select your application name for **Application** and click **Browse**. Select **products.png** from the `home/oracle/labs/files` folder and click **Open**. Click **Upload**.



Cancel Upload

Application: 130 Order Management

\* Upload New Image: /home/oracle/labs/files/products.png Browse...

Notes:

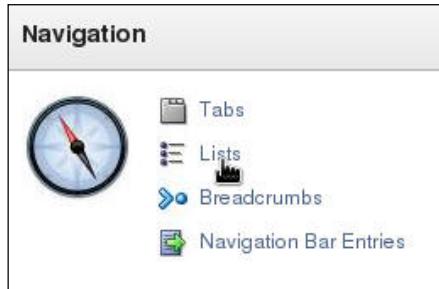
- 9) You want to add the images to the Home Page List. Click the **Shared Components** breadcrumb.

Name	Application	Image
<a href="#">customers.png</a>	130	
<a href="#">logo.png</a>	130	
<a href="#">orders.png</a>	130	
<a href="#">products.png</a>	130	

- b. Change the Home Page List to the following list structure.

Parent List Entry	Sequence	List Entry Label	Page Number
	10	Manage Customers	
Manage Customers	12	View Customers	3
	20	Manage Products	
Manage Products	22	View Products	17
	30	Manage Orders	
Manage Orders	32	View Orders	11

- 1) Select **Navigation > Lists**.



- 2) Select **Home Page List**.

Lists	List Details	Unused	Conditional Entries	Utilization	History		
	<input type="text"/> Go			Actions ▾	<input type="button" value="Reset"/>	<input type="button" value="Copy"/>	<input type="button" value="Create &gt;"/>
	Home Page List	List of Products					

- 3) Click **View Customers** to edit this List Entry detail.

Lists	<b>List Details</b>	Unused	Conditional Entries	Utilization	History		
	List Home Page List						
		<input type="button" value="Reset"/>	<input type="button" value="Grid Edit"/>	<input type="button" value="Edit List"/>	<input type="button" value="Cr"/>		
		<input type="text"/> Go	Actions ▾				
Sequence	Name	Parent Entry	Target	Conditional	Updated	Level	Author
10	<u>View Customers</u>	-	f?p=&APP_ID.:3:&SESSION.:	-	3 days ago	1	-
20	<u>View Products</u>	-	f?p=&APP_ID.:16:&SESSION.:	-	3 days ago	1	-
30	<u>View Orders</u>	-	f?p=&APP_ID.:9:&SESSION.:	-	3 days ago	1	-

- 4) In the Entry section, change View Customers to **Manage Customers** for List Entry Label. In the Target section, change the Target type to **No Target** and click the up arrow for Image.

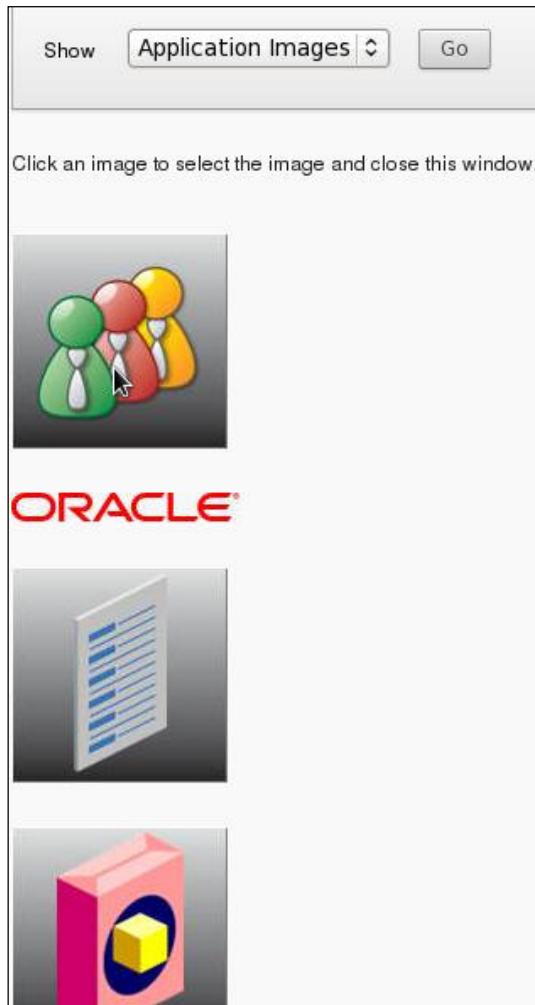
**Entry**

List:	Home Page List
Parent List Entry:	- No Parent List Item -
Sequence:	10
Image:	[Empty]
Attributes:	[Empty]
Alt Attribute:	[Empty]
* List Entry Label:	Manage <u>Customers</u>
<b>Target</b>	
Target type:	- No Target -

- 5) Select **Application Images** from the Show drop-down list and click **Go**.

Show:	Application Images	Icon Size:	64x64	Go
-------	--------------------	------------	-------	----

- 6) Select the first image in the list.



7) Click Apply Changes.

The screenshot shows the 'List Entry' dialog box with the 'Entry' tab selected. At the top right are buttons for 'Cancel', 'Delete', and 'Apply Changes'. Below them is a toolbar with links: Show All, Entry, Target, Current List Entry, Conditions, Authorization, Configuration, Click Counting, and User Defined Attributes. The 'Entry' tab has sections for 'List' (Home Page List), 'Parent List Entry' (- No Parent List Item -), 'Sequence' (10), 'Image' (#APP\_IMAGES#customers.png), 'Attributes' (empty), 'Alt Attribute' (empty), and 'List Entry Label' (Manage Customers). The 'Target' tab is also visible at the bottom.

8) Click Create List Entry.

The screenshot shows the 'List Details' page with the 'List' dropdown set to 'Home Page List'. At the top right are buttons for 'Reset', 'Grid Edit', 'Edit List', and 'Create List Entry >'. Below is a search bar and an 'Actions' dropdown. A table lists three list entries: Manage Customers (Sequence 10, Target -), View Products (Sequence 20, Target f?p=&APP\_ID.:17:&SESSION.:), and View Orders (Sequence 30, Target f?p=&APP\_ID.:11:&SESSION.:). Each entry has a 'Copy' icon.

Sequence	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	Manage Customers	-	-	-	1 seconds ago	1	-	
20	<a href="#">View Products</a>	-	f?p=&APP_ID.:17:&SESSION.:	-	4 days ago	1	-	
30	<a href="#">View Orders</a>	-	f?p=&APP_ID.:11:&SESSION.:	-	4 days ago	1	-	

- 9) Select **Manage Customers** for Parent List Entry, enter **12** for Sequence, and enter **View Customers** for List Entry Label. In the Target section, make sure that Target Type is set to **Page in this Application** and the Page is **3** (the page number corresponding to the Customers page). Then click **Create List Entry**.

**List Entry**

Cancel < > **Create List Entry**

Show All Entry Target Current List Entry Conditions Authorization Configuration Click

**Entry**

List: Home Page List

Parent List Entry: Manage Customers

Sequence: 12

Image:

Attributes:

Alt Attribute:

\* List Entry Label:  
View Customers

**Target**

Target type: Page in this Application

\* Page: 3

- 10) There is an easier way to modify your entries. Click **Create List Entry**.

Lists	List Details	Unused	Conditional Entries	Utilization	History			
List: Home Page List	Reset Grid Edit Edit List <b>Create List Entry &gt;</b>							
<input type="text"/> Go Actions ▾								
Sequence	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	Manage Customers	-	-	-	2 minutes ago	1	-	
12	View Customers	Manage Customers	f?p=&APP_ID.:3:&SESSION::&DEBUG::::	-	Now	2	-	
20	View Products	-	f?p=&APP_ID.:16:&SESSION::	-	3 days ago	1	-	
30	View Orders	-	f?p=&APP_ID.:9:&SESSION::	-	3 days ago	1	-	

- 11) In the Entry section, enter **22** for Sequence, and enter **Manage Products** for List Entry Label. Select products.png from the Image pop-up list or enter #APP\_IMAGES#products.png in the Image area. In the **Target** section, change the Target type to **No Target** and click **Create List Entry**.

**List Entry**

Cancel
<
>
Create List Entry
Create and C...

---

Show All | Entry | Target | Current List Entry | Conditions | Authorization | Configuration | Click Counting | User Defined Attributes

---

**Entry**

List: **Home Page List**

Parent List Entry: **- No Parent List Item -**

Sequence: **22**

Image: **#APP\_IMAGES#products.png**

Attributes:

Alt Attribute:

\* List Entry Label:  
**Manage Products**

---

**Target**

Target type: **- No Target -**

- 12) You want to change view Products so that it appears in the Manage Products drop-down list. Click the **View Products** link.

Lists		List Details	Unused	Conditional Entries	Utilization	History	
List Home Page List				Reset	Grid Edit	Edit List	
<input type="text" value="Q-"/> <span>Go</span>		<span>Actions ▾</span>					
Sequence	Name	Parent Entry	Target	Conditional	Updated	Level	Autho
10	<a href="#">Manage Customers</a>	-	-	-	4 minutes ago	1	-
12	<a href="#">View Customers</a>	Manage Customers	f?p=&APP_ID.:3:&SESSION.:&DEBUG.:::	-	115 seconds ago	2	-
20	<a href="#">View Products</a>	-	f?p=&APP_ID.:16:&SESSION.::	-	3 days ago	1	-
22	<a href="#">Manage Products</a>	-	-	-	13 seconds ago	1	-
30	<a href="#">View Orders</a>	-	f?p=&APP_ID.:9:&SESSION.::	-	3 days ago	1	-

- 13) Select **Manage Products** for Parent List Entry, enter **24** for Sequence, and click **Apply Changes**.

List Entry

Entry

List: Home Page List

Parent List Entry: Manage Products

Sequence: 24

Image:

Attributes:

Alt Attribute:

\* List Entry Label:  
View Products

Target

Target type: Page in this Application

\* Page: 16

- 14) Click **Create List Entry**.

Lists List Details Unused Conditional Entries Utilization History

List: Home Page List

Reset Grid Edit Edit List Create List Entry

Sequence	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	<a href="#">Manage Customers</a>	-	-	-	7 minutes ago	1	-	
12	<a href="#">View Customers</a>	Manage Customers	f?p=&APP_ID.:3:&SESSION:::&DEBUG::::	-	4 minutes ago	2	-	
22	<a href="#">Manage Products</a>	-	-	-	3 minutes ago	1	-	
24	<a href="#">View Products</a>	Manage Products	f?p=&APP_ID.:16:&SESSION:::&DEBUG::::	-	Now	2	-	
30	<a href="#">View Orders</a>	-	f?p=&APP_ID.:9:&SESSION:::	-	3 days ago	1	-	

- 15) In the Entry section, enter **30** for Sequence, enter **#APP\_IMAGES#orders.png** for Images (or select the image from the pop-up list, and enter **Manage Orders** for List Entry Label. In the Target section, change the Target type to **No Target** and click **Create List Entry**.

The screenshot shows the 'List Entry' dialog box. At the top right are buttons for 'Cancel', '<' and '>', 'Create List Entry' (which has a cursor over it), and 'Create and'. Below these are tabs: 'Show All' (selected), 'Entry', 'Target', 'Current List Entry', 'Conditions', 'Authorization', 'Configuration', 'Click Counting', and 'User Defined Attributes'. The main area is divided into 'Entry' and 'Target' sections.

**Entry**

- List: Home Page List
- Parent List Entry: - No Parent List Item -
- Sequence: 30
- Image: #APP\_IMAGES#orders.png
- Attributes:
- Alt Attribute:
- \* List Entry Label:  
Manage Orders

**Target**

- Target type: - No Target -

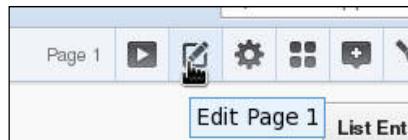
16) Click the **View Orders** link.

List Details		Unused	Conditional Entries	Utilization	History	
List	Home Page List					
				Reset	Grid Edit	Edit List
<input type="text"/> <input type="button" value="Go"/>			Actions ▾			
Sequence	Name	Parent Entry	Target	Conditional	Updated	Level
10	<a href="#">Manage Customers</a>	-	-	-	8 minutes ago	1
12	<a href="#">View Customers</a>	Manage Customers	f?p=&APP_ID.:3:&SESSION::&DEBUG::::	-	6 minutes ago	2
22	<a href="#">Manage Products</a>	-	-	-	4 minutes ago	1
24	<a href="#">View Products</a>	Manage Products	f?p=&APP_ID.:16:&SESSION::&DEBUG::::	-	68 seconds ago	2
30	<a href="#">Manage Orders</a>	-	-	-	1 seconds ago	1
30	<a href="#">View Orders</a>	-	f?p=&APP_ID.:9:&SESSION::	-	3 days ago	1

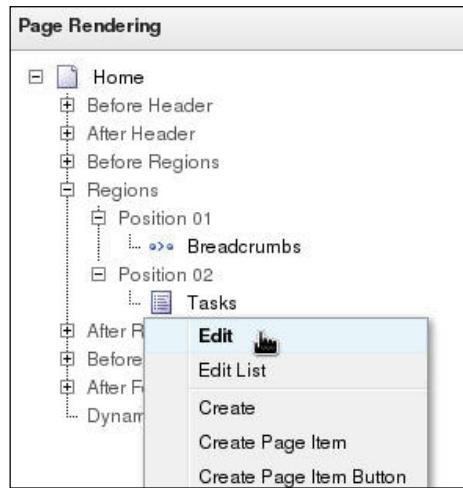
- 17) Select **Manage Orders** for Parent List Entry, and enter **32** for Sequence. Then click **Apply Changes**.

The screenshot shows the 'List Entry' dialog box with the 'Entry' tab selected. At the top right are 'Cancel', 'Delete', and a blue 'Apply Changes' button. Below the tabs is a horizontal bar with links: Show All, Entry, Target, Current List Entry, Conditions, Authorization, Configuration, Click Counting, and User Defined. The main area is divided into sections: 'List' (set to 'Home Page List'), 'Parent List Entry' (set to 'Manage Orders'), 'Sequence' (set to '32'), 'Image' (empty), 'Attributes' (empty), 'Alt Attribute' (empty), and 'List Entry Label' (containing 'View Orders'). The 'Target' section below has 'Target type' set to 'Page in this Application' and 'Page' set to '9'.

- c. In your Navigation region on the Home page, change the template to **No Template** and the List Template to **Pull Down Menu with Image**.
- 1) Navigate to your **Home** page in the application.



- 2) Right-click the **Tasks** Region and select **Edit**.



- 3) Under Source, change the List Template to **Pull Down Menu with Image**. Click the User Interface subtab.

**Region Definition**

**Region:** 2 of 2 **Name:** Tasks

**Identification**

Page: 1 Home  
\* Title: Tasks  
Type: LIST: Home Page List

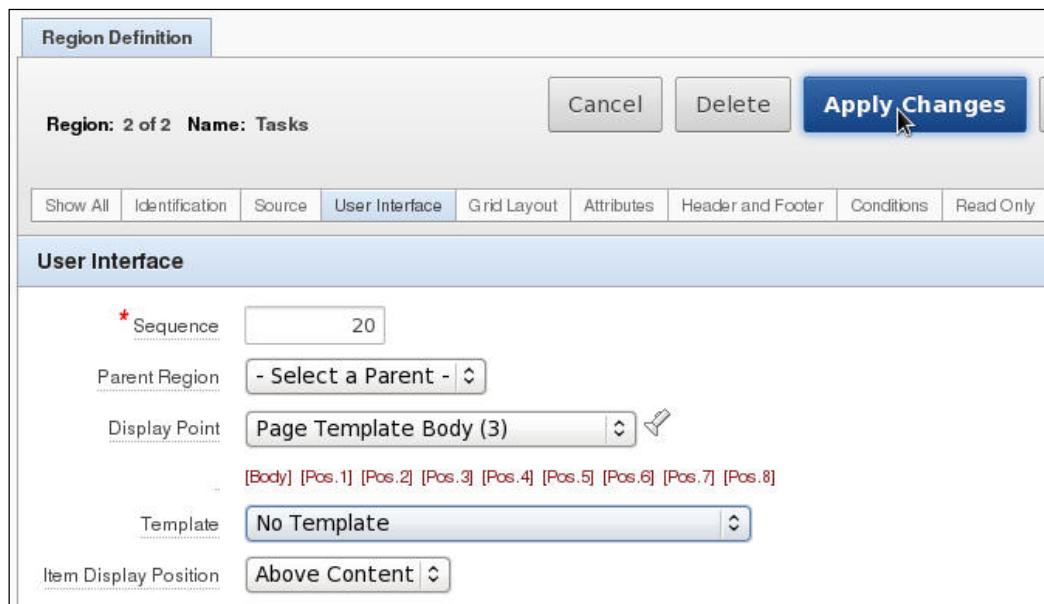
**Source**

\* List Template: Pull Down Menu with Image

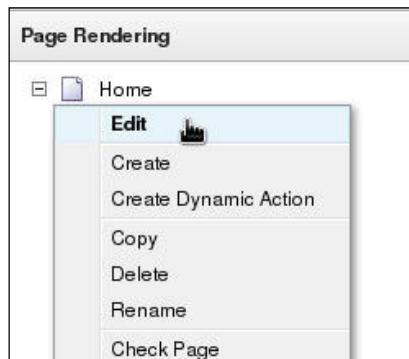
Name: Home Page List

Sequence	Text	Target
10	Manage Customers	
12	View Customers	f?p=&APP_ID.:3:&SESSION
22	Manage Products	
24	View Products	f?p=&APP_ID.:16:&SESSION

- 4) Under User Interface, change the Display Point to **Page Template Body (3)** and Template to **No Template**, and click **Apply Changes**.



- 5) You want to also change the Page Template to have a sidebar. Right-click the **Home** page node and select **Edit**.

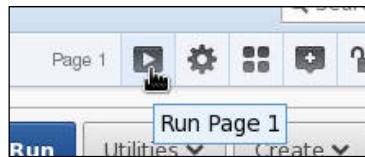


- 6) Change the Page Template to **One Level Tabs – No Sidebar** and click **Apply Changes**.

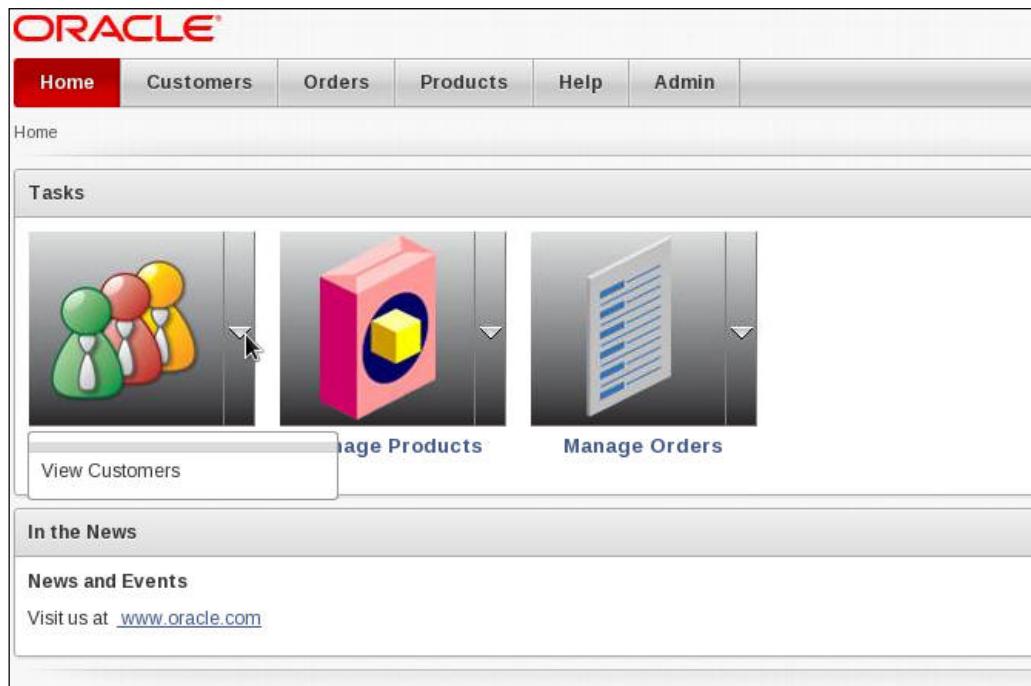
The screenshot shows the 'Page Attributes' dialog box with the following details:

- Name** section:
  - Page: 1
  - \* Name: Home
  - Page Alias: (empty)
  - Group: - No Group Assigned -
- Display Attributes** section:
  - User Interface: Desktop
  - Page Template: One Level Tabs - No Sidebar
  - Standard Tab Set: TS1 (Home, Customers, Orders...)
  - Title: Home
  - Cursor Focus: First item on page

- d. Run the page to see the Home Page List. Click the arrow next to each image to show the sublist entries.
- 1) Click the **Run Page** icon.



- 2) The page is displayed. Click the down arrow for the first image to see the sublist.



## Solution 15-2: Building a Database-Driven Navigation Report

### Overview

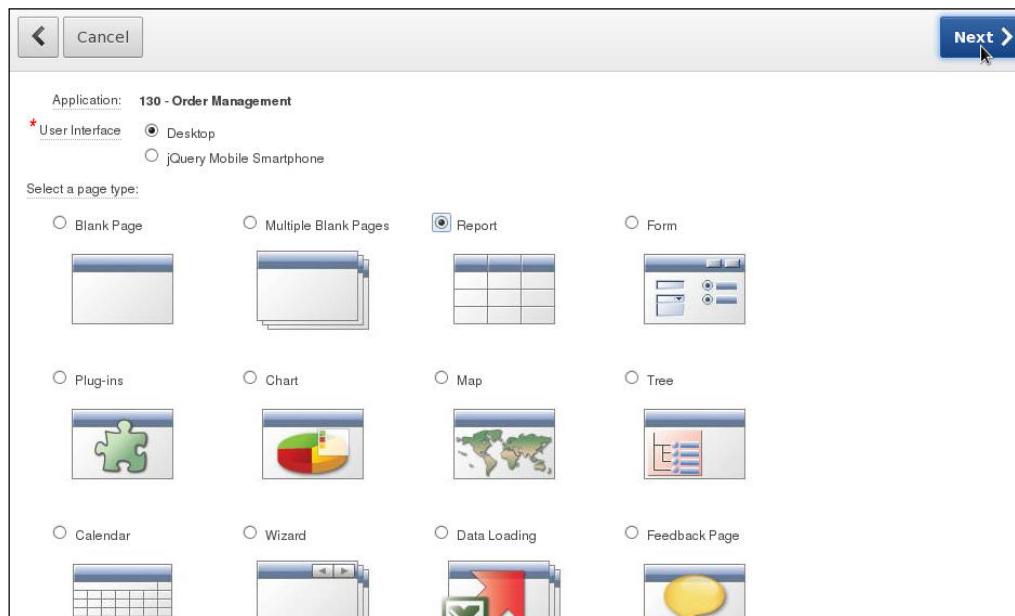
In this practice, you build a report based on the data in a table and then navigate to the detail. You also change the template to the Navigation Region template.

### Tasks

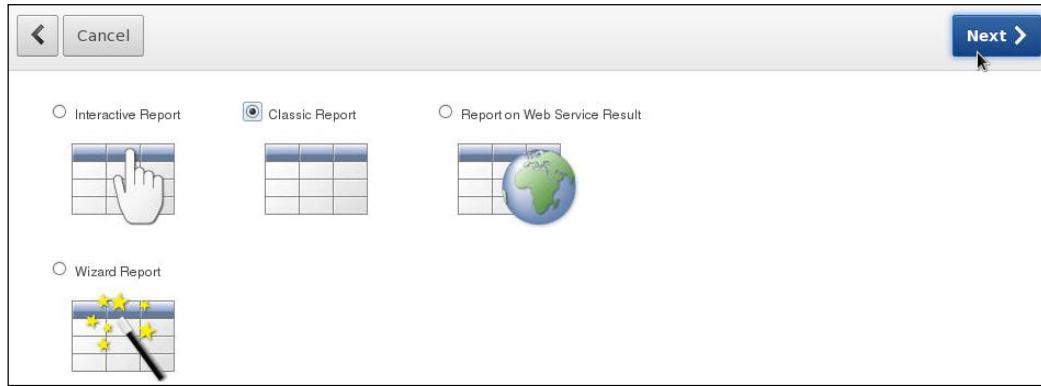
- a. Create a new page with a Classic Report called **List of Customers**.
  - 1) Navigate to the Order Management application and click **Create Page**.



- 2) Select **Report** and click **Next >**.



- 3) Select **Classic Report** and click **Next >**



- 4) Enter **List of Customers** for Page Name and Region Name. Select **Navigation Region, Heading Inside** for Region template and **template 23: Standard** for Report Template. Click **Next >**.

Application:	130 - Order Management
* Page Number	12
* Page Name	List of Customers
* Region Name	List of Customers
* Region Template	Navigation Region - Heading Inside
* Report Template	template: 23. Standard
Breadcrumb	- do not use breadcrumbs on page -

- 5) Accept the defaults and click **Next >**.

Page:	12
Tab Options:	<input checked="" type="radio"/> Do not use tabs <input type="radio"/> Use an existing tab set and create a new tab within the existing tab set. <input type="radio"/> Use an existing tab set and reuse an existing tab within that tab set.

- 6) For Report Source, select **SQL Query** and enter the following query (located in the home/oracle/labs/files/lab15\_2\_1.txt file). Click **Next >**.

```
SELECT cust_first_name||' '|cust_last_name as Name, customer_id FROM
oehr_customers
```

Report Source **SQL Query**

\* Enter a SQL SELECT statement or a PL/SQL function returning a SQL SELECT statement

```
SELECT cust_first_name||' ''||cust_last_name as Name, customer_id FROM oe_hr_customers
```

**Query Builder**

Column Headings:  Derived from query columns  Generic columns

Maximum Number of Columns:

7) Click **Next >**.

Column Heading Sorting **Yes**

CSV Output **Yes** Link Label **Download**

Report Printing **No** Link Label  Output Format **PDF**

Enable Search **No**

8) Click **Create**.

You have requested to create a report page with the following attributes. Please confirm your selections.

Application	<b>130</b>
Page	<b>12</b>
Tab Set	<b>TS1</b>
Tab Name	
Tab Label	
Region Title	<b>List of Customers</b>
Region Template	<b>Navigation Region - Heading Inside</b>
Report Template	<b>template: Borderless Report</b>
Region Column	<b>1</b>
Column Headings	<b>Derived from query columns</b>
Maximum Number of Columns	<b>60</b>
Rows Per Page	<b>15</b>
CSV Output	<b>Yes</b>
Link Label	<b>Download</b>
Print Output	<b>No</b>
Enable Column Heading Sorting	<b>Yes</b>
Search	<b>No</b>

**Create**

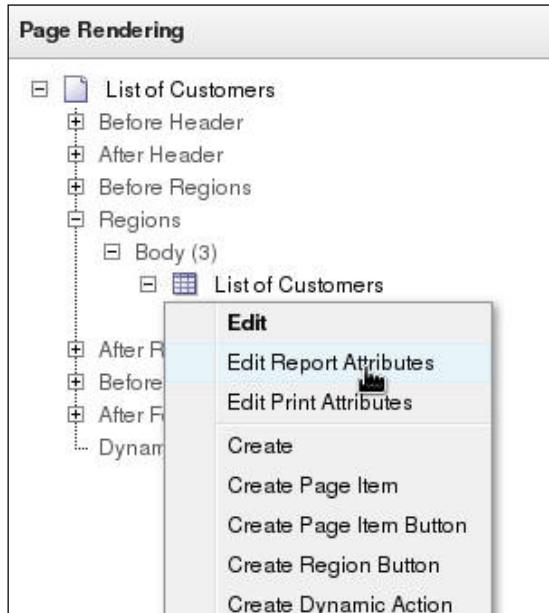
- b. Hide the CUSTOMER\_ID column in the report and turn off pagination. If you want to display the Customer Name column heading in blue, edit the column definition and enter the following for Column Heading.

```
<font color="blue">CUSTOMERS</font>
```

- 1) Click **Edit Page**.



- 2) Under Regions, right-click **List of Customers** and select **Edit Report Attributes**.



- 3) Deselect Show for CUSTOMER\_ID and select **Custom** for Headings Type.

The screenshot shows the 'Column Attributes' dialog. In the 'Headings Type:' section, the 'Custom' radio button is selected. The table below lists two columns: 'NAME' and 'CUSTOMER\_ID'. For 'NAME', the 'Show' checkbox is checked. For 'CUSTOMER\_ID', the 'Show' checkbox is unchecked. Other attributes like 'Column Width', 'Column Alignment', and 'Heading Alignment' are also visible.

Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show
NAME			Name		left		<input checked="" type="checkbox"/>
CUSTOMER_ID			Customer Id		left		<input type="checkbox"/>

- 4) Enter `<font color="blue">CUSTOMERS</font>` for the **NAME** heading, deselect the **Sort** check box for **NAME**, and select “-” for Sort Sequence.

Column Attributes										
Headings Type: <input type="radio"/> Column Names <input type="radio"/> Column Names (InitCap) <input checked="" type="radio"/> Custom <input type="radio"/> PL/SQL <input type="radio"/> None										
Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show	Sum	Sort	Sort Sequence
NAME			<font color="blue">CUSTOMERS</font>		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
CUSTOMER_ID			Customer Id		left		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

- c. Create a link to the Customer Details page on the **NAME** column. Pass the `P<n>_CUSTOMER_ID` item from the Customer Details page with the value `#CUSTOMER_ID#` from this page.

- 1) Click the edit icon in front of the **NAME** column.

Column Attributes										
Headings Type: <input type="radio"/> Column Names <input type="radio"/> Column Names (InitCap) <input checked="" type="radio"/> Custom <input type="radio"/> PL/SQL <input type="radio"/> None										
Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show	Sum	Sort	Sort Sequence
NAME			<font color="blue">CUSTOMERS</font>		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
CUSTOMER_ID			Customer Id		left		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

- 2) Click the **Column Link** tab.

Column Attributes: NAME		Cancel	Apply Changes
		<a href="#">Column Link</a>	
Show All	Column Definition	Column Attributes	List of Values
Tabular Form Attributes	Column Formatting	Column Link	Authorization
<b>Column Definition</b>			
Column Name	NAME		
Column Heading	<font color="blue">CUSTOMERS</font>		
Show Column	Yes	Heading Alignment	left
Compute Sum	No	Column Alignment	left
Sortable Column	No	Column Width	
Use As Row Header	No	Include In Export	Yes

- 3) Click the **[NAME]** quick pick for Link Text. Select the **Customer Details** page for **Page** (in this case, **8**) by clicking the arrow to the right of **Page**. Under Name, select **P8\_CUSTOMER\_ID** for Item 1 and under Value, select **#CUSTOMER\_ID#** and click **Apply Changes**.

Column Attributes: NAME

Link Text: #NAME#

Target: Page in this Application | Page: 8 | Request: | Clear Cache: | Page Checksum: - Use default -

Name	Value
Item 1	P8_CUSTOMER_ID
Item 2	
Item 3	

Value: #CUSTOMER\_ID#

Apply Changes

- 4) Click **Apply Changes**.

Report Attributes

Region Name: List of Customers

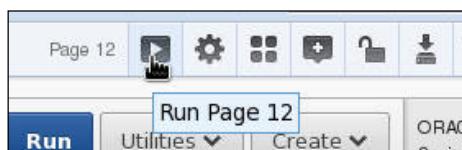
Column Attributes

Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show	Sum	Sort	Sort Sequence
NAME	✓	<font color="yellow">			left	left	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
CUSTOMER_ID		Customer Id			left	right	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

Apply Changes

- d. Run the page to see the database-driven report.

- 1) Click **Run Page**.



- 2) Click one of the Customers to view the Customer Details.

The screenshot shows the Oracle Application Navigator interface. The top navigation bar has tabs for Home, Customers, Orders, Products, Help, and Admin. The 'Customers' tab is active. Below the navigation bar, the title 'List of Customers' is displayed. A grid of customer names is shown, with 'Alain Barkin' highlighted by a cursor. At the bottom of the grid, there are buttons for 'row(s) 1 - 15 of 320' and 'Next >'. A 'Download' link is located at the bottom left of the grid area.

- 3) The Customer Details page is displayed for the customer.

The screenshot shows the Oracle Application Navigator interface. The top navigation bar has tabs for Home, Customers, Orders, Products, Help, and Admin. The 'Customers' tab is active. Below the navigation bar, the title 'Alain Barkin Customer Details' is displayed. The main area contains a form with fields for customer details: 'Cust First Name' (Alain), 'Cust Last Name' (Barkin), 'Cust Email' (Alain.Barkin@VERDIN.C), 'Account Manager' (Errazuriz, Alberto), 'Country' (Switzerland), 'City' (Baden-Daettwil), and 'Phone Number' (+41 57 012 3529). There are three buttons at the top right: 'Cancel', 'Delete', and 'Apply Changes'. A note below the form states: 'The record created or modified in this form is reflected in the Customer Report.' At the bottom, there is a 'Hint' section with the text: 'Use this page to enter and maintain customer information.'

## Solution 15-3: Building a Site Map

### Overview

In this solution, you build a site map page that will be added as a navigation bar entry.

### Steps

- Assign each page that you want in the site map to the same page group. Create a Page Group called Site Map and assign the following pages to the Site Map page group.

Customers
Products
List of Orders
Customer Feedback
Access Control Administration Page

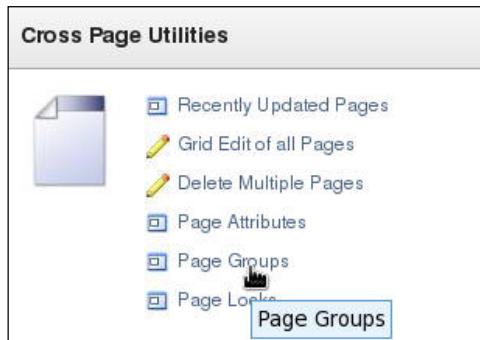
- Navigate to **Application Builder** and click **Utilities**.



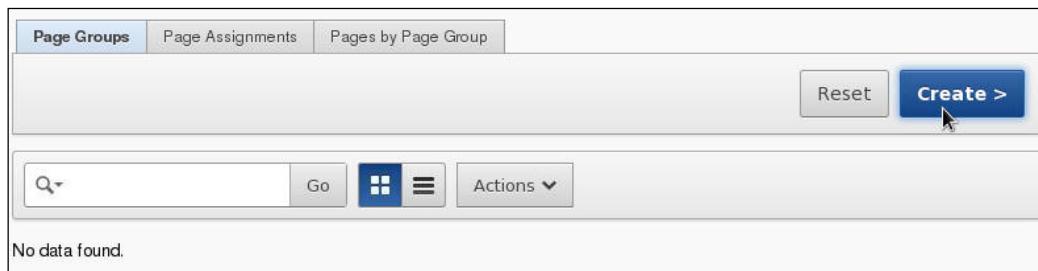
- Select **Cross Page Utilities** under Page Specific Utilities.

Page Specific Utilities
Cross Page Utilities
Button Utilities
Item Utilities
Computation Utilities
Validation Utilities
Process Utilities
Dynamic Action Utilities
Branch Utilities

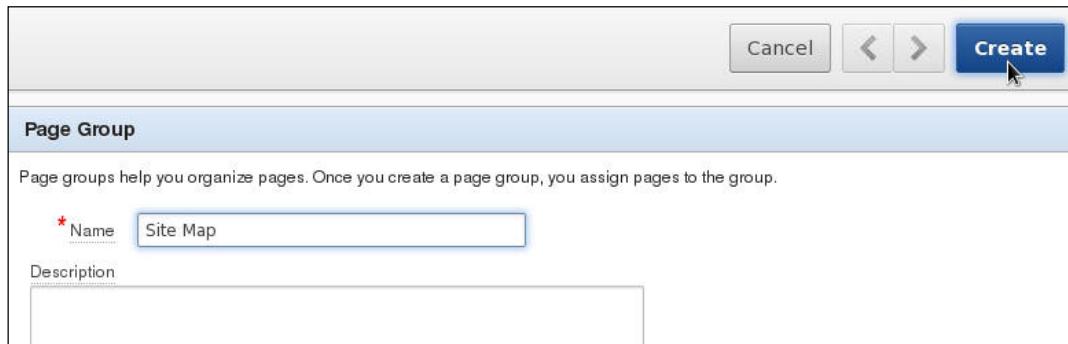
3) Select Page Groups.



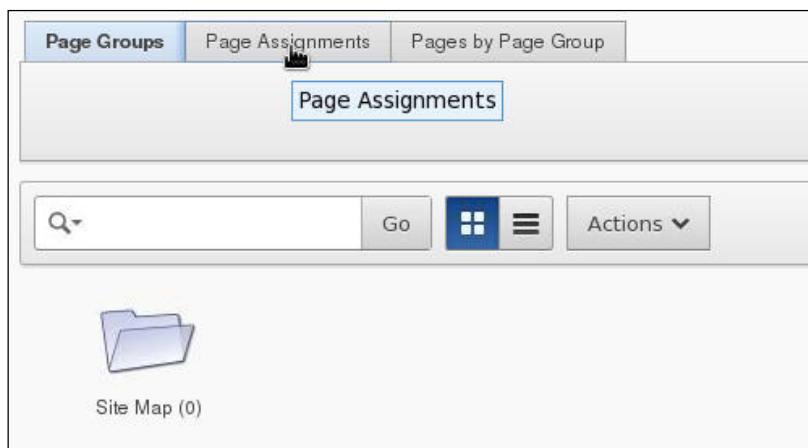
4) Click Create >.



5) Enter Site Map and click Create.

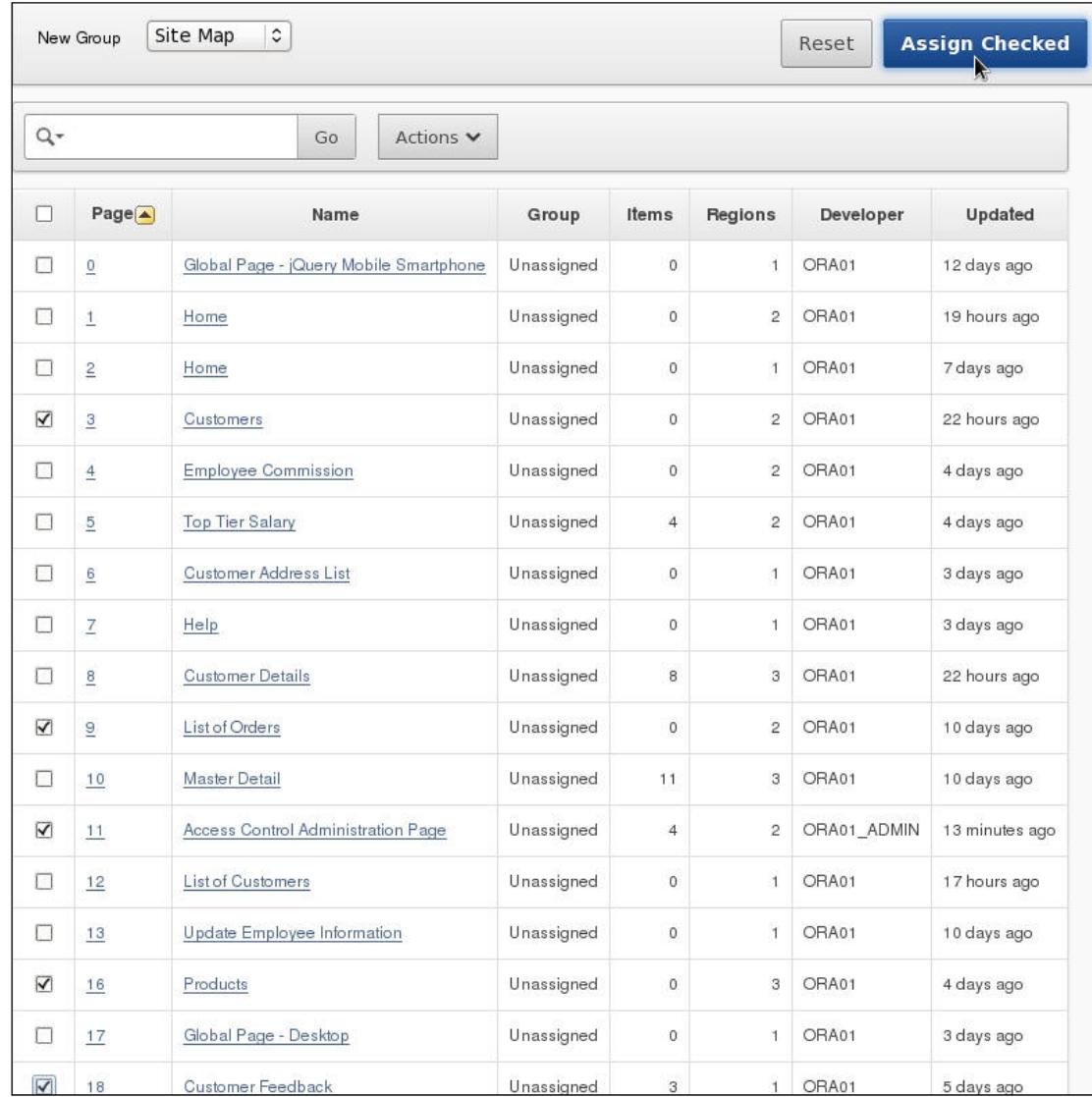


6) Click the Page Assignments tab.



- 7) Select **Site Map** for New Group. Then select the check box next to each of the following pages and click **Assign Checked**.

Customers
Products
List of Orders
Customer Feedback
Access Control Administration Page

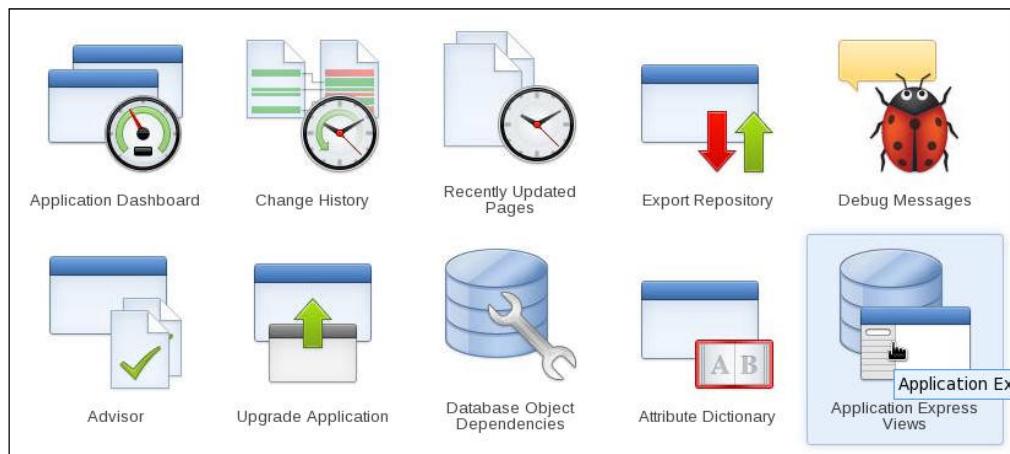
  


The screenshot shows a web-based application interface for managing page assignments. At the top, there are buttons for 'New Group', 'Site Map' (which is selected), 'Reset', and a large blue button labeled 'Assign Checked' with a white cursor icon pointing to it. Below this is a search bar with a magnifying glass icon and a 'Go' button, followed by an 'Actions' dropdown menu. The main area is a table listing 18 pages, each with a checkbox column and a 'Page' header containing a small yellow triangle icon.

	Page	Name	Group	Items	Regions	Developer	Updated
<input type="checkbox"/>	0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	Unassigned	0	1	ORA01	12 days ago
<input type="checkbox"/>	1	<a href="#">Home</a>	Unassigned	0	2	ORA01	19 hours ago
<input type="checkbox"/>	2	<a href="#">Home</a>	Unassigned	0	1	ORA01	7 days ago
<input checked="" type="checkbox"/>	3	<a href="#">Customers</a>	Unassigned	0	2	ORA01	22 hours ago
<input type="checkbox"/>	4	<a href="#">Employee Commission</a>	Unassigned	0	2	ORA01	4 days ago
<input type="checkbox"/>	5	<a href="#">Top Tier Salary</a>	Unassigned	4	2	ORA01	4 days ago
<input type="checkbox"/>	6	<a href="#">Customer Address List</a>	Unassigned	0	1	ORA01	3 days ago
<input type="checkbox"/>	7	<a href="#">Help</a>	Unassigned	0	1	ORA01	3 days ago
<input type="checkbox"/>	8	<a href="#">Customer Details</a>	Unassigned	8	3	ORA01	22 hours ago
<input checked="" type="checkbox"/>	9	<a href="#">List of Orders</a>	Unassigned	0	2	ORA01	10 days ago
<input type="checkbox"/>	10	<a href="#">Master Detail</a>	Unassigned	11	3	ORA01	10 days ago
<input checked="" type="checkbox"/>	11	<a href="#">Access Control Administration Page</a>	Unassigned	4	2	ORA01_ADMIN	13 minutes ago
<input type="checkbox"/>	12	<a href="#">List of Customers</a>	Unassigned	0	1	ORA01	17 hours ago
<input type="checkbox"/>	13	<a href="#">Update Employee Information</a>	Unassigned	0	1	ORA01	10 days ago
<input checked="" type="checkbox"/>	16	<a href="#">Products</a>	Unassigned	0	3	ORA01	4 days ago
<input type="checkbox"/>	17	<a href="#">Global Page - Desktop</a>	Unassigned	0	1	ORA01	3 days ago
<input checked="" type="checkbox"/>	18	Customer Feedback	Unassigned	3	1	ORA01	5 days ago

- b. Create a new page called Site Map with a Classic Report that shows only the pages in the Site Map page group.
- 1) Click the **Utilities** breadcrumb.

- 2) Select **Application Express Views**.



- 3) Enter **Application\_Pages** in the search area and click **Go**.

- 4) Select the **APEX Application Pages** view.

- 5) On the Select Columns tab, if **PAGE\_NAME** is not included in the list on the right, then select **PAGE\_NAME** column and click the right arrow (>) to move it to the columns selected list. Similarly, you do not want to display the **WORKSPACE\_DISPLAY\_NAME**. Select **WORKSPACE\_DISPLAY\_NAME** and click the left arrow (<) to move it to the column list on the left. Click **Filter**.

- 6) Select **PAGE\_GROUP** for Column and enter 'site Map' for Value. Click **Results**.

- 7) Notice that the pages you selected in step 6 are in the list. Expand Query.

WORKSPACE	WORKSPACE DISPLAY NAME	APPLICATION ID	APPLICATION NAME	PAGE ID	PAGE NAME
ORA01	ORA01	130	Order Management	3	Customers
ORA01	ORA01	130	Order Management	9	List of Orders
ORA01	ORA01	130	Order Management	18	Customer Feedback
ORA01	ORA01	130	Order Management	16	Products
ORA01	ORA01	130	Order Management	11	Access Control Administration Page

- 8) Select the query and copy it to your clipboard.

```
select WORKSPACE,APPLICATION_ID,APPLICATION_NAME,PAGE_ID,PAGE_NAME
from APEX_APPLICATION_PAGES
where PAGE_GROUP = 'Site Map'
```

Copy  
Select All  
Search Google for "select WORKSPAC..."

- 9) Navigate to the Order Management Home page and click **Create Page**.



- 10) Select **Report** and click **Next >**.

Application: 130 - Order Management

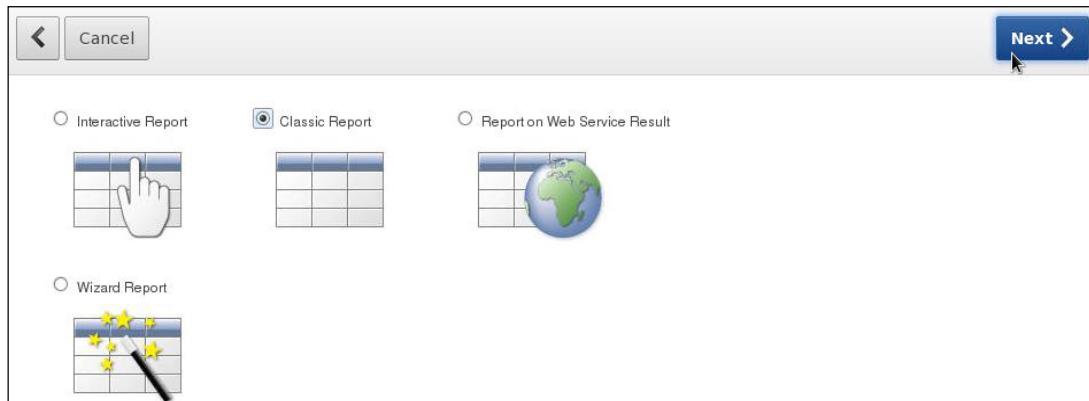
User Interface: Desktop

Select a page type:

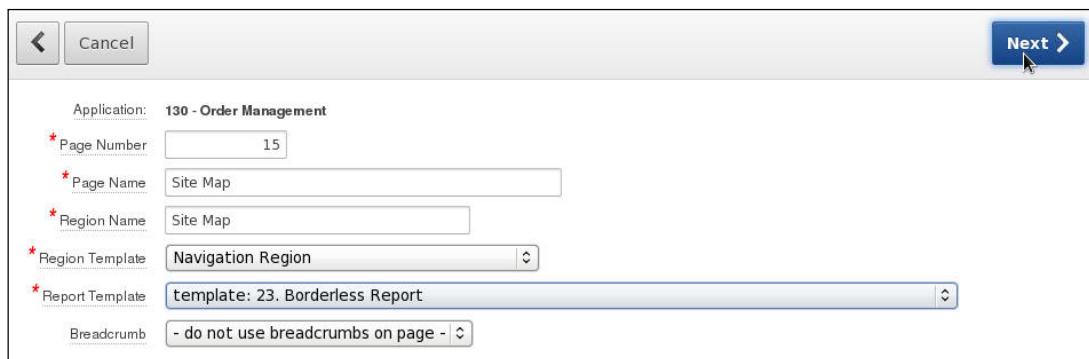
- Blank Page
- Multiple Blank Pages
- Report
- Form
- Plug-ins
- Chart
- Map
- Tree
- Calendar
- Wizard
- Data Loading
- Feedback Page
- Login Page
- Access Control

Next >

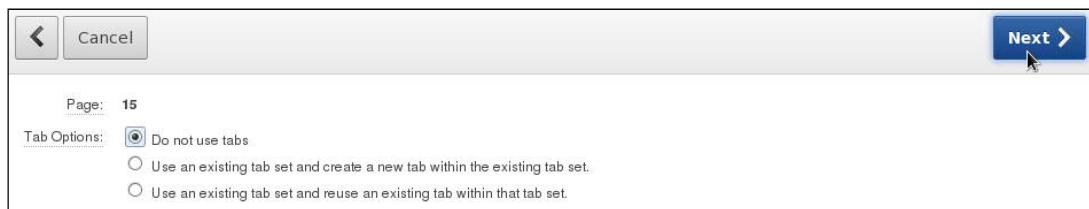
- 11) Select **Classic Report** and click **Next >**.



- 12) Enter **Site Map** for Page Name and Region Name. Select **Navigation Region** for Region Template and **template: 23. Borderless Report** for Report Template. Click **Next >**.



- 13) Click **Next >**.



- 14) Select **SQL Query** for Report Source. Paste your query in the SQL area and click **Next >**. You can also copy and paste the query from the home\oracle\labs\files\lab15\_3\_1.txt file.

```
select WORKSPACE, APPLICATION_ID, APPLICATION_NAME, PAGE_ID, PAGE_NAME
from APEX_APPLICATION_PAGES
where PAGE_GROUP = 'Site Map'
```

Report Source **SQL Query**

\* Enter a SQL SELECT statement or a PL/SQL function returning a SQL SELECT statement

```
SELECT WORKSPACE, APPLICATION_ID, APPLICATION_NAME, PAGE_ID, PAGE_NAME
from APEX_APPLICATION_PAGES
where PAGE_GROUP = 'Site Map'
```

**Query Builder**

Column Headings:  Derived from query columns  Generic columns

15) Select **No** for CSV Output and click **Next >**.

Column Heading Sorting **Yes**

CSV Output **No** Link Label Download

Report Printing **No** Link Label Output Format PDF

Enable Search **No**

16) Click **Create**.

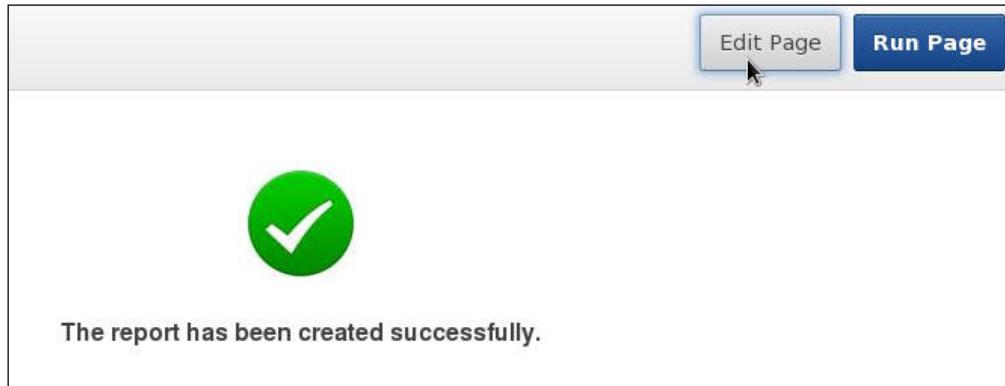
You have requested to create a report page with the following attributes. Please confirm your selections.

Application	<b>130</b>
Page	<b>15</b>
Tab Set	<b>TS1</b>
Tab Name	
Tab Label	
Region Title	<b>Site Map</b>
Region Template	<b>Navigation Region</b>
Report Template	<b>template: Borderless Report</b>
Region Column	<b>1</b>
Column Headings	<b>Derived from query columns</b>
Maximum Number of Columns	<b>60</b>
Rows Per Page	<b>15</b>
CSV Output	<b>No</b>
Print Output	<b>No</b>
Enable Column Heading Sorting	<b>Yes</b>
Search	<b>No</b>

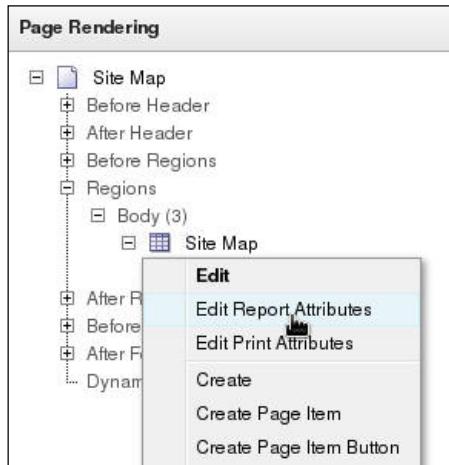
**Create**

- c. Change the Pagination Scheme to None and do not show the PAGE\_ID column. Link the PAGE\_NAME column to the #PAGE\_ID# so that it opens the corresponding page when clicked.

1) Click **Edit Page**.



2) Under Regions, right-click the **Site Map** region and select **Edit Report Attributes**.



3) Click the **Layout and Pagination** tab.



- 4) Select [None] from the Pagination Scheme quick picks and click the **Column Attributes** tab.

Region Definition Report Attributes Print Attributes

Region Name: Site Map Cancel Apply Changes

Show All Column Attributes Layout and Pagination Sorting Messages Report Export Break Formatting External Processing

**Layout and Pagination**

Report Template template: 23. Borderless Report  
[HTML] [Look 1] [Look 2] [Look 3] [Look 4] [CSV] [XML]

Report Attributes Substitution

Show Null Values as

Pagination Scheme - No Pagination Selected -  
[None] [Use pagination buttons] [Rows X to Y] [Select List] [Search Engine]

Enable Partial Page Refresh Yes

Display Position - No Pagination Selected -

Number of Rows 15 Number of Rows (Item)

Maximum Row Count 500

Strip HTML Yes Sort Nulls Normal

- 5) Deselect all the Show check boxes for all columns except PAGE\_NAME. Select the **None** option for Headings Type. Deselect Sort for PAGE\_NAME and click the edit icon next to the row.

Region Definition Report Attributes Print Attributes

Region Name: Site Map Cancel Apply Changes

Show All Column Attributes Layout and Pagination Sorting Messages Report Export Break Formatting External Processing

**Column Attributes**

Headings Type:  Column Names  Column Names (InitCap)  Custom  PL/SQL  None

Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show	Sum	Sort	Sort Sequence
WORKSPACE					left	left	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
APPLICATION_ID					left	left	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
APPLICATION_NAME					left	left	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
PAGE_ID					left	left	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
PAGE_NAME					left	left	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-

- 6) Click the **Column Link** tab.

**Column Attributes: PAGE\_NAME**

**Column Definition**

Column Name: PAGE\_NAME

Column Heading

Show Column: Yes | Heading Alignment: left

Compute Sum: No | Column Alignment: left

Sortable Column: No | Column Width: [ ]

Use As Row Header: No | Include In Export: Yes

Click the **[PAGE\_NAME]** quick pick. Make sure that **Page in this Application** is selected for Target and enter **#PAGE\_ID#** in the Page text box. Click **Apply Changes**.

**Column Attributes: PAGE\_NAME**

**Column Link**

Link Text: #PAGE\_NAME#

Target: Page in this Application | Page: #PAGE\_ID# | Request: [ ] | Clear Cache: [ ] | Reset Pagination:

Name Value

Item 1 [ ] [ ]

Item 2 [ ] [ ]

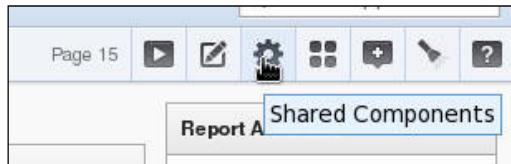
Item 3 [ ] [ ]

Page Checksum: - Use default -

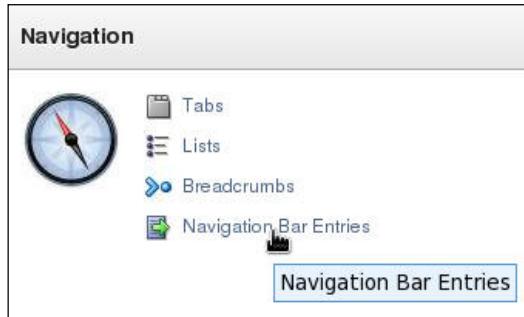
**Apply Changes**

- d. Add this page to your Navigation Bar and call it Site Map.

- 1) Click the **Shared Components** icon.



- 2) Select **Navigation > Navigation Bar Entries.**



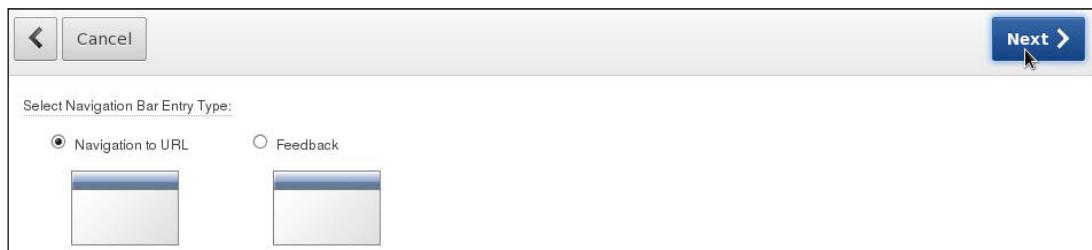
- 3) Click **Create >**.



- 4) Click **Next >**.



- 5) Accept default **Navigation to URL** and click **Next >**.



- 6) Enter **Site Map** for Entry Label and click **Next >**.



- 7) Select your Site Map page number for Page and click **Next >**.

Application: 130

Target is a: Page in this Application

\* Page: 15

reset pagination for this page

Printer Friendly

Request: [ ]

Clear Cache: [ ] (comma separated page numbers)

Set these items: [ ] (comma separated name list)

With these values: [ ] (comma separated value list)

\* URL Target: [ ]

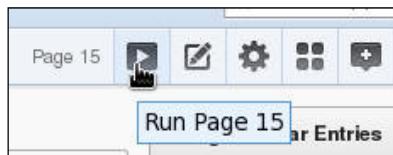
- 8) Click **Create**.

Condition Type: - No Condition -

[PL/SQL] [item / column = value] [item / column not null] [item / column null] [request = e1] [page in] [page not in] [exists] [never] [none]

- e. Run the page and click one of the page names to view the corresponding page.

- 1) Click **Run Page**.



- 2) Click one of the Page Names to view the corresponding page.

ORACLE®

Welcome: ORA01 Help Home Site Map Sign Off

Home Customers Orders Products Help Admin

Site Map

Customers  
List of Orders  
Customer Feedback  
Products  
Access Control Administration Page

In the News

News and Events

Visit us at [www.oracle.com](http://www.oracle.com)

Home Application 130 Edit Page 15 Create Session Caching View Debug Debug Show Edit Links Show Grid

## Solution 15-4: Enforcing Authorization in Site Map

---

### Overview

In this practice, you add a function that determines whether you are authorized to see a particular page in your site map. You also change the Classic Report query for the Site Map to make sure that the page is selected only if you are authorized to see it.

### Steps

- Navigate to **SQL Workshop > SQL Commands**. Copy and paste the following code (located in the /home/oracle/labs/files/lab15\_4\_1.txt file) to create the authorization\_check function.

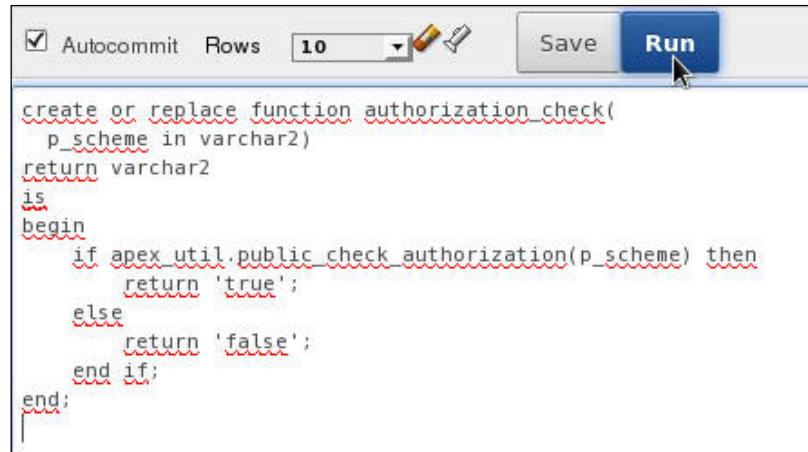
```
create or replace function authorization_check(
    p_scheme in varchar2)
return varchar2
is
begin
    if apex_util.public_check_authorization(p_scheme) then
        return 'true';
    else
        return 'false';
    end if;
end;
```

- Click **SQL Workshop**. Select **SQL Commands**.

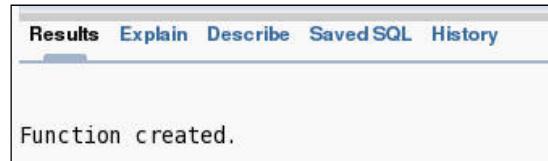


- 2) Paste the following code (located in the /home/oracle/labs/files/lab15\_4\_1.txt file) to create the **authorization\_check** function. Click **Run**.

```
create or replace function authorization_check(
    p_scheme in varchar2)
return varchar2
is
begin
    if apex_util.public_check_authorization(p_scheme) then
        return 'true';
    else
        return 'false';
    end if;
end;
```

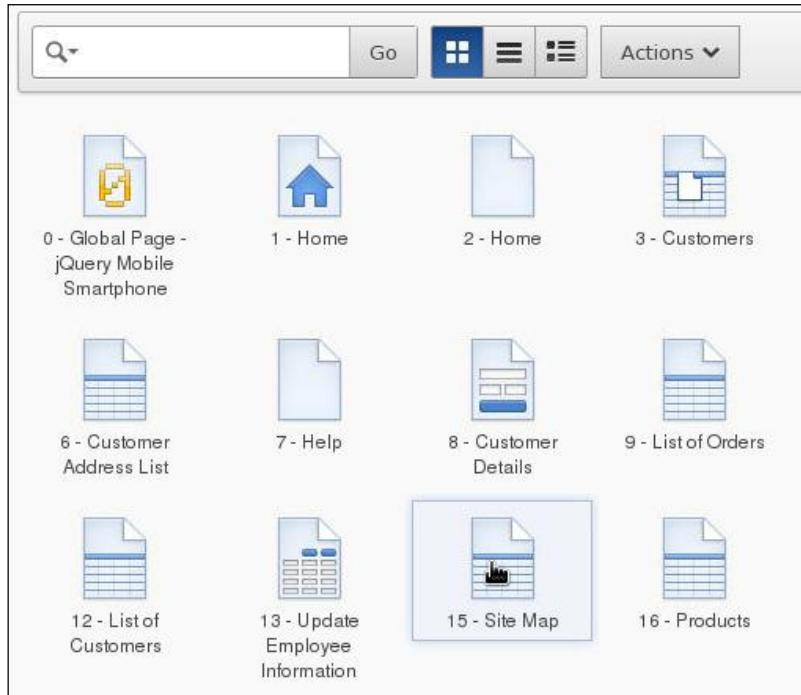


- 3) The function is created successfully.

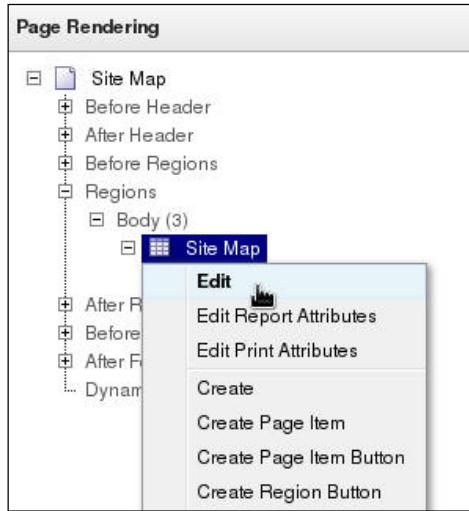


- b. For Site Map, change the Source for your Classic Report to the code provided in step 3 below (also located in the home\oracle\labs\files\lab15\_4\_2.txt file), so that only the pages that are authorized will be shown based on the user logged in.

- 1) Navigate to your Order Management application and select the **Site Map** page.



- 2) Under Regions, right-click **Site Map** and select **Edit**.



- 3) Paste the following code (located in the `home\oracle\labs\files\lab15_4_2.txt` file) in the **Source** area and click **Apply Changes**.

```
select distinct PAGE_ID, PAGE_NAME
from APEX_APPLICATION_PAGES p, apex_application_authorization a
where p.APPLICATION_ID = :APP_ID
and a.application_id = p.application_id
and (p.authorization_scheme is null or
     (a.authorization_scheme_id = p.authorization_scheme_id and
      authorization_check(a.authorization_scheme_name) = 'true'))
and PAGE_GROUP = 'Site Map'
```

Region Definition Report Attributes Print Attributes

Region: 1 of 1 Name: Site Map Cancel Delete Apply Changes

Show All Identification Source User Interface Grid Layout Attributes Header and Footer Conditions Read Only

**Identification**

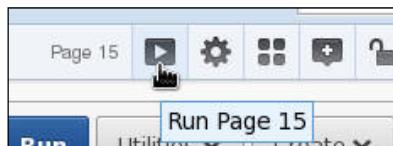
Page: 15 Site Map  
Title: Site Map  
Type: SQL Query

**Source**

```
select distinct PAGE_ID, PAGE_NAME
from APEX_APPLICATION_PAGES p, apex_application_authorization a
where p.APPLICATION_ID = :APP_ID
and a.application_id = p.application_id
and (p.authorization_scheme is null or
(a.authorization_scheme_id = p.authorization_scheme_id and
authorization_check(a.authorization_scheme_name) = 'true'))
and PAGE_GROUP = 'Site Map'
```

- c. You do not want end users or developers to see the Access Control Administration page. Make sure that the authorization schemes for this page is set to **access control - Administrator**. Run the page to see if only an authorized user can view it.

1) Click **Run Page**.



- 2) Notice that you are currently logged in as ora<n>. As a result, you currently see Access Control Administration Page in the site map list. Click **Sign Off**.

ORACLE Welcome: ORA01 Help Home Site Map Sign Off

Home Customers Orders Products Help Admin

**Site Map**

- [Customers](#)
- [List of Orders](#)
- [Access Control Administration Page](#)
- [Products](#)
- [Customer Feedback](#)

- 3) To check the Site Map as an administrator, log in as **brad.knight** with **welcome1** as the password. Click **Login**.

The screenshot shows a login interface with a title bar 'Login'. Below it is a form with two text input fields: 'Username' containing 'brad.knight' and 'Password' containing masked input. To the right of the password field is a red rectangular button with the word 'Login' in white.

- 4) In the navigation bar, click **Site Map**.

The screenshot shows a navigation bar with the 'ORACLE' logo. The 'Site Map' link is highlighted in red. Below the bar, there's a 'Home' link and a 'Tasks' section containing three icons: 'Manage Customers' (three stylized people), 'Manage Products' (a pink cube), and 'Manage Orders' (a grid of bars).

- 5) Brad Knight does not have access to the Access Control Administration page, so you no longer see it in the Site Map list. Click **Sign Off**.

The screenshot shows a navigation bar with the 'ORACLE' logo. The 'Site Map' link is highlighted in red. Below the bar, there's a 'Home' link and a 'Site Map' section listing several links: 'Customers', 'List of Orders', 'Products', and 'Customer Feedback'.

- 6) Click the **Application <n>** link on the Developer toolbar.



## **Practices for Lesson 16: Extending Your Application**

**Chapter 16**

## Practices for Lesson 16: Overview

---

### Practices Overview

There are three practices for this lesson. In these practices, you add a Data Upload Wizard, create an upload and download page, and use BLOB data in a report and form.

## Practice 16-1: Adding a Data Upload Wizard

### Overview

In this practice, you create a series of wizard pages to upload data into the **TASKS** table.

### Assumptions

You have performed the previous practices.

### Tasks

- a. You create a series of wizard pages to upload data into the **TASKS** table.
- b. Test the upload by using the following data (located in the /home/oracle/labs/files/lab16\_1\_1.txt file). Use the Copy and Paste Delimited Data area.

```
TASK_ID, TASK_NAME, COST, BUDGET, PROJECT_ID, ASSIGNED_TO  
1, "HR software needs upgrade", 3000, 3500, "Maintain Support Systems", Sue Mavris  
101, "Plan rollout schedule", 120, 120, "Public Website", Valli Pataballa  
102, "Apply Billing System updates", 500, 500, "Maintain Support Systems", Sue  
Mavris  
3, "Investigate new Virus Protection software", 150, 200, "Maintain Support  
Systems", David Austin
```

## Practice 16-2: Creating an Upload and Download Page

---

### Overview

In this practice, you create a form in an HTML region with a file upload item and a button. The button will submit the page and return the user to the same page. Also, you create a report on the document table that has links to download documents. Provide links to download the documents in the report.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create a blank page called Upload Download Files with an HTML region called Submit File that contains a File Browse item type on the source type **WWV\_FLOW\_FILES**. Create a Submit button and upload the `oralogo.gif` file from the `/home/oracle/labs/files` directory.  
Note that every time you upload a script in SQL Workshop or upload a file in Shared Components for an application, the reference to the file is placed in the **WWV\_FLOW\_FILES** table.
- b. Create an Interactive Report subregion called Uploaded Files with the following SQL query (located in `/home/oracle/labs/files/lab16_2_1.txt`):

```
SELECT id, filename FROM APEX_APPLICATION_FILES order by created_on desc
```
- c. Modify the report to create a link on the ID column to download the file.

## Practice 16-3: Using BLOB Data in a Report and Form

---

### Overview

In this practice, you add binary large object (BLOB) columns to your OEHR\_EMPLOYEES table, create a form with a report, add a thumbnail image to your report, and add a delete item region to the form.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Upload and run the `addblob.sql` script contained in your `/home/oracle/labs/files` directory to alter the OEHR\_CUSTOMERS table with the BLOB columns.
- b. Add the Photo column to the Customer Details page.
- c. Change the Customers Report to include the Photo column.
- d. Add a Delete Image region by creating a new HTML region called Photo Image.
- e. Create a Display Image item in the Photo Image region called `P<n>_IMAGE` that shows the image.
- f. Create a delete button called `DELETE_IMAGE`. Create a PL/SQL process called “delete image” that is invoked to perform the delete. Run the page.

## Solution 16-1: Adding a Data Upload Wizard

---

### Overview

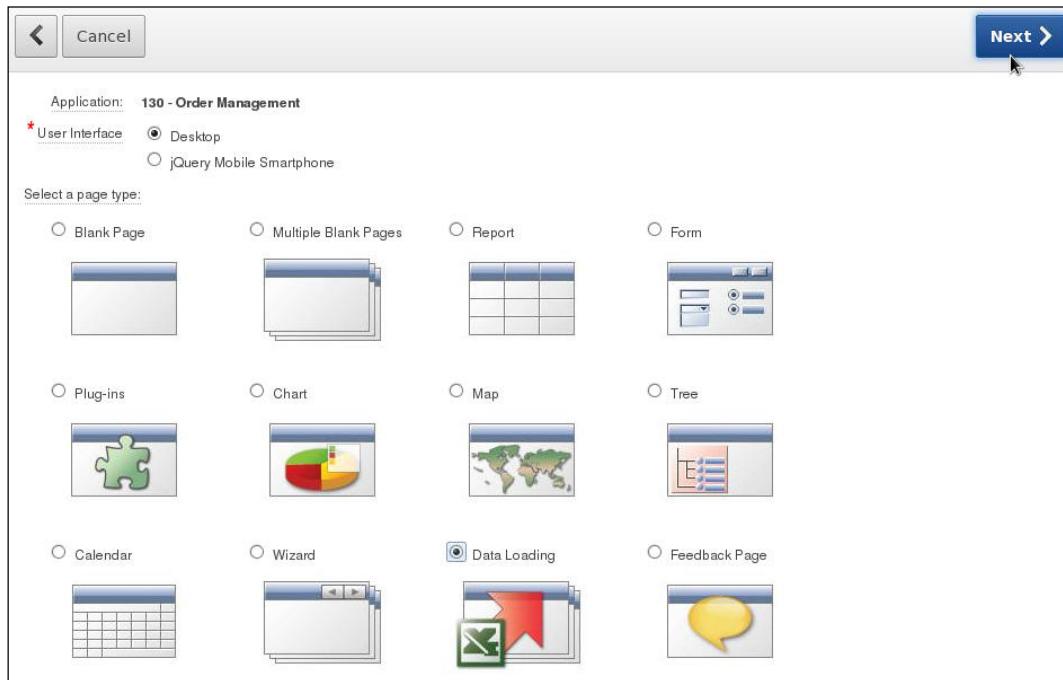
In this practice, you create a series of wizard pages to upload data into the **TASKS** table.

### Tasks

- You create a series of wizard pages to upload data into the **TASKS** table.
- Navigate to the **Order Management** application home page and click **Create Page >**.



- Select the **Data Loading** page type and click **Next >**.



- 3) Enter **Load Tasks** for Data Load Definition Name, select **TASKS** for Table Name, and select **ID** for Unique Column 1. Then click **Next >**.

Data Loading pages reference a data load definition. To create a new data load definition, specify a name and select a schema owner, target table, and up to three columns that uniquely identify a row.

\* Data Load Definition Name: Load Tasks  
 \* Owner: ORA01  
 \* Table Name: TASKS (table)  
 \* Unique Column 1: ID (Number) Case Sensitive: No  
 Unique Column 2: - Select Column - Case Sensitive: No  
 Unique Column 3: - Select Column - Case Sensitive: No

- 4) You want to create a rule that will change the Task Name to uppercase. Enter **Upper Task Name** for Rule Name, select **TASK\_NAME** for Column Name, and select **To Upper Case** for Type. Then click **Add**.

Transformation Rules allow you to change the data being uploaded before it is inserted into the base table. You select the column to transform and then the desired rule to apply to it.

Add Transformation Rule  
 Owner: ORA01  
 Table Name: TASKS  
 \* Sequence: 10  
 \* Rule Name: Upper Task Name  
 \* Select Column(s):  
 ID, PROJECT, START\_DATE, END\_DATE, STATUS, ASSIGNED\_TO, COST, BUDGET  
 \* Type: To Upper Case

- 5) Click **Next >**.

Rule Name	Sequence	Type	Column(s)	Expression 1	Expression 2	Delete
Upper Task Name	10	To Upper Case	TASK_NAME	-	-	X

- 6) You do not want to create a table lookup. Click **Next >**.

Create Data Load Wizard

Table Lookups allow you to match an uploaded value against another table and use the associated key value, instead of the uploaded value.

Add New Table Lookup

Owner: ORA01

Table Name: TASKS

\* Column Name: - Select Column -

Lookup Definition

\* Owner: ORA01

\* Table Name: - Select Table -

\* Return Column: - Select Column -

\* Upload Column: - Select Column -

Upload Column 2: - Select Column -

Upload Column 3: - Select Column -

**Next >**

- 7) Accept the default pages that will be created and click **Next >**.

Page Name	Page Number	Region Name
* Step 1 Data Load Source	21	Data Load Source
* Step 2 Data / Table Mapping	22	Data / Table Mapping
* Step 3 Data Validation	23	Data Validation
* Step 4 Data Load Results	24	Data Load Results

Breadcrumb: - do not add breadcrumb region to page -

**Next >**

- 8) You want to create a new tab. Select **Use an existing tab set and create a new tab within the existing tab set** and enter **Data Load** for the New Tab Label and click **Next >**.

Tab Options:

- Do not use tabs
- Use an existing tab set and create a new tab within the existing tab set.
- Use an existing tab set and reuse an existing tab within that tab set.

\* Tab Set: TS1 (Home, Customers, Orders...)

\* New Tab Label: Data Load

**Next >**

- 9) You need to specify which page to go to when you press Cancel. Enter 1 for the Home Page for “Branch to Page” for both the Cancel and Finish buttons. Then click **Next >**.

Next Button Label: Next >  
 Previous Button Label: < Previous  
 Cancel Button Label: Cancel  
 Finish Button Label: Finish  
 Branch to Page: 1  
 Branch to Page: 1

- 10) You are ready to create the Data Load Wizard pages. Click **Create**.

You have requested to create a wizard with the following attributes. Please confirm your selections.

Data Load Definition Name: Load Data  
 Owner: ORA01  
 Table / View Name: TASKS  
 Unique Column 1: ID

Transformation Rules

Sequence	Rule Name	Rule Type	Column Name(s)
10	Upper Task Name	To Upper Case	TASK_NAME

Step 1 - Page Name: Data Load Source Page Number: 21  
 Step 2 - Page Name: Data / Table Mapping Page Number: 22  
 Step 3 - Page Name: Data Validation Page Number: 23  
 Step 4 - Page Name: Data Load Results Page Number: 24

- 11) Click **Run Page**.

The data load wizard pages have been created successfully.

- b. Test the upload by using the following data (located in the /home/oracle/labs/files/lab16\_1\_1.txt file). Use the Copy and Paste Delimited Data area.

```
TASK_ID, TASK_NAME, COST, BUDGET, PROJECT_ID, ASSIGNED_TO
1, "HR software needs upgrade", 3000, 3500, "Maintain Support Systems", Sue Mavris
101, "Plan rollout schedule", 120, 120, "Public Website", Valli Pataballa
102, "Apply Billing System updates", 500, 500, "Maintain Support Systems", Sue Mavris
3, "Investigate new Virus Protection software", 150, 200, "Maintain Support Systems", David Austin
```

- 1) The first wizard page is where you specify the Data Load Source. You want to Copy and Paste the following text (located in the /home/oracle/labs/files/lab16\_1\_1.txt file) into the Copy and Paste Delimited Data area. Change the Separator to a ',' (comma) and select the Yes check box for **First Row has Column Names**. Then click **Next >**.

```
TASK_ID,TASK_NAME,COST,BUDGET,PROJECT_ID,ASSIGNED_TO
1,"HR software needs upgrade",3000,3500,"Maintain Support Systems",Sue Mavris
101,"Plan rollout schedule",120,120,"Public Website",Valli Pataballa
102,"Apply Billing System updates",500,500,"Maintain Support Systems",Sue Mavris
3,"Investigate new Virus Protection software",150,200,"Maintain Support Systems",David Austin
```

**Data Load Source**

Import From  Upload file, comma separated (\*.csv) or tab delimited  Copy and Paste

Separator \*

Optionally Enclosed By "

First Row has Column Names  Yes

File Character Set

**Copy and Paste Delimited Data \***

```
TASK_ID,TASK_NAME,COST,BUDGET,PROJECT_ID,ASSIGNED_TO
1,"HR software needs upgrade",3000,3500,"Maintain Support Systems",Sue Mavris
101,"Plan rollout schedule",120,120,"Public Website",Valli Pataballa
102,"Apply Billing System updates",500,500,"Maintain Support Systems",Sue Mavris
3,"Investigate new Virus Protection software",150,200,"Maintain Support Systems",David Austin
```

- 2) The Data / Table Mappings are displayed. Notice that the Column Name for some of the columns are not selected. This is because the names of the columns in the file do not match the names of the columns in the database. Select the **ID** and **PROJECT** columns from their respective pull downs and click **Next >**.

**Data / Table Mapping**

Column Mapping	ID - num&nbsp;	TASK_NAM &nbsp;	COST - nur&nbsp;	BUDGET - i&nbsp;	PROJECT - &nbsp;	ASSIGNED_TO
Date / Number Format						
First Row Column Names	TASK_ID	TASK_NAME	COST	BUDGET	PROJECT_ID	ASSIGNED_TO
Row1	1	HR software needs upgrade	3000	3500	Maintain Support Systems	Sue Mavris
Row2	101	Plan rollout schedule	120	120	Public Website	Valli Pataballa
Row3	102	Apply Billing System updates	500	500	Maintain Support Systems	Sue Mavris
Row4	3	Investigate new Virus Protection software	150	200	Maintain Support Systems	David Austin

- 3) The Data Validation page is displayed. This page displays the data that will be inserted and/or updated into the database. Notice that the **TASK\_NAME** was transformed to all uppercase. Click **Load Data**.

**Data Validation**

Sequence	Action	ID	TASK_NAME	COST	BUDGET	PROJECT	ASSIGNED_TO
1	UPDATE	1	HR SOFTWARE NEEDS UPGRADE	3000	3500	Maintain Support Systems	Sue Mavris
2	INSERT	101	PLAN ROLLOUT SCHEDULE	120	120	Public Website	Valli Pataballa
3	INSERT	102	APPLY BILLING SYSTEM UPDATES	500	500	Maintain Support Systems	Sue Mavris
4	UPDATE	3	INVESTIGATE NEW VIRUS PROTECTION SOFTWARE	150	200	Maintain Support Systems	David Austin

- 4) Notice that two rows were inserted and two rows were updated. Click **Finish**.



- 5) Click **Application<n>**.



- 6) Click **SQL Workshop** and select **Object Browser**.



- 7) In the search field for tables, enter tasks. Select the **Tasks** table.



- 8) The tasks table definition is displayed. Click the **Data** tab.

TASKS				
Column Name	Data Type	Nullable	Default	Primary Key
ID	NUMBER	No	-	1
PROJECT	VARCHAR2(30)	Yes	-	-
TASK_NAME	VARCHAR2(255)	Yes	-	-
START_DATE	DATE	Yes	-	-
END_DATE	DATE	Yes	-	-
STATUS	VARCHAR2(30)	Yes	-	-
ASSIGNED_TO	VARCHAR2(30)	Yes	-	-
COST	NUMBER	Yes	-	-

- 9) The newly inserted and updated rows are displayed.

TASKS										Create ▾
Table Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL										
Query Count Rows Insert Row										
EDIT	ID	PROJECT	TASK_NAME	START_DATE	END_DATE	STATUS	ASSIGNED_TO	COST	BUDGET	
	1	Maintain Support Systems	HR SOFTWARE NEEDS UPGRADE	01/01/2010	02/27/2010	Closed	Sue Mavris	3000	3500	
	2	Maintain Support Systems	Apply Billing System updates	01/01/2010	02/28/2010	closed	Russ Sanders	5000	7000	
	3	Maintain Support Systems	INVESTIGATE NEW VIRUS PROTECTION SOFTWARE	02/15/2010	03/23/2010	Open	David Austin	150	200	
	4	Maintain Support Systems	Arrange for holiday coverage	01/10/2010	01/12/2010	Closed	Al Bines	300	500	
	5	Email Integration	Complete plan	02/08/2010	02/14/2010	Closed	Mark Nile	500	750	
	6	Email Integration	Check software licenses	02/12/2010	02/13/2010	Closed	Mark Nile	200	200	

## Solution 16-2: Creating an Upload and Download Page

### Overview

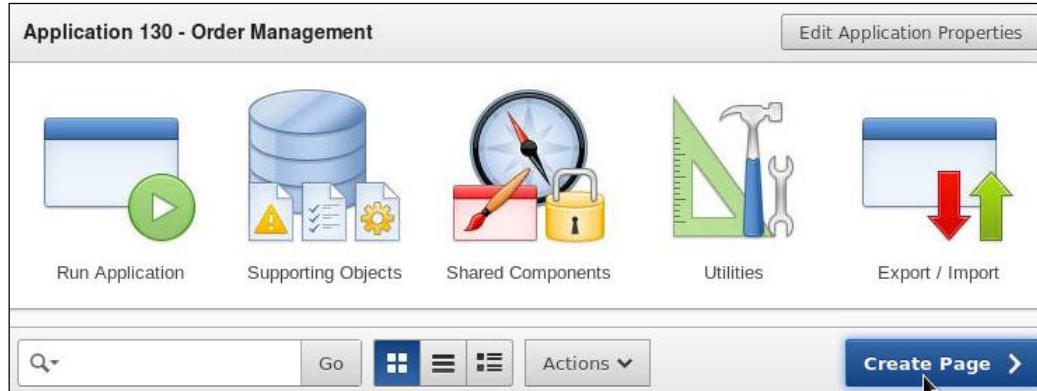
In this practice, you create a form in an HTML region with a file upload item and a button. The button will submit the page and return the user to the same page. Also, you create a report on the document table that has links to download documents. Provide links to download the documents in the report.

### Tasks

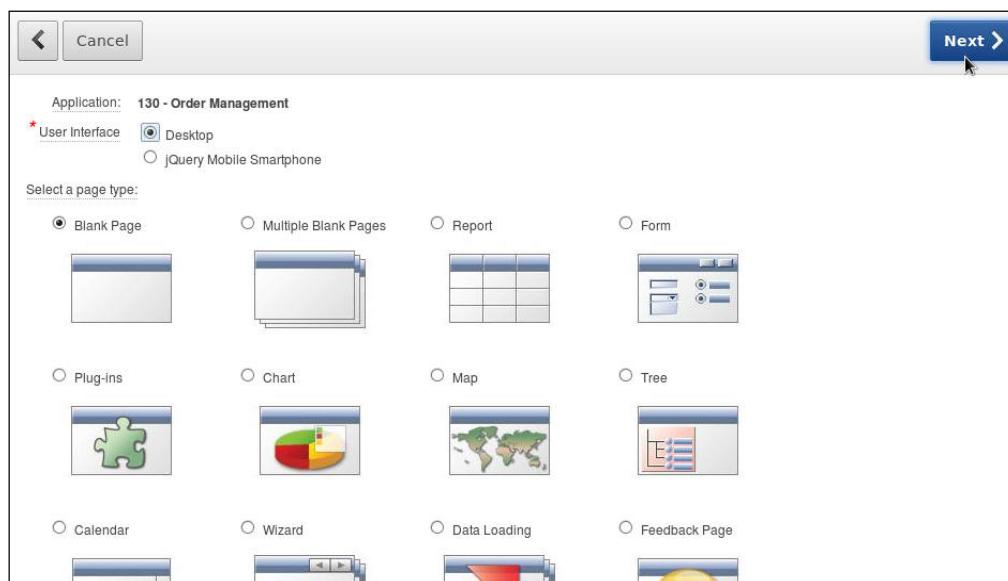
- Create a blank page called **Upload Download Files** with an HTML region called **Submit File** that contains a File Browse item type on the source type **WWV\_FLOW\_FILES**. Create a Submit button and upload the **oralogo.gif** file from the **/home/oracle/labs/files** directory.

Note that every time you upload a script in SQL Workshop or upload a file in Shared Components for an application, the reference to the file is placed in the **WWV\_FLOW\_FILES** table.

- 1) Navigate to the **Order Management** application home page and click **Create Page >**



- 2) For page type, select the **Blank Page** option and click **Next >**.



3) Click **Next >**.

Select an unused numeric page identifier. Global page functions as a master page. Global page components are rendered on every page within your application.

Application: 130 - Order Management

\* Page Number: 29

Page Alias:

4) For Page Name, enter **Upload Download Files** and click **Next >**.

Page: 29

\* Name: Upload Download Files

Breadcrumb: - do not use breadcrumbs on page -

Optional HTML Regions

HTML Region 1:

5) Leave the defaults for the Tab Options and click **Next >**.

Page: 29

Tab Options:

- Do not use tabs
- Use an existing tab set and create a new tab within the existing tab set.
- Use an existing tab set and reuse an existing tab within that tab set.

6) Click **Finish**.

You have requested to create a page with the following attributes. Please confirm your selections.

Application: 130

Page: 29

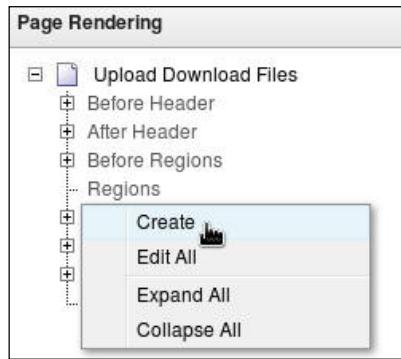
Page Name: Upload Download Files

Page Title: Upload Download Files

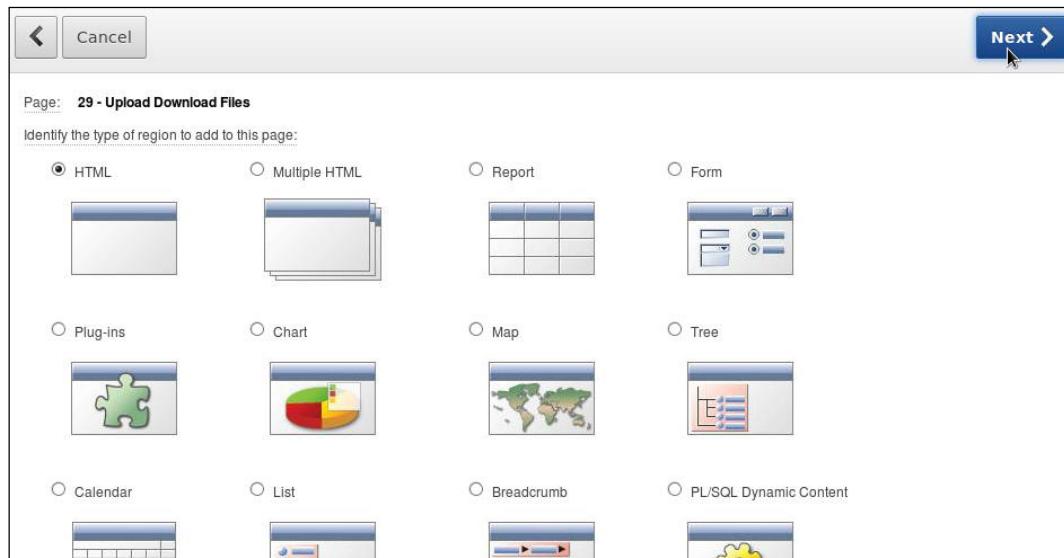
7) Click the **Edit Page** icon.

Page 29 has been created successfully.

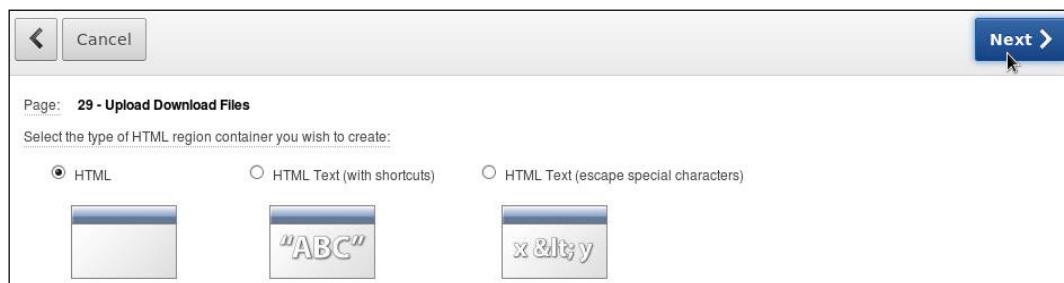
8) Right-click Regions and select **Create**.



9) For Region, select the **HTML** option and click **Next >**.



10) Select **HTML** again and click **Next >**.



11) For Title, enter **Submit File** and click **Create Region**.

Page: 29 - Upload Download Files

Region Source Type: HTML Text

\* Title: Submit File

Region Template: Reports Region

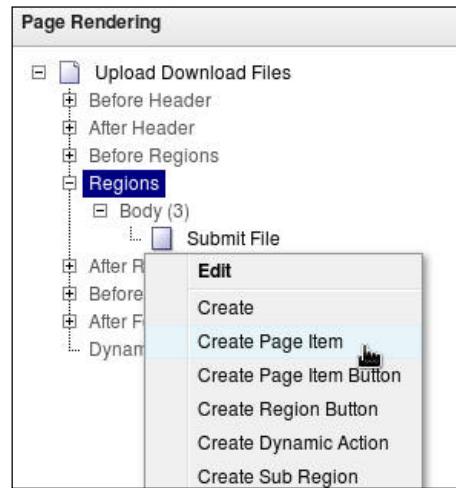
Parent Region: - Select a Parent -

Display Point: Page Template Body (3)

[Body] [Pos.1] [Pos.2] [Pos.3] [Pos.4] [Pos.5]

\* Sequence: 10

12) Right-click the **Submit File** region and select **Create Page Item**.



13) For Item Type, select **File Browse** and click **Next >**.

Page: 29 - Upload Download Files

Select Item Type:

<input type="radio"/> Checkbox	<input type="radio"/> Color Picker	<input type="radio"/> Date Picker	<input type="radio"/> Display Image
<input type="radio"/> Display Only	<input checked="" type="radio"/> File Browse...	<input type="radio"/> Hidden	<input type="radio"/> List Manager
<input type="radio"/> Number Field	<input type="radio"/> Password	<input type="radio"/> Plug-ins	<input type="radio"/> Popup LOV
<input type="radio"/> Radio Group	<input type="radio"/> Rich Text Editor	<input type="radio"/> Select List	<input type="radio"/> Shuttle

- 14) For Item Name, enter `P<n>_FILE_NAME` and click **Next >**.

Page: 29 - Upload Download Files  
Display As: File Browse...  
\* Item Name: P29\_FILE\_NAME  
\* Sequence: 10  
\* Region: Submit File (10)

- 15) Accept the defaults and click **Next >**.

Page: 29 - Upload Download Files  
Item Name: P29\_FILE\_NAME  
Display As: File Browse...  
Label: File Name [Clear]  
Field Width: 30  
Template: Optional

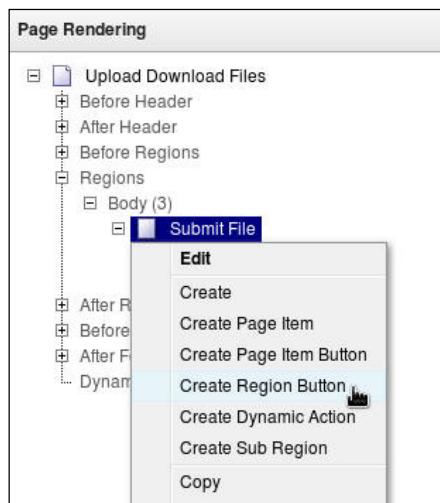
- 16) Select the `Table WWV_FLOW_FILES` Storage Type option. Note that every time you upload a script in SQL Workshop or upload a file in Shared Components for an application, the reference to the file is placed in the `WWV_FLOW_FILES` table. Click **Next >**.

Page: 29 - Upload Download Files  
Item Name: P29\_FILE\_NAME  
Display As: File Browse...  
Value Required: No  
Storage Type: Table WWV\_FLOW\_FILES

- 17) Click **Create Item**.

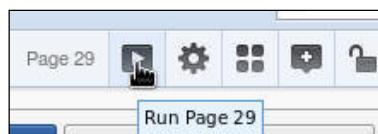
Identify the source of the item. If the item source is null the default value will be used.  
Page: 29 - Upload Download Files  
Item Name: P29\_FILE\_NAME  
Display As: File Browse...  
Source Used: Only when current value in session state is null  
\* Source Type: Static Assignment (value equals source attribute)  
Item Source Value:

- 18) You want to create a Submit button that will perform the upload. Right-click the **Submit File** region and select **Create Region Button**.



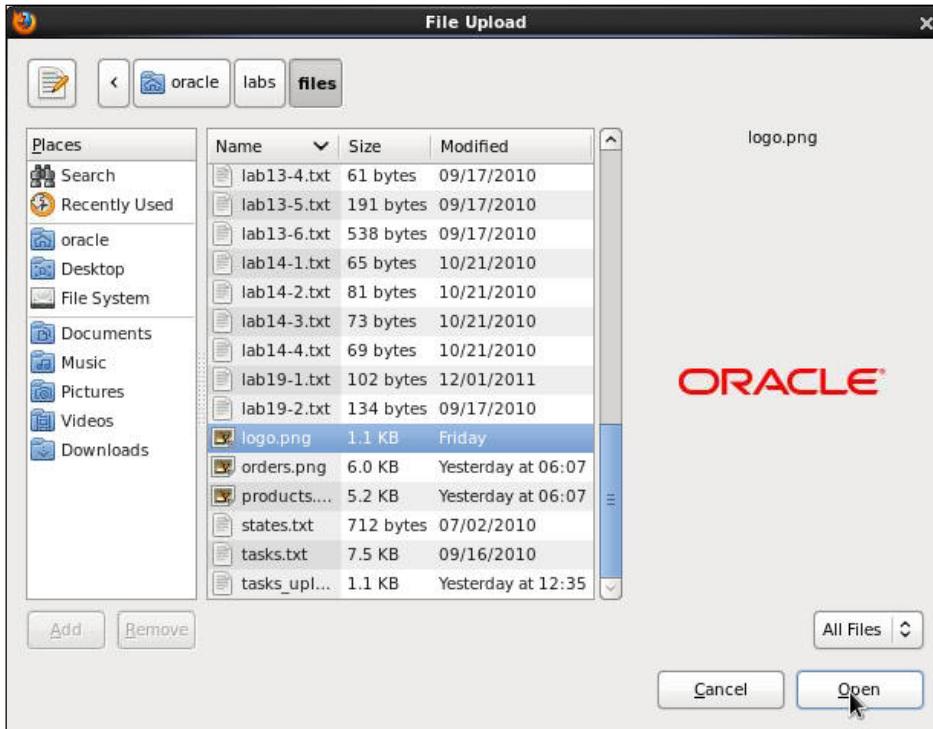
- 19) Click the **[Submit]** quick pick, select **Template Based Button** for Button style, **Large Button** for Button Template and **Hot** for Button type. Then click **Create Button**.

- 20) Run the page. Click **Run**.



- 21) Click **Browse**.

- 22) Select the /home/oracle/labs/files/logo.png file and click Open.



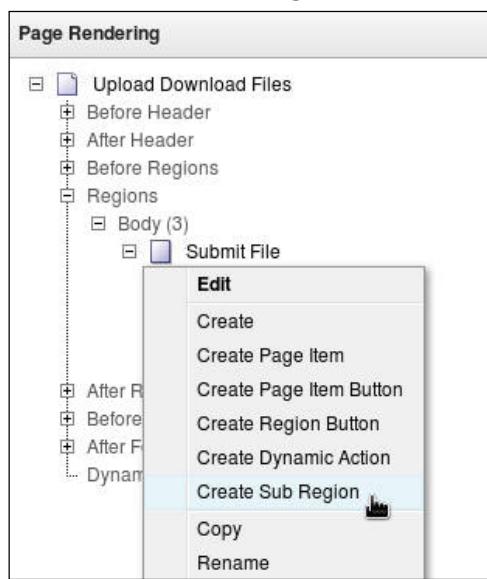
- 23) Click **Submit** to upload files.

- 24) The file is submitted. At this point, you want to create a report to show the list of files that are uploaded already. Click the **Edit Page** link on the Developer toolbar.

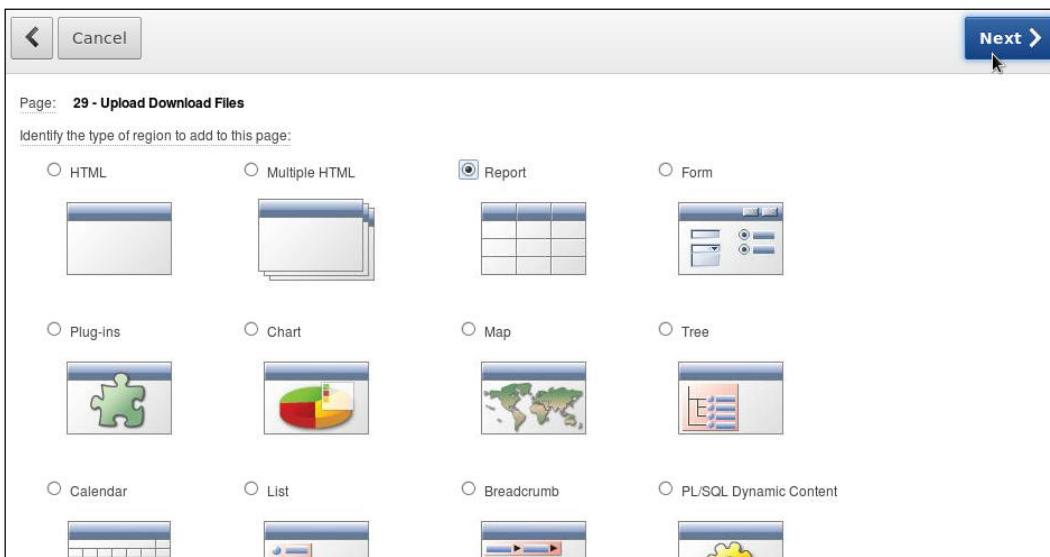
- b. Create an Interactive Report subregion called Uploaded Files with the following SQL query (located in /home/oracle/labs/files/lab16\_2\_1.txt):

```
SELECT id, filename FROM APEX_APPLICATION_FILES order by created_on desc
```

- 1) You will create the report as a subregion. Right-click the **Submit File** region and select **Create Sub Region**.



- 2) For the region type, select **Report** and click **Next >**.



- 3) Select **Interactive Report** and click **Next >**.



- 4) For Title, enter **Uploaded Files** and click **Next >**.

Page: 29 - Upload Download Files  
Region Source Type: Interactive Report  
\* Title: Uploaded Files  
Region Template: Region without Buttons and Titles  
Parent Region: Submit File (10)  
\* Sequence: 20

- 5) When you use the file browse item type, the files that you upload are stored in a table called `wwv_flow_file_objects$`. Every workspace has access to this table through a view called `APEX_APPLICATION_FILES`. Enter the following SQL query (located in `/home/oracle/labs/files/lab16_2_1.txt`) and click **Create Region**.

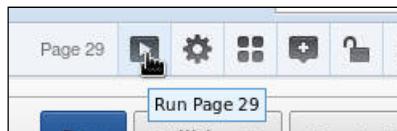
```
SELECT id, filename FROM APEX_APPLICATION_FILES order by created_on desc
```

\* Enter a SQL SELECT statement  
SELECT id, filename FROM APEX\_APPLICATION\_FILES order by created\_on desc

Query Builder

Page items to Submit: [ ]  
Link to Single Row View: No  
Uniquely Identify Rows by: ROWID  
Unique Column: [ ]

- 6) Run the page to see the files that you uploaded. (**Note:** Your files may differ slightly.) Click **Run**.



- 7) The report that you just created shows all the documents that have been uploaded. Note that your list may be different depending on what you uploaded. Next, you provide a link to download the document. Click the **Edit Page** link on the Developer toolbar.

The screenshot shows a 'Submit File' page with a 'File Name' input field and a 'Browse...' button. Below is a search bar with a magnifying glass icon, a 'Go' button, and an 'Actions' dropdown. A table lists uploaded files with columns 'Id' and 'Filename'. The table contains 10 rows of data:

Id	Filename
7773228273537129	logo.png
7728822761995616	tasks_upload.txt
7676626676678925	products.png
7676400357671321	orders.png
7673004327142001	customers.png
7656525042640804	apexstyle.css
7655202028697569	logo.png
7431408931240507	tasks.txt
5804202867500857	oehr_object_app_installer.sql
5798814071746181	run_button.png

At the bottom, there is a page number '1 - 10'.

Below the main content is a 'In the News' section and a navigation bar with links: Application 130, Edit Page 29, Create, Session, Caching, View Debug, Debug, Show Edit Links, and Show Grid.

- c. Modify the report to create a link on the ID column to download the file.
- Right-click the **Uploaded Files** region and select **Edit Report Attributes**

The screenshot shows the 'Page Rendering' tree view. It includes sections for 'Upload Download Files', 'Regions', and 'Sub Regions'. Under 'Sub Regions', there is a 'Uploaded Files' region. A context menu is open over this region with the following options: 'Edit', 'Edit Report Attributes' (which is highlighted), 'Edit Saved Reports', 'Edit Print Attributes', and 'Create'.

- 2) In **Column Attributes**, click the **Edit** icon next to the **ID** column.

The screenshot shows the 'Region Name' set to 'Uploaded Files'. The 'Report Attributes' tab is selected. The 'Column Attributes' section contains two columns: 'ID' (Type: NUMBER) and 'FILENAME' (Type: STRING). Both columns are displayed as 'Display as Text (escape special characters)'.

	Heading	Type	Link	Display Text As
	ID	NUMBER		Display as Text (escape special characters)
	FILENAME	STRING		Display as Text (escape special characters)

- 3) Click the **Column Link** tab.

The screenshot shows the 'Column Attributes: Id' dialog. The 'Column Definition' tab is selected. The 'Name' field is set to 'ID', 'Type' is 'NUMBER', 'Group' is '- Select Column Group -', 'Display Type' is 'Display as Text (escape special characters)', and 'Column Heading' is 'Id'. A checked checkbox 'Use Same Text for Column Heading' is also present.

- 4) In the Link Text field, enter **Download**. From the Target drop-down list, select **URL**. In the URL field, enter the following: `p?n=#ID#` and click **Apply Changes**. Note that `#ID#` passes the value contained in the column, where ID is the column alias.

**Column Attributes: Id**

**Column Link**

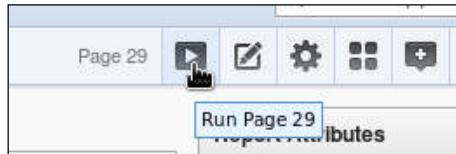
Link Text: Download

Target: URL

URL: p?n=#ID#

Page Checksum: - Use default -

- 5) Click the **Run Page** icon.



- 6) The report is displayed with a link to download the file. Click the **Application <n>** link on the Developer toolbar.

The screenshot shows a developer toolbar interface for Oracle Application Express. At the top, there is a "Submit File" button and a "File Name" input field with a "Browse..." button. Below this is a search bar with a magnifying glass icon, a "Go" button, and an "Actions" dropdown menu. The main area displays a grid of file names with download links:

ID	Filename
<a href="#">Download</a>	logo.png
<a href="#">Download</a>	tasks_upload.txt
<a href="#">Download</a>	products.png
<a href="#">Download</a>	orders.png
<a href="#">Download</a>	customers.png
<a href="#">Download</a>	apexstyle.css
<a href="#">Download</a>	logo.png
<a href="#">Download</a>	tasks.txt
<a href="#">Download</a>	oehr_object_app_installer.sql
<a href="#">Download</a>	run_button.png

Below the grid, a page number "1 - 10" is visible. At the bottom of the toolbar, there are several buttons: "Application 130", "Edit Page 29", "Create", "Session", "Caching", "View Debug", "Debug", "Show Edit Links", and "Show Grid".

## Solution 16-3: Using BLOB Data in a Report and Form

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### Overview

In this practice, you add binary large object (BLOB) columns to your OEHR\_CUSTOMERS table, modify the Customer Details form region, add a thumbnail image to your Customer report, and add a delete item region to the Customer Details page.

### Tasks

- Upload and run the `addblob.sql` script contained in your `/home/oracle/labs/files` directory to alter the OEHR\_CUSTOMERS table with the BLOB columns.
  - 1) Navigate to **SQL Workshop > SQL Scripts**.



- 2) Click **Upload >**.



- 3) Click **Browse** and select the `addblob.sql` file (located in the `/home/oracle/labs/files` directory) and click **Open**. Then click **Upload**.



- 4) Your script was uploaded successfully. To run it, click the **Run** icon.

	Edit	Owner	Name	Updated By	Updated	Bytes	Results	Run
<input type="checkbox"/>		ORA01	addblob.sql	ORA01	1 seconds ago	159	0	

- 5) Click **Run Now**.

You have requested to run the following script. Please confirm your request.

Script Name	<b>addblob.sql</b>
Created	on 01/09/2013 07:35:28 AM by ORA01
Updated	on 01/09/2013 07:35:28 AM by ORA01
Number of Statements	1
Script Size in Bytes	159

**Run Now**

- 6) Click the **View Results** icon.

	Script	Run By	Started	Elapsed	Status	Statements	Bytes	View Results
<input type="checkbox"/>	<a href="#">addblob.sql</a>	ORA01	Now	0.35	Completed	1 of 1	0	

- 7) The OEHR\_CUSTOMERS table was altered successfully.

Script: **addblob.sql** Status: Complete

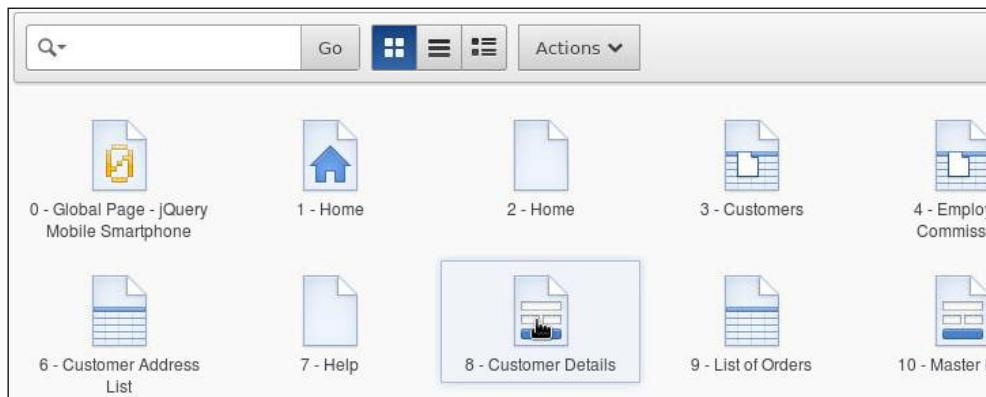
View:  Detail  Summary Rows: 15 Go

Number	Elapsed	Statement	Feedback	Rows
1	0.03	alter table "OEHR_CUSTOMERS" add ("PHOTO" BLOB NULL, "FILE" Table altered.	0	
row(s) 1 - 1 of 1				

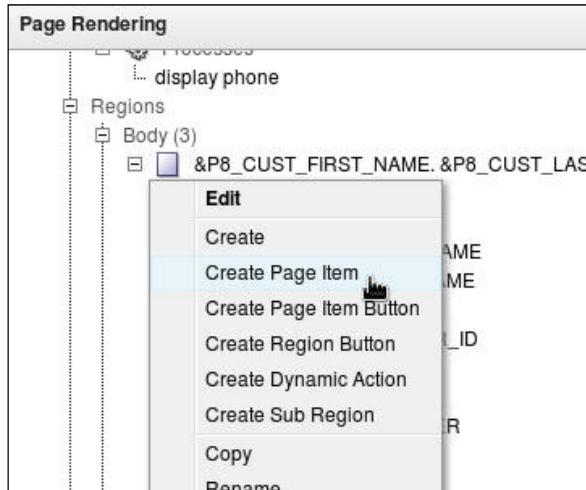
[Download](#)

Statements Processed: 1  
Successful: 1  
With Errors: 0

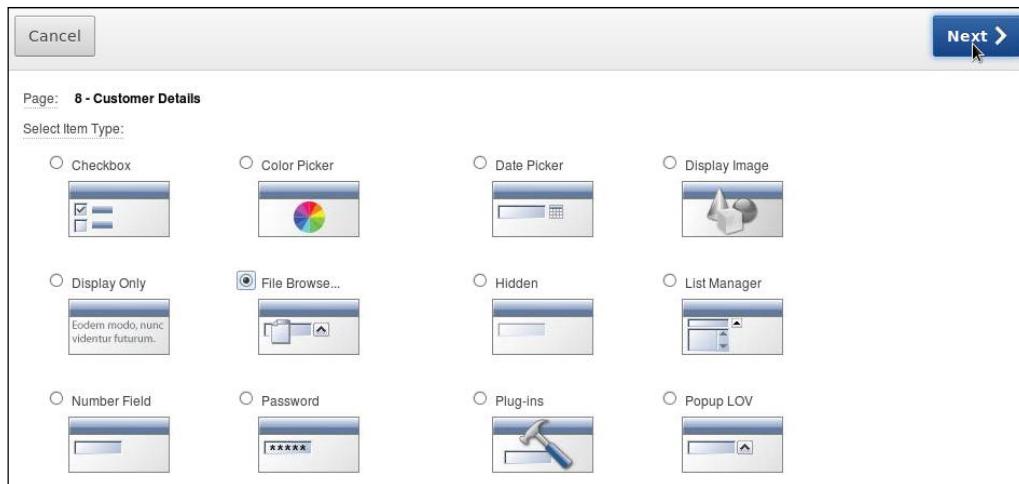
- b. Add the Photo column to the Customer Details page.
- 1) Navigate to the Order Management home page and click the **Customer Details** page.



- 2) Right-click the first region in the list and select **Create Page Item**.



- 3) Select the **File Browse** item type and click **Next >**.



- 4) Change the Item Name to **P<n>\_PHOTO** and click **Next >**.

The screenshot shows the 'Customer Details' configuration page. The 'Item Name' field is highlighted with a red asterisk and contains the value 'P8\_PHOTO'. The 'Display As' dropdown is set to 'File Browse...'. The 'Sequence' field is set to 90. The 'Region' dropdown contains the value '&P8\_CUST\_FIRST\_NAME. &P8\_CUST\_LAST\_NAME. Customer Details (0)'. The 'Next >' button is visible in the top right corner.

- 5) Accept the defaults and click **Next >**.

The screenshot shows the 'Customer Details' configuration page. The 'Label' field is highlighted with a red asterisk and contains the value 'Photo'. Other fields include 'Display As: File Browse...', 'Field Width: 30', and 'Template: Optional'. The 'Next >' button is visible in the top right corner.

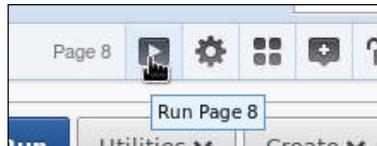
- 6) Enter **MIMETYPE** for MIME Type Column, **FILENAME** for Filename Column, and **LAST\_UPDATE\_DATE** for BLOB Last Updated Column. Select **Yes** for Display Download Link and **Attachment** for Content Disposition, and click **Next >**.

The screenshot shows the 'Customer Details' configuration page with advanced settings. Fields include: 'Value Required: No', 'Storage Type: BLOB column specified in Item Source attribute', 'MIME Type Column: MIMETYPE', 'Filename Column: FILENAME', 'Character Set Column: (empty)', 'BLOB Last Updated Column: LAST\_UPDATE\_DATE', 'Display Download Link: Yes', 'Download Link Text: Download', and 'Content Disposition: Attachment'. The 'Next >' button is visible in the top right corner.

- 7) Select **Database Column** for Source Type and click **Create Item**.

The screenshot shows the 'Customer Details' configuration page. The 'Source Used' dropdown is set to 'Always, replacing any existing value in session state'. The 'Source Type' dropdown is highlighted with a red asterisk and set to 'Database Column'. The 'Database Column Name' field contains the value 'PHOTO'. The 'Format Mask' field is empty. The 'Create Item' button is visible in the top right corner.

- 8) Click the **Run Page** icon.



- 9) The page is displayed. Before you add a photo, you want to select a customer. Click **Cancel**.

**Customer Details**

<input type="button" value="Cancel"/>	<input type="button" value="Create"/>
Cust First Name *	<input type="text"/>
Cust Last Name *	<input type="text"/>
Cust Email	<input type="text"/>
Account Manager	- Select Manager - <input type="button" value="▼"/>
Bates, Elizabeth, Russell, John, Cambrault, Gerald	
Country	- Select Country - <input type="button" value="▼"/>
City	<input type="text"/>
Phone Number	
Photo	<input type="file"/> <input type="button" value="Browse..."/>
The record created or modified in this form is reflected in the Customer Report.	

- 10) Click the **Edit** icon next to one of the rows.

**Customer Report**

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City
	101	Constantin	Welles	514 W Superior St	46901	Kokomo
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indiana
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indiana
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington

- 11) Click the **Browse** button.

Harrison Pacino Customer Details

Cust First Name *	<input type="text" value="Harrison"/>
Cust Last Name *	<input type="text" value="Pacino"/>
Cust Email	<input type="text" value="Harrison.Pacino@ANI.Cl"/>
Account Manager	<input type="text" value="Russell, John"/>
<a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>	
Country	<input type="text" value="United States of America"/>
City	<input type="text" value="Indianapolis"/>
Phone Number	+1 317 123 4111
Photo	<input type="text"/> <input type="button" value="Browse..."/>

The record created or modified in this form is reflected in the Customer Report.

- 12) Select the `custpic.jpg` file (located in the `/home/oracle/labs/files` directory) and click **Open**. Then click **Apply Changes**.

Harrison Pacino Customer Details

<input type="button" value="Cancel"/>	<input type="button" value="Delete"/>	<input type="button" value="Apply Changes"/>
Cust First Name *	<input type="text" value="Harrison"/>	
Cust Last Name *	<input type="text" value="Pacino"/>	
Cust Email	<input type="text" value="Harrison.Pacino@ANI.Cl"/>	
Account Manager	<input type="text" value="Russell, John"/>	
<a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>		
Country	<input type="text" value="United States of America"/>	
City	<input type="text" value="Indianapolis"/>	
Phone Number	+1 317 123 4111	
Photo	<input type="text" value="/home/oracle/labs/files/custpic.jpg"/> <input type="button" value="Browse..."/>	

The record created or modified in this form is reflected in the Customer Report.

- 13) Click the same **Edit** icon that you just added the photo for.

Customer Report							
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	Action
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	

- 14) Note that there is a link to download the photo. Click the **Download** link.

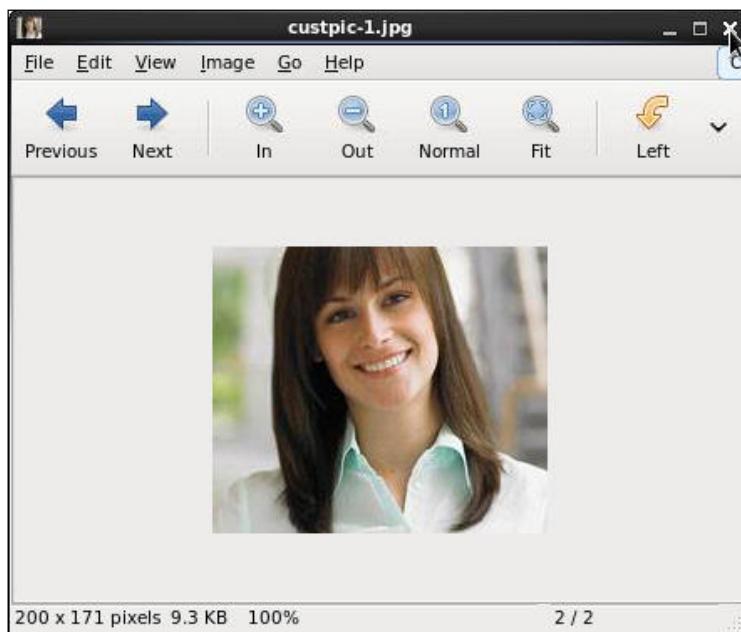
Harrison Pacino Customer Details

Cust First Name *	Harrison
Cust Last Name *	Pacino
Cust Email	HARRISON.PACINO@AI
Account Manager	Russell, John
	<a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>
Country	United States of America
City	Indianapolis
Phone Number	+1 317 123 4111
Photo	<input type="button" value="Browse..."/> <input type="button" value="Download"/>
The record created or modified in this form is reflected in the Customer Report.	
<input type="button" value="Download 9KB"/>	

- 15) You are prompted to open the attachment or save it. Accept the default to open it in the Image Viewer. Click **OK**.



- 16) The image is displayed. Close the Image Viewer window.



- 17) Click the **Customers** breadcrumb to return to the customers report.

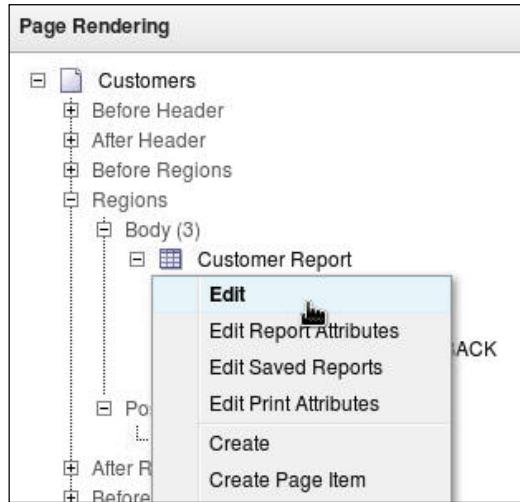
The screenshot shows the Oracle Application Navigator interface. At the top, there is a navigation bar with links: Home, Customers (which is highlighted in red), Orders, Products, and Help. Below the navigation bar, a breadcrumb trail reads "Home > Customers > Customer Details". A cursor icon is positioned over the "Customer Details" link. The main content area is titled "Harrison Pacino Customer Details". It contains two input fields: "Cust First Name \*" with the value "Harrison" and "Cust Last Name \*" with the value "Pacino".

- c. Change the Customers Report to include the Photo.  
 1) Click **Edit Page <n>** on the Developer toolbar.

The screenshot shows the "Customer Report" page. At the top, there is a search bar, a "Go" button, a "Reports" dropdown set to "1. Primary Report", and an "Actions" dropdown. Below the header is a table with columns: Customer Id, Cust First Name, Cust Last Name, Street Address, and Postal Code. The table contains six rows of data. At the bottom of the page is a toolbar with buttons: Home, Application 130, Edit Page 3 (which has a cursor icon over it), Create, Session, and Caching.

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code
	101	Constantin	Welles	514 W Superior St	46901
	102	Harrison	Pacino	2515 Bloyd Ave	46218
	103	Manisha	Taylor	8768 N State Rd 37	47404
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254
	105	Matthias	MacGraw	4019 W 3Rd St	47404
	106	Matthias	Hannah	1608 Portage Ave	46616

- 2) Right-click the **Customer Report** region and select **Edit**.



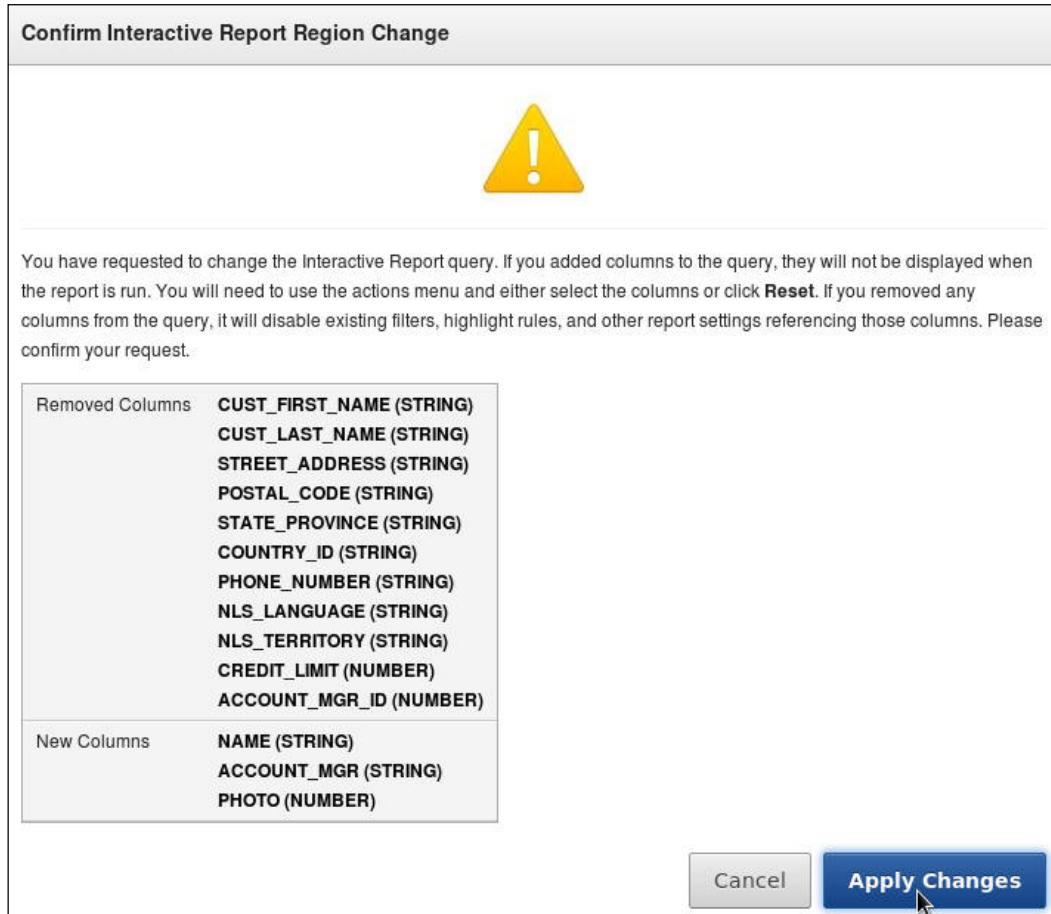
- 3) Replace the Region Source with the following code (located in the /home/oracle/labs/files/lab\_16\_3\_1.txt file) and click **Apply Changes**.

```
select c.customer_id,
       c.cust_first_name||' '||c.cust_last_name name,
       c.city,
       c.cust_email,
       (select last_name from oe/hr_employees where employee_id=
c.account_mgr_id) account_mgr,
       dbms_lob.getlength(c.photo) photo
  from oe/hr_customers c
```

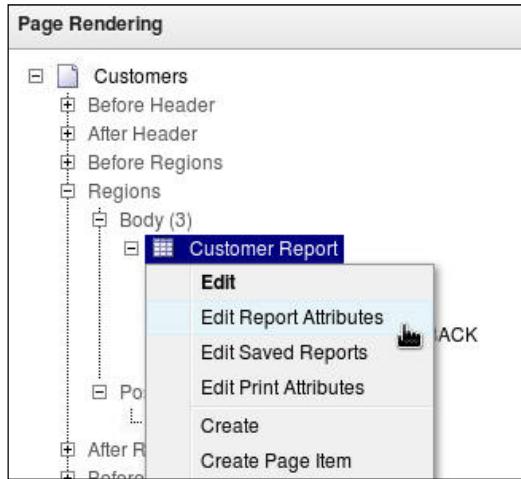
The screenshot shows the 'Region Definition' dialog box for a report named 'Customer Report'. The 'Identification' tab is selected, displaying the page title '3 Customers' and a title field containing 'Customer Report'. The 'Source' tab is also visible, showing a SQL query:

```
select c.customer_id,
       c.cust_first_name||' '||c.cust_last_name name,
       c.city,
       c.cust_email,
       (select last_name from oe_hr_employees where employee_id= c.account_mgr_id)
       account_mgr,
       dbms_lob.getlength(c.photo) photo
  from oe_hr_customers c
```

- 4) A confirmation window appears. Click **Apply Changes**.



- 5) Because you no longer have the CUST\_FIRST\_NAME column in the query (it was changed to first and last name), you need to remove it from the link column area. Right-click the **Customer Report** region again and select **Edit Report Attributes**.



- 6) Click the **Link Column** subtab.

Region Definition    **Report Attributes**    Saved Reports    Print Attributes

**Region Name:** Customer Report

Show All    Column Attributes    Column Groups    Pagination    Sorting    Search Bar    Download    Link Column    Advanced Attributes

**Column Attributes**

To change the column display order run the report as a developer. Click Select Columns from the Actions Menu and move the displayed columns up or down.

- 7) Notice the Item 2 items **P<n>\_CUST\_FIRST\_NAME** and **#CUST\_FIRST\_NAME#**. These no longer appear in the SQL Query of your report, so you need to remove them from the link.

**Link Column**

Link Column    Link to Custom Target

Single Row View     Allow Exclude Null Values  
                          Allow Displayed Columns

Uniquely Identify Rows by: **ROWID**

Unique Column:

\* Link Icon:

[Icon 1] [Icon 2] [Icon 3] [Icon 4] [Icon 5] [Icon 6] [Icon 7] [Icon 8]

Link Attributes:

Target: Page in this Application    Page: 8     Reset Pagination

Request:     Clear Cache:

Name	Value
Item 1 P8_CUSTOMER_ID	#CUSTOMER_ID#
Item 2 P8_CUST_FIRST_NAME	#CUST_FIRST_NAME#
Item 3 P8_CUST_LAST_NAME	#CUST_LAST_NAME#

- 8) After the items are removed, click the **Column Attributes** subtab.

Region Name: Customer Report

Cancel **Apply**

Show All Column Attributes Column Groups Pagination Sorting Search Bar Download Link Column Advanced Attributes Icon View

**Link Column**

Link Column **Link to Custom Target**

Single Row View  Allow Exclude Null Values  
 Allow Displayed Columns

Uniquely Identify Rows by **ROWID**

Unique Column

\* Link icon ****

[Icon 1] [Icon 2] [Icon 3] [Icon 4] [Icon 5] [Icon 6] [Icon 7] [Icon 8]

Link Attributes

Target **Page in this Application** Page **8**  Reset Pagination

Request Clear Cache

Name	Value
Item 1	P8_CUSTOMER_ID #CUSTOMER_ID#
Item 2	
Item 3	

- 9) Click the **Edit** icon next to the **PHOTO** column.

**Column Attributes**

To change the column display order run the report as a developer. Click Select Columns from the Actions Menu and move the displayed column. Then select Save Report from the Action Menu and save **As Default Report Settings**.

	Heading	Type	Link	Display Text As
	CUSTOMER_ID	Customer Id	NUMBER	Display as Text (escape special characters)
	CITY	City	STRING	Display as Text (escape special characters)
	CUST_EMAIL	Cust Email	STRING	Display as Text (escape special characters)
	NAME	Name	STRING	Display as Text (escape special characters)
	ACCOUNT_MGR	Account Mgr	STRING	Display as Text (escape special characters)
	PHOTO	Photo	STRING	Display as Text (escape special characters)

- 10) Select **Standard Report Column** for Display Type and click the up arrow for Number / Date Format.

**Column Definition**

Column Name:	PHOTO
Column Type:	OTHER
Group:	- Select Column Group -
Display Type:	Standard Report Column
* Column Heading:	Photo
Single Row View Label:	Photo
Number / Date Format:	

Use Same Text for Single Row View

- 11) Scroll to the bottom of the list and select **BLOB Format**.

04-JAN-12
2004-01-12
Monday, 12 January, 2004
12-JAN-2004 14:30
12-JAN-2004 14:30:00
12-JAN-2004 02:30PM
January
12-JAN-2004 14:30
12-JAN-2004 14.30.12.86753090
12-JAN-2004 02:30:12.86753090
12-JAN-2004 14:30 +00:00
12-JAN-2004 14.30.12.86753090
12-JAN-2004 02.30.12.86753090
16 hours ago
<b>BLOB Format</b>

- 12) Scroll down to the Blob Column Attributes section. Select **IMAGE** for Format Mask, enter **OEHR\_CUSTOMERS** for Table, **PHOTO** for Column Name, **CUSTOMER\_ID** for Primary Key Column 1, **MIMETYPE** for Mimetype Column, **FILENAME** for Filename Column, **LAST\_UPDATE\_DATE** for Last Updated Column, select **Inline** for Content Disposition.

**Blob Column Attributes**

* Format Mask	IMAGE
* Table	OEHR_CUSTOMERS
* Column	PHOTO
* Primary Key Column 1	CUSTOMER_ID
Primary Key Column 2	
Mimetype Column	MIMETYPE
Filename Column	FILENAME
Last Updated Column	LAST_UPDATE_DATE
Charset Column	
Content Disposition	Inline
Download Text	Download

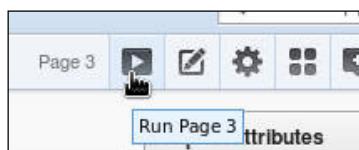
- 13) Scroll to the top of the page and click **Apply Changes**.

**Column Attributes: Photo**

**Column Definition**

Show All	Column Definition	List of Values	Column Formatting	Column Link	Authorization	Conditional Display	Help Text	Comments
Column Name: PHOTO Column Type: OTHER Group: - Select Column Group - Display Type: Standard Report Column * Column Heading: Photo * Single Row View Label: Photo Number / Date Format: BLOB								
<input checked="" type="checkbox"/> Use Same Text for Single Row View								

- 14) Click the **Run Page** icon.



- 15) You need to add the columns you added to the SQL Query. Select **Actions > Select Columns**.

The screenshot shows a 'Customer Report' window. At the top right, there is a 'Actions' dropdown menu. A context menu is displayed over the report table, with 'Select Columns' highlighted in blue. Other options in the menu include 'Filter', 'Rows Per Page', 'Format', 'Flashback', 'Save Report', 'Reset', 'Help', and 'Download'.

	Customer Id	City	Cus
	101	Kokomo	Constantin.Welles@
	102	Indianapolis	HARRISON.PACIN
	103	Bloomington	Manisha.Taylor@A
	104	Indianapolis	Harrison.Sutherland
	105	Bloomington	MATTHIAS.MACGR
	106	South Bend	Matthias.Hannah@
	107	Elkhart	Matthias.Cruise@GROSBEAK.COM

- 16) Select the >> to move all the columns to **Display in Report** and click **Apply**.

The screenshot shows a 'Select Columns' dialog box. It has two main sections: 'Do Not Display' (empty) and 'Display in Report'. The 'Display in Report' section contains the following columns: Customer Id, City, Cust Email, Name, Account Mgr, and Photo. The 'Photo' column is currently selected. At the bottom right of the dialog are 'Cancel' and 'Apply' buttons, with 'Apply' being highlighted.

- 17) The photo is displayed in the report. Click the **Edit** icon next to the row.

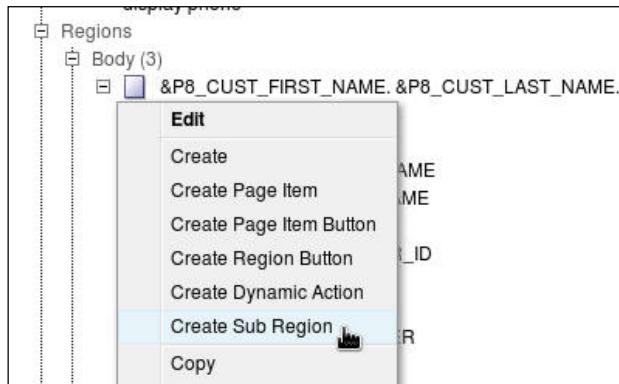
Customer Report					
	Name	City	Cust Email	Account Mgr	Photo
	Constantin Welles	Kokomo	Constantin.Welles@ANHINGA.COM	Russell	
	Harrison Pacino	Indianapolis	HARRISON.PACINO@ANI.COM	Russell	
	Manisha Taylor	Bloomington	Manisha.Taylor@AUKLET.COM	Bates	
	Harrison Sutherland	Indianapolis	Harrison.Sutherland@GODWIT.COM	Russell	
	Matthias MacGraw	Bloomington	MATTHIAS.MACGRAW@GOLDENEYE.COM	Russell	

- d. Add a Delete Image region by creating a new HTML region called Photo Image.  
 1) Click the **Edit Page** link on the Developer toolbar.

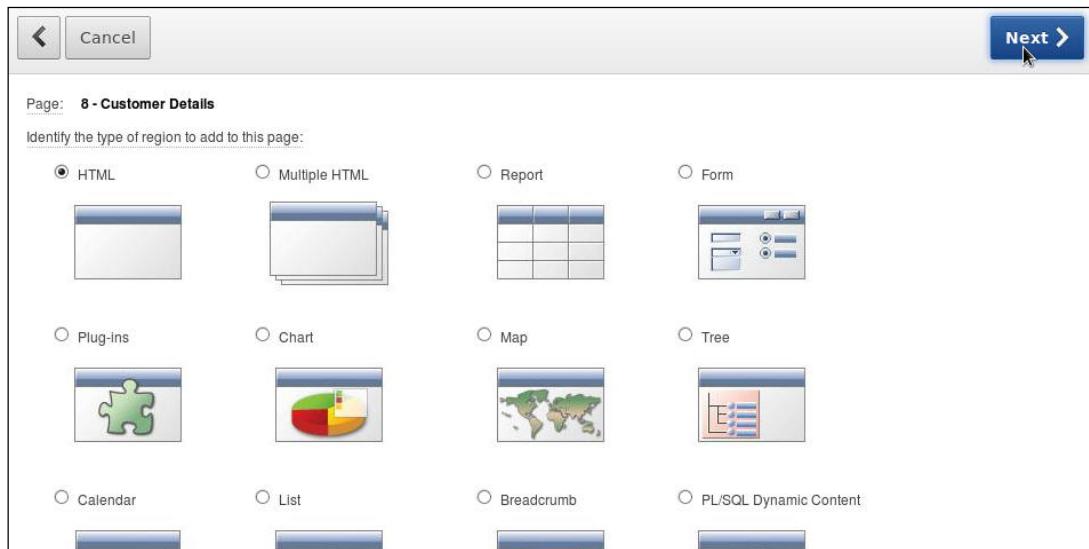
**Harrison Pacino Customer Details**

Cust First Name *	Harrison
Cust Last Name *	Pacino
Cust Email	HARRISON.PACINO@AI
Account Manager	Russell, John
	<a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>
Country	United States of America
City	Indianapolis
Phone Number	+1 317 123 4111
Photo	<input type="file"/> <a href="#">Browse...</a>
Rating	
The record created or modified in this form is reflected in the Customer Report.	
Hint	<a href="#">Home</a> <a href="#">Application 130</a> <a href="#">Edit Page 8</a> <a href="#">Create</a> <a href="#">Session</a> <a href="#">Caching</a> <a href="#">View</a>

- 2) Right-click the **Customer Detail** region and select **Create Sub Region**.



- 3) Select **HTML** and click **Next >**.



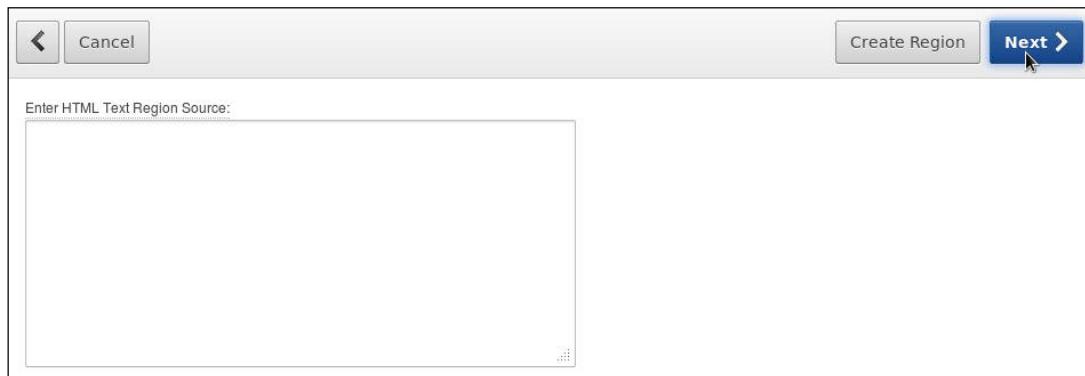
- 4) Select **HTML** and click **Next >**.



- 5) Enter **Photo Image** for Title. Select **Sidebar Region** for Region Template and click **Next >**.



- 6) Click **Next >**.

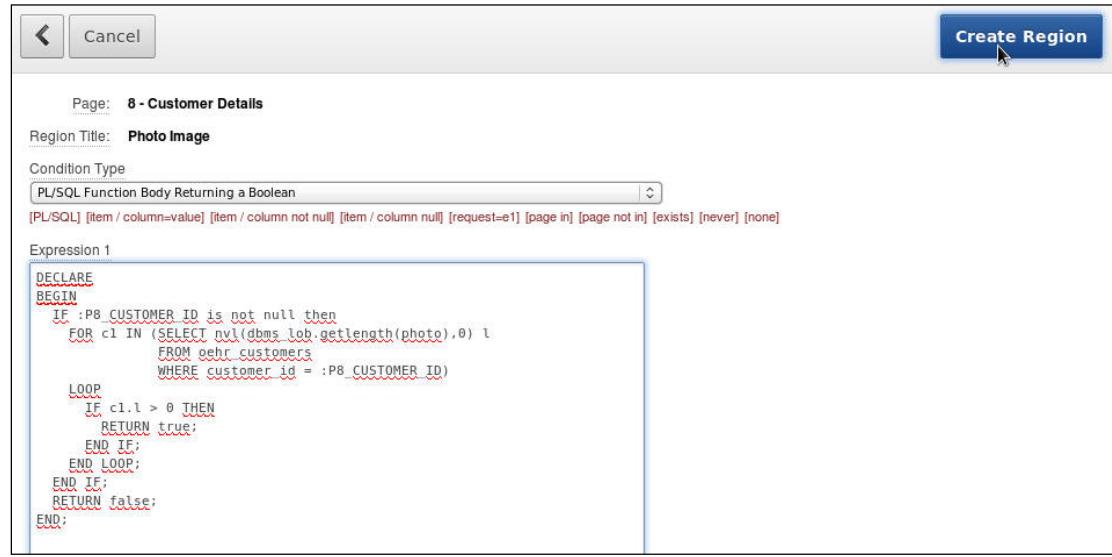


- 7) Select **PL/SQL Function Body Returning a Boolean** for Condition Type and enter the following code for Expression (located in the /home/oracle/labs/files/lab16\_3\_2.txt file). Replace **P<n>** with the page number. Click **Create Region**.

```

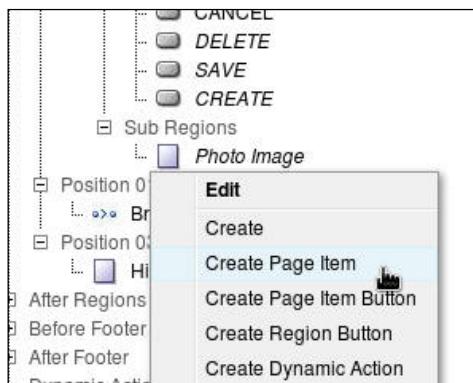
DECLARE
BEGIN
    IF :P<n>_CUSTOMER_ID is not null then
        FOR c1 IN (SELECT nvl(dbms_lob.getlength(photo), 0) l
                    FROM oehr_customers
                   WHERE customer_id = :P<n>_CUSTOMER_ID)
        LOOP
            IF c1.l > 0 THEN
                RETURN true;
            END IF;
        END LOOP;
    END IF;
    RETURN false;
END;

```

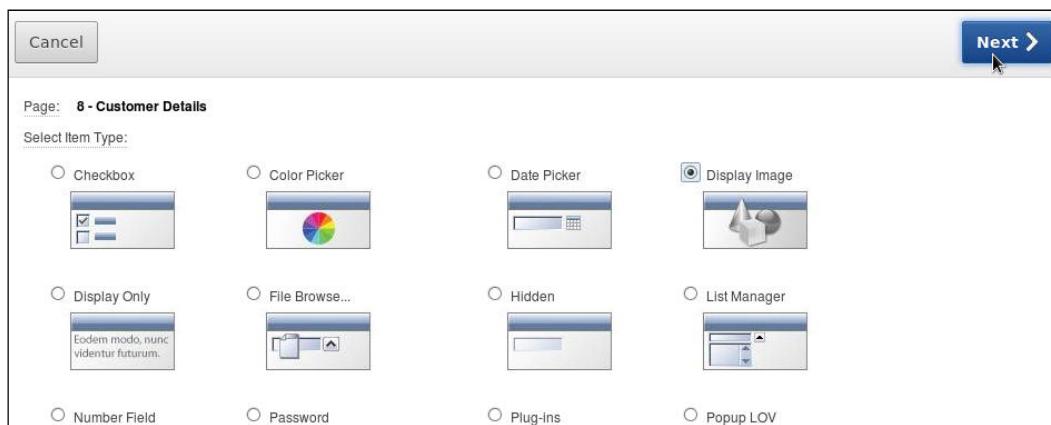


- e. Create a Display Image item in the Photo Image region called P<n>\_IMAGE that shows the image.

- Under Regions, right-click the **Photo Image** region that you just created and select **Create Page Item**.



- Select **Display Image** and click **Next >**.



- 3) Enter P<n>\_IMAGE for the item and click **Next >**.

Page: 8 - Customer Details  
Display As: Display Image  
\* Item Name: P8\_IMAGE  
\* Sequence: 100  
\* Region: Photo Image (20)

- 4) Click [Clear] for the label and click **Next >**.

Page: 8 - Customer Details  
Item Name: P8\_IMAGE  
Display As: Display Image  
Label:  [Clear]  
Template: Optional

- 5) Make sure that **BLOB Column specified in Item Source** is selected for Based On, and enter **FILENAME** for Filename Column and **LAST\_UPDATE\_DATE** for BLOB Last Updated Column. Click **Next >**.

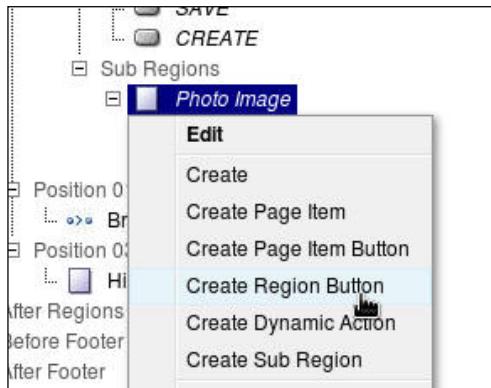
Page: 8 - Customer Details  
Item Name: P8\_IMAGE  
Display As: Display Image  
Based On: BLOB Column specified in Item Source  
Alternative Text Column:   
Filename Column: FILENAME  
BLOB Last Updated Column: LAST\_UPDATE\_DATE

- 6) Select **Database Column** for Source Type and change the Database Column Name to **PHOTO**. Click **Create Item**.

Identify the source of the item. If the item source is null the default value will be used.  
Page: 8 - Customer Details  
Item Name: P8\_IMAGE  
Display As: Display Image  
Source Used: Always, replacing any existing value in session state  
\* Source Type: Database Column  
Database Column Name: PHOTO  
Format Mask:

- f. Create a delete button called **DELETE\_IMAGE**. Create a PL/SQL process called "delete image" that is invoked to perform the delete. Run the page.

- 1) Right-click the **PHOTO IMAGE** region and select **Create Region Button**.



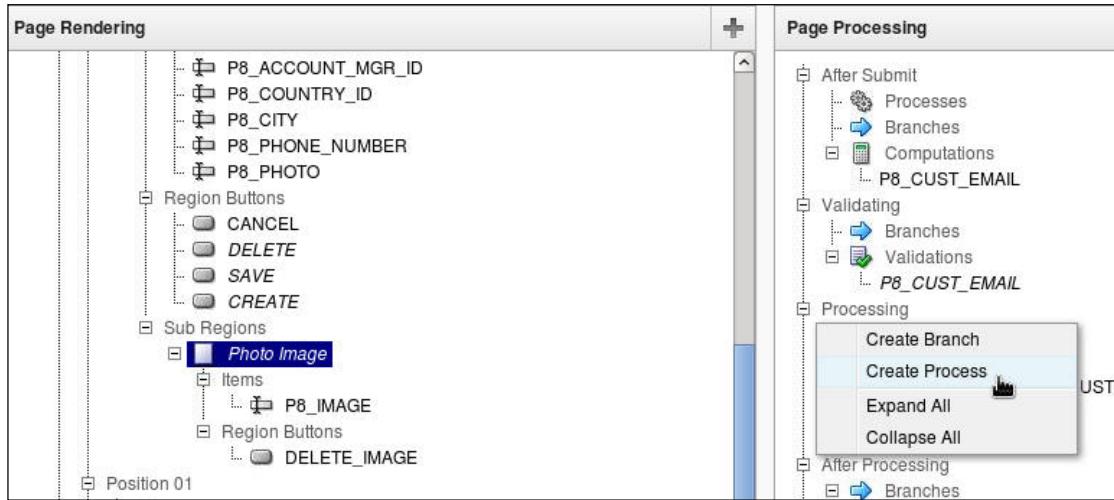
- 2) Enter **DELETE\_IMAGE** for button name and **Delete Image** for Label. Select **Template Based Button** for Button Style and **Large Button** for Button Template, and click **Next >**.

Page:	8 - Customer Details
Region:	Photo Image
* Button Name:	DELETE_IMAGE
[Cancel] [Next] [Previous] [Apply] [Submit] [Delete] [Finish] [Create] [Reset]	
* Label:	Delete Image
Button Style:	Template Based Button
Button Template:	Large Button
Button Type:	Normal
Button Attributes:	

- 3) Select **Below Region** for Position and click **Create Button**.

Page:	8 - Customer Details
Region:	Photo Image
Button Name:	DELETE_IMAGE
* Sequence:	60
Position:	Below Region
[Top] [Close] [Edit] [Create] [Change] [Previous] [Next]	
Alignment:	Right

- 4) Under Page Processing, right-click **Processing** and select **Create Process**.



- 5) Select **PL/SQL** and click **Next >**.

Page: 8 - Customer Details

Select the category of the process you wish to create:

PL/SQL       Reset Pagination       Plug-ins



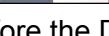
Session State       Data Manipulation       Web Services

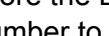


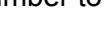
Form Pagination       Send E-Mail       Close popup window



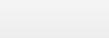
Delete image      

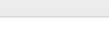
Insert image      

Update image      

Delete image      

Insert image      

Update image      

Delete image      

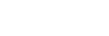
Insert image      

Update image      

Delete image      

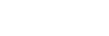
Insert image      

Update image      

Delete image      

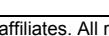
Insert image      

Update image      

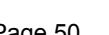
Delete image      

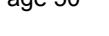
Insert image      

Update image      

Delete image      

Insert image      

Update image      

Delete image      

Insert image      

Update image      

Delete image      

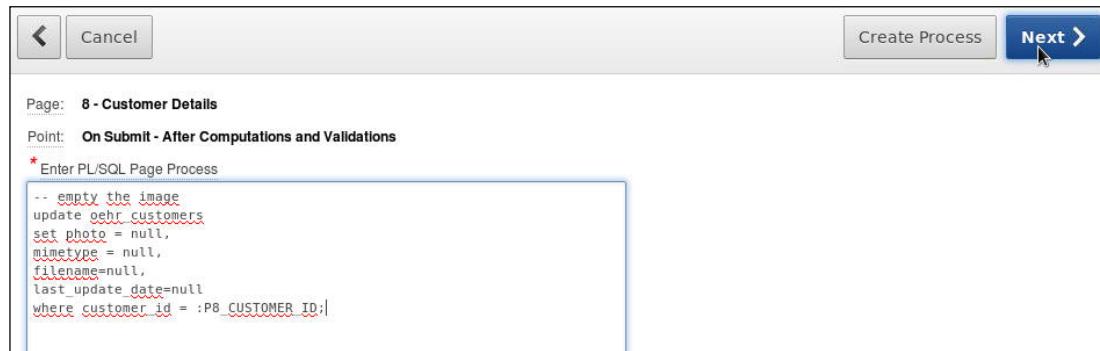
Insert image      

Update image      

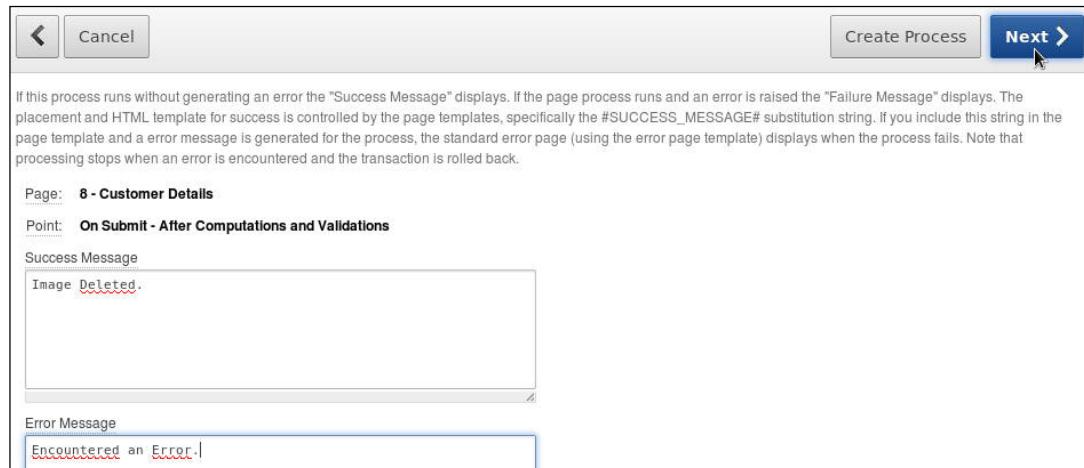
Delete image      <img alt="Delete image icon: trash

- 7) Enter the following code in the PL/SQL Page Process area (located in the home/oracle/labs/files/lab16\_3\_3.txt file). Make sure to replace P<n> with the page number. Click **Next >**.

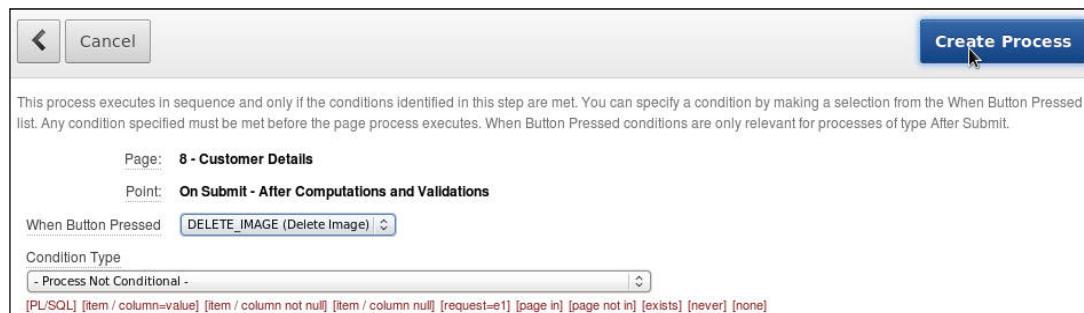
```
-- empty the image
update oepr_customers
set photo = null,
mimetype = null,
filename=null,
last_update_date=null
where customer_id = :P<n>_CUSTOMER_ID;
```



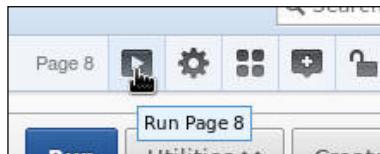
- 8) Enter success and failure messages. Click **Next >**.



- 9) Select **DELETE\_IMAGE (Delete Image)** for When Button Pressed. The button is clicked for Condition on the “delete image” process. Click **Create Process**.



10) Click the **Run Page** icon.



11) Click the **Delete Image** button.

Harrison Pacino Customer Details

**Cancel** **Delete** **Apply Changes**

Cust First Name *	Harrison
Cust Last Name *	Pacino
Cust Email	HARRISON.PACINO@AI
Account Manager	Russell, John
Bates, Elizabeth, Russell, John, Cambrault, Gerald	
Country	United States of America
City	Indianapolis
Phone Number	+1 317 123 4111
Photo	<input type="button" value="Browse..."/> <a href="#">Download</a>

The record created or modified in this form is reflected in the Customer Report.

**Photo Image**



**Delete Image**

12) The image was deleted. Notice that the image is no longer displayed in the report. Click the **Edit** icon for the same row.

**Customer Report**

**Image Deleted.**

	Name	City	Cust Email	Account Mgr	Photo
	Constantin Welles	Kokomo	Constantin.Welles@ANHINGA.COM	Russell	-
	Harrison Pacino	Indianapolis	HARRISON.PACINO@ANI.COM	Russell	-
	Manisha Taylor	Bloomington	Manisha.Taylor@AUKLET.COM	Bates	-
	Harrison Sutherland	Indianapolis	Harrison.Sutherland@GODWIT.COM	Russell	-

- 13) The image is no longer available to download and the Delete Image region is not displayed.

Pacino Customer Details

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager

Bates, Elizabeth, Russell, John, Cambrault, Gerald

Country

City

Phone Number

Photo

The record created or modified in this form is reflected in the Customer Report.

Cancel Delete Apply Changes



## **Practices for Lesson 17: Creating and Editing Charts**

**Chapter 17**

## Practices for Lesson 17: Overview

---

### Practices Overview

In these practices, you will learn how to create and modify charts as well as HTML 5 charts for mobile applications.

## Practice 17-1: Creating and Editing Charts

### Overview

In this practice you create a new chart with a Horizontal Bar – 3D Bar Chart. You then modify the chart and change it to a 3D Column Chart and change some of the settings to see how they work.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create a new Flash chart page that includes a Horizontal Bar – 3D Bar Chart. Use “Employees by Department” for the Title, “Number of Employees” for the X-Axis, and “Departments” for the Y-Axis. Use the following query (located in /home/oracle/labs/files/lab17\_1\_1.txt). Test your page.

```
select null link,
       department_name chart_label,
       count(*) chart_value
      from oehr_employees e,
           oehr_departments d
     where e.department_id = d.department_id
   group by department_name
```

- b. Modify your chart and change it to a 3D Column Chart with look 7. Add X-Axis scrollbars, enter 45 for the X-Axis label rotation, reverse the X and Y axes titles, and test your page.

## Practice 17-2: Creating an HTML5 Chart for Mobile Applications

### Overview

In this practice, you create an HTML5 chart for mobile application.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create an HTML5 Pie & Doughnut chart. Use “Departments Chart” for the Title. Use the following query (located in /home/oracle/labs/files/lab17\_2\_1.txt). Test your mobile page.

```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oe/hr_employees e,
       oe/hr_departments d
 where e.department_id = d.department_id
 group by department_name
```

## Practice 17-3: Creating Additional Charts

---

### Overview

In this practice, you create some additional charts, such as a combined chart, a project Gantt chart, and a Gauge chart.

### Assumptions

You have performed the previous practices.

### Tasks

- You build a combined chart. First, you upload and run the `add_oehr_employees3.sql` script to create a table called `oehr_employees3`.
- Create a 3D Column Flash Chart named **Salary Commission Combined Chart**. Use the following SQL Query (located in the `/home/oracle/labs/files/lab17_3_1.txt` file). Specify `Employee` for X-Axis Title and `Salary` for Y-Axis title. Edit the chart by changing the Series attribute to Line.

```
SELECT NULL LINK,
       LAST_NAME LABEL,
       SALARY "Salary",
       COMMISSION_PCT "COMMISSION"
  FROM OEHRS_EMPLOYEES3
 WHERE MANAGER_ID = 100
 ORDER BY LAST_NAME
```

- Upload and run the `tasks_ddl.sql` script to create a table called `tasks1`.
- Create a Project Gantt Chart that uses the following SQL Query (located in the `/home/oracle/labs/files/lab17_3_2.txt` file).

```
SELECT NULL LINK,
       tasks task_name, id, parent_id,
       START_DATE, END_DATE,
       STATUS,
       START_DATE-3, END_DATE+2
  from TASKS1
```

- Create a Salary Gauge chart for employees in department 80. Use the following SQL Query (located in the `/home/oracle/labs/files/lab17_3_3.txt` file).

```
select sum(case when salary <10000 then 0 else 1 end) value,
       count(*) max_value
  from oehr_employees
 where department_id=80
```

## Solution 17-1: Creating and Editing Charts

---

### Overview

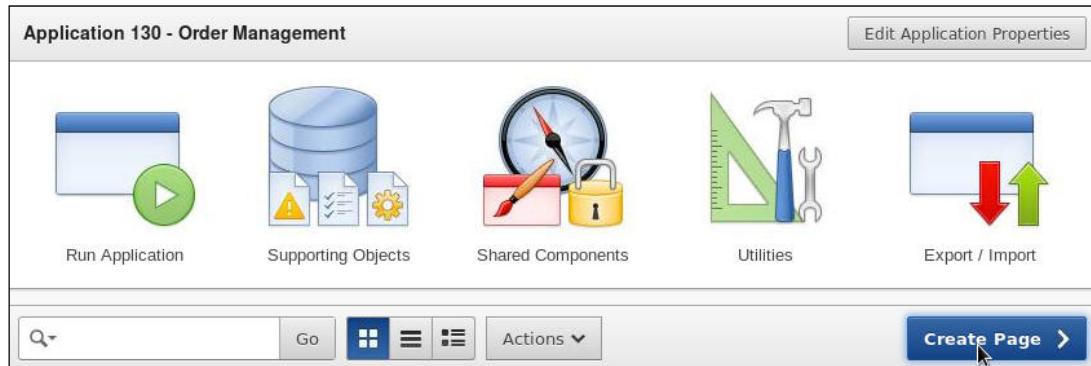
In this solution, you create a new chart with a Horizontal Bar – 3D Bar Chart. You then modify the chart and change it to a 3D Column Chart and change some of the settings to see how they work.

### Tasks

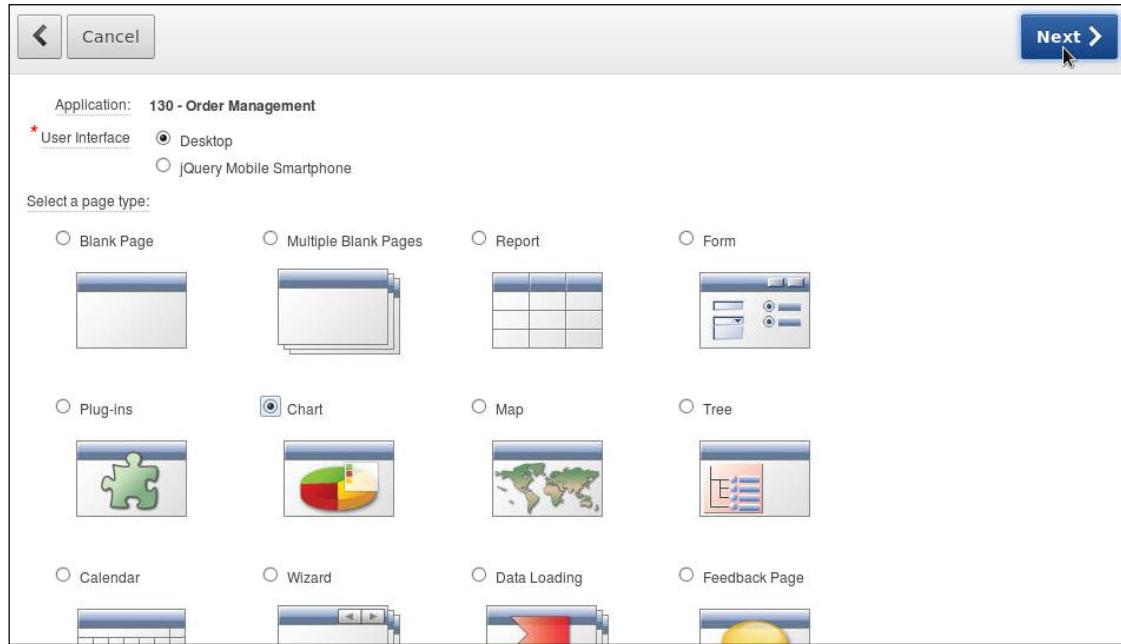
- Create a new Flash chart page that includes a Horizontal Bar – 3D Bar Chart. Use “Employees by Department” for the Title, “Number of Employees” for the X-Axis, and “Departments” for the Y-Axis. Use the following query (located in /home/oracle/labs/files/lab17-1.txt). Test your page.

```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oehr_employees e,
       oehr_departments d
 where e.department_id = d.department_id
 group by department_name
```

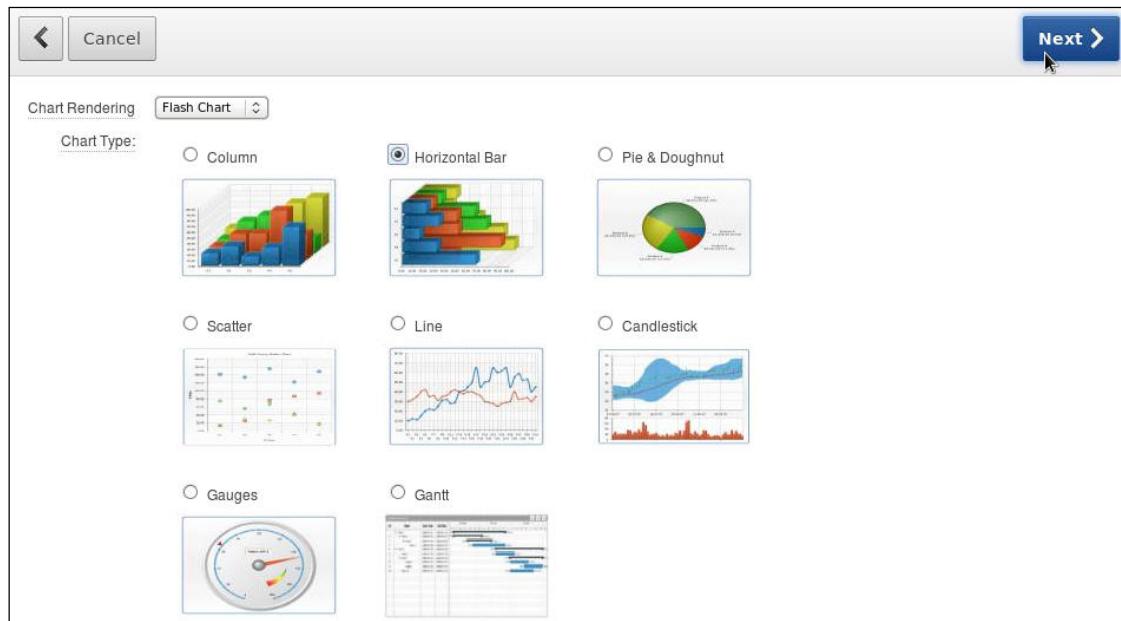
- On the Order Management application home page, click **Create Page >**.



2) Select **Chart** and click **Next >**.



3) Select **Flash Chart**. Select **Horizontal Bar** and click **Next >**.



- 4) Select **3D Bar Chart** and click **Next >**.



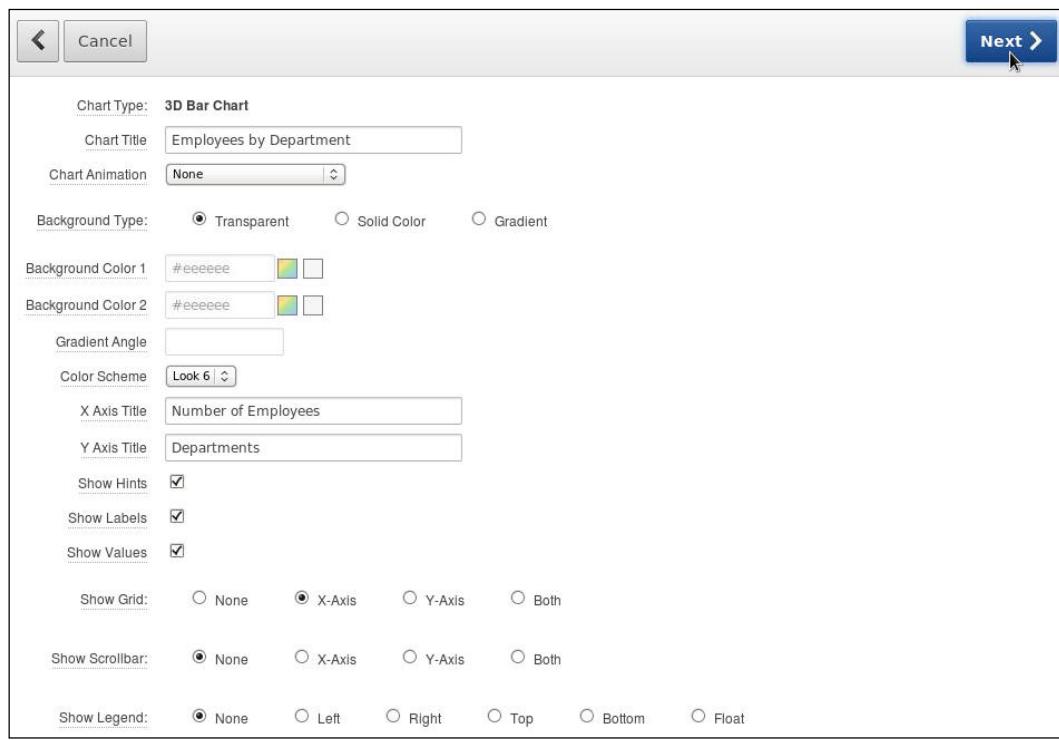
- 5) Enter **Employees by Department** for Page Name and Region Name and click **Next >**.

<input type="button" value="Cancel"/>	<input type="button" value="Next &gt;"/>
Application: 130 - Order Management	
* Page Number	32
* Page Name	Employees by Department
* Region Template	Chart Region
* Region Name	Employees by Department
Breadcrumb	- do not use breadcrumbs on page -

- 6) Accept the defaults and click **Next >**.

<input type="button" value="Cancel"/>	<input type="button" value="Next &gt;"/>
Page: 32	
Tab Options:	
<input checked="" type="radio"/> Do not use tabs <input type="radio"/> Use an existing tab set and create a new tab within the existing tab set. <input type="radio"/> Use an existing tab set and reuse an existing tab within that tab set.	

- 7) Enter **Employees by Department** for chart Title, **Number of Employees** for X Axis Title, and **Departments** for Y Axis Title. Click **Next >**.



- 8) Enter the following SQL query (located in /home/oracle/labs/files/lab17\_1.txt) and click **Next >**.

```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oechr_employees e,
       oechr_departments d
 where e.department_id = d.department_id
 group by department_name
```

**Next >**

Enter the query that will return the data to display the chart. Depending on the chart type, the required query format is different. To see an example, click [Chart Query Example](#).

\* Enter SQL Query or PL/SQL function returning a SQL Query:

```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oehr_employees e,
       oehr_departments d
 where e.department_id = d.department_id
 group by department_name
```

**Build Query**

Perform query validation     Save query without validation

Page Items to Submit

Maximum Rows

**9) Click Create.**

**Create**

You have requested to create a Flash chart page with the following attributes. Please confirm your selections.

Application	130
Page	32
Page Name	Employees by Department
Tab Set	TS1
Tab Label	
Region Title	Employees by Department
Region Template	Chart Region
Chart Type	Horizontal 3D Column

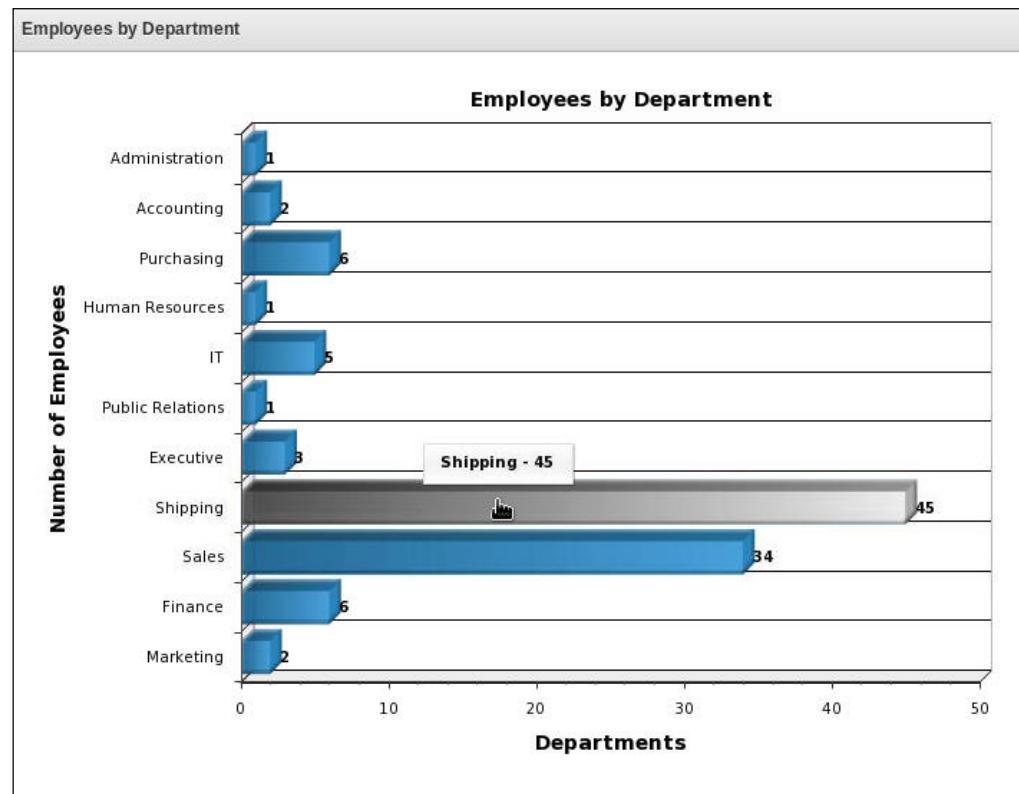
**10) Run the page. Click Run Page.**

**Run Page**

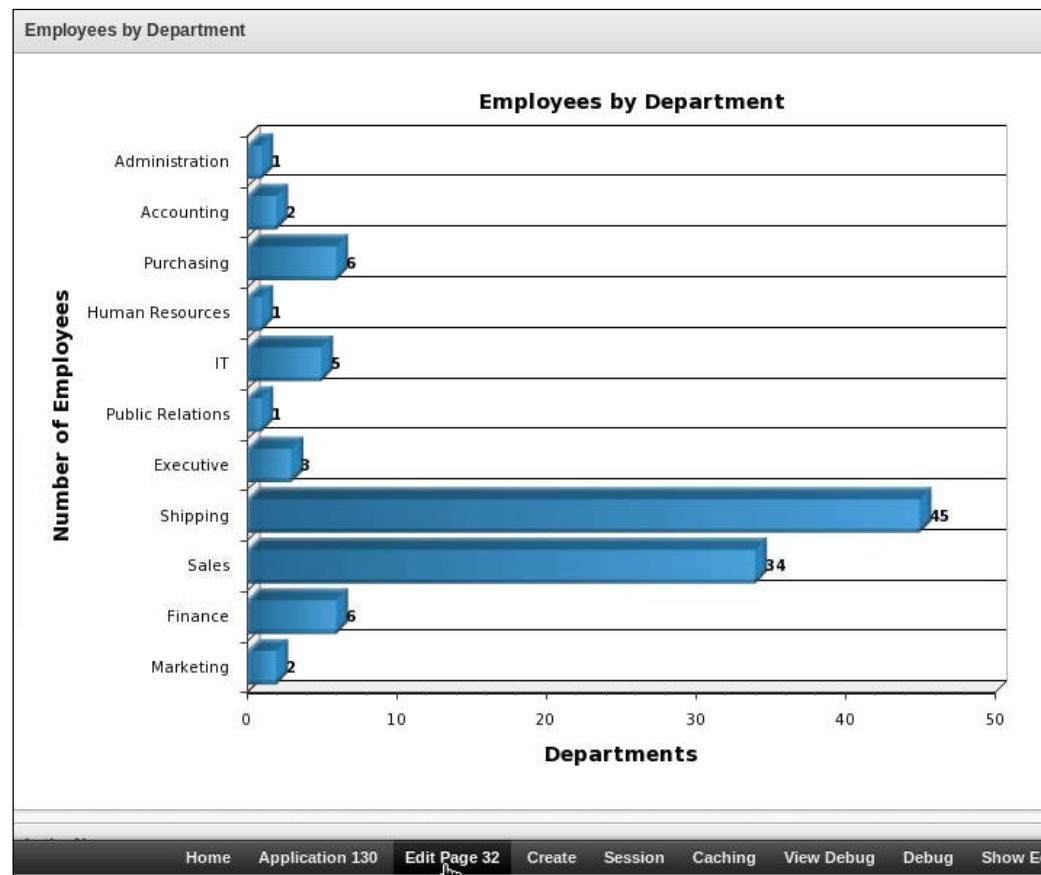


The chart has been created successfully.

- 11) Place your cursor over one of the bars to see the Department and its value.

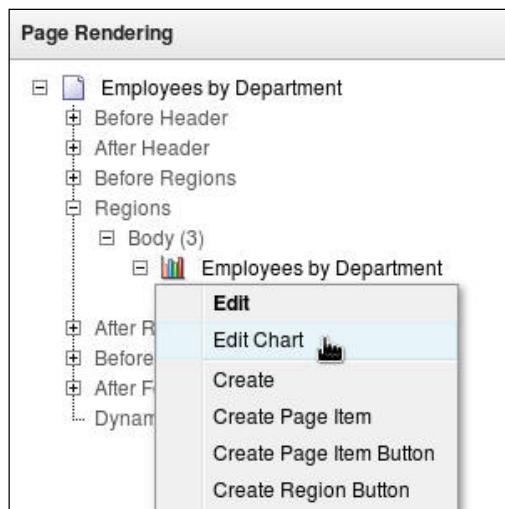


- 12) You want to change the 3D Bar Chart to a 3D Column Chart and alter the way it looks. Click the **Edit Page** link on the Developer toolbar.

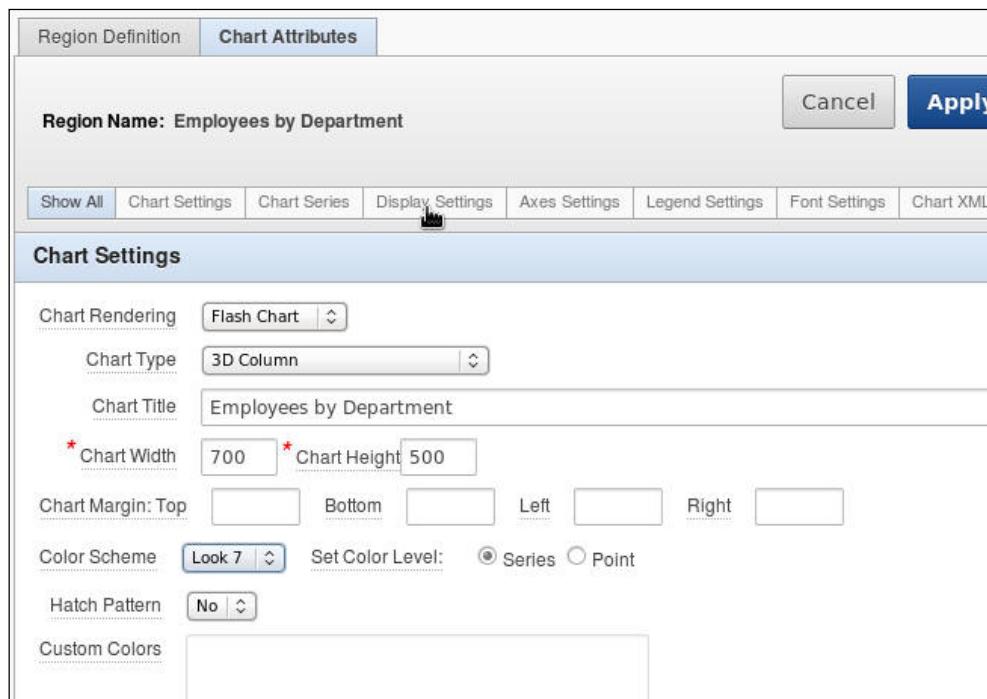


- b. Modify your chart and change it to a 3D Column Chart with look 7. Add X-Axis scrollbars, enter 45 for X-Axis label rotation, reverse the X and Y axes titles, and test your page.

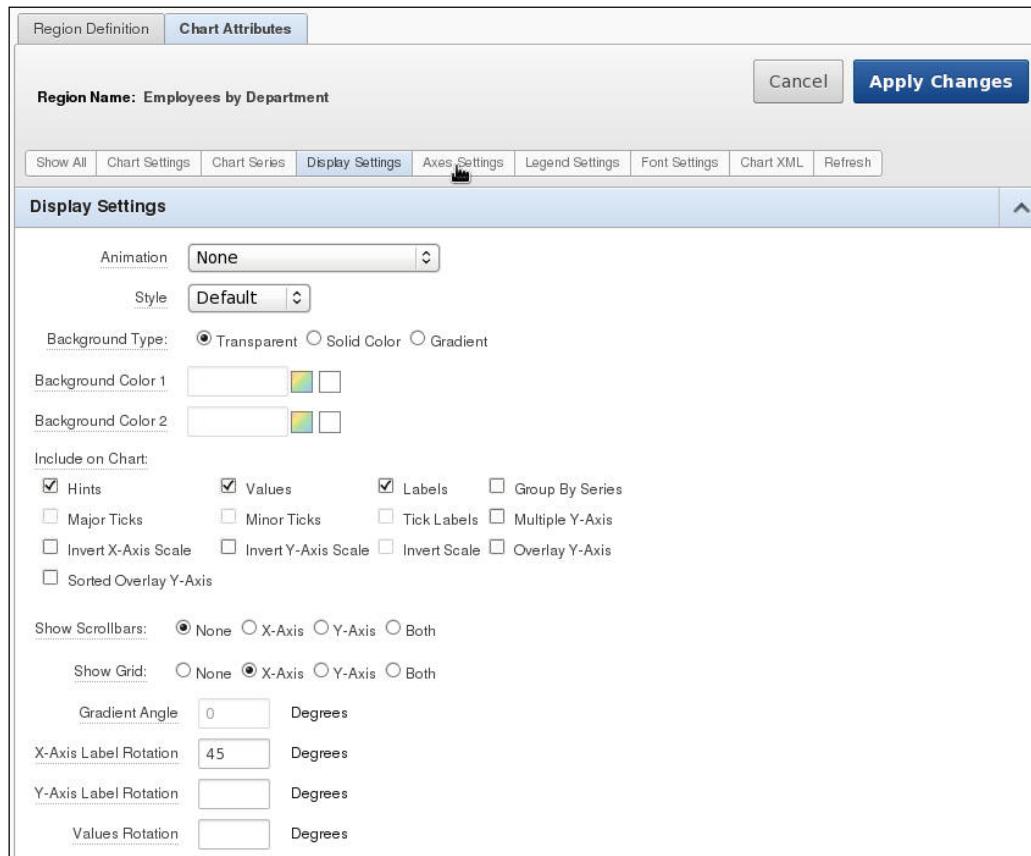
- 1) Right-click the **Employees by Department** region and select **Edit Chart**.



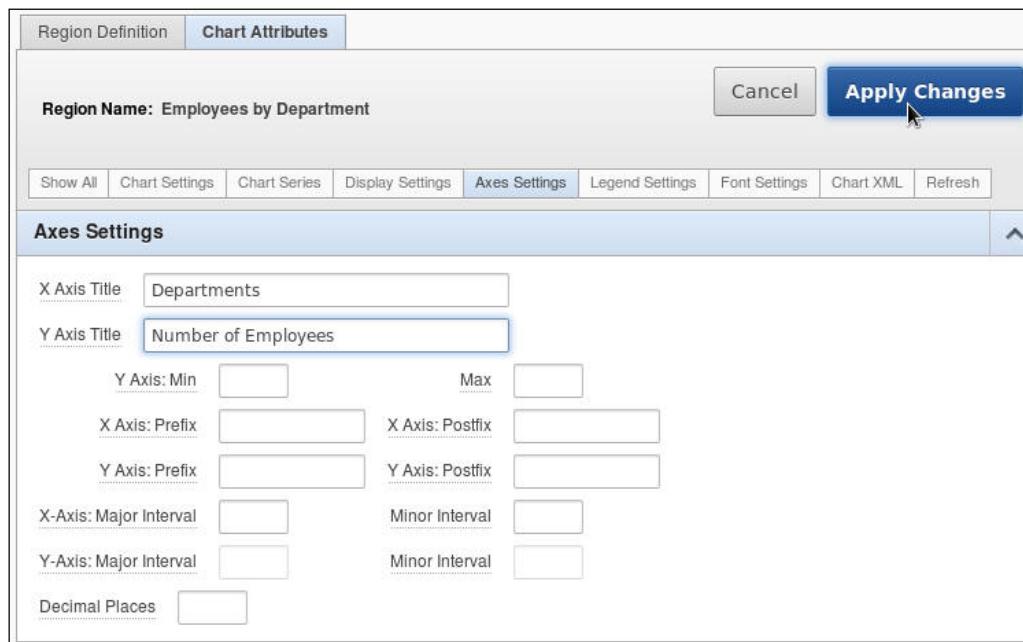
- 2) Select **3D Column** for Chart Type and select **Look 7** for Color Scheme, and then click the **Display Settings** tab.



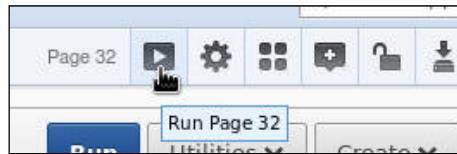
- 3) Enter **45** for X-Axis Label Rotation, and click the **Axes Settings** tab.



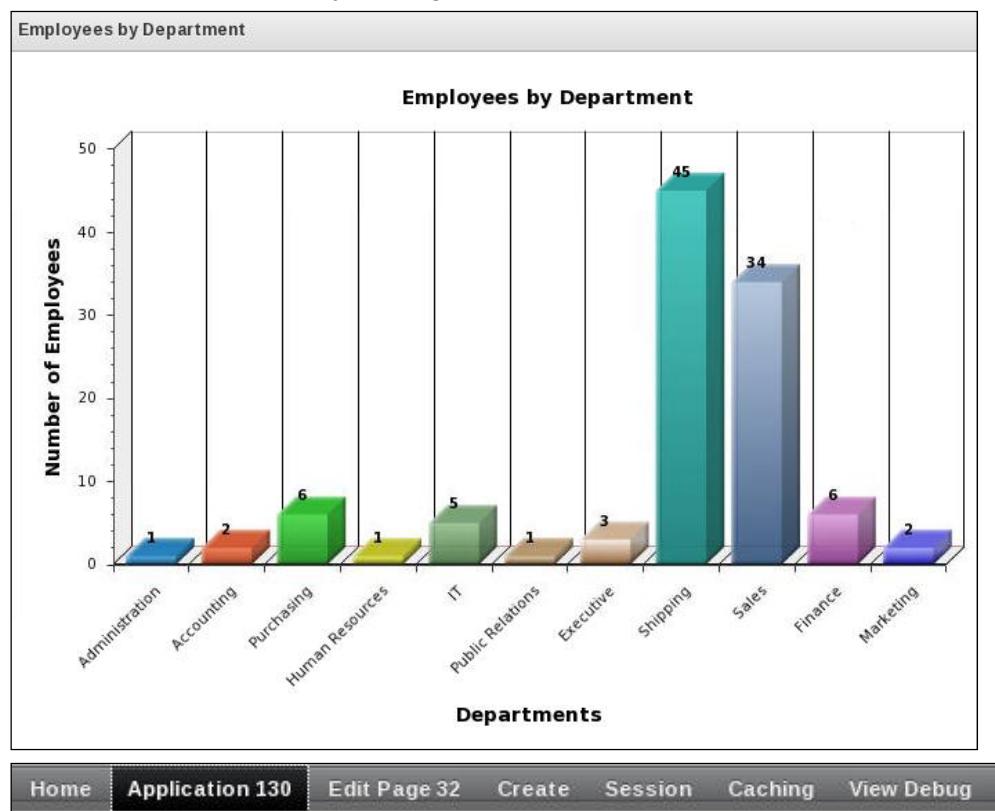
- 4) Because you changed the chart type, you must reverse the titles for the X and Y axes. Enter **Departments** for X Axis Title and **Number of Employees** for Y Axis Title. Click **Apply Changes**.



- 5) Run the page. Click the **Run Page** icon.



- 6) Notice that the chart is now a 3D Column chart, the look is different, and the X-Axes labels are rotated by 45 degrees.



## Solution 17-2: Creating an HTML5 Chart for Mobile Applications

### Overview

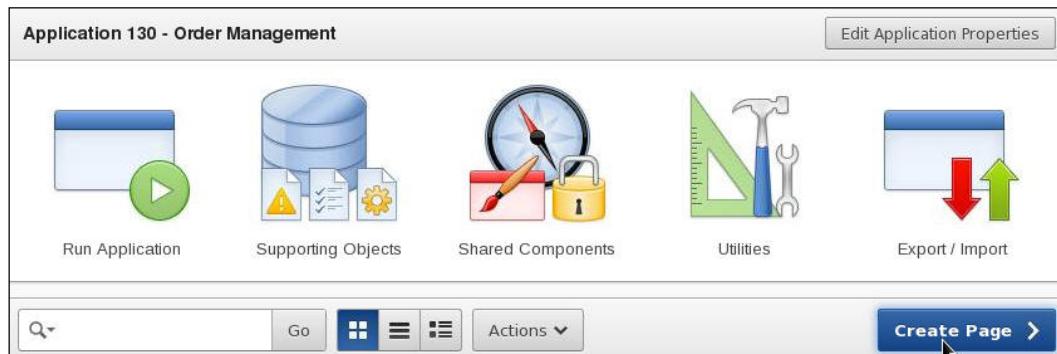
In this practice, you create an HTML5 chart for a mobile application.

### Tasks

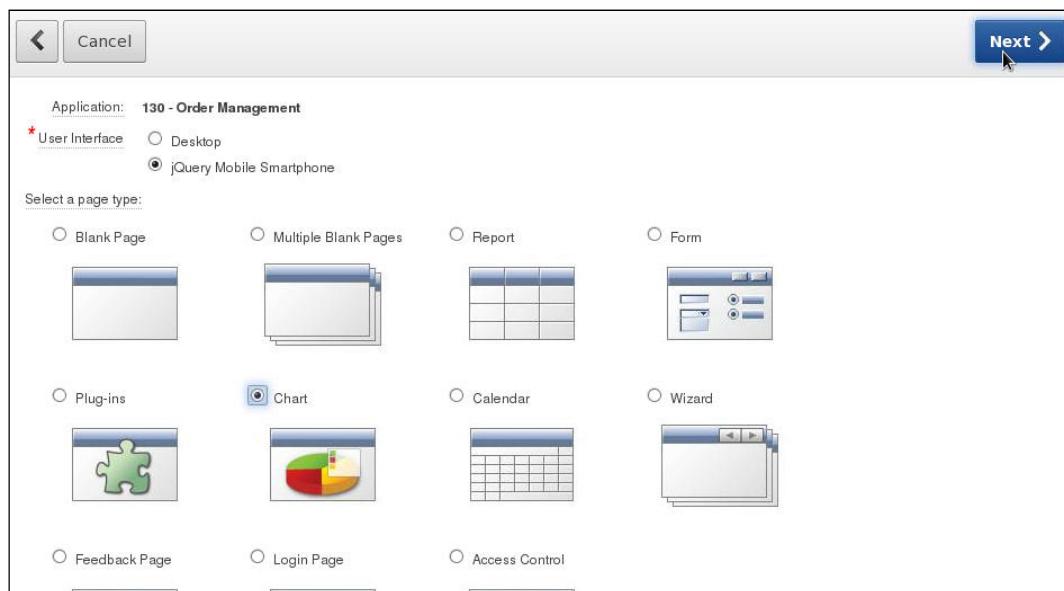
- Create an HTML5 Pie and Doughnut chart. Use “Departments Chart” for the Title. Use the following query (located in /home/oracle/labs/files/lab17\_2\_1.txt). Test your mobile page.

```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oechr_employees e,
       oechr_departments d
 where e.department_id = d.department_id
 group by department_name
```

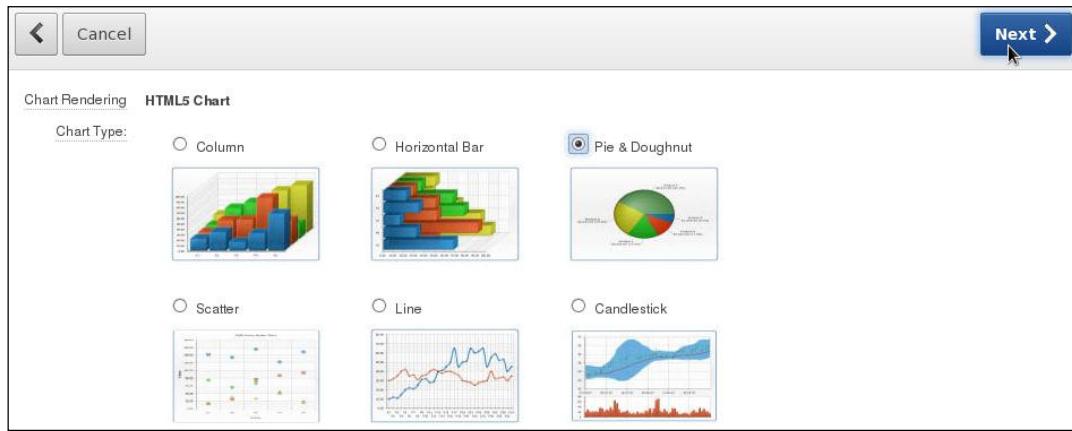
- Navigate to the Order Management application home page and click **Create Page**.



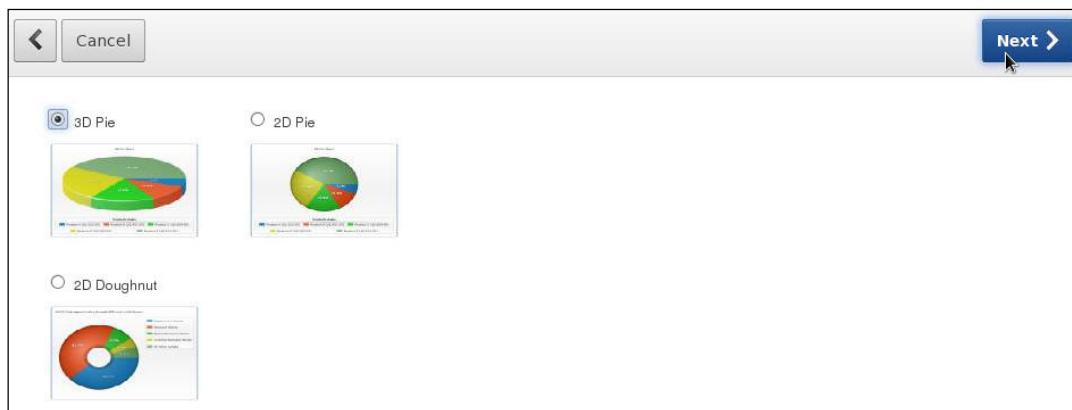
- Select **jQuery Mobile Smartphone** for User Interface and select **Chart**. Click **Next >**.



- 3) Select **Pie & Doughnut** and click **Next >**.



- 4) Select **3D Pie** and click **Next >**.



- 5) Select **Departments Chart** for both Page and Region names. Click **Next >**.

Application:	130 - Order Management
* Page Number	33
* Page Name	Departments Chart
* Region Template	Plain (No Title)
* Region Name	Departments Chart
Breadcrumb	- do not use breadcrumbs on page -

- 6) Enter **Employees by Department** as the Chart title. Click **Next >**

Chart Type: 3D Pie  
Chart Title: Employees by Department  
Background Type:  Transparent  Solid Color  Gradient  
Background Color 1: #eeeeee     
Background Color 2: #eeeeee     
Gradient Angle:   
Color Scheme: Look 6   
Show Hints:   
Show Labels:   
Show Values:   
Show Legend:  None  Left  Right  Top  Bottom  Float

- 7) Enter the following SQL query (located in /home/oracle/labs/files/lab17\_2\_1.txt) and click **Next >**.

```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oehr_employees e,
       oehr_departments d
 where e.department_id = d.department_id
 group by department_name
```

Enter the query that will return the data to display the chart. Depending on the chart type, the required query format is different. To see an example, click [Chart Query Example](#).  
\* Enter SQL Query or PL/SQL function returning a SQL Query:  

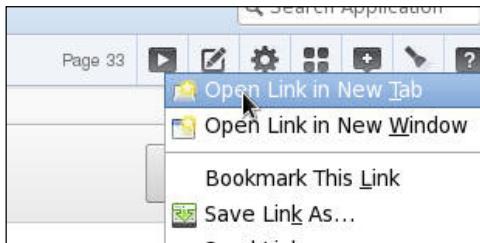
```
select null link,
       department_name chart_label,
       count(*) chart_value
  from oehr_employees e,
       oehr_departments d
 where e.department_id = d.department_id
 group by department_name
```

- 8) Click **Create**.

You have requested to create a Flash chart page with the following attributes. Please confirm your selections.

Application	130
Page	33
Page Name	Departments Chart
Region Title	Departments Chart
Region Template	Plain (No Title)
Chart Type	3D Pie

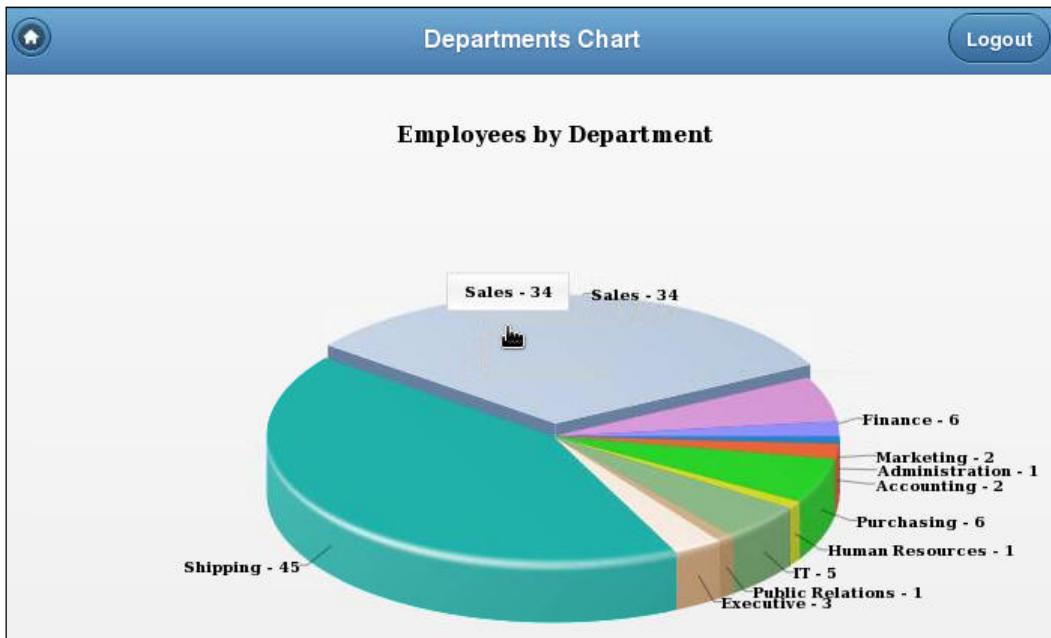
- 9) Run the page on a new tab.



- 10) You may be asked to log in. Enter your login credentials. Click **Login**.

A screenshot of a login page titled "Create Chart - Success". The URL in the address bar is "localhost:8080/apex/f?p=130:LOGIN\_JQM\_SMAF". The page contains two input fields: "Username" with value "ora01" and "Password" with value "\*\*\*\*\*". Below the password field is a blue "Login" button with a hand cursor icon.

- 11) The chart is displayed.



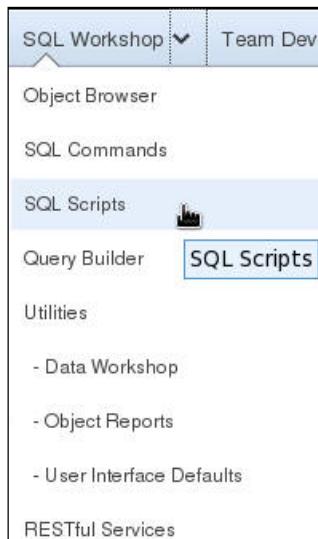
## Solution 17-3: Creating Additional Charts

### Overview

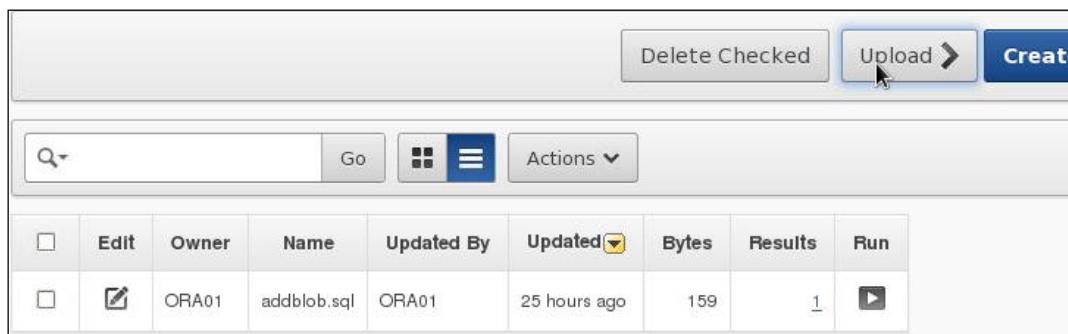
In this practice, you create some additional charts, such as a combined chart, a project Gantt chart, and a Gauge chart.

### Tasks

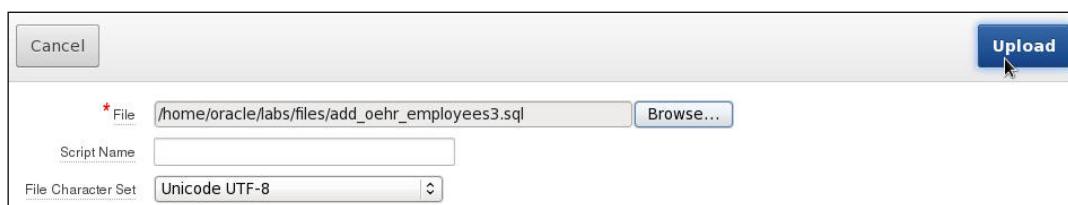
- You build a combined chart. First, you upload and run the `add_oehr_employees3.sql` script to create a table called `oehr_employees3`.
- 1) Navigate to **SQL Workshop > SQL Scripts**.



- 2) Click **Upload**.



- 3) Browse and select `home/oracle/labs/files/add_oehr_employees3.sql`, then click **Upload**.



- 4) Click **Run** to create the `oehr_employees3` table.

	Edit	Owner	Name	Updated By	Updated	Bytes	Results	Run
<input type="checkbox"/>		ORA01	add_oehr_employees3.sql	ORA01	Now	1,195	0	
<input type="checkbox"/>		ORA01	addblob.sql	ORA01	26 hours ago	159	1	

- 5) Click **Run Now**.

Run Script

You have requested to run the following script. Please confirm your request.

Script Name	<b>add_oehr_employees3.sql</b>
Created	on 01/10/2013 09:38:39 AM by ORA01
Updated	on 01/10/2013 09:38:39 AM by ORA01
Number of Statements	<b>16</b>
Script Size in Bytes	<b>1,195</b>

**Run Now**

- 6) Click **View Results**.

	Script	Run By	Started	Elapsed	Status	Statements	Bytes	View Results
<input type="checkbox"/>	<a href="#">add_oehr_employees3.sql</a>	ORA01	1 seconds ago	0.40	Completed	16 of 16	0	
<input type="checkbox"/>	<a href="#">addblob.sql</a>	ORA01	26 hours ago	0.10	Completed	1 of 1	0	

- 7) The results are displayed.

Script: **add\_oehr\_employees3.sql** Status: **Complete**

View:  Detail  Summary Rows: **15** Go

Number	Elapsed	Statement	Feedback	Rows
1	0.07	CREATE TABLE OEHR_EMPLOYEES3 AS SELECT * FROM OEHR_EMPLOYEES	Table created.	0
2	0.01	alter table 'OEHR_EMPLOYEES3' modify('COMMISSION_PCT' NUMBER)	Table altered.	0
3	0.00	update oehr_employees3 set commission_pct=1400 where employee	1 row(s) updated.	1
4	0.00	update oehr_employees3 set commission_pct=1500 where employee	1 row(s) updated.	1
5	0.00	update oehr_employees3 set commission_pct=1200 where employee	1 row(s) updated.	1
6	0.01	update oehr_employees3 set commission_pct=1500 where employee	1 row(s) updated.	1
7	0.00	update oehr_employees3 set commission_pct=1700 where employee	1 row(s) updated.	1
8	0.00	update oehr_employees3 set commission_pct=1600 where employee	1 row(s) updated.	1
9	0.01	update oehr_employees3 set commission_pct=1000 where employee	1 row(s) updated.	1
10	0.00	update oehr_employees3 set commission_pct=1800 where employee	1 row(s) updated.	1
11	0.00	update oehr_employees3 set commission_pct=1300 where employee	1 row(s) updated.	1
12	0.01	update oehr_employees3 set commission_pct=900 where employee	1 row(s) updated.	1
13	0.00	update oehr_employees3 set commission_pct=1400 where employee	1 row(s) updated.	1
14	0.00	update oehr_employees3 set commission_pct=2000 where employee	1 row(s) updated.	1
15	0.01	update oehr_employees3 set commission_pct=1400 where employee	1 row(s) updated.	1

row(s) 1 - 15 of 16

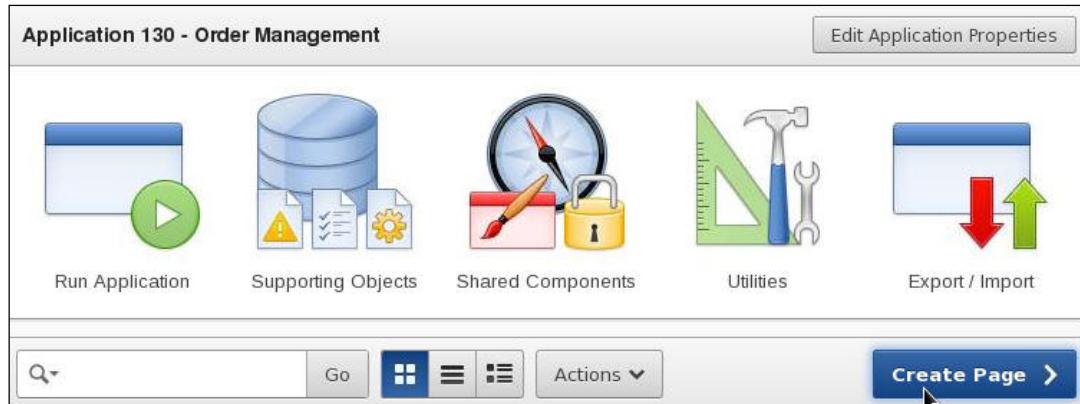
**Download**

Statements Processed: 16  
Successful: 16  
With Errors: 0

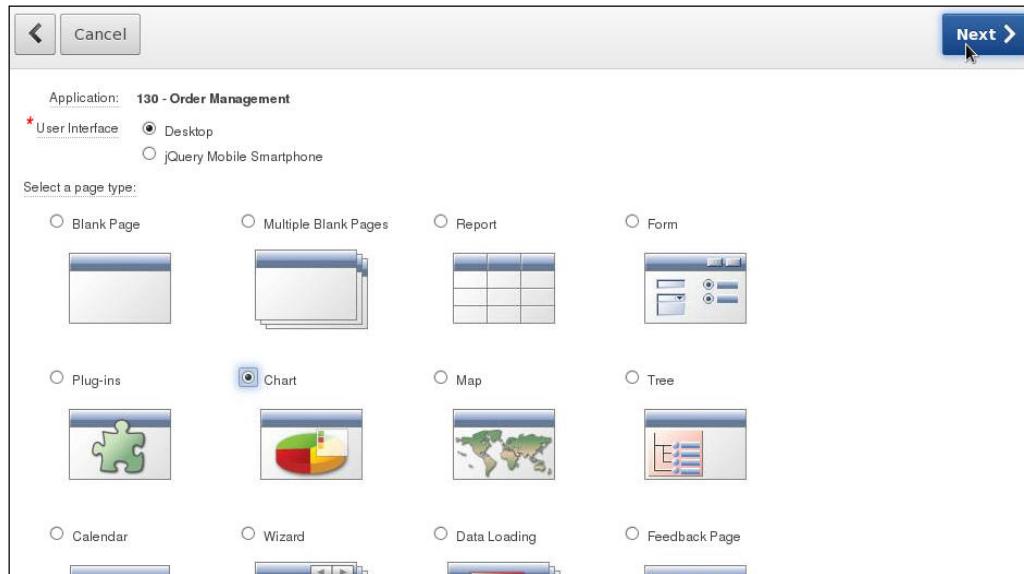
- b. Create a 3D Column Flash Chart named **Salary Commission Combined Chart**. Use the following SQL Query (located in the /home/oracle/labs/files/lab17\_3\_1.txt file). Specify **Employee** for X-Axis Title and **Salary** for Y-Axis title. Edit the chart by changing the Series attribute to Line.

```
SELECT NULL LINK,
       LAST_NAME LABEL,
       SALARY "Salary",
       COMMISSION_PCT "COMMISSION"
  FROM OEHR_EMPLOYEES3
 WHERE MANAGER_ID = 100
Order by LAST_NAME
```

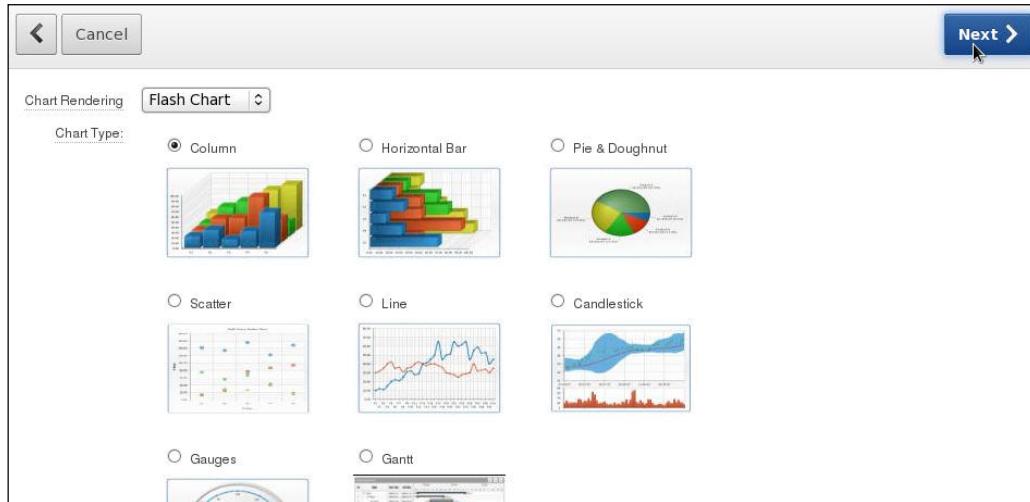
- 1) Navigate to your application. In your application, click **Create Page**.



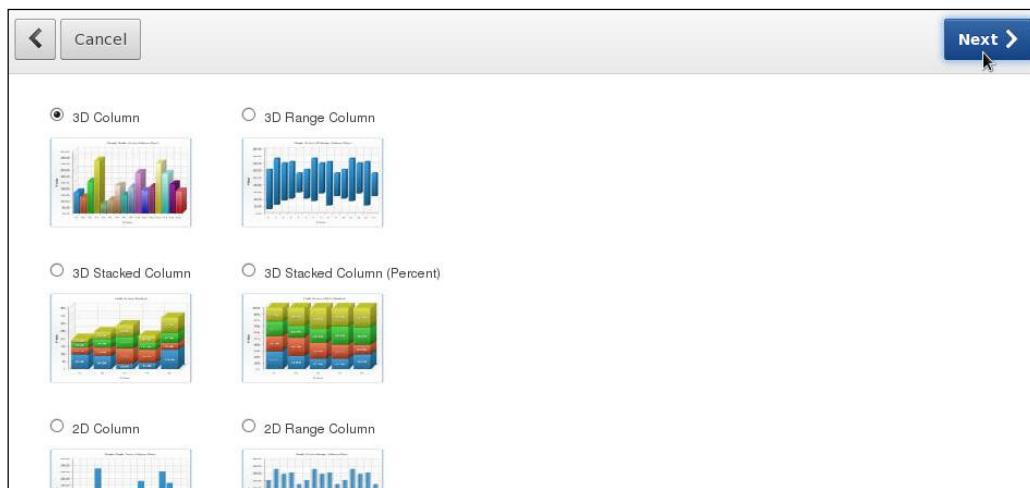
- 2) Select **Chart** page type and click **Next >**.



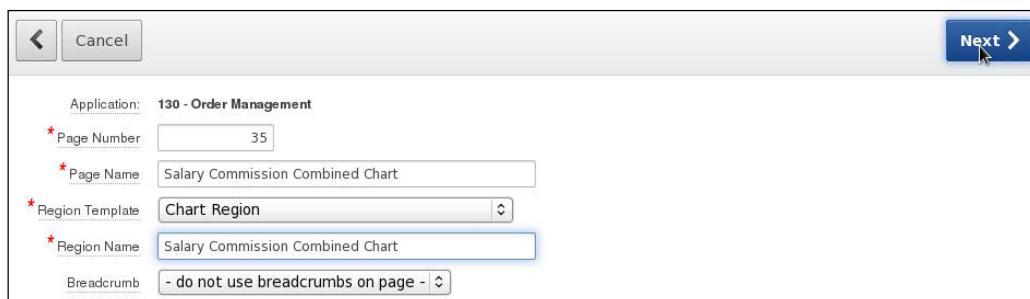
- 3) Select **Flash Chart** and select **Column**. Click **Next**.



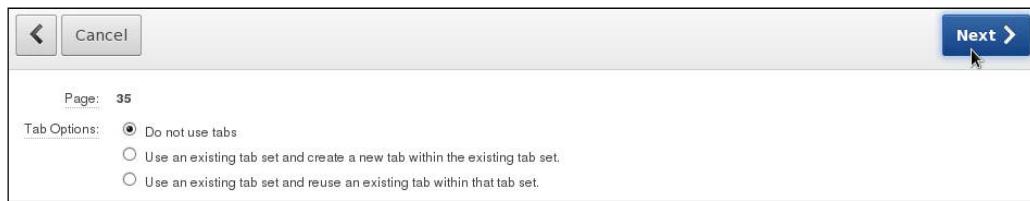
- 4) Select **3D Column** and click **Next**.



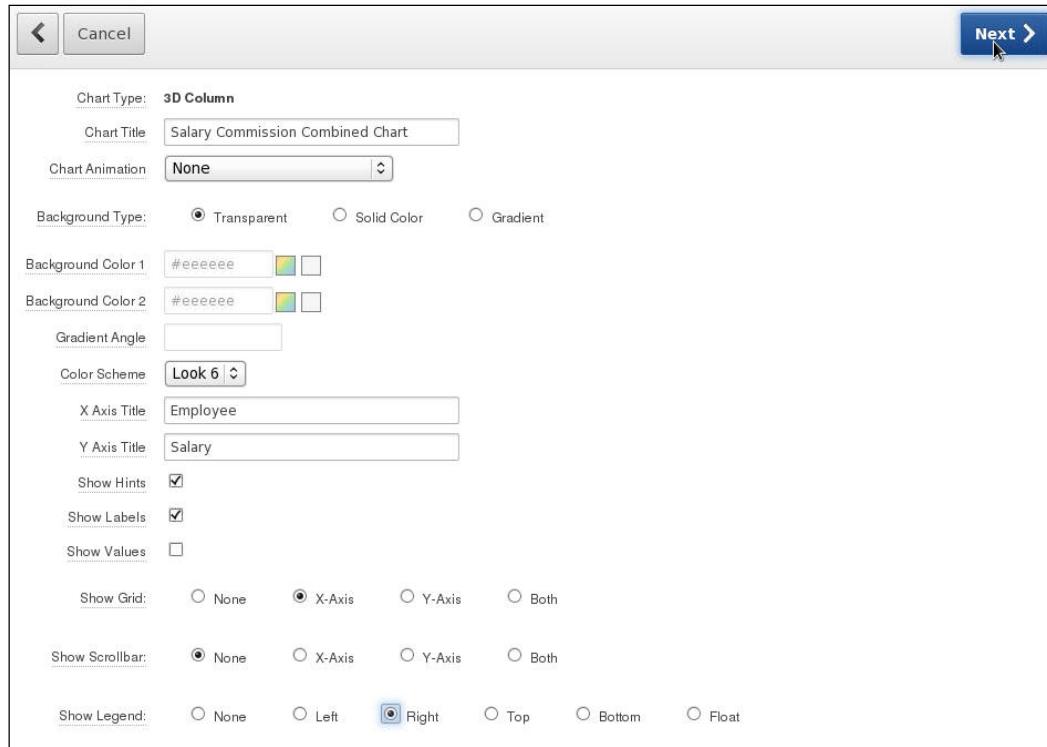
- 5) Enter **Salary Commission Combined Chart** for Page Name and Region Name. Click **Next >**.



- 6) Accept the default tab option and click **Next**.

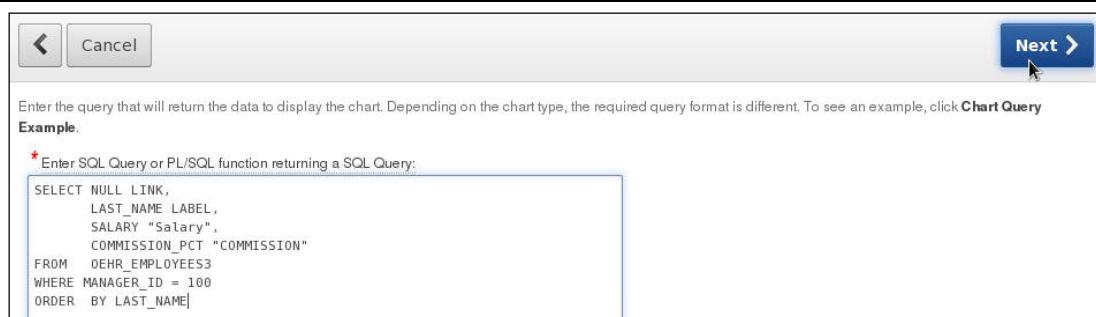


- 7) Enter **Salary Commission Combined Chart** for Chart Title. Deselect the **Show Values** check box. Specify **Employee** for X-Axis Title and **Salary** for Y-Axis title. For Show Legend, select the **Right** option. Click **Next**.



- 8) Use the following SQL query (located in `home/oracle/labs/files/lab17_3_1.txt`) to enter in the SQL Query text area. Click **Next**.

```
SELECT NULL LINK,
       LAST_NAME LABEL,
       SALARY "Salary",
       COMMISSION_PCT "COMMISSION"
  FROM  OEHR_EMPLOYEES3
 WHERE MANAGER_ID = 100
 ORDER BY LAST_NAME
```



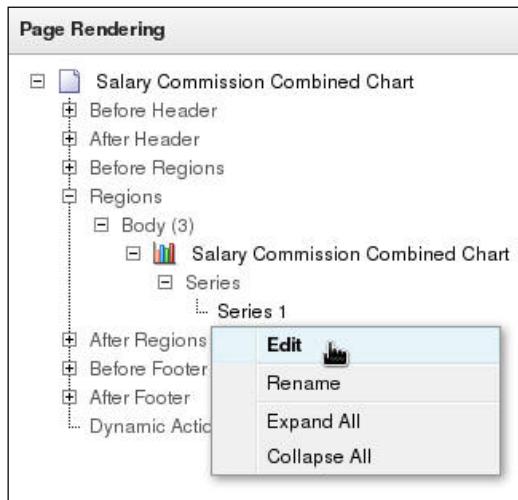
9) Click **Create**.



10) Click **Edit Page**.



11) Under Regions node, right-click **Series > Series 1** and select **Edit**.



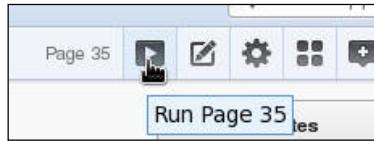
12) Under Series Attributes, select Line for Series Type. Click **Apply Changes**.

The screenshot shows the 'Chart Series' configuration interface. At the top, there are tabs: 'Region Definition', 'Chart Attributes', and 'Chart Series'. The 'Chart Series' tab is selected. Below the tabs, it says 'Chart Series: 1 of 1' and 'Region Name: Salary Commis'. There are 'Cancel' and 'Delete' buttons, and a prominent blue 'Apply Changes' button which has a cursor arrow pointing to it. A horizontal menu bar below the tabs includes 'Show All', 'Series Attributes', 'Series Query', 'Action Link', 'Conditions', 'Security', and 'Configuration'. The main area is titled 'Series Attributes' and contains fields for 'Chart Type' (set to '3D Column'), 'Series Name' (set to 'Series 1'), 'Series Type' (set to 'Line'), and 'Sequence' (set to '10'). Below this is another section titled 'Series Query' with a 'Query Source Type' dropdown set to 'SQL Query'. A code editor window displays the following SQL query:

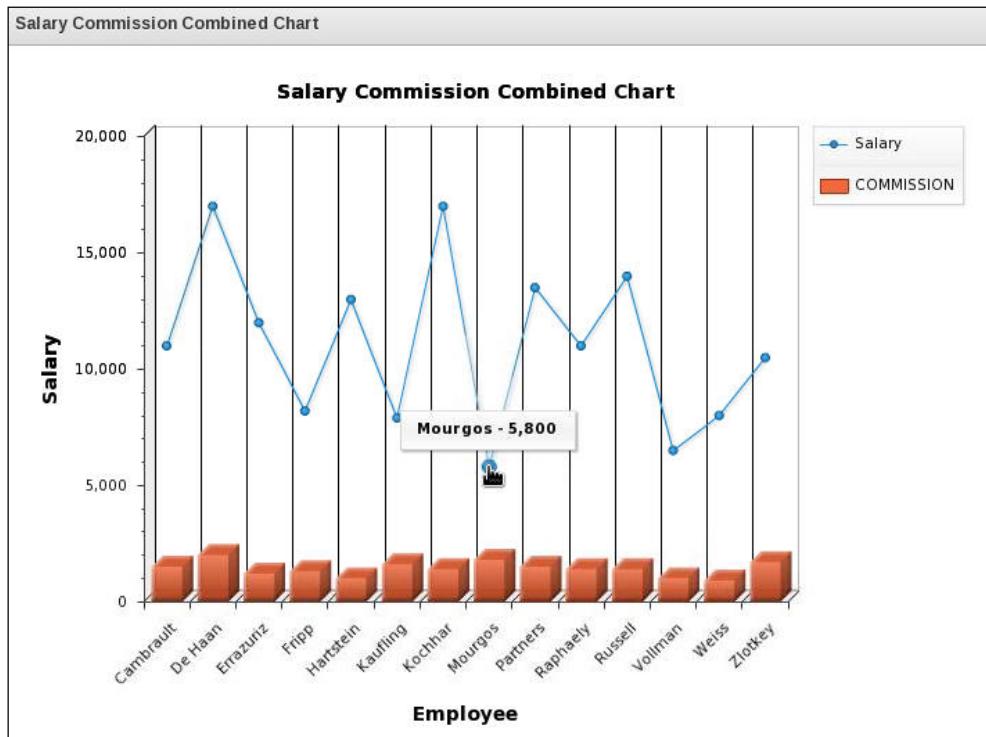
```

SELECT NULL LINK,
       LAST_NAME LABEL,
       SALARY "Salary",
       COMMISSION_PCT "COMMISSION"
  FROM OEHRL_EMPLOYEES3
 WHERE MANAGER_ID = 100
 ORDER BY LAST_NAME
  
```

13) Run the page.



- 14) You can now see a combination of salary as Line and commission as Bar charts. Place your cursor over one of the points in the line chart. Click the **Application <n>** link on the Developer toolbar.



- c. Upload and run the **tasks\_ddl.sql** script to create a table called **tasks1**.
- 1) You first want to run a script to create the Tasks1 table. Navigate to **SQL Workshop > SQL Scripts**.



2) Click **Upload**.

	Edit	Owner	Name	Updated By	Updated	Bytes	Results	Run
<input type="checkbox"/>		ORA01	add_oehr_employees3.sql	ORA01	33 minutes ago	1,195	1	
<input type="checkbox"/>		ORA01	addblob.sql	ORA01	26 hours ago	159	1	

3) Click **Browse** and select `/home/oracle/labs/files/tasks_ddl.sql`. Click **Upload**.

Cancel Upload

\* File /home/oracle/labs/files/tasks\_ddl.sql

Script Name

File Character Set

4) Run the script.

	Edit	Owner	Name	Updated By	Updated	Bytes	Results	Run
<input type="checkbox"/>		ORA01	tasks_ddl.sql	ORA01	Now	1,267	0	
<input type="checkbox"/>		ORA01	add_oehr_employees3.sql	ORA01	34 minutes ago	1,195	1	
<input type="checkbox"/>		ORA01	addblob.sql	ORA01	26 hours ago	159	1	

Click **Run Now**.

Run Script

You have requested to run the following script. Please confirm your request.

Script Name	<b>tasks_ddl.sql</b>
Created	<b>on 01/10/2013 10:12:34 AM by ORA01</b>
Updated	<b>on 01/10/2013 10:12:34 AM by ORA01</b>
Number of Statements	<b>5</b>
Script Size in Bytes	<b>1,267</b>

**Click View Results.**

	Script	Run By	Started	Elapsed	Status	Statements	Bytes	Action
<input type="checkbox"/>	<a href="#">tasks_ddl.sql</a>	ORA01	1 seconds ago	0.25	Completed	5 of 5	0	
<input type="checkbox"/>	<a href="#">add_oehr_employees3.sql</a>	ORA01	34 minutes ago	0.40	Completed	16 of 16	0	
<input type="checkbox"/>	<a href="#">addblob.sql</a>	ORA01	26 hours ago	0.10	Completed	1 of 1	0	

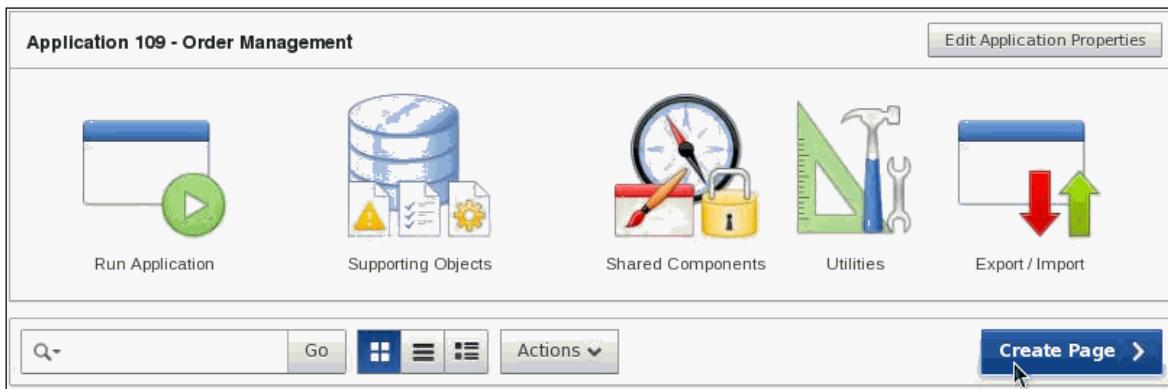
- 5) The results are displayed.

Script: <a href="#">tasks_ddl.sql</a>		Status: Complete		
View:	<input type="radio"/> Detail <input checked="" type="radio"/> Summary	Rows	15	Go
<b>Number</b> ▲ <b>Elapsed</b> <b>Statement</b> <b>Feedback</b> <b>Rows</b>				
1	0.05	CREATE TABLE "TASKS1" ( "ID" NUMBER, "TASKS" VARCHAR	Table created.	0
2	0.01	Insert into TASKS1 (ID,TASKS,START_DATE,END_DATE,STATUS,D	1 row(s) inserted.	1
3	0.01	Insert into TASKS1 (ID,TASKS,START_DATE,END_DATE,STATUS,D	1 row(s) inserted.	1
4	0.00	Insert into TASKS1 (ID,TASKS,START_DATE,END_DATE,STATUS,D	1 row(s) inserted.	1
5	0.00	Insert into TASKS1 (ID,TASKS,START_DATE,END_DATE,STATUS,D	1 row(s) inserted.	1
row(s) 1 - 5 of 5				
<a href="#">Download</a>				
<b>Statements Processed</b> 5 <b>Successful</b> 5 <b>With Errors</b> 0				

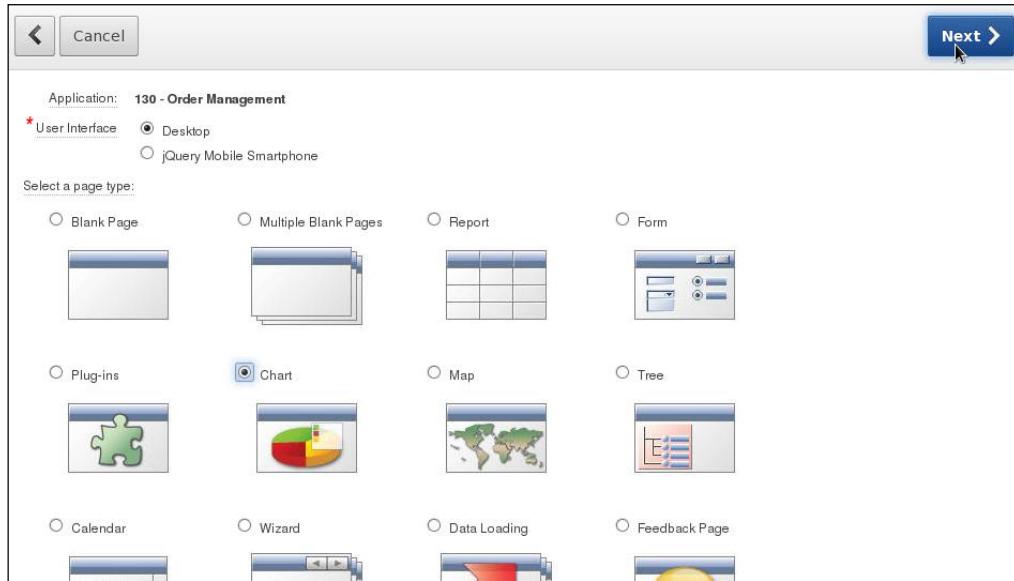
- d. Create a Project Gantt Chart that uses the following SQL Query (located in the /home/oracle/labs/files/lab17\_3\_2.txt file).

```
SELECT NULL LINK,
       tasks task_name, id, parent_id,
       START_DATE, END_DATE,
       STATUS,
       START_DATE-3, END_DATE+2
  from TASKS1
```

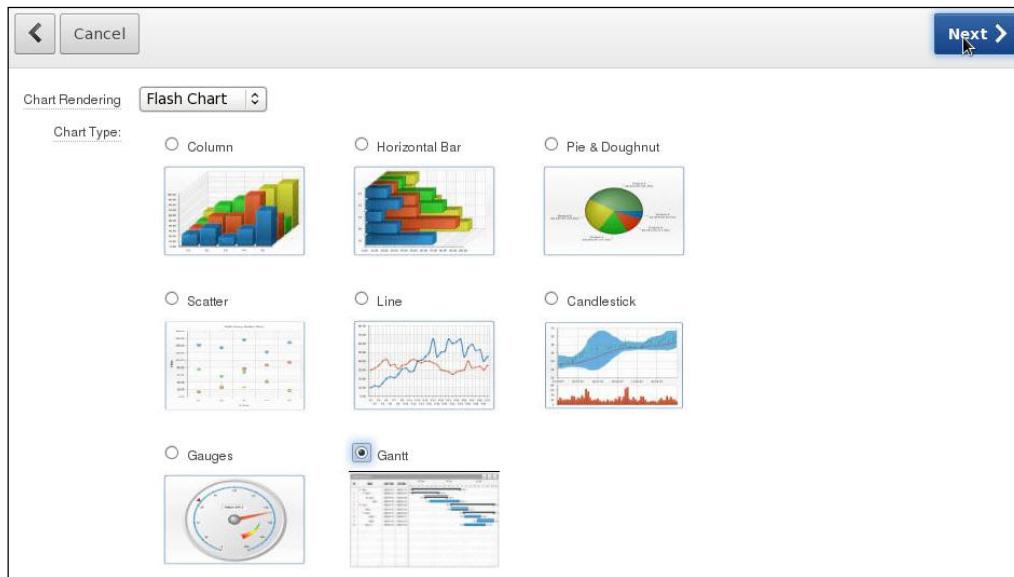
- 1) Navigate to your application. Click **Create Page**.



- 2) Select the **Chart** page type and click **Next >**.



- 3) Select **Flash Chart** and select **Gantt**. Click **Next >**.



- 4) Select **Project Gantt** and click **Next >**.



- 5) Enter **Project Gantt** for Page Name and Region name. Click **Next**.

Application: 130 - Order Management

\* Page Number: 37

\* Page Name: Project Gantt

\* Region Template: Chart Region

\* Region Name: Project Gantt

Breadcrumb: - do not use breadcrumbs on page -

- 6) Accept the default tab option and click **Next**.

Page: 37

Tab Options:

- Do not use tabs
- Use an existing tab set and create a new tab within the existing tab set.
- Use an existing tab set and reuse an existing tab within that tab set.

- 7) Enter **Project Gantt** for Chart Title. Click **Next**.

Chart Type: Project Gantt

Chart Title: Project Gantt

Background Type:

- Transparent
- Solid Color
- Gradient

Background Color 1: #eeeeee

Background Color 2: #eeeeee

Gradient Angle: 0

Color Scheme: Look 6

Show Hints:

- 8) Enter the following SQL and click **Next**. Use [home/oracle/labs/files/lab17\\_3\\_2.txt](#).

```
SELECT null link,
       tasks task_name, id, parent_id,
       START_DATE, END_DATE,
       STATUS,
       START_DATE-3, END_DATE+2
  from TASKS1
```

Enter the query that will return the data to display the chart. Depending on the chart type, the required query format is different. To see an example, click [Chart Query Example](#).

\* Enter SQL Query or PL/SQL function returning a SQL Query:

```
SELECT null link,
       tasks task_name, id, parent_id,
       START_DATE, END_DATE,
       STATUS,
       START_DATE-3, END_DATE+2
  from TASKS1
```

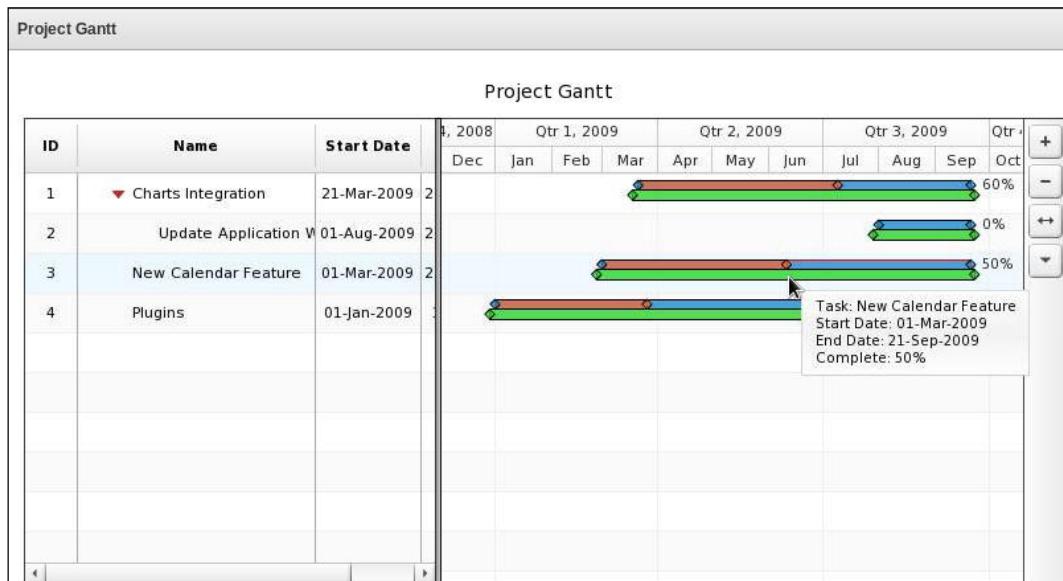
- 9) On the Confirmation page, click **Create**.



- 10) Run the page.



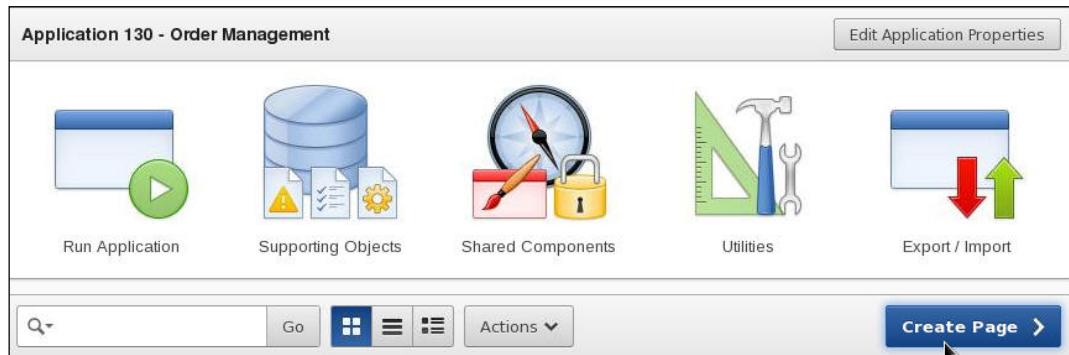
- 11) The Gantt chart is displayed. If you place your cursor over one of the tasks, you will see the details. Click the **Application <n>** link on the Developer toolbar.



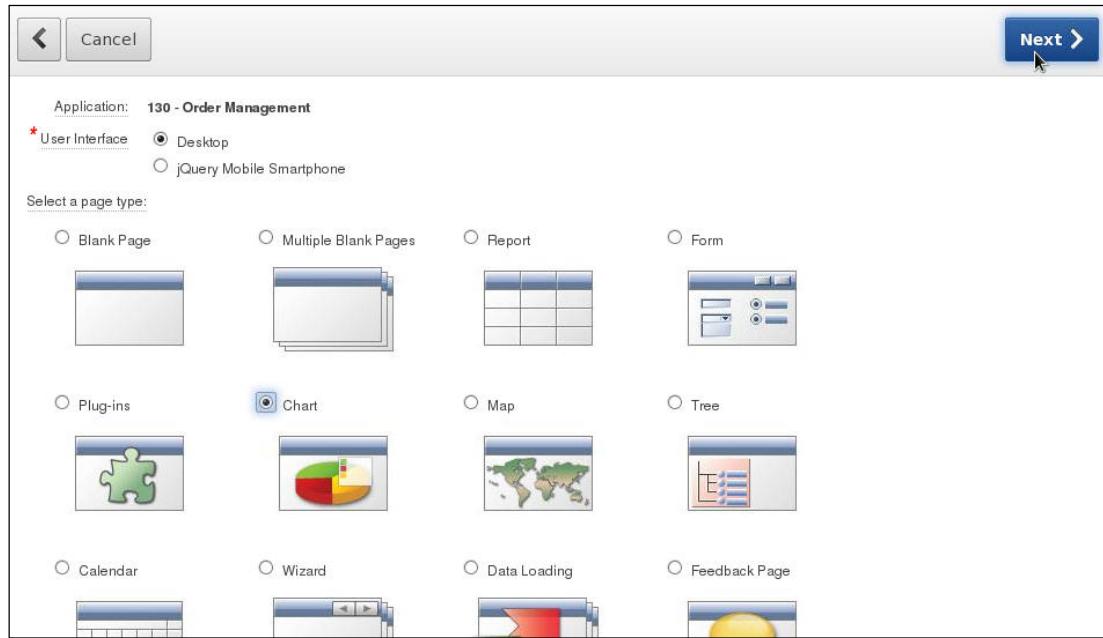
- e. Create a Salary Gauge chart for employees in department 80. Use the following SQL Query (located in the /home/oracle/labs/files/lab17\_3\_3.txt file):

```
select sum(case when salary <10000 then 0 else 1 end) value,
       count(*) max_value
  from oechr_employees
 where department_id=80
```

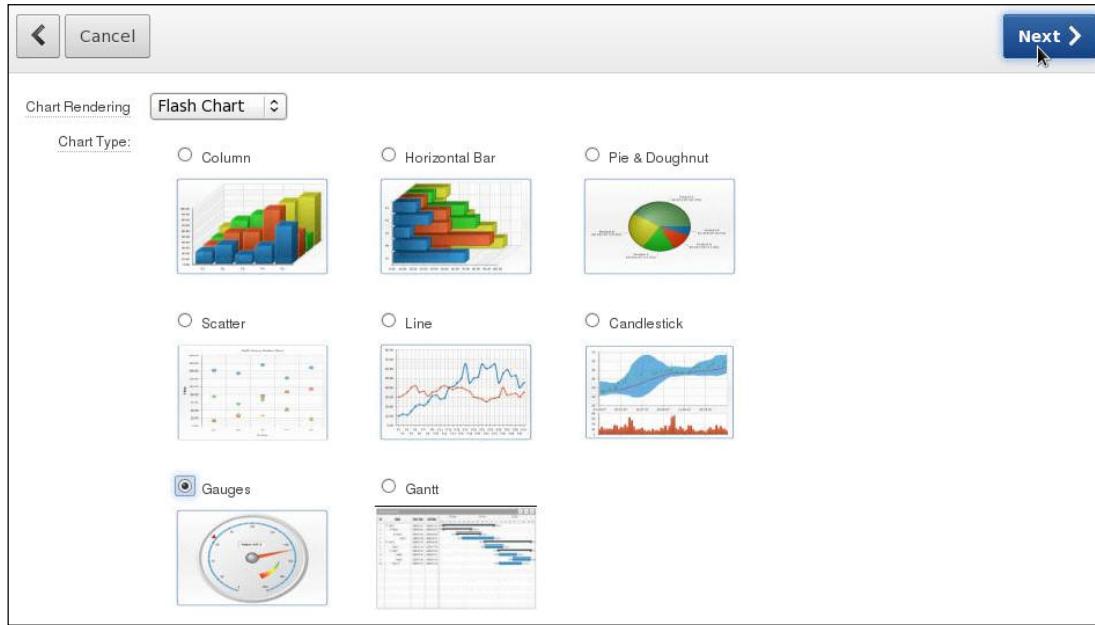
- 1) Navigate to your application. Click **Create Page >**.



- 2) Select **Chart** page type and click **Next >**.



- 3) Select **Flash Chart** and select **Gauges**. Click **Next >**.



- 4) Select **Dial** and click **Next >**.



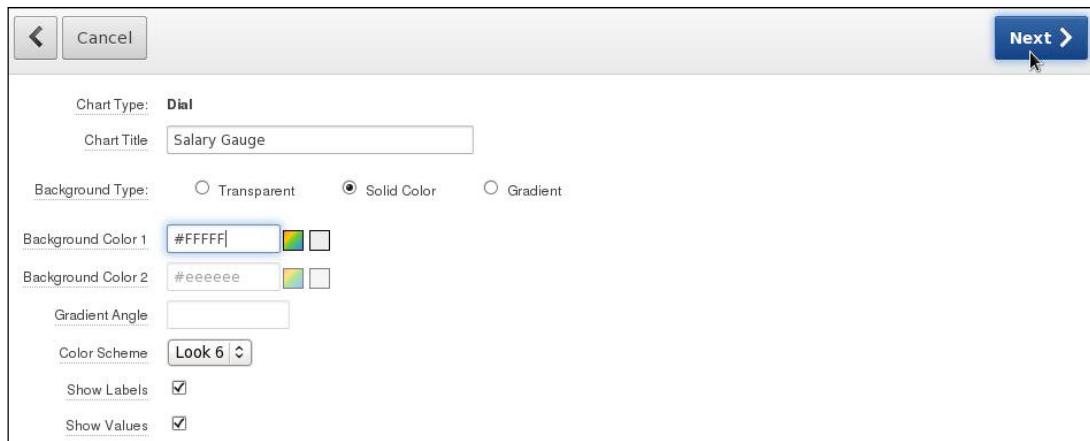
Enter **Salary Gauge** for Page Name and Region Name and click **Next >**.

<input type="button" value="Back"/>	<input type="button" value="Cancel"/>	<input type="button" value="Next &gt;"/>
Application: 130 - Order Management		
* Page Number	38	
* Page Name	Salary Gauge	
* Region Template	Chart Region	
* Region Name	Salary Gauge	
Breadcrumb	- do not use breadcrumbs on page	

- 5) Accept the default tab option and click **Next >**.

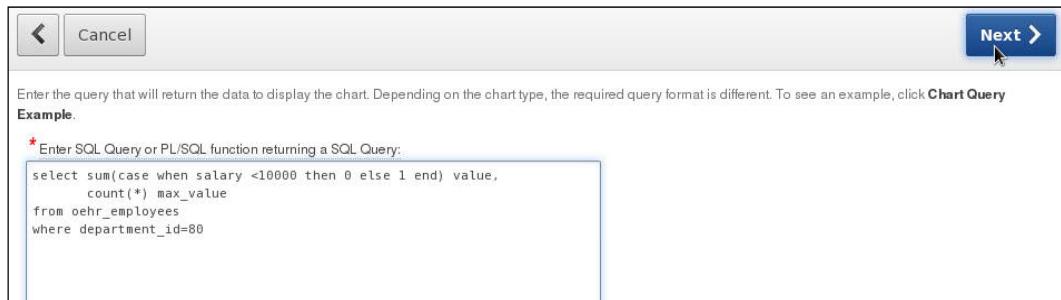
<input type="button" value="Back"/>	<input type="button" value="Cancel"/>	<input type="button" value="Next &gt;"/>
Page: 38		
Tab Options:		
<input checked="" type="radio"/> Do not use tabs <input type="radio"/> Use an existing tab set and create a new tab within the existing tab set. <input type="radio"/> Use an existing tab set and reuse an existing tab within that tab set.		

- 6) Enter **Salary Gauge** for Chart Title, **Solid Color** for Background Type, and enter **#FFFFFF** for Background Color 1. Click **Next >**

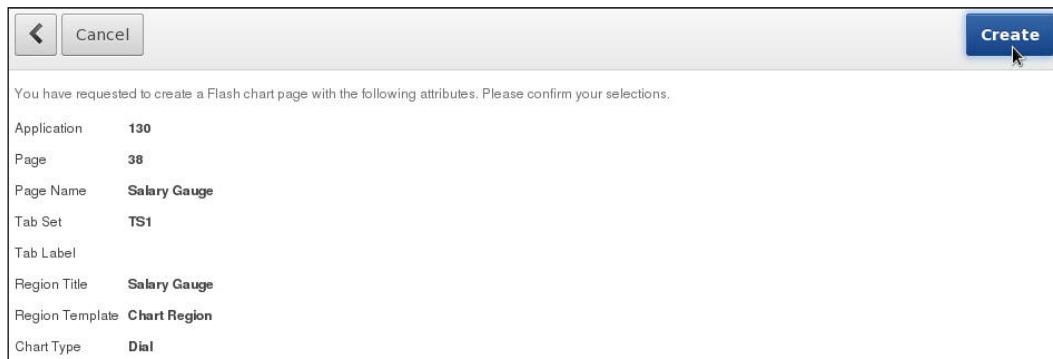


- 7) Enter the following SQL (located in `home/oracle/labs/files/lab17_3_3.txt`) and click **Next >**.

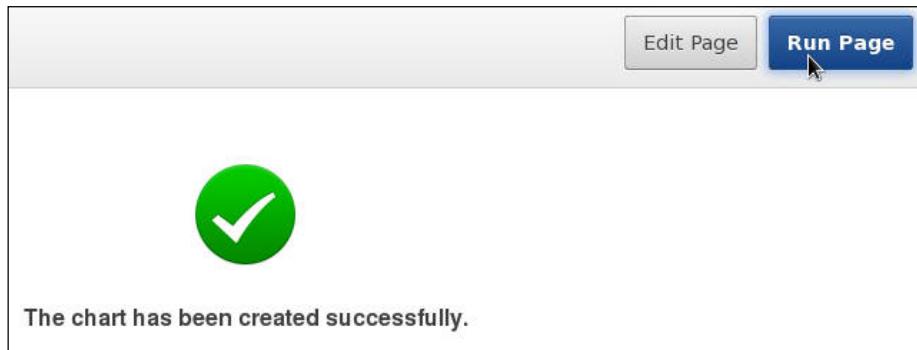
```
select sum(case when salary <10000 then 0 else 1 end) value,
       count(*) max_value
  from oechr_employees
 where department_id=80
```



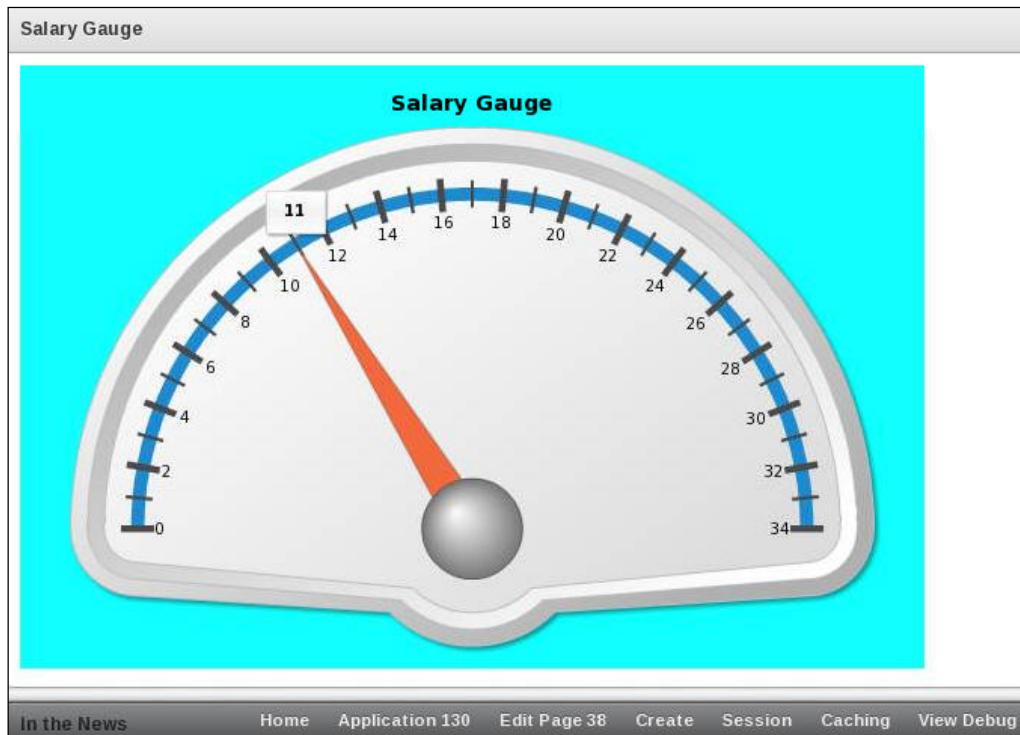
- 8) On the confirmation page, click **Create**.



- 9) Run the page.



- 10) The dial is displayed. Click the **Edit Page** link on the Developer toolbar.



## **Practices for Lesson 18: Adding Calendars and Trees**

**Chapter 18**

## Practices for Lesson 18: Overview

---

### Practices Overview

In these practices, you create a calendar page that displays the order total per day. You also create a link to a page so that you can edit the Order selected. To create Trees, you create a new page with a tree region and link to the Dynamic Employee Details page. Add a button on the Dynamic Employee Details page to link back to the tree page.

## Practice 18-1: Creating a Calendar

---

### Overview

In this practice, you create a calendar page that displays the order total per day. You also create a page to link to so you can change an order.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Execute the following command to update ORDER\_DATE in the OEHR\_ORDERS table to make it more current (located in the /home/oracle/labs/files/lab18\_1\_1.txt file).

```
UPDATE oechr_orders SET order_date = order_date + 4615
```
- b. Create a new Easy Calendar calendar page called Order Calendar. Base the calendar on the OEHR\_ORDERS table, and set the Date Column to ORDER\_DATE and Display Column to ORDER\_TOTAL. Allow for drag and drop order total to different dates. Create a new edit page so you can edit all the columns in the OEHR\_ORDERS table. Test your pages.
- c. Create a new page called Mobile Calendar for mobile application. Select jQuery Mobile Smartphone User Interface to create this page. Select SQL Calendar. Enter a SELECT SQL statement (located in the /home/oracle/labs/files/lab18\_1\_2.txt file) to display the name column and start date column from the TASKS table. Assign the Link Target to create a new edit page, which contains all the columns from the TASKS table. Test your page.

```
select id, project, task_name, start_date, cost from tasks
```

## Practice 18-2: Creating a Tree Whose Nodes Link to a Different Page

### Overview

In this practice, you create a new page with a tree region and link to the Dynamic Employee Details page. Add a button on the Dynamic Employee Details page to link back to the tree page.

### Assumptions

You have performed the previous practices.

### Tasks

- Create a tree page called “Employees by Manager” that uses the default tree template. Select the appropriate options in the wizard so that the current query (located in /home/oracle/labs/files/lab18\_2\_1.txt) looks as follows: (*<n>* is the page number for the Dynamic Employee Details page.)

```
select case when connect_by_isleaf = 1 then 0
            when level = 1                 then 1
            else                            -1
        end as status,
        level,
        "LAST_NAME" as title,
        null as icon,
        "EMPLOYEE_ID" as value,
        null as tooltip,
        null as link
from "ORA01"."OEHR_EMPLOYEES"
start with "MANAGER_ID" is null
connect by prior "EMPLOYEE_ID" = "MANAGER_ID"
order siblings by "LAST_NAME"
```

- Add a button to the Employee Details page called Employee Hierarchy that navigates to the “Employees by Manager” tree page.

## Solution 18-1: Creating a Calendar

---

### Overview

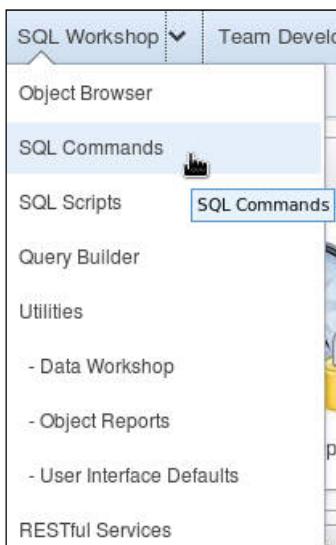
In this solution, you create a calendar on the List of Orders page that displays the order total per day. You also link to the Master Detail page for the Order selected.

### Tasks

- Execute the following command to update the ORDER\_DATE in the OEHR\_ORDERS table to make them more current (located in the /home/oracle/labs/files/lab18\_1\_1.txt file).

```
UPDATE oehr_orders SET order_date = order_date + 4615
```

- In order to see data on your calendar, you may need to modify the dates. Select **SQL Workshop > SQL Commands**.



- Enter the following SQL statement and click the **Run** button. This statement modifies the order dates in the OEHR\_ORDERS table so they contain more recent dates that will appear in the calendar created in the next set of steps.

```
UPDATE oehr_orders SET order_date = order_date + 4615
```

The screenshot shows the Oracle SQL Workshop SQL Commands interface. The top bar includes a home icon, 'SQL Workshop', 'SQL Commands', and a toolbar with 'Autocommit' checked, 'Rows' set to 10, and 'Run' and 'Save' buttons.

The main area contains the SQL statement:

```
UPDATE oehr_orders SET order_date = order_date + 4615
```

Below the statement, the results section shows:

105 row(s) updated.

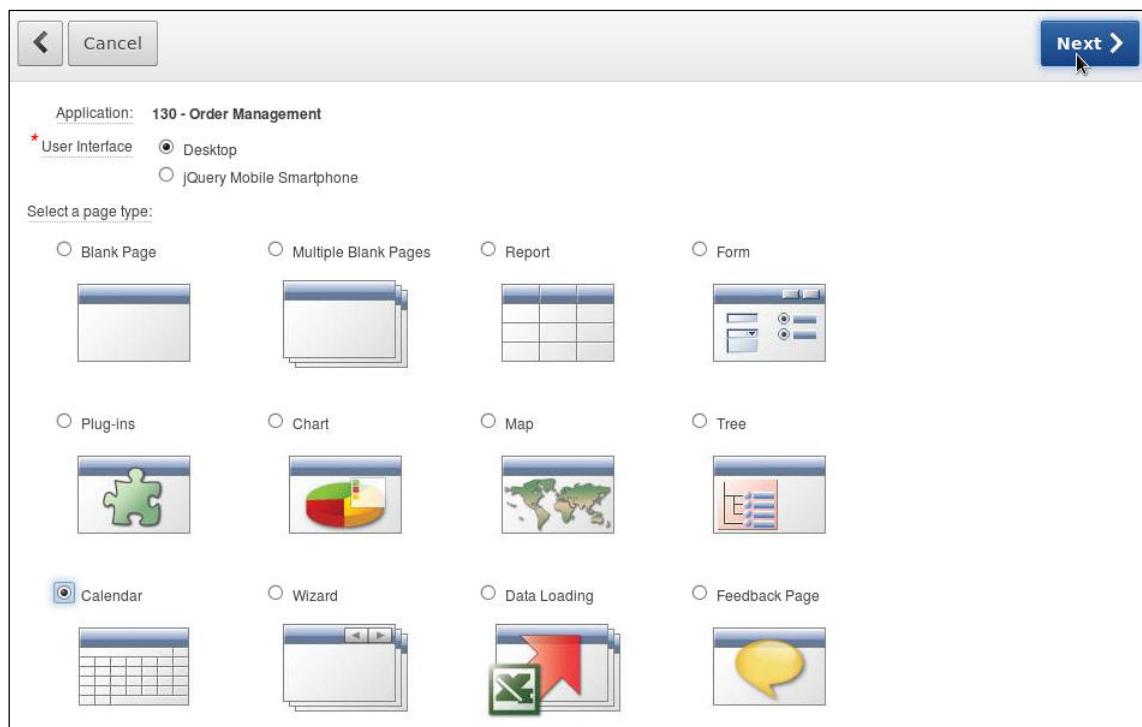
0.00 seconds

- b. Create a new Easy Calendar calendar page called Order Calendar. Base the calendar on the OEHR\_ORDERS table and set the Date Column to ORDER\_DATE and Display Column to ORDER\_TOTAL. Allow for drag and drop order total to different dates. Create a new edit page, so you can edit all the columns in the OEHR\_ORDERS table. Test your pages.

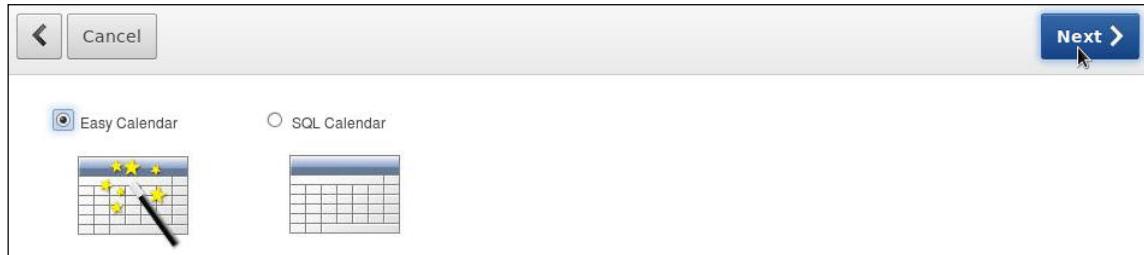
- 1) Now you will create your Calendar page. Navigate to the Order Management application Home page and click **Create Page >**



- 2) Select **Calendar** for page type and click **Next >**.



- 3) Select **Easy Calendar** and click **Next >**



- 4) Enter **Order Calendar** for Page Name and Region Name and click **Next >**

* Page Number	39
* Page Name	Order Calendar
* Region Template	Reports Region
* Region Name	Order Calendar
Display Type	Partial Page Refresh
Breadcrumb	- do not use breadcrumbs on page -

- 5) Accept the defaults and click **Next >**

Page:	39
Tab Options:	<input checked="" type="radio"/> Do not use tabs <input type="radio"/> Use an existing tab set and create a new tab within the existing tab set. <input type="radio"/> Use an existing tab set and reuse an existing tab within that tab set.

- 6) Select **OEHR\_ORDERS (table)** for Table / View Name and click **Next >**

* Owner	ORA01
* Table / View Name	OEHR_ORDERS(table)

(containing Date or Timestamp column)

- 7) Make sure **ORDER\_DATE** is selected for Date Column, **ORDER\_TOTAL** is selected for Display Column, **ORDER\_ID** is selected for Primary Key Column and Yes is selected for Enable Drag and Drop. Then click **Next >**.

Table / View Name:	OEHR_ORDERS
* Date Column:	ORDER_DATE
* Display Column:	ORDER_TOTAL
Date Format:	<input checked="" type="radio"/> Date Only <input type="radio"/> Date and Time
* Primary Key Column:	ORDER_ID
Custom Date Range:	No
Enable Drag and Drop:	Yes

- 8) Select **Create new edit page** for Link Target and select all the columns for Select Column(s). Click **Next >**.

Specify the link details for the calendar entry.

Page: 39

Link Target: Create new edit page

Allowed Operations:  Insert  Update  Delete

\* Page Number: 40

\* Page Name: Edit Calendar Entry

\* Region Template: Reports Region

\* Region Name: Edit Calendar Entry

\* Select Column(s):

- ORDER\_ID (Number)
- ORDER\_DATE (Timestamp)
- ORDER\_MODE (Varchar2)
- CUSTOMER\_ID (Number)
- ORDER\_STATUS (Number)
- ORDER\_TOTAL (Number)
- SALES REP\_ID (Number)
- PROMOTION\_ID (Number)

Open Link in: Same Window

- 9) Accept the defaults and click **Next >**.

Page: 40

Table / View Name: OEHR\_ORDERS

Cancel Button Label: Cancel

Show Create Button: Yes | Create Button Label: Create

Show Save Button: Yes | Save Button Label: Apply Changes

Show Delete Button: Yes | Delete Button Label: Delete

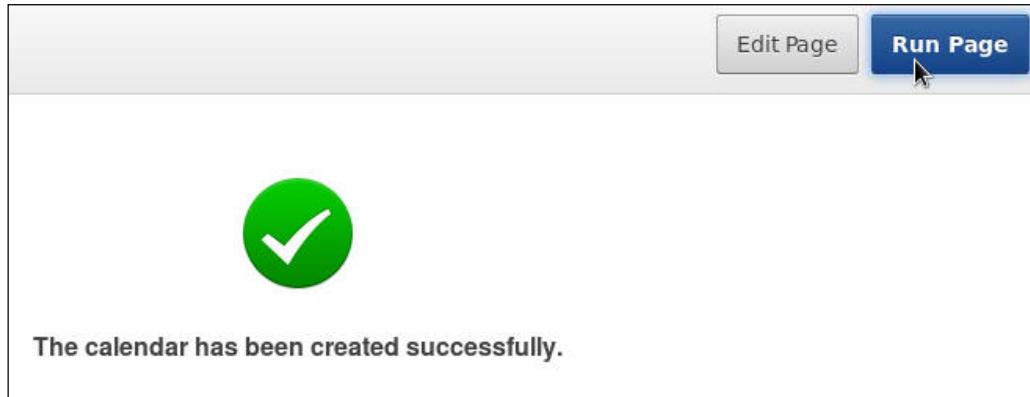
- 10) Click **Create**.

You have requested to create a calendar page with the following attributes. Please confirm your selections.

Application	130
Page	39
Page Name	Order Calendar
Tab Set	TS1
Tab Label	
Region Title	Order Calendar
Region Template	Reports Region
Display Type	Partial Page Refresh
Table / View Owner	ORA01
Table / View Name	OEHR_ORDERS
Date Column	ORDER_DATE
Label Column	ORDER_TOTAL

**Create**

- 11) To view the calendar, click **Run Page**.



- 12) Find a month where there is an order total listed for a particular day. Click the link.

Order Calendar							<a href="#">Create</a>	<a href="#">Monthly</a>	<a href="#">List</a>	<a href="#">&lt; Previous</a>	<a href="#">Today</a>	<a href="#">Next &gt;</a>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday						
30	31	01 71173 23034.6	02	03	04	05						
06	07	08	09	10	11 45175	12						
13	14	15	16	17	18	19						
20	21	22 17620	23	24	25	26						
27	28	29	30	31	01	02						

- 13) Change the Order Date to a different date in the same month. Click the Date Picker icon.

Edit Calendar Entry		<a href="#">Cancel</a>	<a href="#">Delete</a>	<a href="#">Apply Changes</a>
Order Date *	<input type="text" value="11-JAN-2013"/>			
Order Mode	direct	<a href="#">Popup Calendar: Order Date</a>		
Customer Id *	168			
Order Status	6			
Order Total	45175			
Sales Rep Id	156			
Promotion Id				

**14) Click Apply Changes.**

Edit Calendar Entry	
Order Date *	24-Jan-2013 <input type="button" value="Calendar"/>
Order Mode	direct
Customer Id *	168
Order Status	6
Order Total	45175
Sales Rep Id	156
Promotion Id	

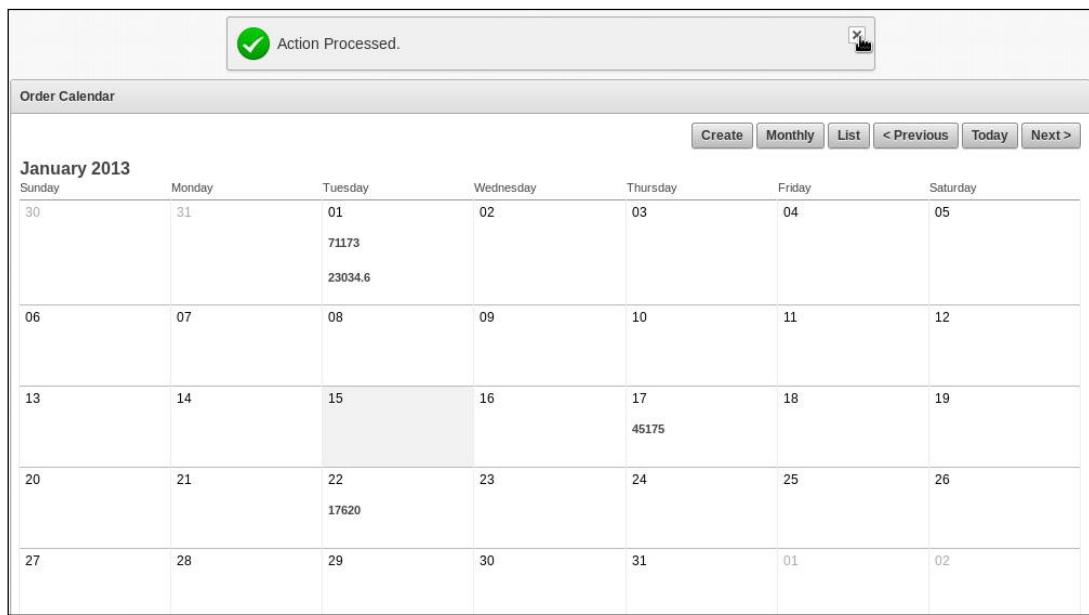
- 15) The change was applied. Note that the Order Total was moved to the date you changed it to.**

Order Calendar						
<input type="button" value="Create"/> <input type="button" value="Monthly"/> <input type="button" value="List"/> <input type="button" value="&lt; Previous"/> <input type="button" value="Today"/> <input type="button" value="Next &gt;"/>						
<b>January 2013</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31 71173 23034.6	01 23034.6	02	03	04	05
06	07	08	09	10	11	12
13	14	15	16	17	18	19
20	21 17620	22	23	24 45175	25	26
27	28	29	30	31	01	02

- 16) You can also drag and drop an order total to a different day. Drag the same order total to a different day.**

Order Calendar						
<input type="button" value="Create"/> <input type="button" value="Monthly"/> <input type="button" value="List"/> <input type="button" value="&lt; Previous"/> <input type="button" value="Today"/> <input type="button" value="Next &gt;"/>						
<b>January 2013</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31 71173 23034.6	01 23034.6	02	03	04	05
06	07	08	09	10	11	12
13	14	15	16	17 45175	18	19
20	21 17620	22	23	24 45175	25	26
27	28	29	30	31	01	02

- 17) Note that after you release your mouse, the order total was moved to the new location. Click the **Application <n>** link on the Developer toolbar.



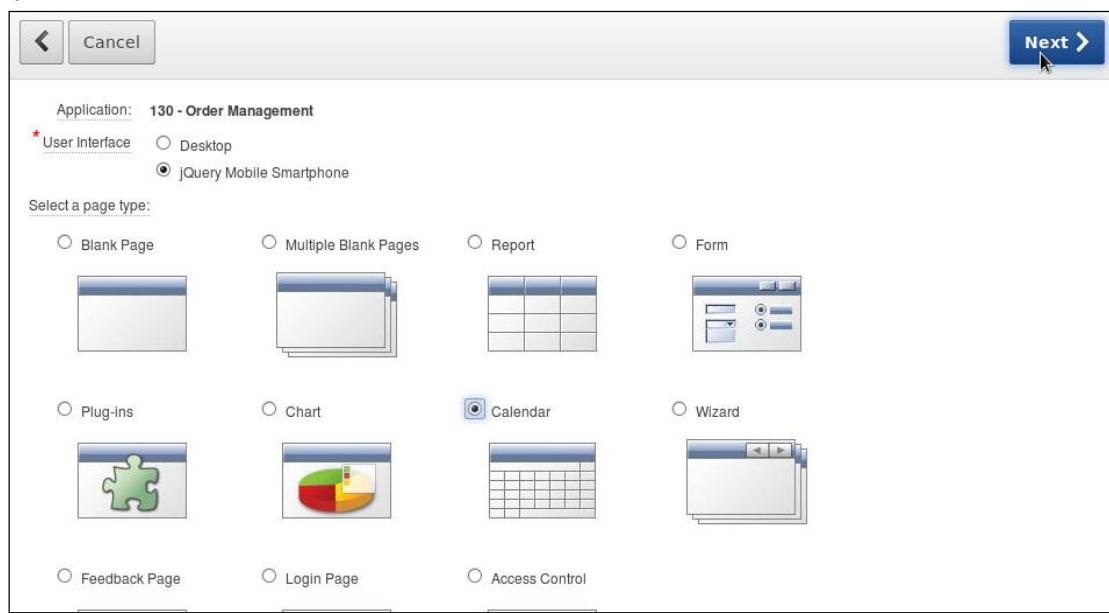
- 18) To learn more about what you can do with calendaring, you can install the Sample Calendars packaged application.
- c. Create a new page called Mobile Calendar for mobile application. Select jQuery Mobile Smartphone User Interface to create this page. Select SQL Calendar. Enter a SELECT SQL statement (located in the /home/oracle/labs/files/lab18\_1\_2.txt file) to display the name column and start date column from the **TASKS** table. Assign the Link Target to create a new edit page, which contains all the columns from the **TASKS** table. Test your page.

```
select id, project, task_name, start_date, cost from tasks
```

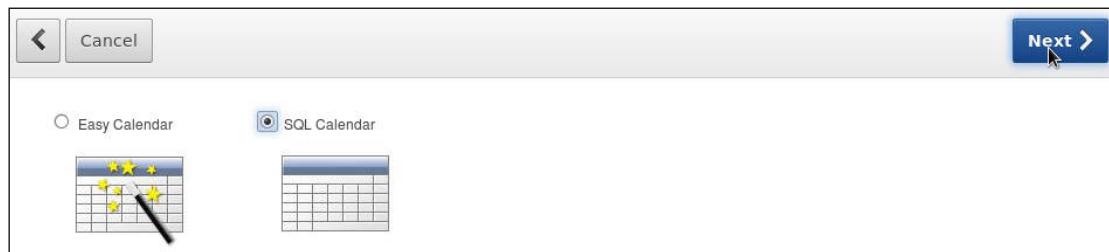
- 1) Navigate to the **Order Management** application home page, click **Create Page >**.



- 2) Select **jQuery Mobile Smartphone** for User Interface. Select **Calendar** for page type and click **Next >**.



- 3) Select **SQL Calendar** and click **Next >**.



- 4) Enter a new page number. (Enter a number in the 200 series to distinguish it from desktop pages. Identify a page number that has not already been assigned to another page in the mobile application.) Enter **Mobile Calendar** for Page Name and Region Name. Click **Next >**.



- 5) Enter the following SELECT SQL statement (located in /home/oracle/labs/files/lab18\_1\_2.txt) and click **Next >**.

```
select id, project, task_name, start_date, cost from tasks
```

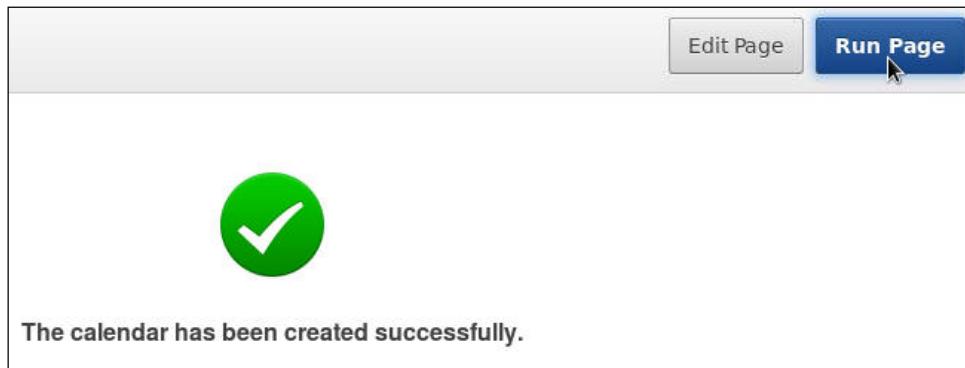
- 6) Select **START\_DATE** for Date Column, **TASK\_NAME** for Display Column, and **ID** for the Primary Key Column. Then click **Next >**.

- 7) Select **Create new edit page** for Link Target, enter **208** for Page Number, and select **Edit Task** for Page Name and Region Name. Select **TASKS** for Table/View Name and **START\_DATE (Date)** for Date Column. Select all the columns in the Tasks table and click **Next >**.

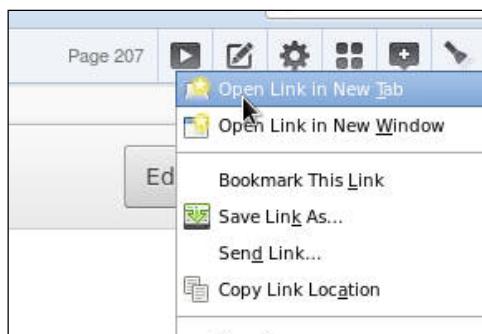
- 8) Accept the defaults and click **Next >**.

- 9) Click **Create**.

- 10) The calendar was created successfully.



- 11) On mobile pages, the Developer toolbar is not displayed, so you want to run this page on a different tab. Right-click the **Run Page** icon and select **Open Link in New Tab**.



- 12) Enter your login credentials and click **Login**.

The image shows a login interface with a light gray background. It has two input fields: 'Username' containing 'ora01' and 'Password' containing '.....'. Below these is a blue rounded rectangular button with the word 'Login' in white. A small hand cursor icon is positioned over the bottom-left corner of the 'Login' button.

- 13) The calendar is displayed. You want to create a new task in the current month. Click the **Create** link.

The image shows a mobile calendar for January 2013. The days of the week are labeled at the top: Sun, Mon, Tue, Wed, Thu, Fri, Sat. The dates for each day are as follows:

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	01	02	03	04	05
06	07	08	09	10	11	12
13	14	<b>15</b>	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	01	02

The date '15' is highlighted with a blue background. Below the calendar, there is a navigation bar with the following links: 'Create' (highlighted in blue), 'Monthly List', '< Previous', 'Today', and 'Next'.

- 14) The Edit Task form page is displayed. Enter some information and click **Create**. Note that if you were running this on a mobile device you would receive a Date Picker when you clicked in the Start Date and End Date items. In this case, use the format YYYY-MM-DD for those values.



The screenshot shows the 'Edit Task' form. At the top right is a 'Logout' button. The form fields are as follows:

Project	My Project
Task Name	Task 1
Start Date	2013-01-15
End Date	2013-01-24
Status	Open
Assigned To	(empty)
Cost	(empty)
Budget	(empty)

At the bottom are two buttons: 'Cancel' and 'Create'. The 'Create' button has a small icon of a person above it.

- 15) Notice that you see a blue dot on the date that you specified for the Start Date. Because that day is selected, you see a list view at the bottom of the report with the name of the Task. You can click that link to edit the task.

Action Processed.

January 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	01	02	03	04	05
06	07	08	09	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	01	02

Task 1

[Create Monthly List](#) < Previous Today Next >

- 16) The form is displayed. To return to the Application Builder, click the tab.

Create Calendar Page - Success

Edit Task

Logout

Project	My Project
Task Name	Task 1
Start Date	2013-01-15
End Date	2013-01-24
Status	Open
Assigned To	
Cost	
Budget	

Cancel   Delete   Apply Changes

## Solution 18-2: Creating a Tree Whose Nodes Link to a Different Page

### Overview

In this practice, you create a new page with a tree region and link to the Dynamic Employee Details page. Add a button on the Dynamic Employee Details back to the tree page.

### Tasks

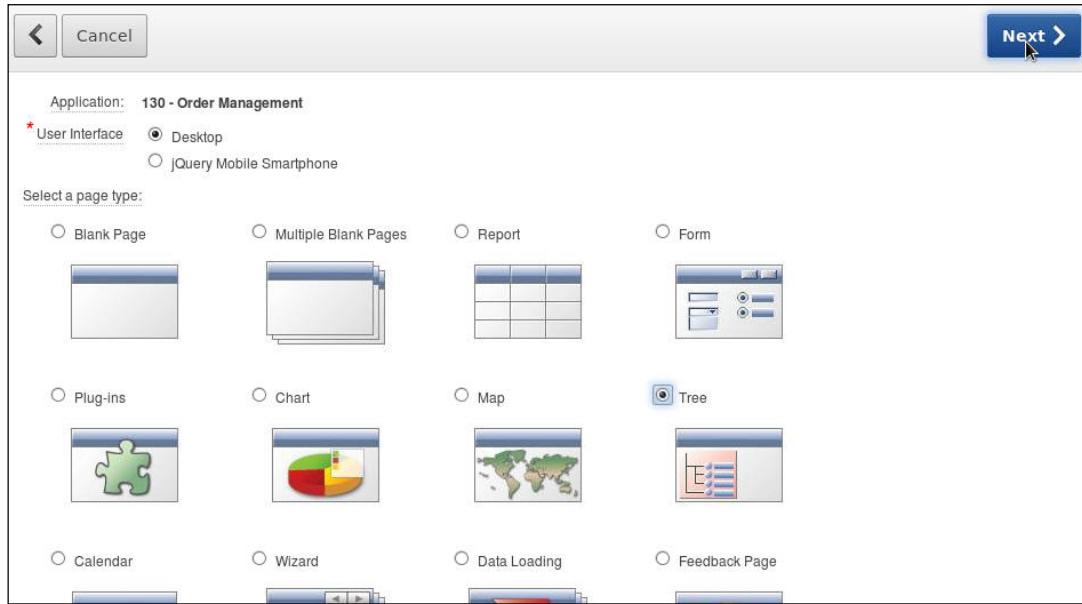
- Create a tree page called “Employees by Manager” that uses the default tree template. Select the appropriate options in the wizard so that the current query (located in /home/oracle/labs/files/lab18\_2\_1.txt) looks as follows: (<n> is the page number for the Dynamic Employee Details page.)

```
select case when connect_by_isleaf = 1 then 0
            when level = 1                  then 1
            else                            -1
        end as status,
        level,
        "LAST_NAME" as title,
        null as icon,
        "EMPLOYEE_ID" as value,
        null as tooltip,
        null as link
from "ORA01"."OEHR_EMPLOYEES"
start with "MANAGER_ID" is null
connect by prior "EMPLOYEE_ID" = "MANAGER_ID"
order siblings by "LAST_NAME"
```

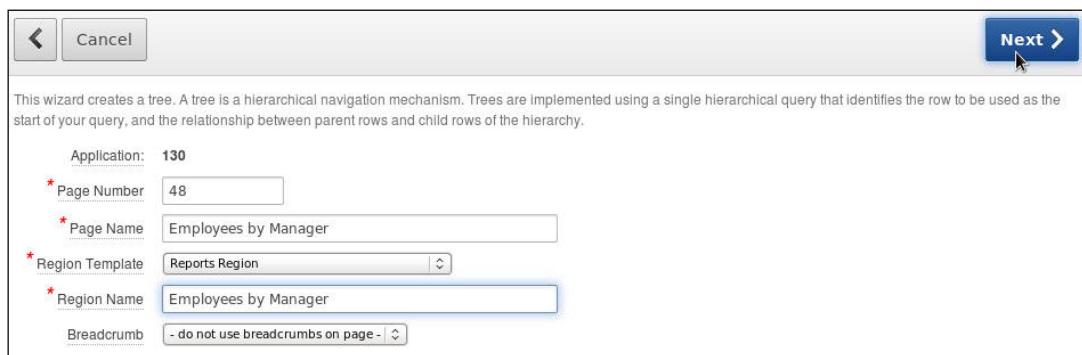
- On the **Order Management** application home page, click **Create Page >**.



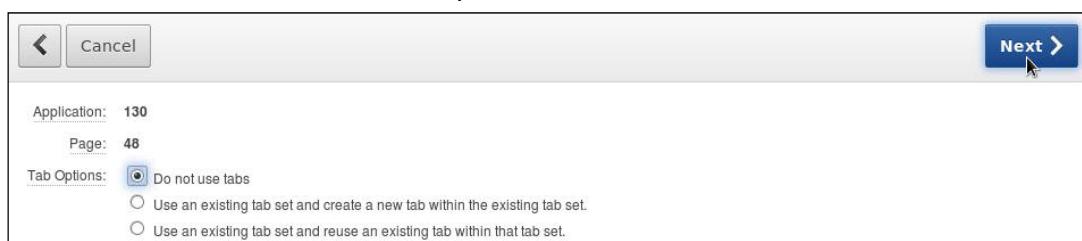
- 2) Select the **Tree** option, and click **Next >**.



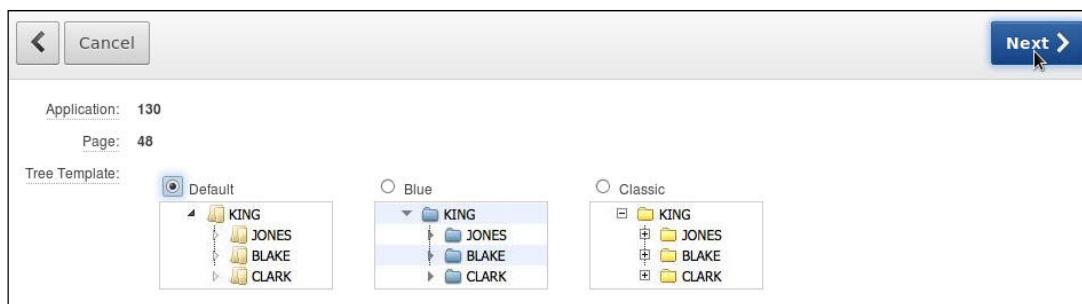
- 3) Enter **Employees by Manager** for Page Name and Region Name, and click **Next >**.



- 4) Ensure that the **Do not use tabs** option is selected. Click **Next >**.



- 5) Select the **Default** tree template and click **Next >**.



- 6) Select **OEHR\_EMPLOYEES** for Table / View Name and click **Next >**.

Select the owner of the table or view from which you want to draw the tree query.

Application: 130  
Page: 48

\* Table / View Owner: ORA01  
\* Table / View Name: OEHR\_EMPLOYEES (table)

- 7) Change the following values and click **Next >**.

Item	Value
ID	EMPLOYEE_ID
PARENT_ID	MANAGER_ID
Node Text	LAST_NAME
Start With	MANAGER_ID

A tree is based on a query and returns data that can be represented in a hierarchy. A **start with .. connect by** clause will be used to generate the hierarchical query for your tree. Use this page to identify the column you want to use as the ID, the Parent ID, and text that should appear on the nodes. The Start With column will be used to specify the root of the hierarchical query, and its value can be based on an existing item, static value or SQL query returning a single value.

Owner: ORA01  
Table: OEHR\_EMPLOYEES

\* ID: EMPLOYEE\_ID  
\* Parent ID: MANAGER\_ID  
\* Node Text: LAST\_NAME  
\* Start With: MANAGER\_ID  
\* Start Tree: Value is NULL

- 8) You can see the query that is generated by expanding Current Query. Click **Next >**.

Identify an optional where clause and order siblings by column for your query.

Where Clause (for example ename = 'JONES')

Order Siblings By (for example ENAME)

LAST\_NAME

**Current Query**

```
select case when connect_by_isleaf = 1 then 0
            when level = 1          then 1
            else                      -1
        end as status,
        level,
        "LAST_NAME" as title,
        null as icon,
        "EMPLOYEE_ID" as value,
        null as tooltip,
        null as link
from "ORAO1"."OEHR_EMPLOYEES"
start with "MANAGER_ID" is null
connect by prior "EMPLOYEE_ID" = "MANAGER_ID"
order siblings by "LAST_NAME"
```

- 9) Select **Database Column** for Tooltip and **FIRST\_NAME** for Tooltip Column. Click **Next >**.

Identify the button, tooltip and link attributes you want to define on your tree. To make leaf node text a link, select Existing Application Item.

Include Buttons:  Collapse All  Expand All

Selected Node Page Item:

Tooltip: Database Column

\* Tooltip Column: FIRST\_NAME

Link Option:  Nothing  Existing Application Item

- 10) Click **Create**.

You have requested to create a tree page with the following attributes. Please confirm your selections.

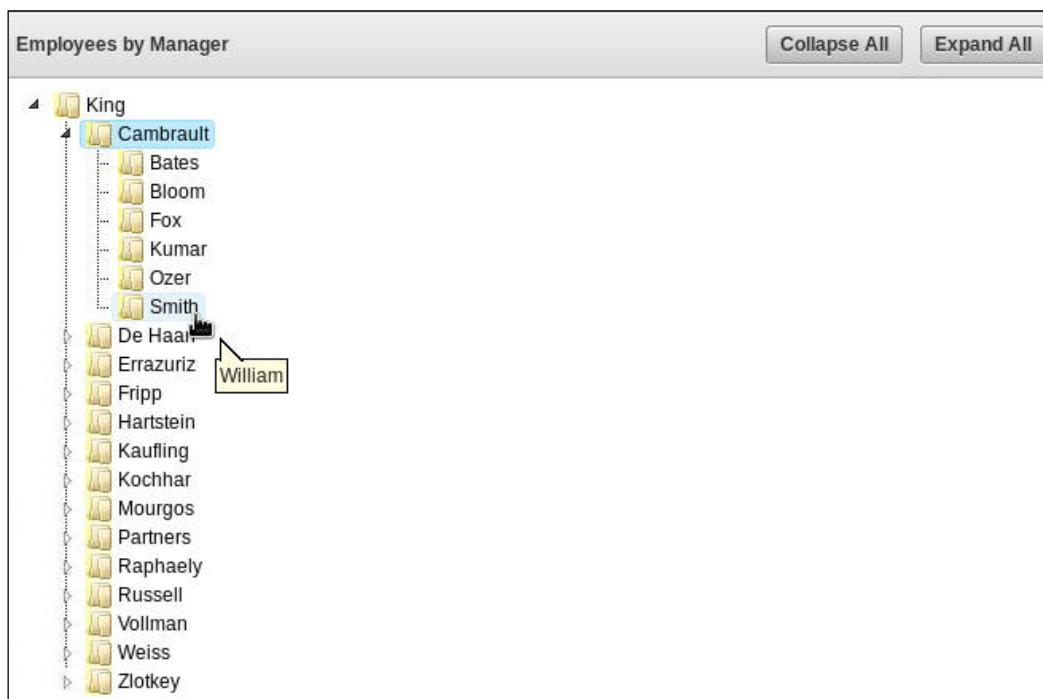
Application	130
Page	48
Page Name	Employees by Manager
Tab Set	TS1
Tab Label	
Region Title	Employees by Manager
Region Template	Reports Region

**Create**

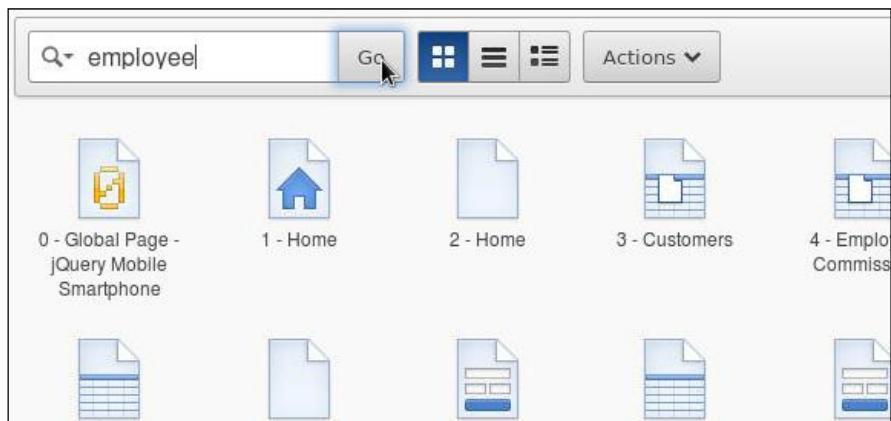
- 11) Click **Run Page**.



- 12) Expand one of the manager nodes. Notice that when you place your cursor over one of the names, you see the FIRST\_NAME of the person as a tooltip. Click the **Application <n>** link on the Developer toolbar.



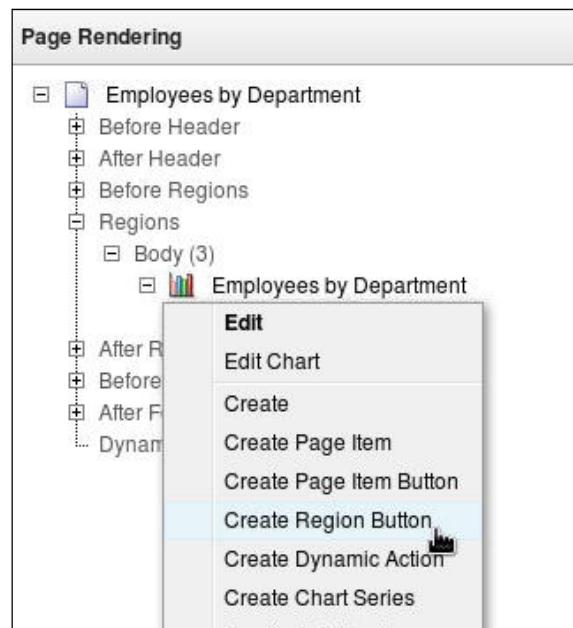
- b. Add a button to the Dynamic Employee Details page called Employee Hierarchy that navigates to the “Employees by Manager” tree page.
- 1) To find all the Employee related pages in your application, enter **employee** in the search area and click **Go**.



- 2) Select the Chart page you created earlier, **Employees by Department**.



- 3) Right-click **Employees by Department** Region and select **Create Region Button**.



- 4) Enter **Employee Hierarchy** for Button Name and Label, and click **Next >**.

Page: 32 - Employees by Department  
Region: Employees by Department  
\* Button Name: EMPLOYEE HIERARCHY  
[Cancel] [Next] [Previous] [Apply] [Submit] [Delete] [Finish] [Create] [Reset]  
\* Label: Employee Hierarchy  
Button Style: HTML Button  
Button Attributes:

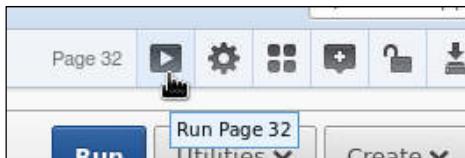
- 5) Accept the default and click **Next >**.

Page: 32 - Employees by Department  
Region: Employees by Department  
Button Name: EMPLOYEE\_HIERARCHY  
\* Sequence: 10  
Position: Top of Region  
[Top] [Close] [Edit] [Create] [Change] [Previous] [Next]  
Alignment: Right

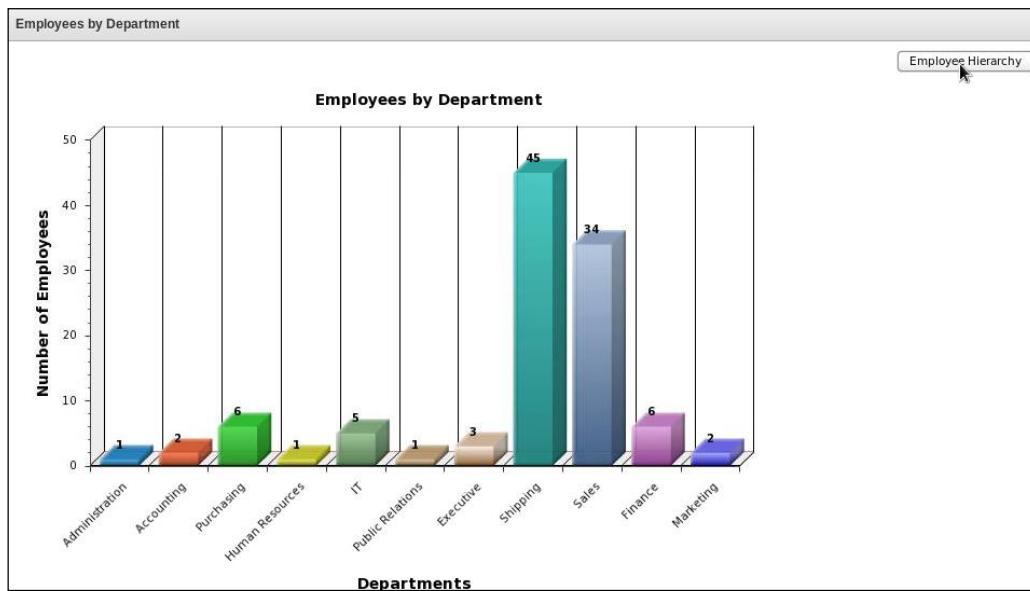
- 6) Select **Redirect to Page in this Application** for Action, select the **Employees by Manager** page (where your tree is located), and click **Create Button**.

Page: 32 - Employees by Department  
Region: Employees by Department  
Button Name: EMPLOYEE\_HIERARCHY  
Action: Redirect to Page in this Application  
\* Page: 48  
□ reset pagination for this page  
Request:  
Clear Cache: (comma separated page numbers)  
Set these items: (comma separated name list)  
With these values: (comma separated value list)

- 7) Click the **Run Page** icon.



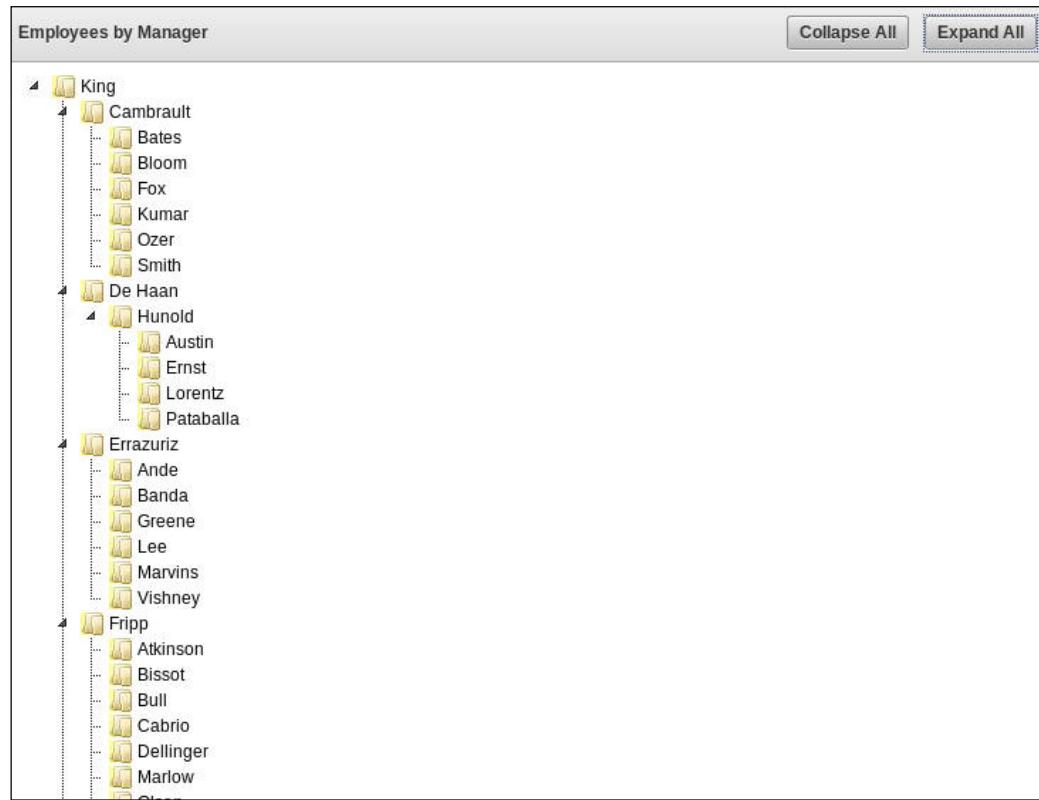
- 8) Click the **Employee Hierarchy** button.



- 9) The tree is displayed. Click **Expand All**.



10) The tree is expanded.



## **Practices for Lesson 19: Using Dynamic Actions and Plug-ins**

**Chapter 19**

## Practices for Lesson 19: Overview

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### Practices Overview

In these practices, you examine how dynamic actions and plug-ins work.

## Practice 19-1: Using Dynamic Actions on Your Page

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### Overview

In this practice, you create the following dynamic actions.

### Assumptions

You have performed the previous practices.

### Tasks

- a. **Show Item when Another item is Not Null:** On the Customer Details page, show P<n>\_CUST\_EMAIL only if the P<n>\_CUST\_FIRST\_NAME is not null.
- b. **Changing the Class When an Item Is Null:** On the Customer Details page, add a class to the P<n>\_CUST\_EMAIL if the item is null. Add an inline class to your page definition (located in the /home/oracle/labs/files/lab19\_1.txt file). The dynamic action should fire when the item loses focus.
- c. **Refreshing the data in a report using Custom filters:** On the Customers page, create a Quick Filter region with two select list items for P<n>\_CUSTOMER\_ID and P<n>\_CITY\_ID. Create a dynamic action on the select lists to refresh the report when the values of the select lists change. Make sure you add the two filter items to the Page Items to Submit.
  - **P<n>\_CUSTOMER\_ID SQL Query:** Located in the /home/oracle/labs/files/lab19\_2.txt
  - **P<n>\_CITY\_ID SQL Query:** Located in the /home/oracle/labs/files/lab19\_3.txt
  - **Customer Report where clause:** Located in the /home/oracle/labs/files/lab19\_4.txt

## Practice 19-2: Importing and Using Plug-ins

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### Overview

In this practice, you import and use an item type plug-in and a dynamic action plug-in.

### Assumptions

You have performed the previous practices.

### Tasks

- a. **Importing and Using an Item Type Plug-in:** In this practice, you import the plug-ins, and use them in your application.
  - 1) Add a rating column to the OEHR\_CUSTOMERS table.
  - 2) Import the Star Rating Item Plug-In and the Notification Dynamic action Plug-in files.
  - 3) Add the Star Rating Item Plug-in to your Customer Details page.
  - 4) Add the Notification Dynamic Action Plug-in to your Customer Details page.

## Solution 19-1: Using Dynamic Actions on Your Page

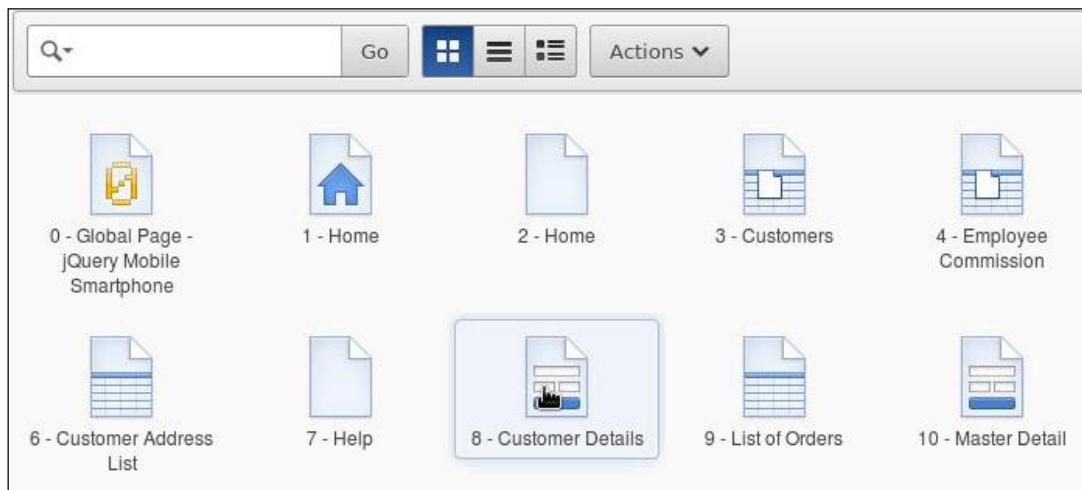
---

### Overview

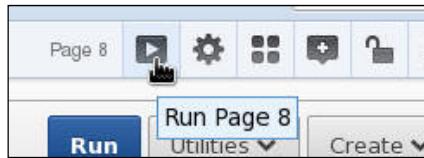
In this practice, you create various dynamic actions on your page as examples.

### Steps

- a. **Show Item when Another item is Not Null:** On the Customer Details page, show P<n>\_CUST\_EMAIL only if the P<n>\_CUST\_FIRST\_NAME is not null.
  - 1) Navigate to the Order Management application and select the **Customer Details** page.



- 2) Click the **Run Page** icon.



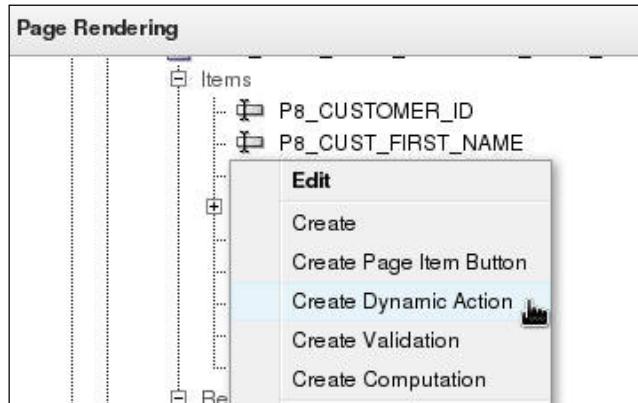
- 3) You want to add a dynamic action that will only show the Cust Email when a Cust First Name is entered. Click the **Edit Page** icon on the Developer toolbar.

The screenshot shows a 'Customer Details' page with the following fields:

- Cust First Name \*
- Cust Last Name \*
- Cust Email
- Account Manager: - Select Manager - dropdown with options: Bates, Elizabeth, Russell, John, Cambrault, Gerald
- Country: - Select Country - dropdown
- City
- Phone Number
- Photo: Browse...

The message 'The record created or modified in this form is reflected in the Customer Report.' is displayed below the fields.

- 4) Right-click **P<n>\_CUST\_FIRST\_NAME** and select **Create Dynamic Action**.



- 5) Enter **show email** for Name and click **Next >**.

The screenshot shows the 'Create Dynamic Action' dialog box with the following settings:

- Page: 8 - Customer Details
- Name: show email
- Sequence: 20

The 'Next >' button is highlighted with a cursor.

- 6) Accept the defaults, select **is not null** for Condition and click **Next >**.

Identify when you would like the Dynamic Action to fire.

Page: 8 - Customer Details

Name: show email

\* Event: Change  
Change, Click, Page Load

\* Selection Type: Item(s)  
Item, Button, Region

\* Item(s): P8\_CUST\_FIRST\_NAME

Condition: is not null  
equal to, is null, in list, JavaScript Expression

- 7) Select **Show** for Action and click **Next >**.

The following action will fire when the 'When Condition' is met or when 'No Condition' has been specified.

Page: 8 - Customer Details

Name: show email

\* Action: Show  
Show, Hide, Enable, Disable, Set Value

Fire On Page Load:

Generate Opposite False Action:

Settings

Show all page items on the same line: No

- 8) Select **Item(s)** for Selection Type, move the **P<n>\_CUST\_EMAIL** item to the right and click **Create Dynamic Action**.

Select which page elements you would like the dynamic action to control.

Page: 8 - Customer Details

Name: name is null

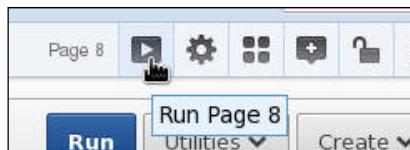
True Action: Show

False Action: Hide

\* Selection Type: Item(s)

\* Item(s): P8 CUSTOMER\_ID, P8\_CUST\_FIRST\_NAME, P8\_CUST\_LAST\_NAME, P8\_ACCOUNT\_MGR\_ID, P8\_COUNTRY\_ID, P8\_CITY, P8\_PHONE\_NUMBER, P8\_PHOTO, P8\_IMAGE, P8\_CUST\_EMAIL

- 9) Click the **Run Page** icon.



- 10) Notice that when you first run the page, the Cust Email is hidden. This is due to the dynamic action you just created.

**Customer Details**

Cust First Name *	<input type="text"/>
Cust Last Name *	<input type="text"/>
Account Manager	- Select Manager - <input type="button" value="▼"/>
<a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>	
Country	- Select Country - <input type="button" value="▼"/>
City	<input type="text"/> <input type="button" value="^"/>
Phone Number	<input type="text"/>
Photo	<input type="file"/> <input type="button" value="Browse..."/>
The record created or modified in this form is reflected in the Customer Report.	

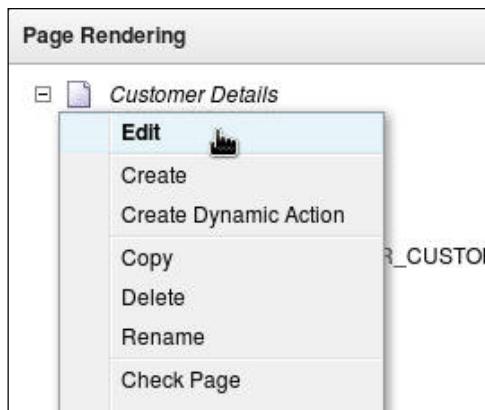
- 11) Enter something in the Cust First Name item and when you click away from the item, you notice that the Cust Email item is now shown. Click the **Edit Page** link on the Developer toolbar.

**Customer Details**

Cust First Name *	<input type="text" value="Charlie"/>
Cust Last Name *	<input type="text"/>
Cust Email	<input type="text"/>
Account Manager	- Select Manager - <input type="button" value="▼"/>
<a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>	
Country	- Select Country - <input type="button" value="▼"/>
City	<input type="text"/> <input type="button" value="^"/>
Phone Number	<input type="text"/>
Photo	<input type="file"/> <input type="button" value="Browse..."/>
The record created or modified in this form is reflected in the Customer Report.	
<input type="button" value="Home"/> <input type="button" value="Application 130"/> <input type="button" value="Edit Page 8"/> <input type="button" value="Create"/> <input type="button" value="Session"/> <input type="button" value="Caching"/> <input type="button" value="View"/>	

- b. **Changing the Class When an Item Is Null:** On the Customer Details page, add a class to the P<n>\_CUST\_EMAIL if the item is null. Add an inline class to your page definition (located in the /home/oracle/labs/files/lab19\_1.txt file). The dynamic action should fire when the item loses focus.

- 1) You first want to add the class that you want to use in the dynamic action you create. You will add it to the page definition. Right-click **Customer Details** and select **Edit**.



- 2) Click the **CSS** subtab.

Page Attributes: 9 of 35	
Show All	Name
Display Attributes	JavaScript
JavaScript	<b>CSS</b>
HTML Header	
Header and Footer	
<b>Name</b> <hr/> Page: 8 * Name: Customer Details	
Page Alias: <input type="text"/> Group: - No Group Assigned -	
<b>Display Attributes</b> <hr/> User Interface   Desktop	

- 3) Enter the following CSS code (located in the /home/oracle/labs/files/lab19\_1.txt file) in the Inline area and click **Apply Changes**. Note that you need to make sure you specify the important style so that it overrides the other styles used on the page.

Page Attributes: 9 of 35

Cancel Delete **Apply Changes**

Show All Name Display Attributes JavaScript CSS HTML Header Header and Footer Read Only Security Duplicate Submission

**CSS**

File URLs

Inline

```
.my-error {
    border: 1px solid red !important;
}
```

- 4) Now you can create the dynamic action. Right-click P<n>\_CUST\_EMAIL and select **Create Dynamic Action**.

Regions

Body (3)

- &P8\_CUST\_FIRST\_NAME. &P8\_CUST\_LAST\_NAME
- Items
  - P8\_CUSTOMER\_ID
  - P8\_CUST\_FIRST\_NAME
  - P8\_CUST\_LAST\_NAME
  - P8\_CUST\_EMAIL**
- Re

Edit

- Create
- Create Page Item Button
- Create Dynamic Action**
- Create Validation
- Create Computation
- Copy

- 5) Enter **email is null** for Name and click **Next >**.

Cancel **Next >**

Page: 8 - Customer Details

\* Name email is null

\* Sequence 20

- 6) Select **Lose Focus** for Event, select **Item(s)** for Selection Type, make sure that **P<n>\_CUST\_EMAIL** is selected for Item(s), and select **is null** for Condition. Then click **Next >**.

Identify when you would like the Dynamic Action to fire.

Page: 8 - Customer Details

Name: email is null

\* Event: Lose Focus  
Change, Click, Page Load

\* Selection Type: Item(s)  
Item, Button, Region

\* Item(s): P8\_CUST\_EMAIL

Condition: is null  
equal to, is null, in list, JavaScript Expression

- 7) Select **Add Class** for Action and enter **my-error** for Class. Then click **Next >**.

The following action will fire when the 'When Condition' is met or when 'No Condition' has been specified.

Page: 8 - Customer Details

Name: email is null

\* Action: Add Class  
Show, Hide, Enable, Disable, Set Value

Fire On Page Load:

Generate Opposite False Action:

Settings

\* Class: my-error

- 8) Select **Item(s)** for Selection Type. Select the **P<n>\_CUST\_EMAIL** item and move it to the right. Then click **Create Dynamic Action**.

Select which page elements you would like the dynamic action to control.

Page: 8 - Customer Details

Name: email is null

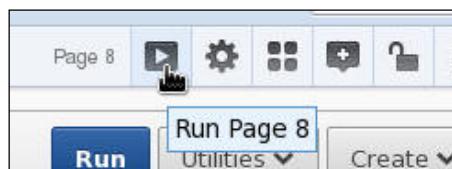
True Action: Add Class

False Action: Remove Class

\* Selection Type: Item(s)

\* Item(s): P8\_CUSTOMER\_ID, P8\_CUST\_FIRST\_NAME, P8\_CUST\_LAST\_NAME, P8\_ACCOUNT\_MGR\_ID, P8\_COUNTRY\_ID, P8\_CITY, P8\_PHONE\_NUMBER, P8\_PHOTO, P8\_IMAGE  
P8\_CUST\_EMAIL

- 9) Click the **Run Page** icon.



- 10) Notice that now when you enter a Cust First Name, the Cust Email item is shown and it turns red.

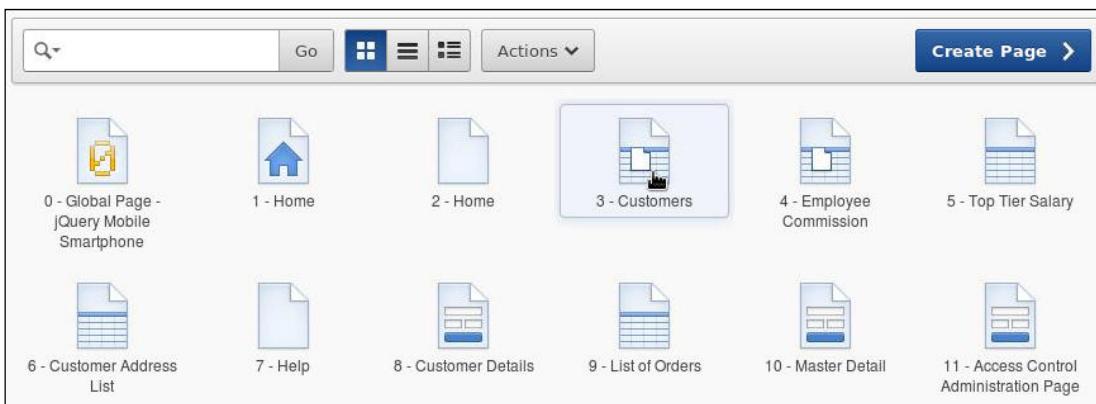
**Customer Details**

Cust First Name *	<input type="text" value="Charlie"/>
Cust Last Name *	<input type="text"/>
Cust Email	<input type="text"/>
Account Manager	<input type="text" value="- Select Manager -"/> <a href="#">Bates, Elizabeth</a> , <a href="#">Russell, John</a> , <a href="#">Cambrault, Gerald</a>
Country	<input type="text" value="- Select Country -"/>
City	<input type="text"/>
Phone Number	<input type="text"/>
Photo	<input type="text"/> <a href="#">Browse...</a>

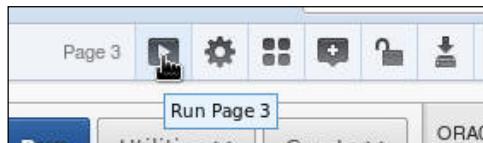
The record created or modified in this form is reflected in the Customer Report.

- 11) Enter an email address, and then click somewhere else on the page to lose focus. You notice that the red border disappears. Click the **Application <n>** link on the developer toolbar.

- c. **Refreshing the data in a report using Custom filters:** On the Customers page, create a Quick Filter region with two select list items for P<n>\_CUSTOMER\_ID and P<n>\_JOB\_ID. Create a dynamic action on the select lists to refresh the report when the values of the select lists change. Make sure that you add the two filter items to the Page Items to Submit.
- From the Order Management application home page, select the **Customers** page.

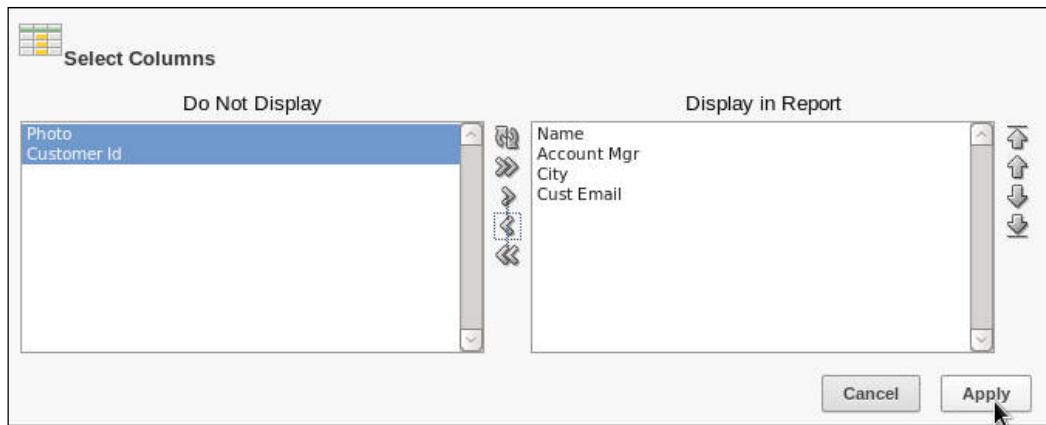


- 2) Click the **Run Page** icon.



- 3) You want to change the columns that the report displays. Click **Actions** and select **Select Columns**.

- 4) Remove **Photo** and **Customer Id** from the list of Displayed Columns and add **Cust Email** to the list of Displayed Columns. Then click **Apply**.



- 5) You want to save these settings. Click **Actions** and select **Save Report**.

	Name	Account Mgr	City	Cust Email
	Constantin Welles	Russell	Kokomo	Constantin.Welles@ANHINGA.COM
	Harrison Pacino	Russell	Indianapolis	HARRISON.PACINO@ANI.COM
	Manisha Taylor	Bates	Bloomington	Manisha.Taylor@AUKLET.COM
	Harrison Sutherland	Russell	Indianapolis	Harrison.Sutherland@GODWIT.COM
	Matthias MacGraw	Russell	Bloomington	MATTHIAS.MACGRAW@GOBIRD.COM
	Matthias Hannah	Russell	South Bend	Matthias.Hannah@GREBE.COM
	Matthias Cruise	Russell	Elkhart	Matthias.Cruise@GROSBEAK.COM
	Meenakshi Mason	Russell	Indianapolis	Meenakshi.Mason@JACANA.COM

- 6) Select **As Default Report Settings** from the list of Save options.

Save As Named Report (Only displayed for developers)

Name As Named Report  
As Default Report Settings

Description

Cancel Apply

- 7) Make sure that **Primary** is selected and click **Apply**.

The current report settings will be used as the default for all users.

Default Report Type  Primary  Alternative

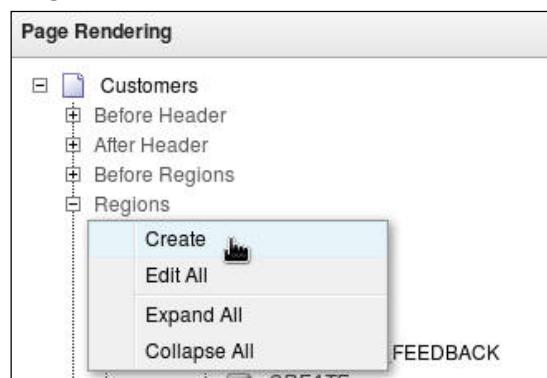
Cancel Apply

- 8) The report settings are saved. Click the **Edit Page** link on the Developer toolbar.

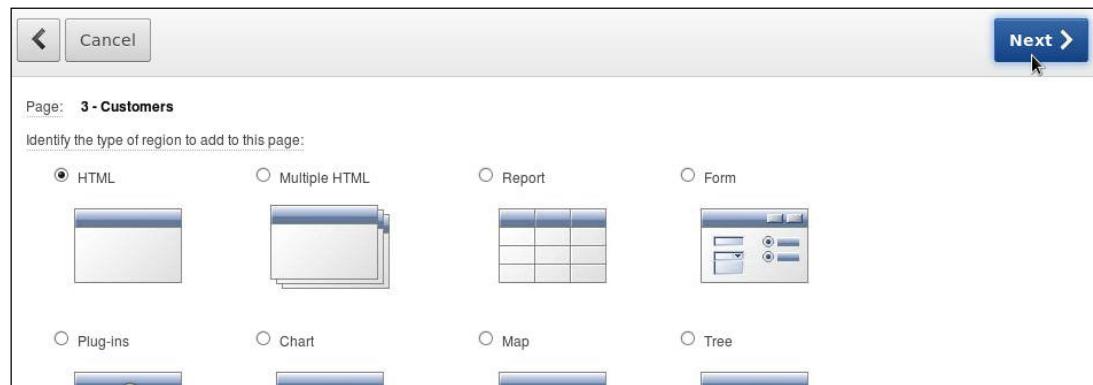
	Name	Account Mgr	City	Cust Email
	Constantin Welles	Russell	Kokomo	Constantin.Welles@ANHINGA.COM
	Harrison Pacino	Russell	Indianapolis	HARRISON.PACINO@ANI.COM
	Manisha Taylor	Bates	Bloomington	Manisha.Taylor@AUKLET.COM
	Harrison Sutherland	Russell	Indianapolis	Harrison.Sutherland@GODWIT.COM

Home Application 130 Edit Page 3 Create Session Caching View Debug

- 9) You want to create the region in which the filtered items will be created. Right-click **Region** and select **Create**.



- 10) Select **HTML** and click **Next**.



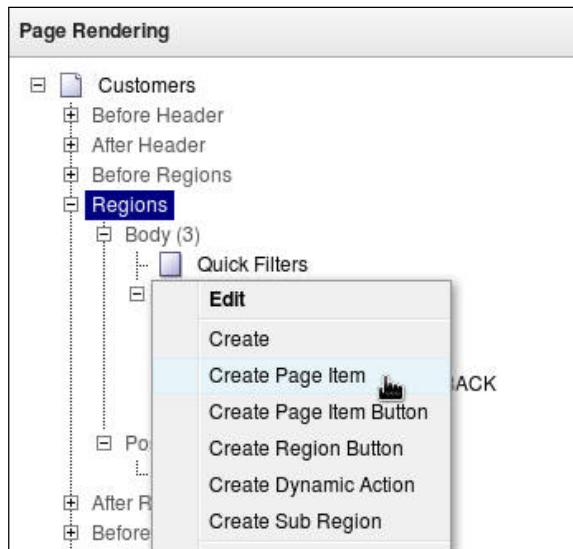
- 11) Select **HTML** and click **Next**.



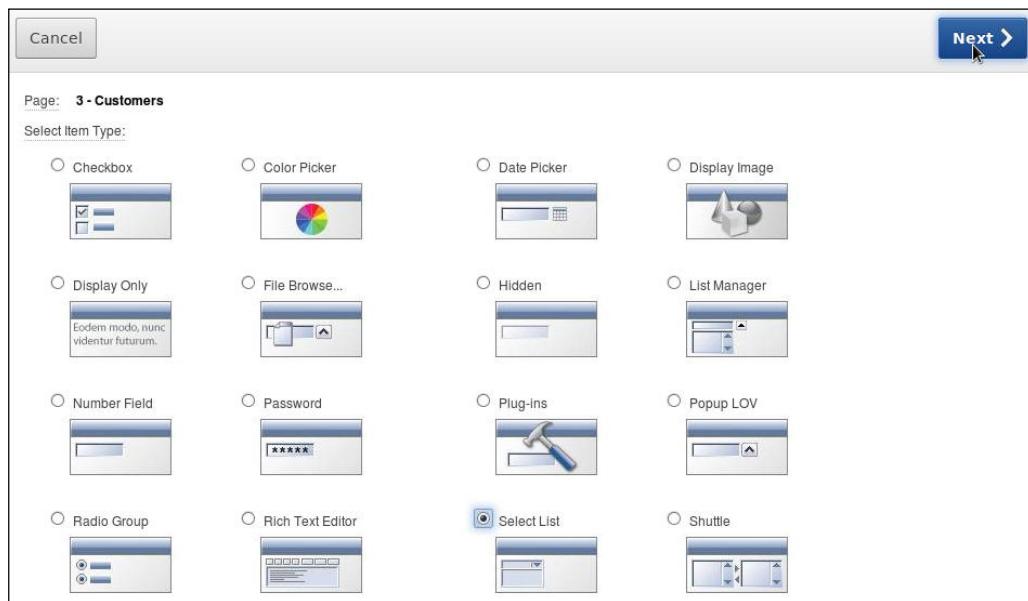
- 12) Enter **Quick Filters** for Title and select **Report Filter – Single Row** for Region Template. Replace the sequence with 5 so that this region appears before the interactive report region on the page. Click **Create Region**.



- 13) On the Quick Filters region, create two filter items: `P<N>_CUSTOMER_ID` and `P<n>_CITY_ID` to filter the employee report by department name and job ID.
- Right-click the **Quick Filters** region and select **Create Page Item**.



- Choose **Select List** and click **Next**.



- For Item Name, enter `P<n>_CUSTOMER_ID`. Click **Next**.



- d) Change the Label to **Customer** and accept the remaining defaults for Item Attributes. Click **Next**.

Page: 3 - Customers  
Item Name: P3\_CUSTOMER\_ID  
Display As: Select List  
Label: Customer [Clear]  
Height: 1  
Template: Optional

- e) For Settings, accept defaults and click **Next**.

Page: 3 - Customers  
Item Name: P3\_CUSTOMER\_ID  
Display As: Select List  
Value Required: No  
Page Action when Value Changed: None (Default)  
Allow Multi Selection: No

- f) Ensure Display Null Value is **Yes**. For Null Display Value, enter - **Show All** - . For List of Values Query, enter the following query and click **Next**. Use home/labs/files/lab19\_2.txt

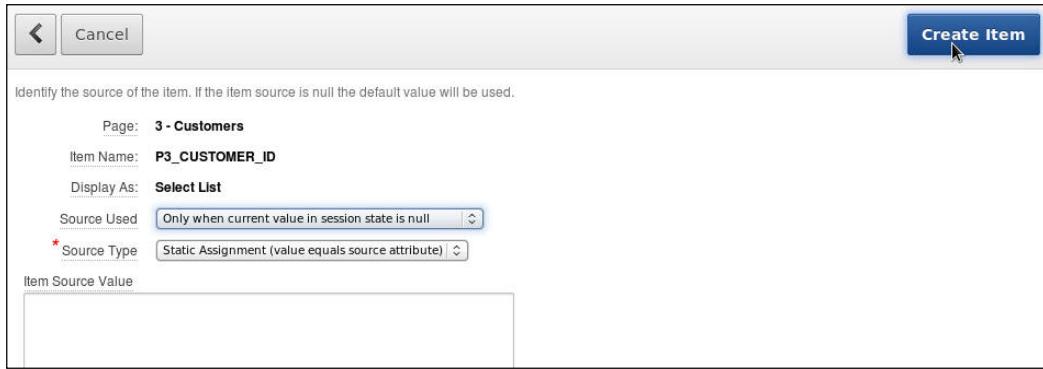
```
select cust_first_name||' '||cust_last_name d, customer_id r
from oehr_customers
order by 1
```

Application/Page: 130/3  
Item Name: P3\_CUSTOMER\_ID  
Display As: Select List  
Named LOV:  
Display Null Value: Yes  
Null Display Value: - Show All -  
Null Return Value:  
Cascading LOV Parent Item(s):

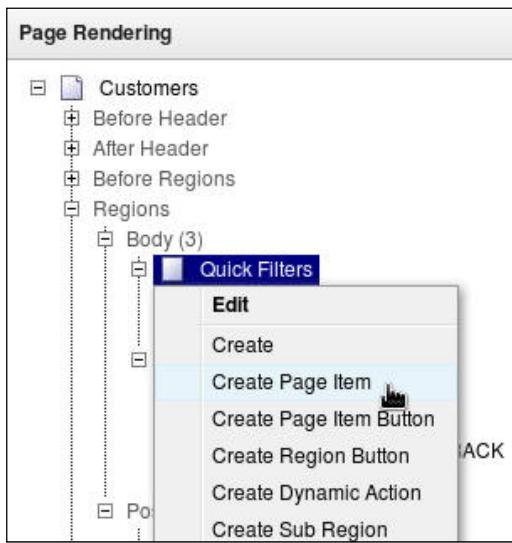
\* List of Values Query

```
select cust_first_name||' '||cust_last_name d, customer_id r
from oehr_customers
order by 1
```

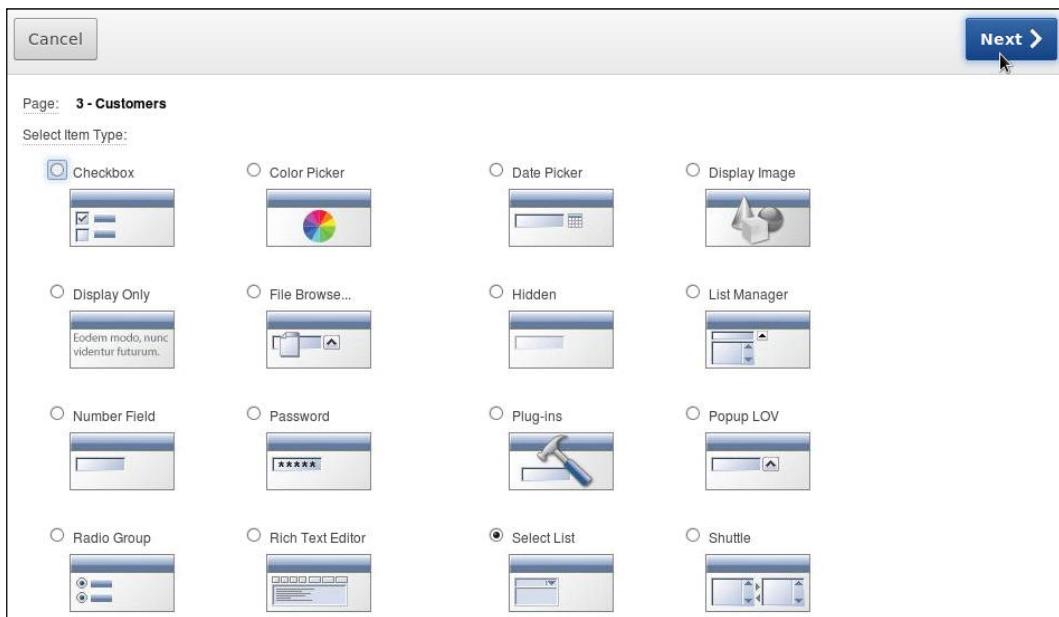
g) Click **Create Item**.



h) You want to create one more page item for City. Right-click the **Quick Filters** region and select **Create Page Item**.



i) Choose **Select List** and click **Next**.



- j) For Item Name, enter **P<n>\_CITY**. Click **Next**.

Page: 3 - Customers  
Display As: Select List  
\* Item Name: P3\_CITY  
\* Sequence: 20  
\* Region: Quick Filters (5)

- k) Accept the defaults and click **Next**.

Page: 3 - Customers  
Item Name: P3\_CITY  
Display As: Select List  
Label: City [Clear]  
Height: 1  
Template: Optional

- l) Accept the defaults and click **Next**.

Page: 3 - Customers  
Item Name: P3\_CITY  
Display As: Select List  
Value Required: No  
Page Action when Value Changed: None (Default)  
Allow Multi Selection: No

- m) Ensure Display Null Value is set to **Yes**. For Null Display Value enter - **Show All** -. For List of Values Query, enter the following query and click **Next**. Use home/labs/files/lab19\_3.txt.

```
select distinct city d, city r
from oechr_customers
order by 1
```

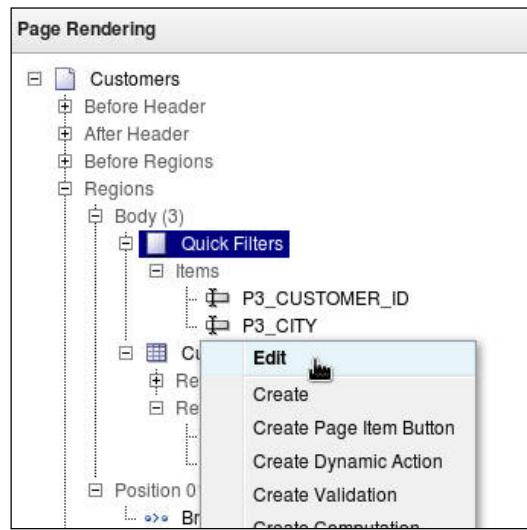
This screenshot shows the 'List of Values' configuration page in Oracle APEX. The application/page is set to 130/3. The item name is P3\_CITY, and it is displayed as a 'Select List'. The 'Display Null Value' is set to 'Yes'. The 'Null Display Value' is '- Show All -'. The 'Cascading LOV Parent Item(s)' field is empty. The 'List of Values Query' section contains the following SQL code:

```
select distinct city d, city r
from oehr_customers
order by 1
```

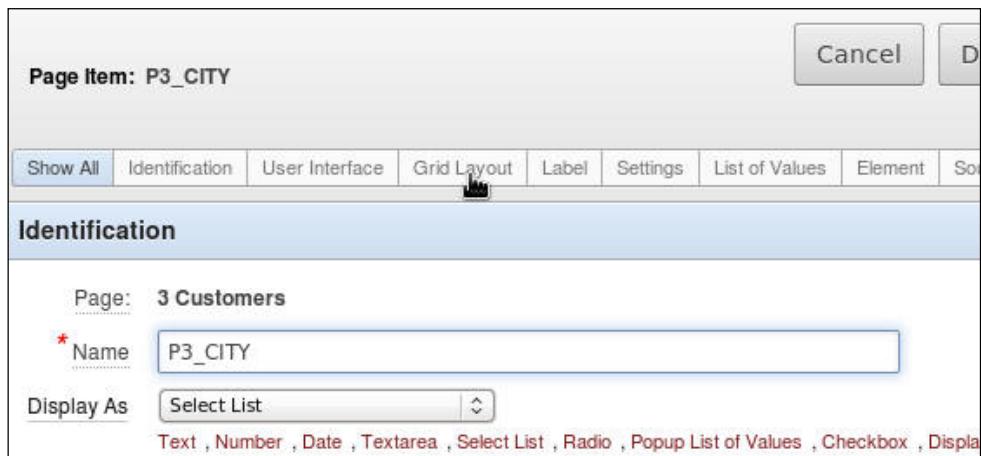
n) Click **Create Item**.

This screenshot shows the 'Create Item' configuration page for item P3\_CITY. The page is titled '3 - Customers'. The item name is P3\_CITY, and it is displayed as a 'Select List'. The 'Source Used' dropdown is set to 'Only when current value in session state is null'. The 'Source Type' dropdown is set to 'Static Assignment (value equals source attribute)'. The 'Item Source Value' field is empty.

14) Right-click P<n>\_CITY and select **Edit**.



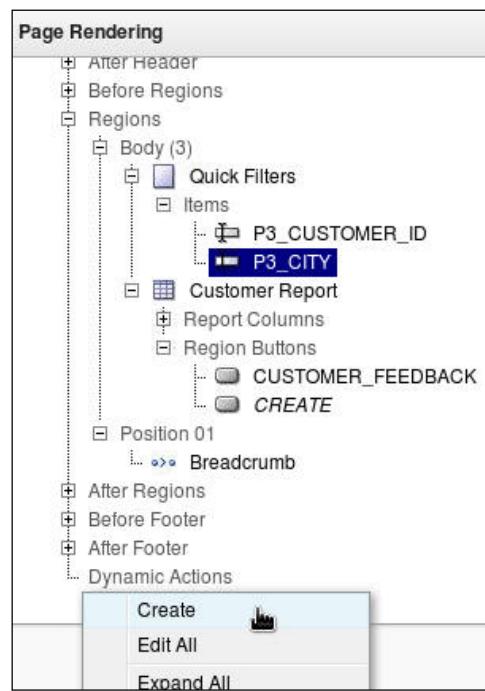
15) Click the **Grid Layout** subtab.



16) Select **No** for **Start New Row**. Click **Apply Changes**.



17) Right-click the **Dynamic Actions** node and select **Create**.



- 18) Enter **QUICK FILTER REFRESH** for Name, click **Next**.

Cancel **Next >**

Page: 3 - Customers

\* Name: quick filter refresh

\* Sequence: 10

- 19) Select **Change** for Event, **Item(s)** for Selection Type. For Item(s), enter **P<n>\_CUSTOMER\_ID, P<n>\_CITY**. Accept the defaults and click **Next**.

Cancel **Next >**

Identify when you would like the Dynamic Action to fire.

Page: 3 - Customers

Name: quick filter refresh

\* Event: Change  
Change, Click, Page Load

\* Selection Type: Item(s)  
Item, Button, Region

\* Item(s): P3\_CUSTOMER\_ID,P3\_CITY

Condition: - No Condition -  
equal to, is null, in list, JavaScript Expression

- 20) Select **Refresh** for Action. Ensure that the Fire On Page Load check box is deselected and click **Next**.

Cancel **Next >**

The following action will fire when the 'When Condition' is met or when 'No Condition' has been specified.

Page: 3 - Customers

Name: quick filter refresh

\* Action: Refresh  
Show, Hide, Enable, Disable, Set Value

Fire On Page Load

- 21) Select **Region** for Selection Type and select **Customer Report** for Region and click **Create Dynamic Action**.

Cancel **Create Dynamic Action**

Select which page elements you would like the dynamic action to control.

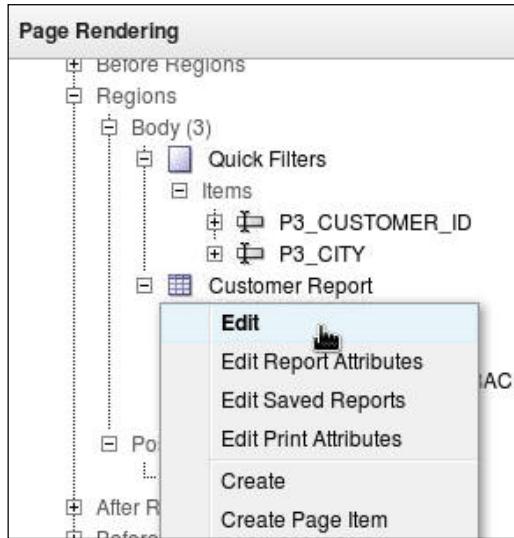
Page: 3 - Customers

Name: quick filter refresh

True Action: Refresh

\* Selection Type: Region  
Customer Report (10)

- 22) Under Regions, right-click the **Customer Report** and select **Edit**.



- 23) Click the **Source** tab.

Region Definition	Report Attributes	Saved Reports	Print Attributes
<b>Region: 3 of 3 Name: Customer Report</b>			
<input type="button" value="Show All"/> <input type="button" value="Identification"/> <input checked="" type="button" value="Source"/> <input type="button" value="User Interface"/> <input type="button" value="Grid Layout"/> <input type="button" value="Attributes"/> <input type="button" value="Header and Footer"/>			
<b>Identification</b>			
Page: <b>3 Customers</b> * Title: <input type="text" value="Customer Report"/> Type: <b>Interactive Report</b>			

- 24) Add the following where clause (located in the

/home/oracle/labs/files/lab19\_4.txt file) to the SELECT statement.

Then enter **P<n>\_CUSTOMER\_ID, P<n>\_CITY** for Page Items to Submit. Click **Apply Changes**.

```
where customer_id = nvl(:P<n>_CUSTOMER_ID, CUSTOMER_ID)
      and city = nvl(:P<n>_CITY, CITY)
```

Region Definition Report Attributes Saved Reports Print Attributes

Region: 3 of 3 Name: Customer Report Cancel Delete Apply Changes

Show All Identification Source User Interface Grid Layout Attributes Header and Footer Conditions Read Only Security Configuration

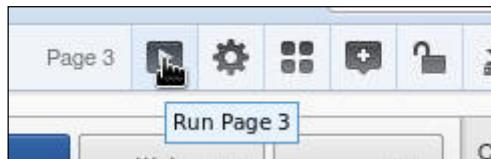
**Source**

Region Source

```
select c.customer_id,
       c.cust_first_name||' '||c.cust_last_name name,
       c.city,
       c.cust_email,
       (select last_name from oe_hr_employees where employee_id= c.account_mgr_id)
       account_mgr,
       dbms_lob.getlength(c.photo) photo
  from oe_hr_customers c
 where customer_id = nvl(:P3_CUSTOMER_ID, CUSTOMER_ID)
   and city = nvl(:P3_CITY, CITY)
```

Page Items to Submit P3\_CUSTOMER\_ID,P3\_CITY

- 25) Click the **Run Page** icon.



- 26) Note that when both filters are set to - Show All -, all the records are displayed.

Customer - Show All - City - Show All -

**Customer Report**

	Name	Account Mgr	City	Cust Email
	Constantin Welles	Russell	Kokomo	Constantin.Welles@ANHINGA.COM
	Harrison Pacino	Russell	Indianapolis	HARRISON.PACINO@ANI.COM
	Manisha Taylor	Bates	Bloomington	Manisha.Taylor@AUKLET.COM
	Harrison Sutherland	Russell	Indianapolis	Harrison.Sutherland@GODWIT.COM
	Matthias MacGraw	Russell	Bloomington	MATTHIAS.MACGRAW@GOLDENEYE.COM
	Matthias Hannah	Russell	South Bend	Matthias.Hannah@GREBE.COM
	Matthias Cruise	Russell	Elkhart	Matthias.Cruise@GROSBEAK.COM

- 27) Select a customer from the list. What do you observe?

The screenshot shows a search interface for a customer named "Albert Spacek". The results table displays one row with the following data:

	Name	Account Mgr	City	Cust Email
	Albert Spacek	Errazuriz	Baden-Daettwil	Albert.Spacek@DOWITCHER.COM

Page number: 1 - 1

- 28) Select **-Show All-** for Customer and select a city from the list. What do you observe now? When done, click the **Application <n>** link on the Developer toolbar.

The screenshot shows a search interface for a customer named "Ann Arbor". The results table displays four rows with the following data:

	Name	Account Mgr	City	Cust Email
	Elizabeth Brown	Russell	Ann Arbor	Elizabeth.Brown@THRASHER.COM
	Isabella Reed	Russell	Ann Arbor	Isabella.Reed@BRANT.COM
	Doris Spacek	Russell	Ann Arbor	Doris.Spacek@FLICKER.COM
	Doris Bel Geddes	Russell	Ann Arbor	Doris.BelGeddes@GROSBEAK.COM

Page number: 1 - 4

Navigation bar: Home Application 130 Edit Page 3 Create Session Caching View Debug

## Solution 19-2: Importing and Using Plug-Ins

### Overview

In this practice, you import and use an item type plug-in and a dynamic action plug-in.

### Tasks

- a. **Importing and Using an Item Type Plug-in:** In this practice, you import the plug-ins, and use them in your application.
  - 1) Add a rating column to the `OEHR_CUSTOMERS` table.
    - a) Select **SQL Workshop > Object Browser**.



- b) Select **OEHR\_CUSTOMERS** from the list of tables, and then click the **Add Column** subtab.

Column Name	Data Type	Nullable
CUSTOMER_ID	NUMBER(6,0)	No
CUST_FIRST_NAME	VARCHAR2(20)	No
CUST_LAST_NAME	VARCHAR2(20)	No
STREET_ADDRESS	VARCHAR2(40)	Yes
POSTAL_CODE	VARCHAR2(10)	Yes
CITY	VARCHAR2(30)	Yes
STATE_PROVINCE	VARCHAR2(10)	Yes
COUNTRY_ID	CHAR(2)	Yes
PHONE_NUMBER	VARCHAR2(25)	Yes
NLS_LANGUAGE	VARCHAR2(3)	Yes

- c) Enter **RATING** for Add Column and **2** for Precision. Click **Next >**.

**Add Column**

Schema: **ORA01**

Table: **OEHR\_CUSTOMERS**

\* Add Column: **RATING**  Preserve Case

Type: **NUMBER**

Length:

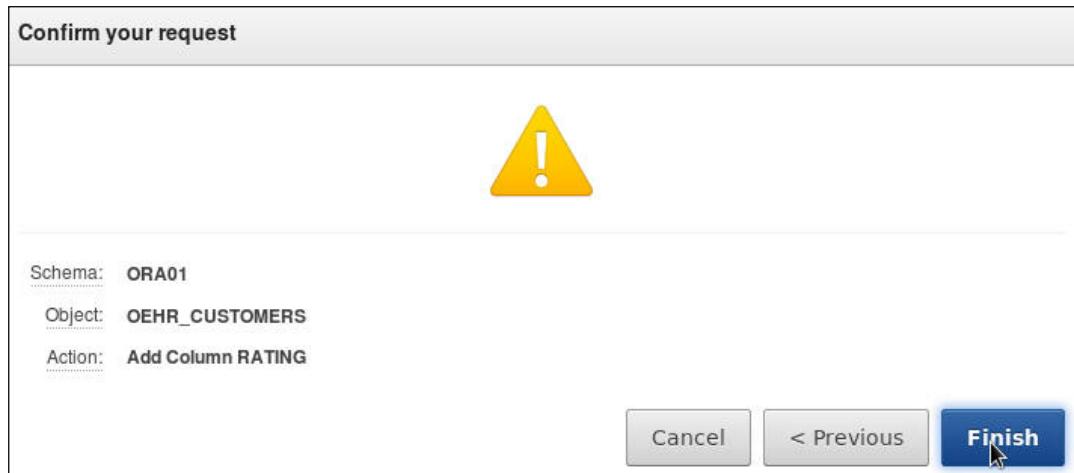
Precision: **2**

Scale:

Nullable: **NULL (do not require a value)**

**Cancel** **Next >**

- d) Click **Finish**.

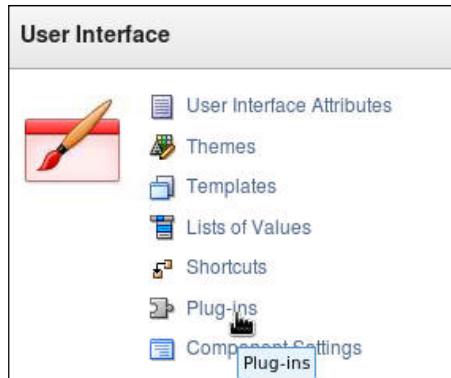


- 2) Import the Star Rating Item Plug-In and the Notification Dynamic action Plug-in files.

- a) Navigate to your Order Management application. Click **Shared Components**.



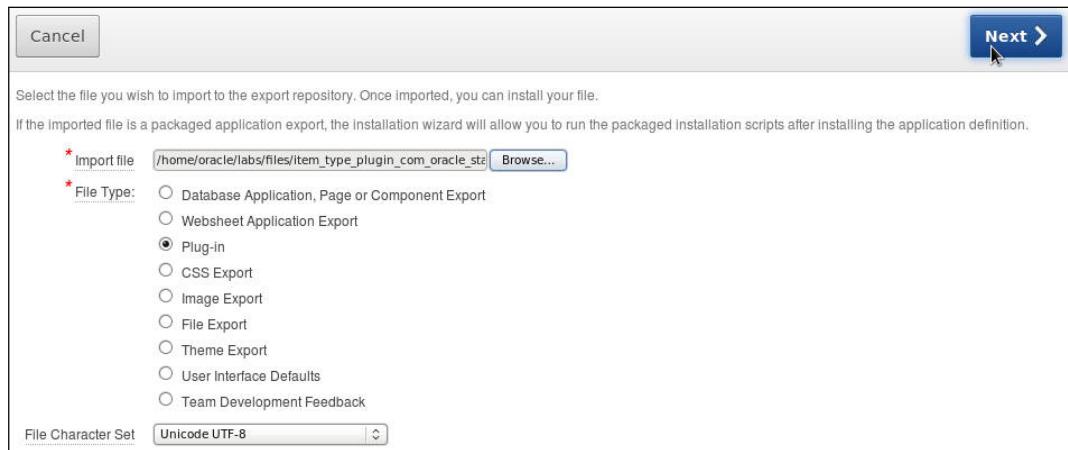
- b) Under User Interfaces, select **Plug-ins**.



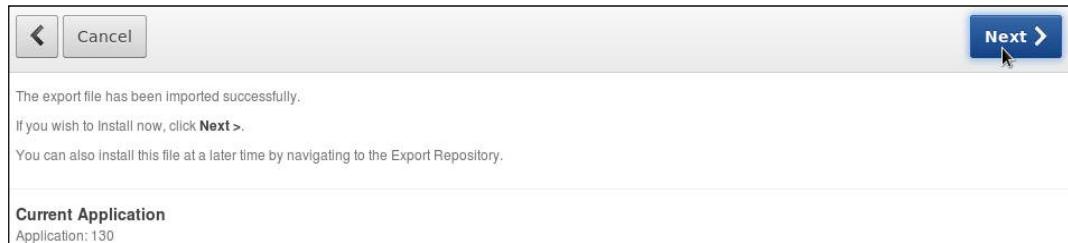
- c) Click **Import**.



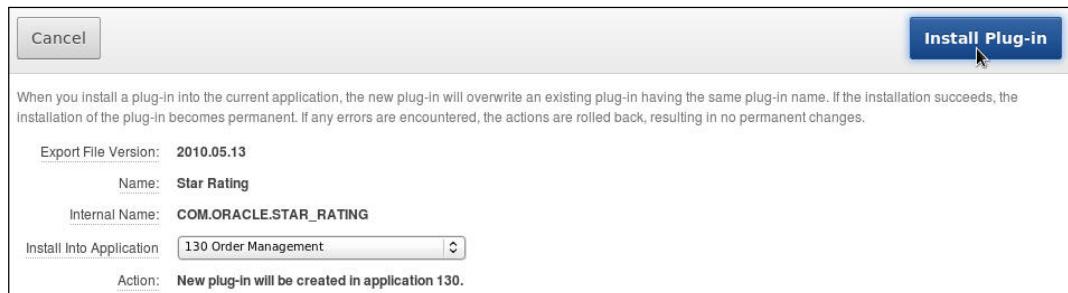
- d) Click **Browse** and select `home/oracle/labs/files/item_type_plugin_com_oracle_apex_s tar_rating.sql`. Click **Open**. Then click **Next**.



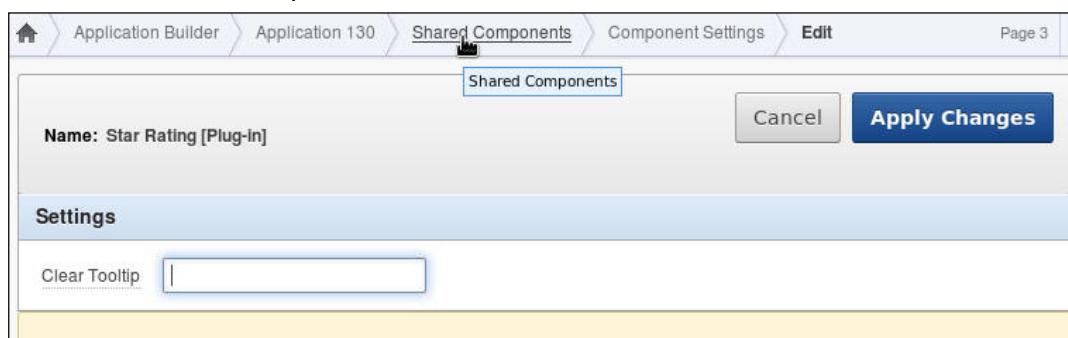
- e) After the file is imported, click **Next** to install it.



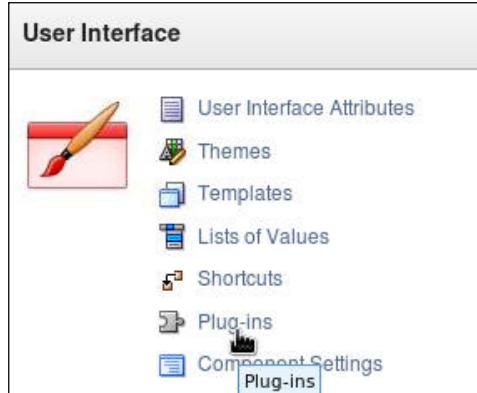
- f) Make sure the **Order Management** application is selected and click **Install Plug-in**. Note that if the plug-in already exists, it will be replaced.



- g) The plug-in was installed. You will be asked to enter a component setting. Click the Shared Components breadcrumb.



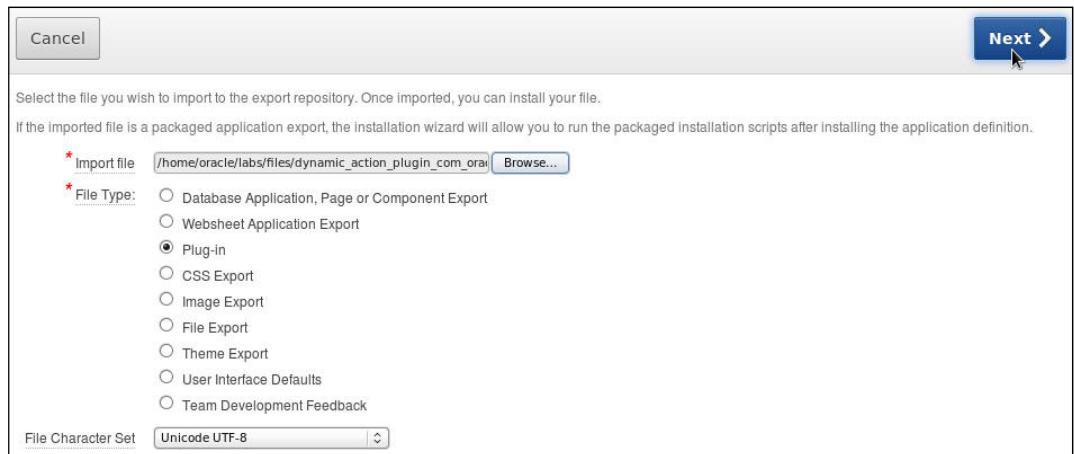
- h) Under User Interface, select **Plug-Ins**.



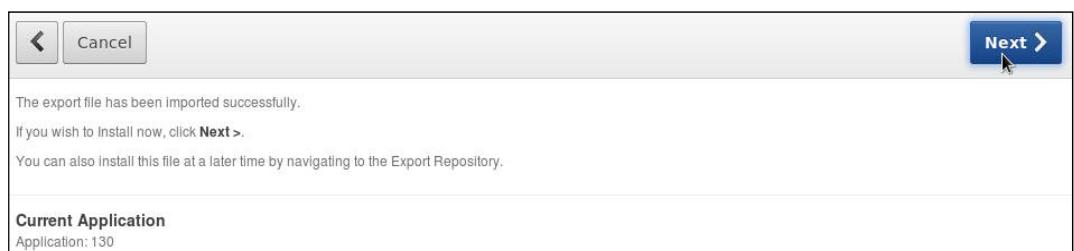
- i) You want to install one more plug-in. Click **Import**.



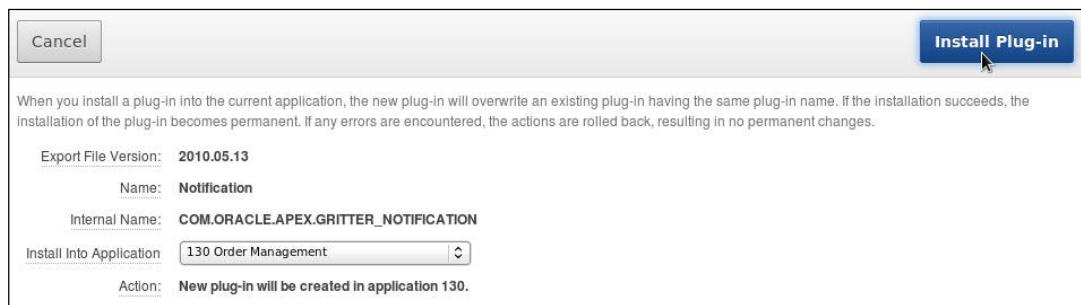
- j) Click **Browse** and select `home/oracle/labs/files/dynamic_action_plugin_com_oracle_apex_gritter_notification.sql`. Click **Open**. Then click **Next**.



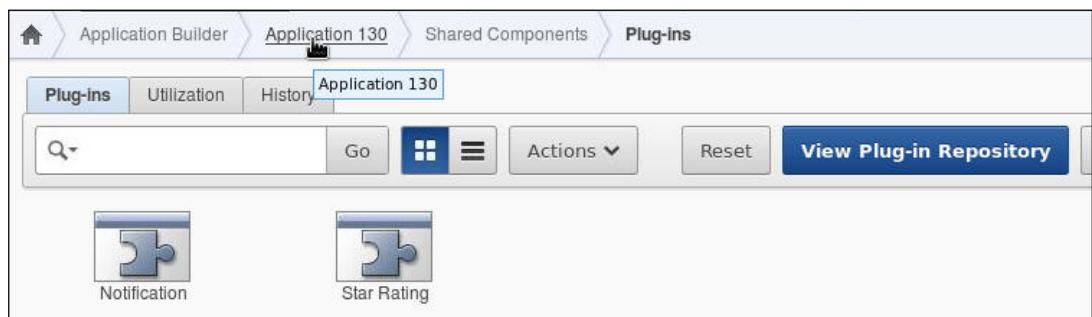
- k) After the file is imported, click **Next** to install it.



- i) Select the **Order Management** application and click **Install Plug-in**. Note that if the plug-in already exists, it will be replaced.

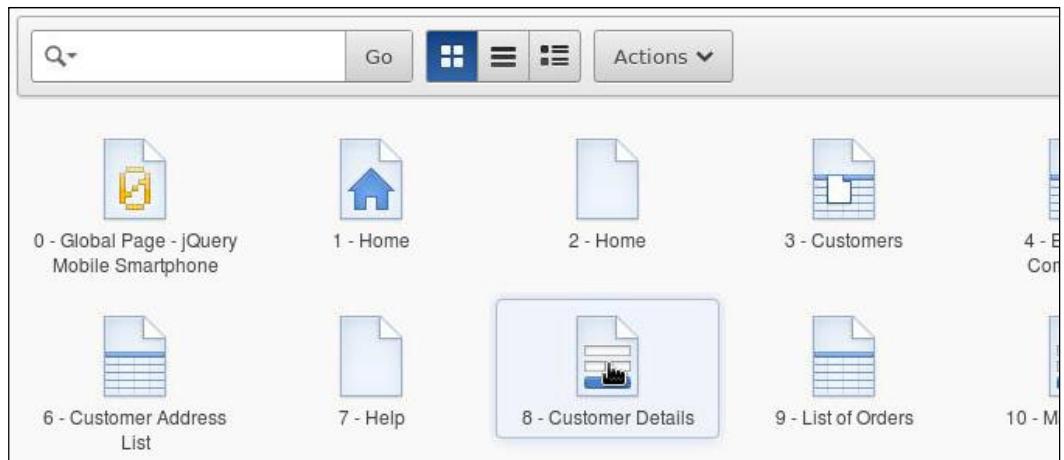


- m) The plug-ins are installed successfully. Click the **Application** breadcrumb.

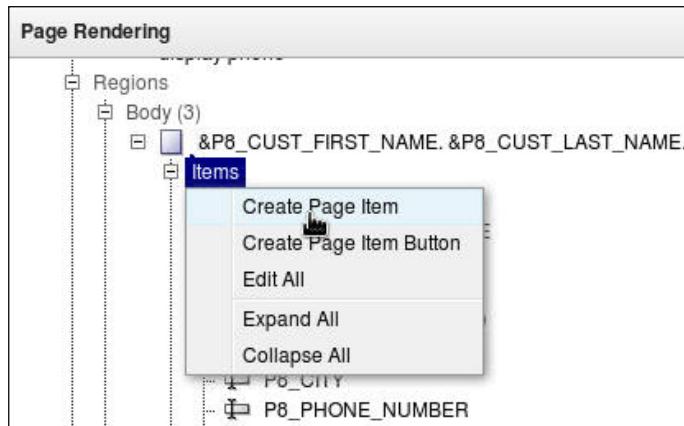


- 3) Add the Star Rating Item Plug-in to your Customer Details page.

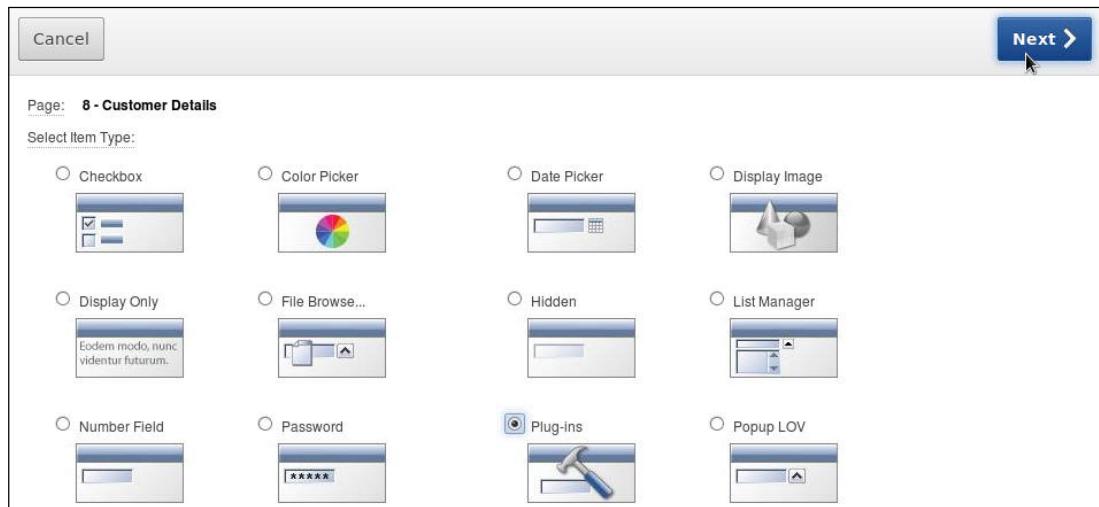
- a) Navigate to the **Customer Details** page.



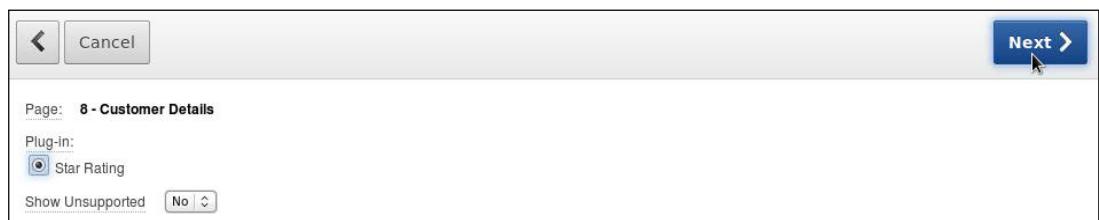
- b) Right-click **Items** and select **Create Page Item**.



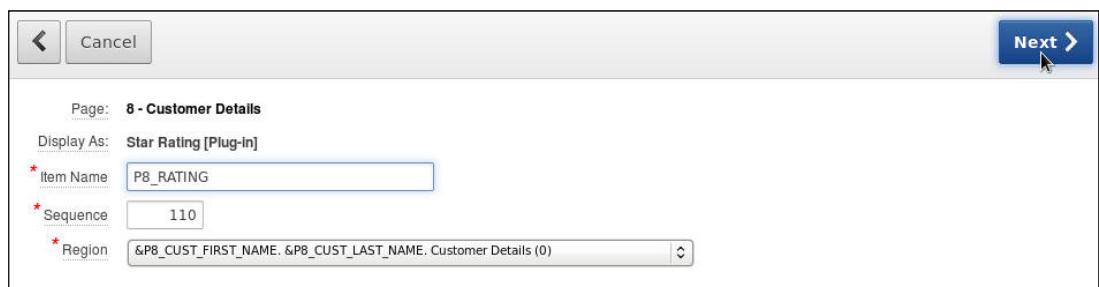
- c) Select the **Plug-ins** item type and click **Next >**.



- d) Select the **Star Rating** option and click **Next >**.



- e) Enter **Rating** for Item Name and click **Next >**.



- f) Accept the defaults and click **Next >**.

Page: 8 - Customer Details  
Item Name: P8\_RATING  
Display As: Star Rating [Plug-in]  
Label: Rating [Clear]  
Template: Optional

- g) Make sure “Number of Stars” is set to **5** and click **Next >**.

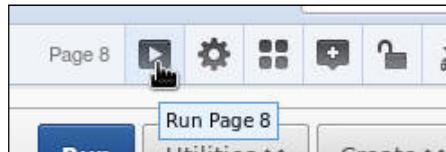
Page: 8 - Customer Details  
Item Name: P8\_RATING  
Display As: Star Rating [Plug-in]  
Value Required: No  
\* Number of Stars: 5

- h) Select **Database Column** for Source type (automatically it should select the RATING column) and click **Create Item**.

Identify the source of the item. If the item source is null the default value will be used.

Page: 8 - Customer Details  
Item Name: P8\_RATING  
Display As: Star Rating [Plug-in]  
Source Used: Always, replacing any existing value in session state  
\* Source Type: Database Column  
Database Column Name: RATING  
Format Mask:

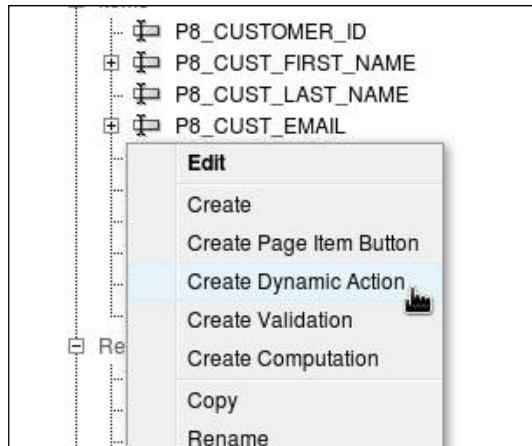
- i) Click the **Run Page** icon.



- j) Note that the page now includes the Rating item. If you move your cursor over the stars, you can see the value. Click the **Edit Page** link on the Developer toolbar.

The screenshot shows the 'Customer Details' page. It includes fields for 'Cust First Name' and 'Cust Last Name' (both required), an 'Account Manager' dropdown menu listing 'Bates, Elizabeth, Russell, John, Cambrault, Gerald', a 'Country' dropdown menu, a 'City' input field with an up/down arrow, a 'Phone Number' field, a 'Photo' upload field with a 'Browse...' button, and a 'Rating' component with five yellow stars. Below the rating is a message: 'The record created or modified in this form is reflected in the Customer Report.' A small blue box highlights the number '4' at the bottom of the page.

- 4) Add the Notification Dynamic Action Plug-in to your Customer Details page.
- Right-click the **P<n>\_EMAIL** page item and select **Create Dynamic Action**.



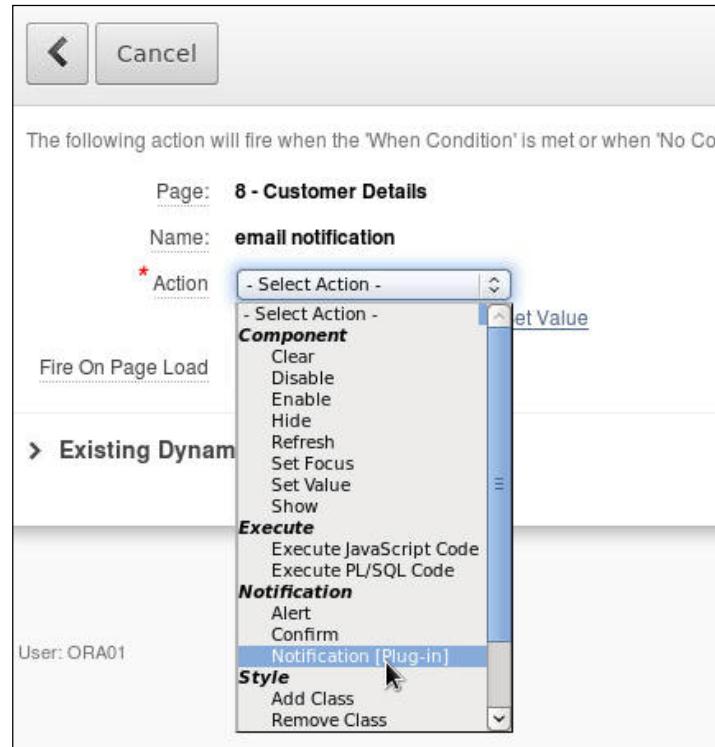
- Enter **email notification** for Name and click **Next >**.

The screenshot shows the 'Create Dynamic Action' configuration dialog. It has fields for 'Page' (set to '8 - Customer Details'), 'Name' (set to 'email notification'), and 'Sequence' (set to '30'). The 'Next >' button is highlighted with a mouse cursor.

- c) Select **Click** for Event, accept the rest of the defaults, and click **Next >**.



- d) Select **Notification [Plug-In]** from the list of Actions.



- e) Enter **Email Notification** for Title and **The customer email is &P<n>\_CUST\_EMAIL.** for Text. You can control the fade in and fade out by specifying a number of seconds and whether to show a Sticky. Enter **6** for "Hide After x Seconds" and click **Next >**.

The following action will fire when the 'When Condition' is met or when 'No Condition' has been specified.

Page: 8 - Customer Details

Name: email notification

Action: Notification [Plug-in]

Show, Hide, Enable, Disable, Set Value

Fire On Page Load:

**Settings**

Title: Email Notification

The customer email is &P8\_CUST\_EMAIL.

Text:

Image URL:

Sticky: No

Hide After x Seconds: 6

- f) Click **Create Dynamic Action.**

Select which page elements you would like the dynamic action to control.

Page: 8 - Customer Details

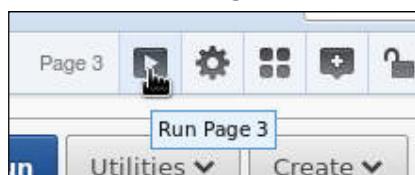
Name: email notification

True Action: Notification [Plug-in]

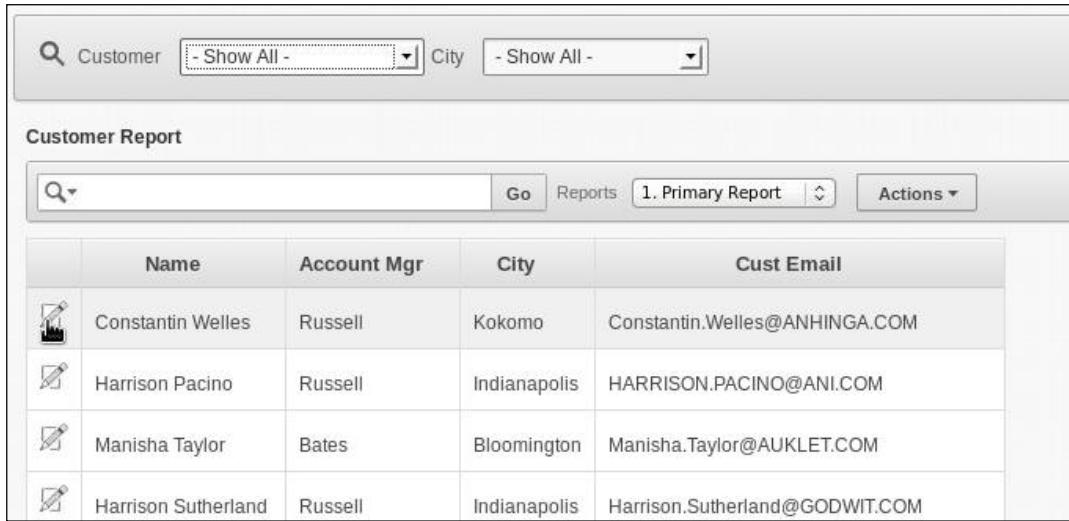
- g) You want to show the email for an existing customer, so you want to run the Customer report and edit a record from there. Enter **3** (or the Customers page) and click **Go**.



- h) Click the **Run Page** icon.



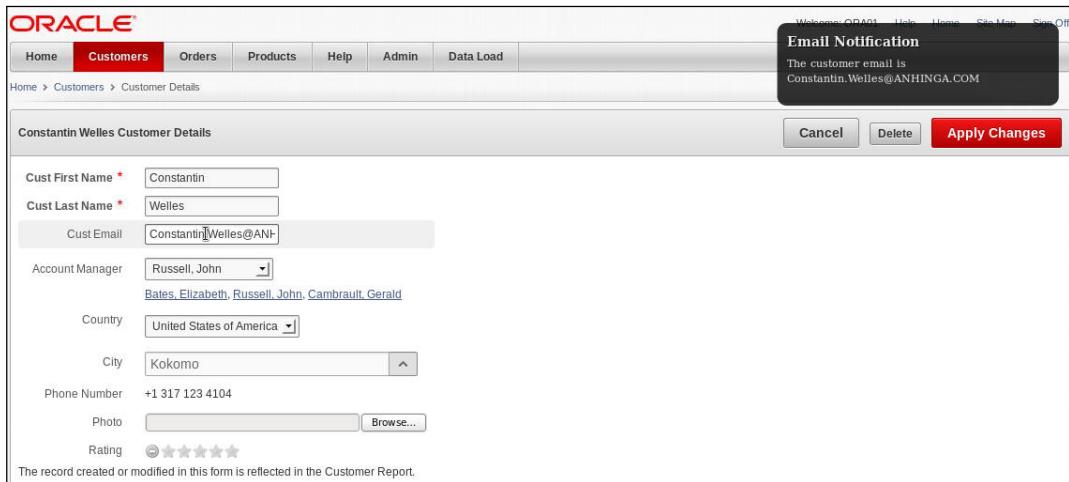
- i) Click the **Edit** icon next to one of the rows.



The screenshot shows a table titled "Customer Report" with columns: Name, Account Mgr, City, and Cust Email. Each row has an edit icon (pencil icon) in the first column. The data is as follows:

	Name	Account Mgr	City	Cust Email
	Constantin Welles	Russell	Kokomo	Constantin.Welles@ANHINGA.COM
	Harrison Pacino	Russell	Indianapolis	HARRISON.PACINO@ANI.COM
	Manisha Taylor	Bates	Bloomington	Manisha.Taylor@AUKLET.COM
	Harrison Sutherland	Russell	Indianapolis	Harrison.Sutherland@GODWIT.COM

- j) Click in the **Cust Email** item area. Notice the notification is displayed.



The screenshot shows the "Constantin Welles Customer Details" form. A success message in a black box says: "Email Notification: The customer email is Constantin.Welles@ANHINGA.COM". The form fields include: Cust First Name (Constantin), Cust Last Name (Welles), Cust Email (Constantin.Welles@ANHINGA.COM), Account Manager (Russell, John), Country (United States of America), City (Kokomo), Phone Number (+1 317 123 4104), Photo (Browse...), and Rating (5 stars). Buttons at the bottom are Cancel, Delete, and Apply Changes.

# **Practices for Lesson 20: Utilizing Application Express Printing**

**Chapter 20**

## Practices for Lesson 20: Overview

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### Practices Overview

In these practices, you print a standard report with derived output and create a PDF report with multiple queries.

## Practice 20-1: Printing a Standard Report with Derived Output

---

### Overview

In this practice, you enable printing of a custom report, creating an output format item, and then deriving the printing of the report based on the item using a button.

### Assumptions

You have performed the previous practices.

### Tasks

- a. On the Top Tier Salary page, you edit Print Attributes for the Top Tier Salary report region and enable Report Printing. You run the page.
- b. Change the report to be printed based on a derived format value. Create a select list item and specify a static list of values on the item. Then create a button called Print to run the report when an Output Format is selected.
- c. Update the Print Attributes for the region to derive Output Format from the item. Create a branch and add a condition for the application to know what to do when the Print button is clicked.

## Practice 20-2: Creating a PDF Report with Multiple Queries

---

### Overview

In this practice, you create a report query that contains two queries that uses an existing report layout. You then create a report that uses the report query you created and invoke it from a button.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Create a report query called **multiquery** with the following SQL (located in the /home/oracle/labs/files/lab20\_1.txt file):  

```
select product_id, product_name, product_status, list_price from oehr_product_information
```
- b. Add another query to the report with the following SQL (located in the /home/oracle/labs/files/lab20\_2.txt file):  

```
select task_name, start_date, end_date, status from tasks
```
- c. Use the RTF file called multiquery.rtf (located in /home/oracle/labs/files) for the report layout. Test the report.
- d. Create a button called Print Report on the Home page and run the page.

## Solution 20-1: Printing a Standard Report with Derived Output

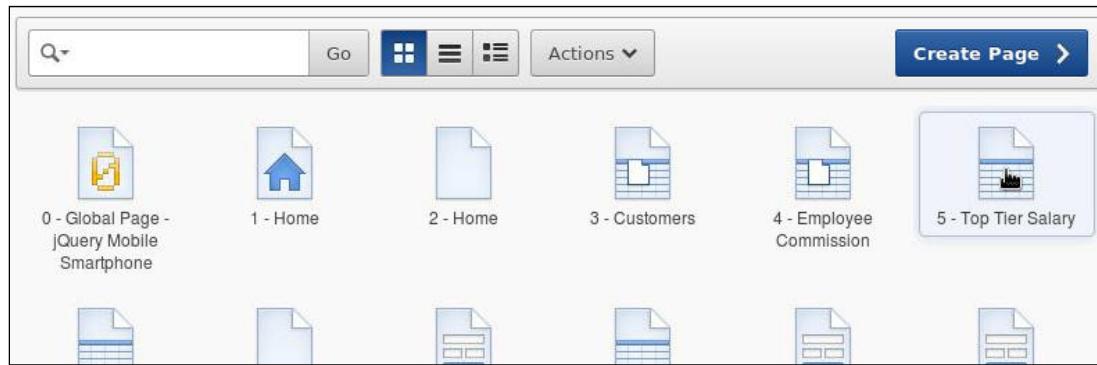
---

### Overview

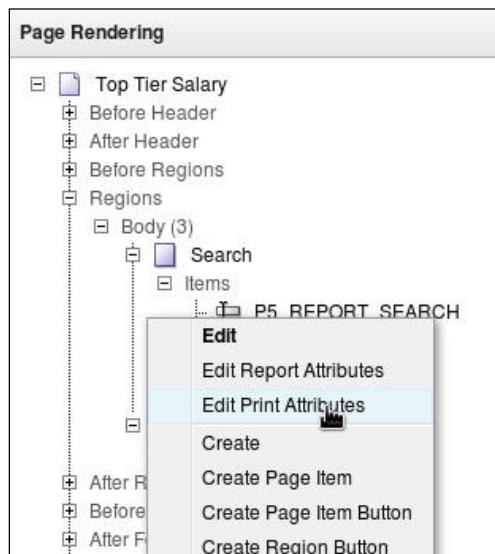
In this solution, you enable printing of a custom report, creating an output format item, and then deriving the printing of the report based on the item using a button.

### Tasks

- a. On the Top Tier Salary page, you edit Print Attributes for the Top Tier Salary report region and enable Report Printing. You run the page.
  - 1) On the Order Management application home page, click the **Top Tier Salary** page.



- 2) On the Top Tier Salary page, right-click **Top Tier Salary** report region and select **Edit Print Attributes**.



- 3) Select **Yes** for Enable Report Printing, and then click the **Page Header** subtab.

**Region Name:** Top Tier Salary

**Print**

**Enable Report Printing:** Yes

**Link Label:** Print

**Response Header:** Report Settings

**View File As:** Attachment

**Output Format:** PDF

**Report Layout:** Default Report Layout

**Print Server Overwrite:** (empty)

**Print URL:** f?p=&APP\_ID.:5:&SESSION.:FLOW\_XMLP\_OUTPUT\_R7543517789884266

- 4) Enter Top Tier Salary for Page Header and click **Report Columns**.

**Font:** Helvetica

**Font Weight:** Normal

**Font Size:** 12

**Font Color:** #000000

**Alignment:** center

**Page Header:** Top Tier Salary

- 5) Change Column Width for Salary to 15 and click Recalculate.

Region Name: Top Tier Salary

Report Columns

Alias	Heading	Show in Report	Include in Export	Column Width
LAST_NAME	LAST_NAME	Yes	<input checked="" type="checkbox"/>	33
EMAIL	EMAIL	Yes	<input checked="" type="checkbox"/>	33
SALARY	SALARY	Yes	<input checked="" type="checkbox"/>	15

Reset Column Width      **Recalculate**

- 6) Notice that because you had Column Width Units set to Percent, the calculation changed based on the percentage rather than pixels. This is why it now says 18. Click **Apply Changes**.

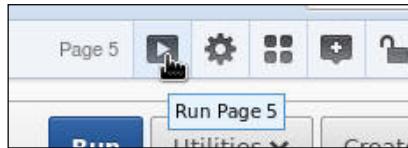
Region Name: Top Tier Salary

Report Columns

Alias	Heading	Show in Report	Include in Export	Column Width
LAST_NAME	LAST_NAME	Yes	<input checked="" type="checkbox"/>	40
EMAIL	EMAIL	Yes	<input checked="" type="checkbox"/>	40
SALARY	SALARY	Yes	<input checked="" type="checkbox"/>	18

Reset Column Width      **Recalculate**

- 7) Run the page.



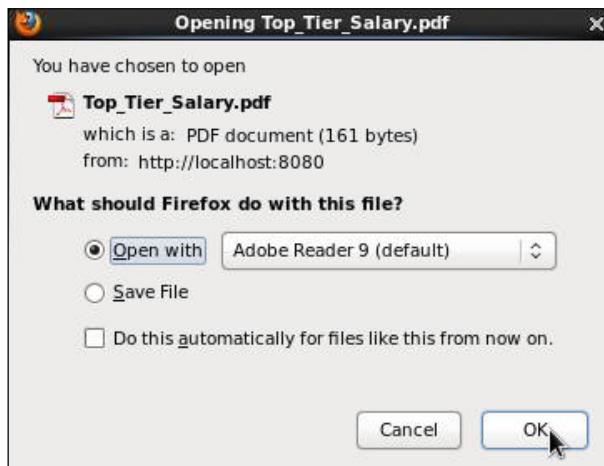
- 8) View the PDF report by using the **Print** Link at the bottom of the report. Notice that the header is shown and the column widths are proportioned to what you set them to in the definition.

Top Tier Salary		
LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700
Urman	JMURMAN	7800
Popp	LPOPP	6900
Raphaely	DRAPHEAL	11000
Weiss	MWEISS	8000
Fripp	AFRIPP	8200
Kaufling	PKAUFLIN	7900
Vollman	SVOLLMAN	6500
Mourgos	KMOURGOS	5800
Errazuriz	AERRAZUR	12000

row(s) 1 - 15 of 52 | [Next >](#)

[Print](#)

- 9) Click **OK**.

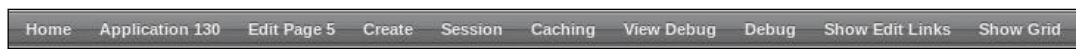


- 10) The PDF is displayed.

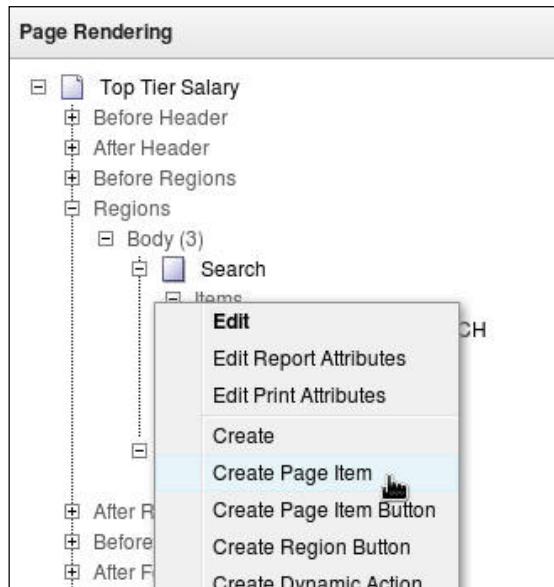
Top Tier Salary		
LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarrা	ISCIARRA	7700
Urman	JMURMAN	7800
Popp	LPOPP	6900
Raphaэly	DRAPHEAL	11000
Weiss	MWEISS	8000
Frapp	AFRIPP	8200
Kaufung	PKAUFLIN	7900
Vollman	SVOLLMAN	6500
Mourgos	KMOURGOS	5800
Ehratunz	AERRAZUR	12000
Cambrault	GCAMBRAU	11000
Zlotkey	EZLOTKEY	10500
Tucker	PTUCKER	10000
Bernstein	DBERNSTE	9500
Hall	PHALL	9000
Olsen	COLSEN	8000
Cambrault	NCAMBRAU	7500
Tuvault	OTUVVAULT	7000
King	JKING	10000
Sully	PSULLY	9500
McEwen	AMCEWEN	9000
Smith	LSMITH	8000
Doran	LDORAN	7500
Sewall	SSEWALL	7000
Vishney	CVISHNEY	10500
Greene	DGREENE	9500
Marvins	MMARVINS	7200
Lee	DLEE	6800

- b. Change the report to be printed based on a derived format value. Create a select list item and specify a static list of values on the item. Then create a button called Print to run the report when an Output Format is selected.

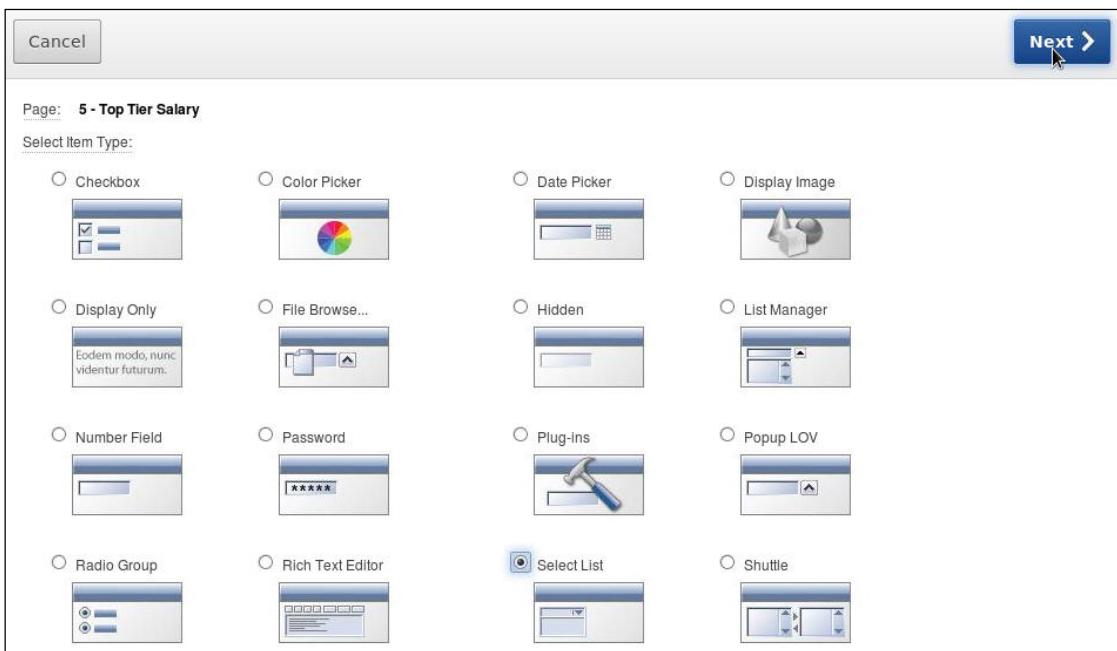
- 1) Click **Edit Page <n>** on the Developer toolbar.



- 2) Under Regions, right-click **Top Tier Salary** and select **Create Page Item**.



- 3) Click **Select List**.



- 4) Enter **P<n>\_OUTPUT\_FORMAT** and click **Next >**.



5) Click **Next >**.

Page: 5 - Top Tier Salary  
Item Name: P5\_OUTPUT\_FORMAT  
Display As: Select List  
Label: Output Format [Clear]  
Height: 1  
Template: Optional

6) Click **Next >**.

Page: 5 - Top Tier Salary  
Item Name: P5\_OUTPUT\_FORMAT  
Display As: Select List  
Value Required: No  
Page Action when Value Changed: None (Default)  
Allow Multi Selection: No

7) Click **Create or edit static List of Values**.

Application/Page: 130/5  
Item Name: P5\_OUTPUT\_FORMAT  
Display As: Select List  
Named LOV  
Display Null Value: Yes  
Null Display Value  
Null Return Value  
Cascading LOV Parent Item(s)

\* List of Values Query

Create or edit static List of Values Create Dynamic List of Values

8) Specify a static list of values on the item with the following values (no null values):

Display Value	Return Value
PDF	PDF
Word	RTF
Excel	XLS
HTML	HTM
XML	XML

Use the table above to enter values for Display Value and Return Value. Click **Apply**.

Sequence	Display Value	Return Value
1	PDF	PDF
2	Word	RTF
3	Excel	XLS
4	HTML	HTM
5	XML	XML
6		

9) Click **Next >**.

Use this page to define the list of values. Either construct a SQL statement with the number of columns required by the item type, or use the STATIC syntax. See the List Of Values Examples section for examples.

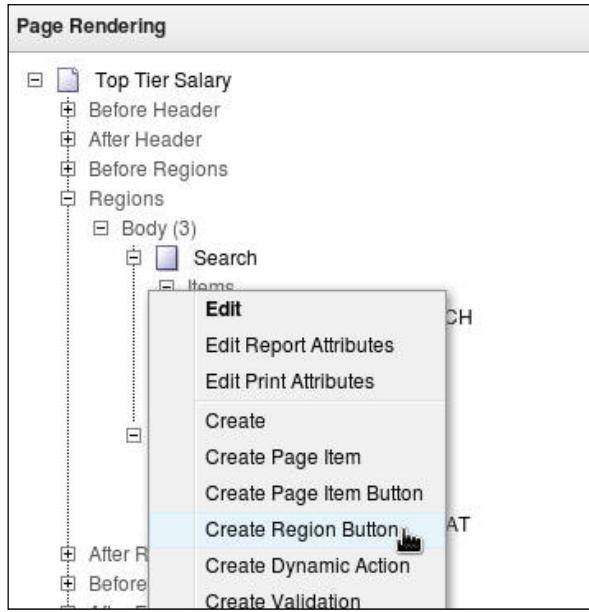
Application/Page: 130/5  
 Item Name: P5\_OUTPUT\_FORMAT  
 Display As: Select List  
 Named LOV:   
 Display Null Value: Yes  
 Null Display Value:   
 Null Return Value:   
 Cascading LOV Parent Item(s):   
 \* List of Values Query:  
 STATIC2:PDF;PDF,Word,RTF,Excel;XLS,HTML;HTM,XML;XML

10) Click **Create Item**.

Identify the source of the item. If the item source is null the default value will be used.

Page: 5 - Top Tier Salary  
 Item Name: P5\_OUTPUT\_FORMAT  
 Display As: Select List  
 Source Used: Only when current value in session state is null  
 \* Source Type: Static Assignment (value equals source attribute)  
 Item Source Value:

- 11) Under Regions, right-click **Top Tier Salary** and select **Create Region Button**.

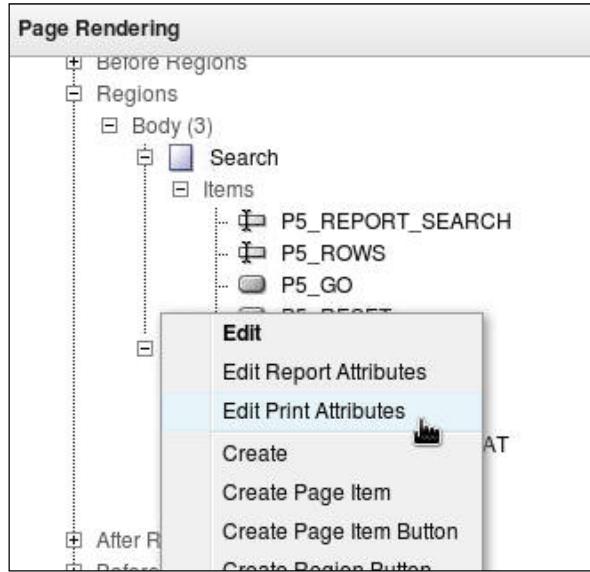


- 12) For Button Name, enter **PRINT**. Enter **Print** for Label. You want to accept all the other defaults and click **Create Button**.

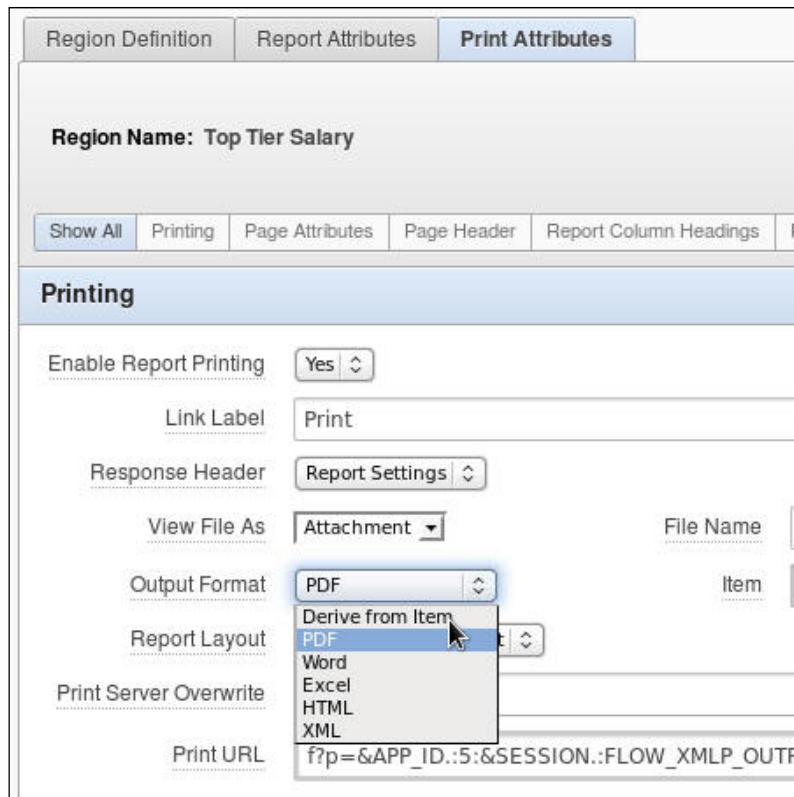
<b>Page:</b>	5 - Top Tier Salary
<b>Region:</b>	Top Tier Salary
<b>* Button Name</b>	PRINT
<input type="button" value="[Cancel]"/> <input type="button" value="[Next]"/> <input type="button" value="[Previous]"/> <input type="button" value="[Apply]"/> <input type="button" value="[Submit]"/> <input type="button" value="[Delete]"/> <input type="button" value="[Finish]"/> <input type="button" value="[Create]"/> <input type="button" value="[Reset]"/>	
<b>* Label</b>	Print
<b>Button Style</b>	HTML Button
<b>Button Attributes</b>	

- c. Update the Print Attributes for the region to derive Output Format from the item. Create a branch and add a condition for the application to know what to do when the Print button is clicked.

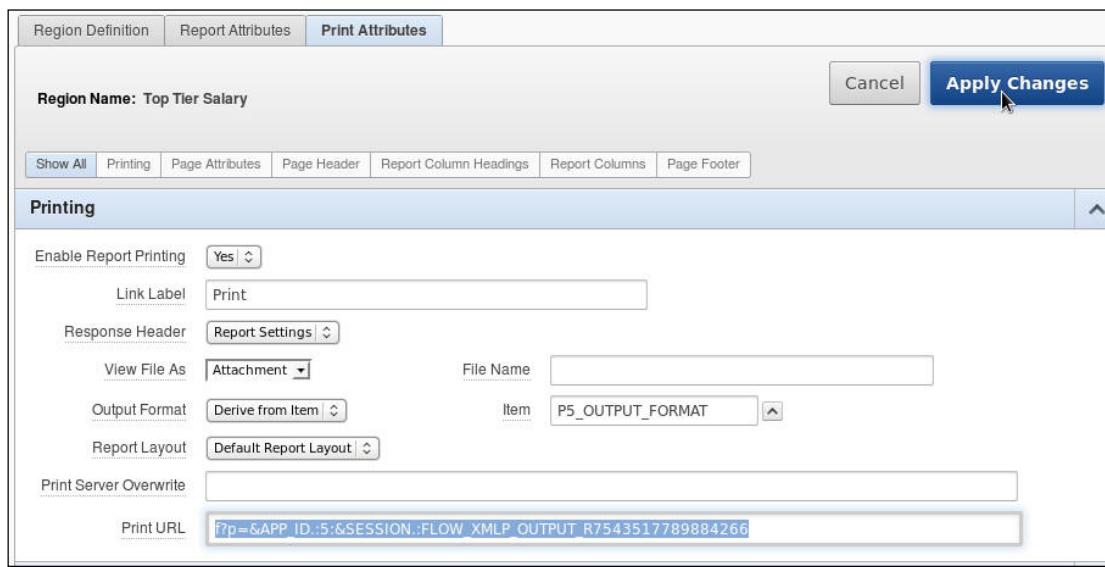
1) Right-click **Top Tier Salary** region and select **Edit Print Attributes**.



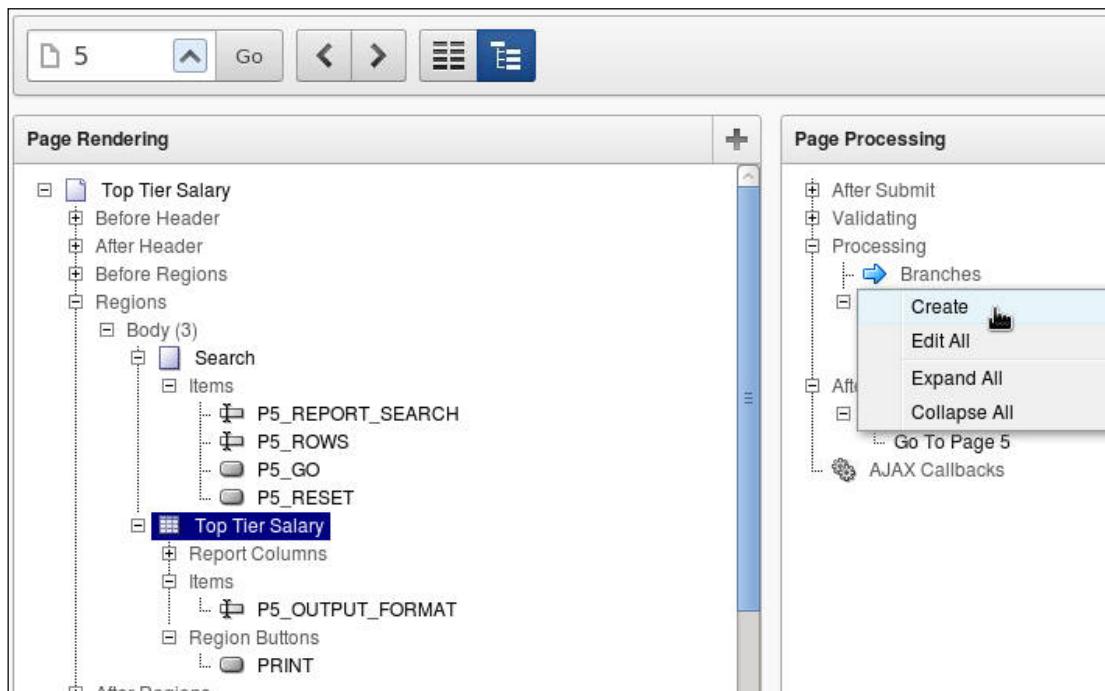
2) For Output Format, select **Derive from Item**.



- 3) For Item, select **P<n>\_OUTPUT\_FORMAT**. Copy the **FLOW\_XMLP\_OUTPUT\_R<nnn>** value to the Clipboard, and click **Apply Changes**.



- 4) Under Page Processing, right-click **Branches** and select **Create**.



- 5) Accept the defaults and click **Next >**.

Page:	5 - Top Tier Salary
Name:	<input type="text"/>
* Sequence:	20
* Branch Point:	On Submit: Before Processing: (After Computation, Validation and Before Processing)
* Branch Type:	Branch to Page or URL

- 6) Select the **Top Tier Salary** page number for Page and enter the FLOW\_XMLP\_OUTPUT\_R<nnn> value in the Request field. Click **Next >**.

Page: 5 - Top Tier Salary

Branch Point: On Submit: Before Processing: (After Computation, Validation and Before Processing)

Branch Type: Branch to Page or URL

Branch Target: Page in this Application

\* Page: 5

reset pagination for this page

include process success message

Request: FLOW\_XMLP\_OUTPUT\_R754351778988426

Clear Cache: (comma separated page numbers)

Set these items: (comma separated name list)

With these values: (comma separated value list)

URI Target:

- 7) Select **PRINT (Print)** for When Button Pressed and click **Create Branch**.

Page: 5 - Top Tier Salary

Branch Point: On Submit: Before Processing: (After Computation, Validation and Before Processing)

Branch Type: Branch to Page or URL

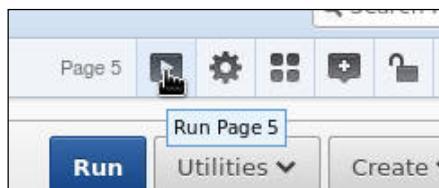
Branch Action: f?p=&APP\_ID.:5:&SESSION.:FLOW\_XMLP\_OUTPUT\_R7543517789884266:&DEBUG:::

When Button Pressed: PRINT (Print)

Condition Type: Select Condition Type

[PL/SQL] [item / column=value] [item / column not null] [item / column null] [request=e1] [page in] [page not in] [exists] [never] [none]

- 8) Click the **Run Page** icon.

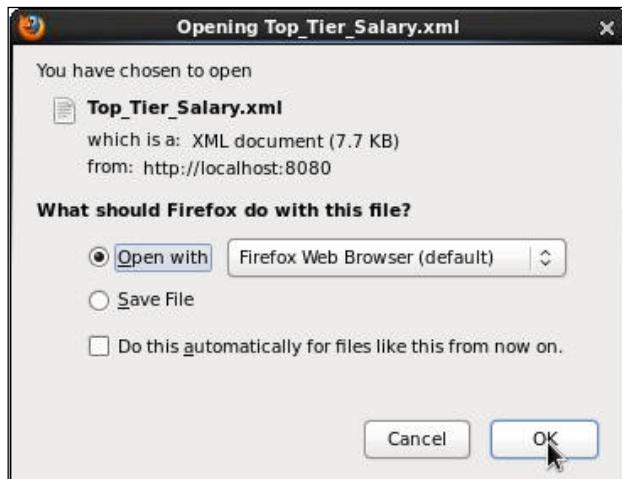


- 9) Select **XML** for Output Format and click **Print**.

The screenshot shows a report titled "Top Tier Salary". At the top, there is a dropdown menu labeled "Output Format" with "XML" selected. To the right of the dropdown are two buttons: "Commission" and "Print", with "Print" being the one currently highlighted by a cursor. Below the dropdown is a table with columns "LAST\_NAME", "EMAIL", and "SALARY". The data in the table is as follows:

LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700
		7600

- 10) Click **OK**.



- 11) The XML is displayed.

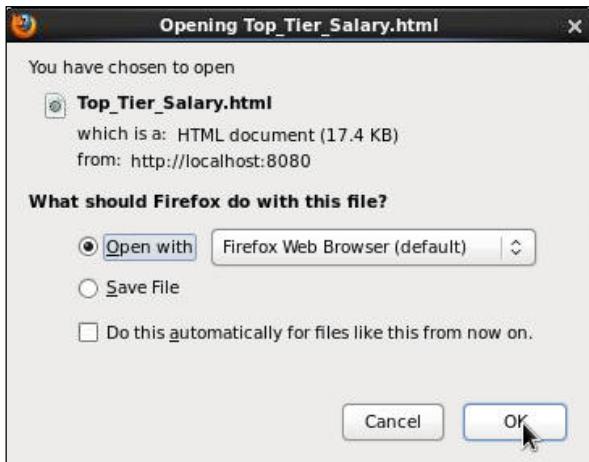
```
This XML file does not appear to have any style
information associated with it. The document tree is
shown below.

--<DOCUMENT>
  <DATE>15-JAN-2013</DATE>
  <USER_NAME>ORA01</USER_NAME>
  <APP_ID>130</APP_ID>
  <APP_NAME>Order Management</APP_NAME>
  <PAGE_ID>5</PAGE_ID>
  <TITLE>Top Tier Salary</TITLE>
  <P5_REPORT_SEARCH/>
  <P5_ROWS>15</P5_ROWS>
  <P5_GO/>
  <P5_RESET/>
  <P5_OUTPUT_FORMAT>XML</P5_OUTPUT_FORMAT>
--<REGION ID="7543517789884266">
  --<ROWSET>
    --<ROW>
      <LAST_NAME>Hunold</LAST_NAME>
      <EMAIL>AHUNOLD</EMAIL>
      <SALARY>9000</SALARY>
    </ROW>
    --<ROW>
      <LAST_NAME>Ernst</LAST_NAME>
      <EMAIL>BERNST</EMAIL>
      <SALARY>10000</SALARY>
    </ROW>
    --<ROW>
      <LAST_NAME>Greenberg</LAST_NAME>
      <EMAIL>NGREENBE</EMAIL>
```

- 12) Select **HTML** for Output Format and click **Print**.

LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700

13) Click **OK**.



14) The HTML report is displayed.

Top Tier Salary		
LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	10000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700
Urman	JMURMAN	7800
Popp	LPOPP	6900
Raphaely	DRAPHEAL	11000
Weiss	MWEISS	8000
Fripp	AFRIPP	8200
Kaufling	PKAUFLIN	7900
Vollman	SVOLLMAN	6500
Moungos	KMOURGOS	5800
Errazuriz	AERRAZUR	12000
Cambrault	GCAMBRAU	11000
Zlotkey	EZLOTKEY	10500
Tucker	PTUCKER	10000
Bernstein	DBERNSTE	9500
Hall	PHALL	9000
Olsen	COLSEN	8000
Cambrault	NCAMBRAU	7500
Tuvault	OTUVAVULT	7000
King	JKING	10000
Sully	PSULLY	9500
McEwen	AMCEWEN	9000
Smith	LSMITH	8000
Doran	LDORAN	7500
Sewall	SSEWALL	7000
Vishnev	CVISHNEV	10500

## Solution 20-2: Creating a PDF Report with Multiple Queries

### Overview

In this practice, you create a report query that contains two queries that uses an existing report layout. You then create a report that uses the report query you created and invoke it from a button.

### Tasks

- Create a report query called **multiquery** with the following SQL (located in /home/oracle/labs/files/lab20\_1.txt file):

```
select product_id, product_name, product_status, list_price from
oehr_product_information
```

- On the Order Management application home page, click **Shared Components**.



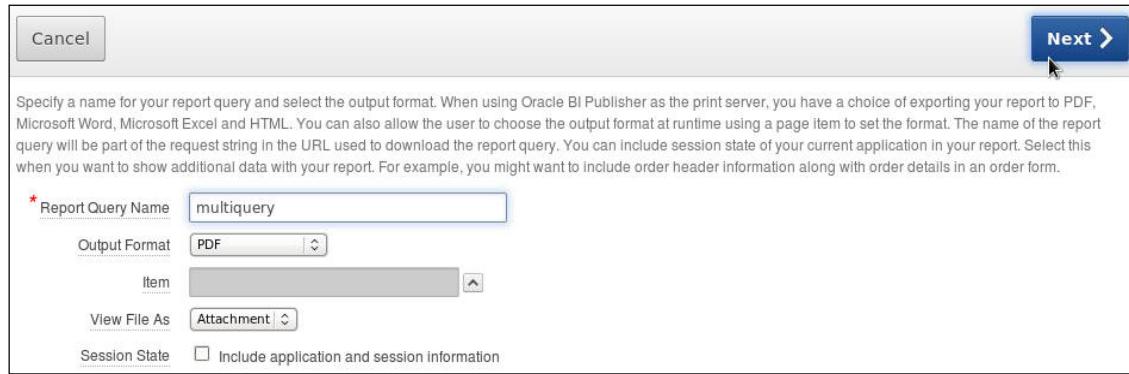
- Under Reports, select **Report Queries**.



- Click **Create**.

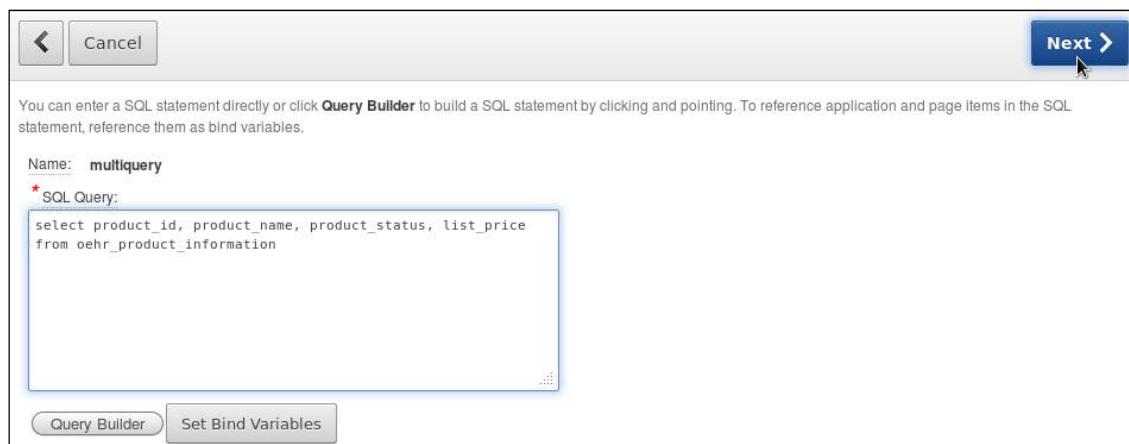


- 4) Enter **multiquery** for Report Query Name, and click **Next >**.



- 5) Enter the following SQL statement (located in the /home/oracle/labs/files/lab20\_1.txt file), and click **Next >**:

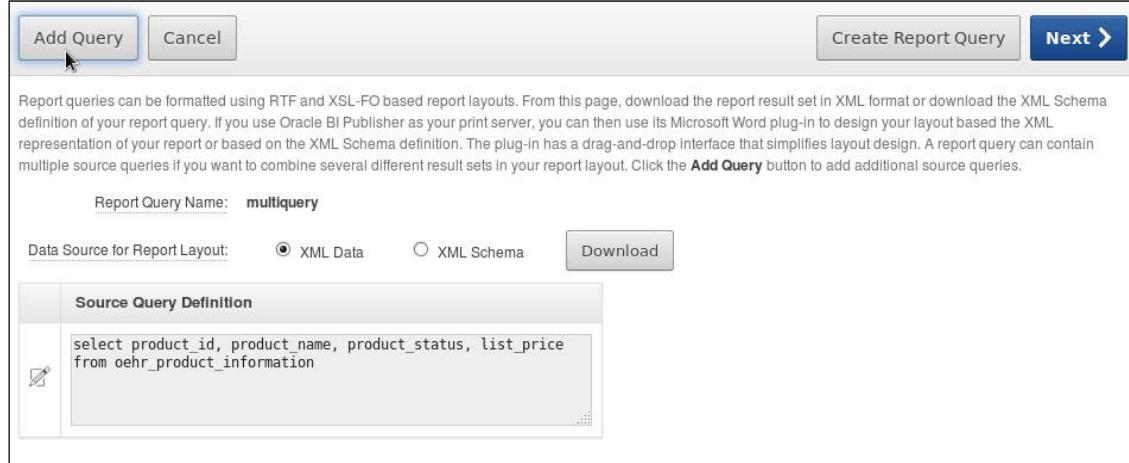
```
select product_id, product_name, product_status, list_price from
oehr_product_information
```



- b. Add another query to the report with the following SQL (located in the /home/oracle/labs/files/lab20\_2.txt file):

```
select task_name, start_date, end_date, status from tasks
```

- 1) Click **Add Query**.



- 2) Enter another query with the following SQL (located in the /home/oracle/labs/files/lab20\_2.txt file). Click **Next >**.

```
select task_name, start_date, end_date, status from tasks
```

You can enter a SQL statement directly or click **Query Builder** to build a SQL statement by clicking and pointing. To reference application and page items in the SQL statement, reference them as bind variables.

Name: multiquery  
**\* SQL Query:**

```
select task_name, start_date, end_date, status from tasks
```

**Query Builder** Set Bind Variables

- 3) Click **Next >**.

Report queries can be formatted using RTF and XSL-FO based report layouts. From this page, download the report result set in XML format or download the XML Schema definition of your report query. If you use Oracle BI Publisher as your print server, you can then use its Microsoft Word plug-in to design your layout based the XML representation of your report or based on the XML Schema definition. The plug-in has a drag-and-drop interface that simplifies layout design. A report query can contain multiple source queries if you want to combine several different result sets in your report layout. Click the **Add Query** button to add additional source queries.

Report Query Name: multiquery

Data Source for Report Layout:  XML Data  XML Schema Download

**Source Query Definition**

```
select product_id, product_name, product_status, list_price
from oehr_product_information
```

```
select task_name, start_date, end_date, status
from tasks
```

- c. Use the RTF file called **multiquery.rtf** (located in /home/oracle/labs/files) for the report layout. Test the report.

- 1) Click **Browse** and select the **multiquery.rtf** file (located in /home/oracle/labs/files) and click **Open**. Click **Next >**.

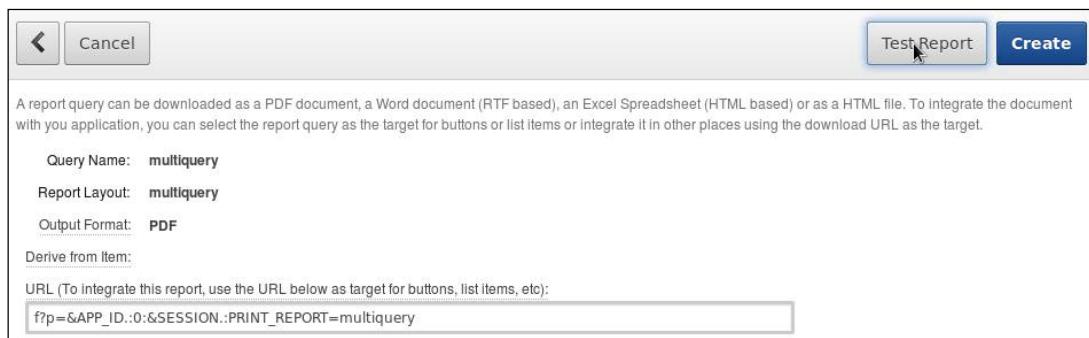
After completing your report layout, you need to save it as an RTF or XSL-FO file. Then upload the file back into Application Express using the **Browse** button on this page. The file is stored as a report layout among the shared components of your application.

Report Layout Source **Create file based report layout**

Layout Name **multiquery**

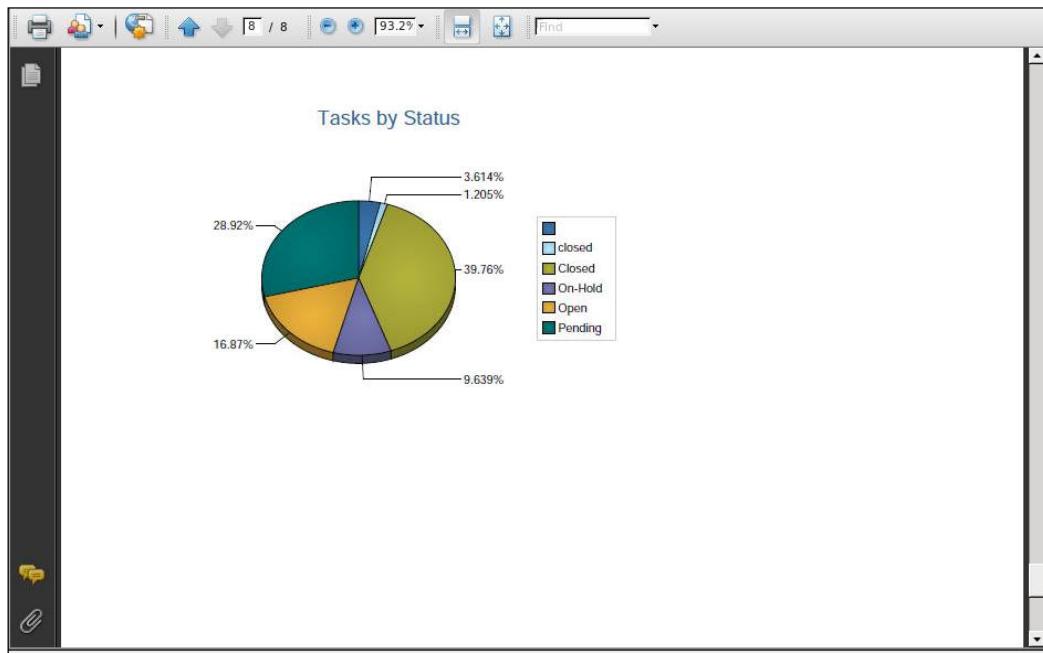
Report Layout File **/home/oracle/labs/files/multiquery.rtf** **Browse...**

- 2) Click **Test Report** to make sure that the report runs successfully and that the data is shown. Close the window.



- 3) The report ran successfully and the data is shown. Scroll down to see the chart. When done, close the window.

Product Id	Product Name	Product Status	List Price
1726	LCD Monitor 11/PM	under development	259
2359	LCD Monitor 9/PM	orderable	249
3060	Monitor 17/HR	orderable	299
2243	Monitor 17/HR/F	orderable	350
3057	Monitor 17/SD	orderable	369
3061	Monitor 19/SD	orderable	499
2245	Monitor 19/SD/M	orderable	512
3065	Monitor 21/D	orderable	999
3331	Monitor 21/HR	orderable	879
2252	Monitor 21/HR/M	obsolete	889
3064	Monitor 21/SD	planned	1023
3155	Monitor Hinge - HD	orderable	49
3234	Monitor Hinge - STD	orderable	39
3350	Plasma Monitor 10/LE/VGA	orderable	740
2236	Plasma Monitor 10/TFT/XGA	under development	964
3054	Plasma Monitor 10/XGA	orderable	600
1782	Compact 400/DQ	obsolete	125
2430	Compact 400/LQ	orderable	175
1792	Industrial 600/DQ	orderable	225

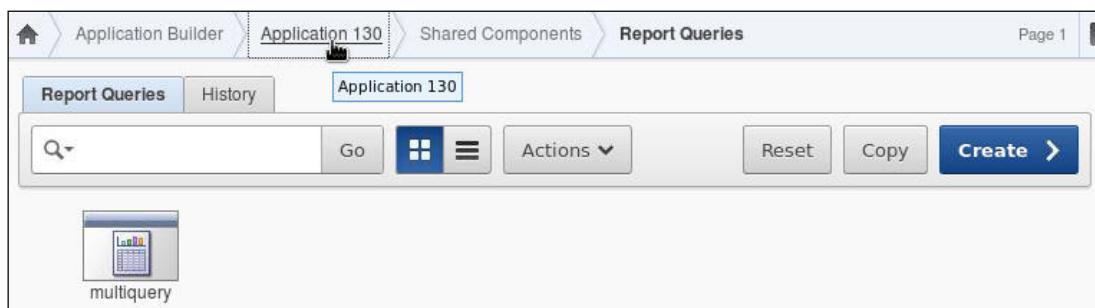


- 4) Click **Create**.

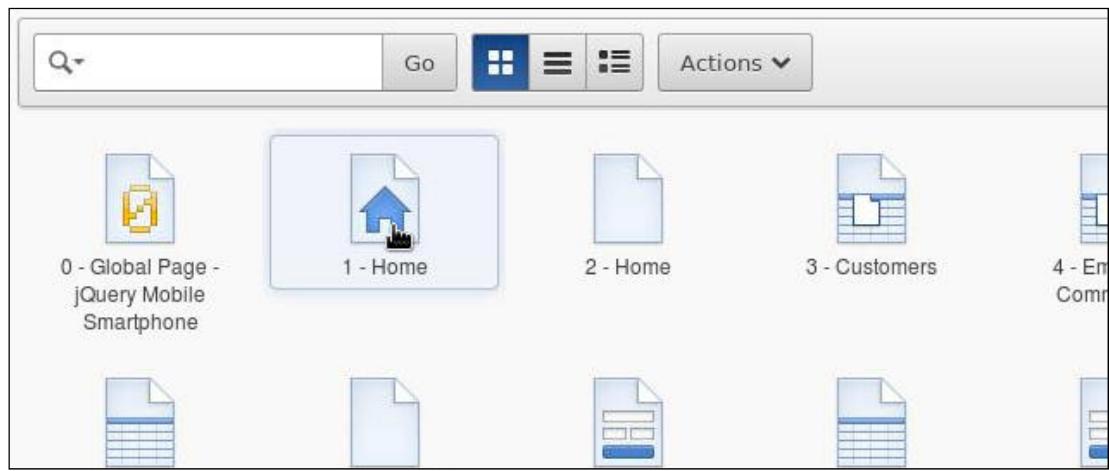
A report query can be downloaded as a PDF document, a Word document (RTF based), an Excel Spreadsheet (HTML based) or as a HTML file. To integrate the document with your application, you can select the report query as the target for buttons or list items or integrate it in other places using the download URL as the target.

Query Name: multiquery  
 Report Layout: multiquery  
 Output Format: PDF  
 Derive from Item:  
 URL (To integrate this report, use the URL below as target for buttons, list items, etc):  
 f?p=&APP\_ID.:0:&SESSION.:PRINT\_REPORT=multiquery

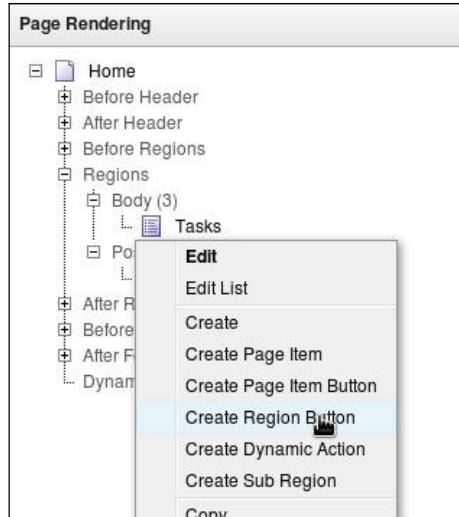
- 5) You have successfully created the report queries and layout. Click the Application breadcrumb.



- d. Create a button called Print Report on the Home page and run the page.
- 1) Create a button called Print Report on the Home page. Click the Home page.



- 2) Right-click the **Tasks** Region and select **Create Region Button**.



- 3) Enter **Print Report** for Button Name and Label. Click **Next**.

<input type="button" value="Cancel"/>	<input type="button" value="Create Button"/>	<input type="button" value="Next &gt;"/>
Page: 1 - Home Region: Tasks * Button Name: Print Report [Cancel] [Next] [Previous] [Apply] [Submit] [Delete] [Finish] [Create] [Reset] * Label: Button Style: HTML Button Button Attributes:		

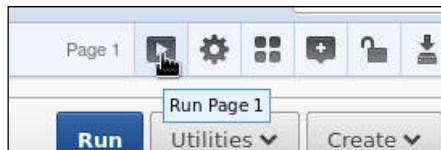
- 4) Select **Top of Region** for Position and click **Next**.

Page: 1 - Home  
Region: Tasks  
Button Name: PRINT\_REPORT  
Sequence: 10  
Position: Top of Region  
[Top] [Close] [Edit] [Create] [Change] [Previous] [Next]  
Alignment: Right

- 5) Select **Download Printable Report Query** for Action and **multiquery** for Report Query. Click **Create Button**.

Page: 1 - Home  
Region: Tasks  
Button Name: PRINT\_REPORT  
Action: Download Printable Report Query  
Execute Validations: Yes  
Report Query: multiquery

- 6) Run the page.



- 7) Click Print Report.

ORACLE Welcome: ORA01 Help Site Map Sign Off

Home Customers Orders Products Help Admin Data Load

Tasks

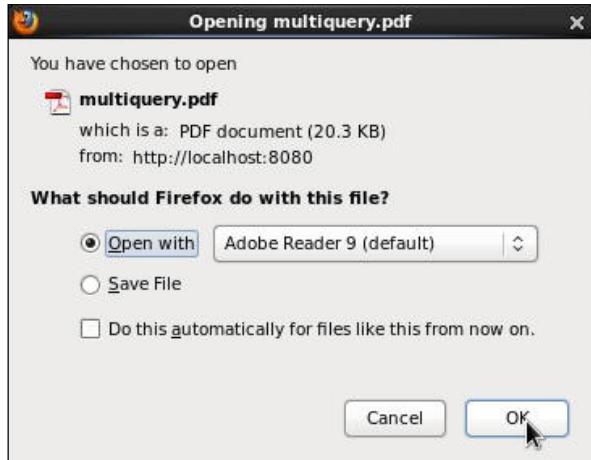
- Manage Customers
- Manage Products
- Manage Orders

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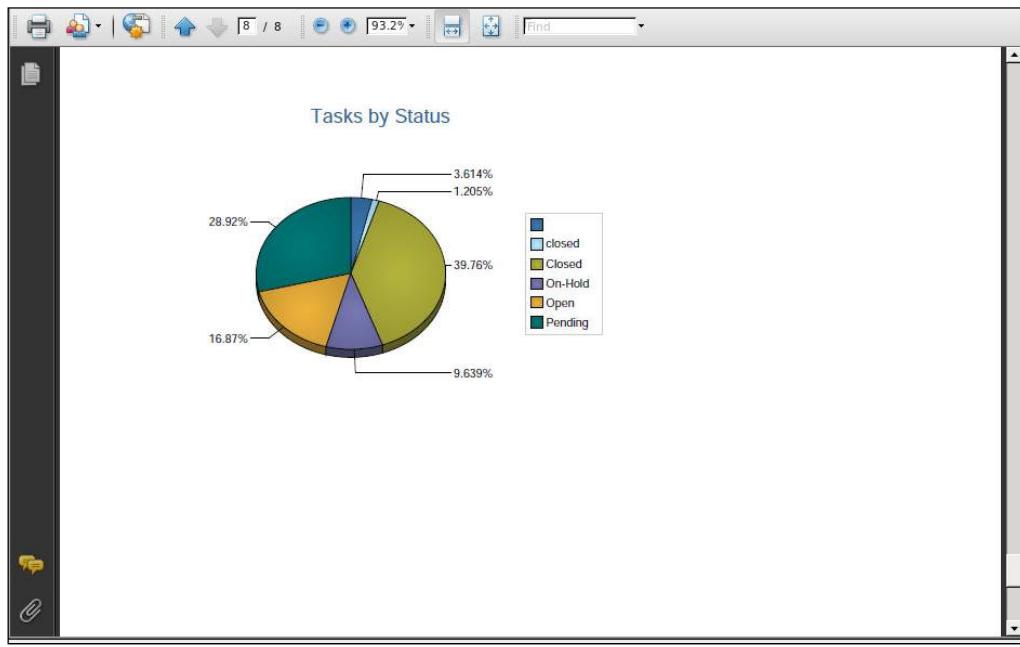
8) Click OK.



9) The Report is displayed.

A screenshot of a report viewer application window. The window has a toolbar with various icons at the top. The main area displays a grid of product data with the following columns: Product Id, Product Name, Product Status, and List Price. The data is as follows:

Product Id	Product Name	Product Status	List Price
1726	LCD Monitor 11/PM	under development	259
2359	LCD Monitor 9/PM	orderable	249
3060	Monitor 17/HR	orderable	299
2243	Monitor 17/HR/F	orderable	350
3057	Monitor 17/SD	orderable	369
3061	Monitor 19/SD	orderable	499
2245	Monitor 19/SD/M	orderable	512
3065	Monitor 21/D	orderable	999
3331	Monitor 21/HR	orderable	879
2252	Monitor 21/HR/M	obsolete	889
3064	Monitor 21/SD	planned	1023
3155	Monitor Hinge - HD	orderable	49
3234	Monitor Hinge - STD	orderable	39
3350	Plasma Monitor 10/LE/VGA	orderable	740
2236	Plasma Monitor 10/TFT/XGA	under development	964
3054	Plasma Monitor 10/XGA	orderable	600
1782	Compact 400/DQ	obsolete	125
2430	Compact 400/LQ	orderable	175
1792	Industrial 600/DQ	orderable	225



## **Practices for Lesson 21: Managing Application Feedback**

**Chapter 21**

## Practices for Lesson 21: Overview

---

### Practices Overview

In this practice, you create a feedback form in your application, submit feedback, and review and categorize the feedback.

## Practice 21-1: Adding and Monitoring Feedback in Your Application

---

### Overview

In this practice, you create a feedback form in your application, submit feedback, and review and categorize the feedback.

### Assumptions

You have performed the previous practice.

### Tasks

- a. Create a feedback form for your Order Management application.
  - b. Create the following feedback from your application:
- | Feedback Number | Feedback Text                                    | Feedback Type   |
|-----------------|--|-----------------|
| 1.              | Date format needs to be changed on Master detail | General comment |
| 2.              | Error when deleting a line item on an order      | Bug             |
| 3.              | Add label help text on Orders page               | General comment |
- c. Review your feedback in Team Development.
  - d. Log feedback 1 (“Date format needs to be changed on Master detail”) as a feature with a status of “Functionally complete - 80%.”
  - e. Log feedback 3 (Add label help text on Orders page) as a To Do, assign it to Tom, and change the status to “Assigned - 30%.” Delete the feedback entry after logging it as a To Do.
  - f. Edit the To Do, changing the status to “Work Progressing - 80%” and specifying Documentation for the category.
  - g. Log feedback 2 (“Error when deleting a line item on an order”) as a bug. Set the severity to “4. Moderate Impact” and assign it to Tom.
  - h. Edit the bug and change the status to “80. Fixed in development,” and set the priority to “1. As soon as possible.”
  - i. Review the Team Development dashboard.

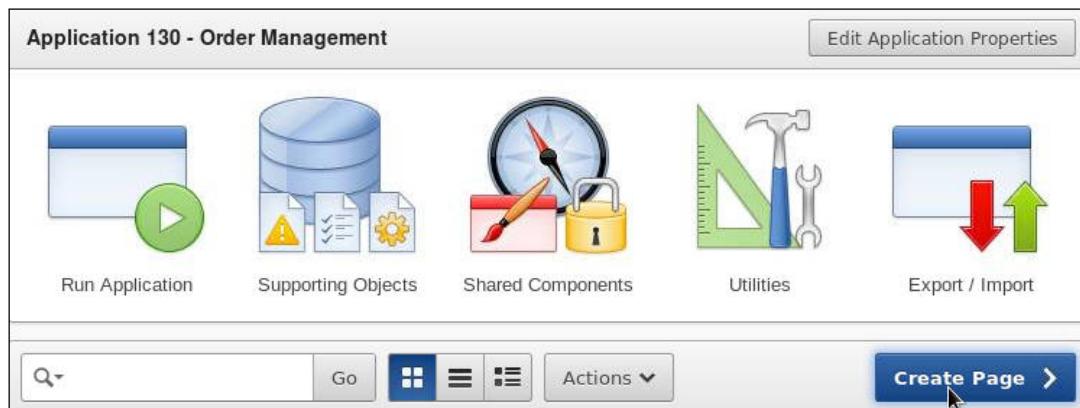
## Solution 21-1: Adding and Monitoring Feedback in Your Application

### Overview

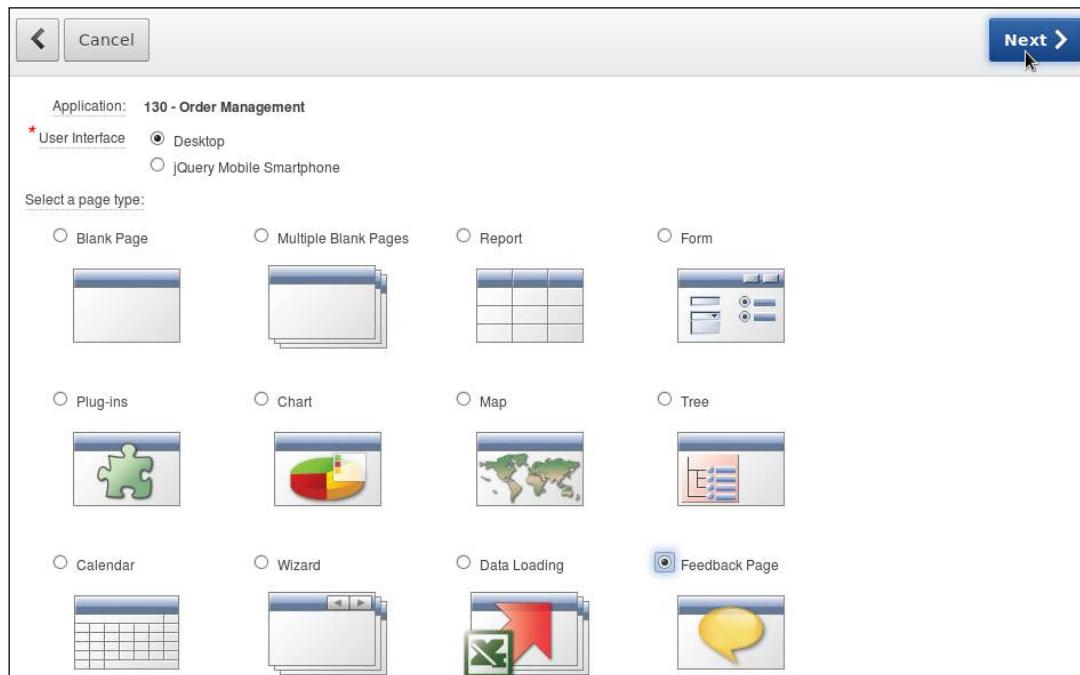
In this practice, you create a feedback form in your application, submit feedback, and review and categorize the feedback.

### Steps

- a. Create a feedback form for your Order Management application.
  - 1) On the Order Management application home page, click **Create Page >**.



- 2) Select **Feedback Page** and click **Next >**.



- 3) Accept all the defaults and click **Create**. Notice that a navigation bar entry will be created and feedback will be enabled.

A feedback page is used to collect feedback from application users. That feedback is then available within Team Development. The feedback page is designed to work as a popup page. If you include a Navigation Bar Entry, a Navigation Bar Entry will be created to call the new page. If extra attributes are included, the resulting items will need to be edited to update their labels, display and help texts. Once updated, the process that is called to save the feedback will also need to be updated to pass the proper context for each extra attribute (so that it can be displayed when reviewing the feedback).

**Page Number:** 102  
**Page Name:** Feedback  
**Popup Page Template:** Popup  
**Form Region Template:** 23. Form Region  
**Label Template:** Optional  
**Extra Attributes:** 0

**Navigation Bar**

**Create Navigation Bar Entry:**  No  Yes  
**Entry Label:** Feedback

**Application Feedback Setting**

**Enable Feedback:**  No  Yes

- 4) Click **Run Application**.



- 5) If you receive the login window, enter your username and password and click **Login**. If you do not receive the login window, click Logout and log in again.

**Login**

**Username:** ora01  
**Password:** \*\*\*\*\*

**Login**

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- b. Create the following feedback from your application:

Feedback Number	Feedback Text	Feedback Type
1.	Date format needs to be changed on Master detail	General comment
2.	Error when deleting a line item on an order	Bug
3.	Add label help text on Orders page	General comment

- 1) Click **Feedback** in the navigation bar.



- 2) Enter **Date format needs to be changed on Master detail** in the feedback text area and click **Submit Feedback**.

Feedback

Application: **130. Order Management**

Page: **1. Home**

Feedback

Date format needs to be changed on Master detail |

Feedback Type General comment ▾

- 3) You want to create another feedback item. Click **Feedback** in the navigation bar.



- 4) Enter **Error when deleting a line item on an order** in the feedback text area and select **Bug** for Feedback Type. Click **Submit Feedback**.

Feedback

Application: **130. Order Management**

Page: **1. Home**

Feedback

Error when deleting a line item on an order |

Feedback Type Bug ▾

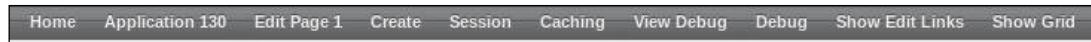
- 5) You want to create one more feedback item. Click **Feedback** in the navigation bar.



- 6) Enter **Add label help text on Orders page** in the feedback text area and click **Submit Feedback**.

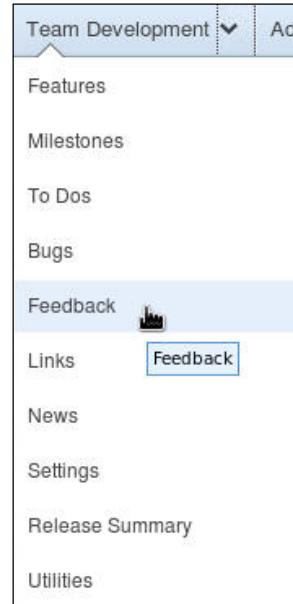
 A screenshot of a 'Feedback' dialog box. It shows the 'Application' as '130. Order Management' and 'Page' as '1. Home'. In the 'Feedback' text area, the text 'Add label help text on Orders page' is entered. Below the text area, the 'Feedback Type' is set to 'General comment'. At the top right, there are 'Cancel' and 'Submit Feedback' buttons, with the cursor hovering over 'Submit Feedback'.

- 7) You have entered all your feedback. Now you want to view it in Team Development. Click **Home** on the Developer toolbar.

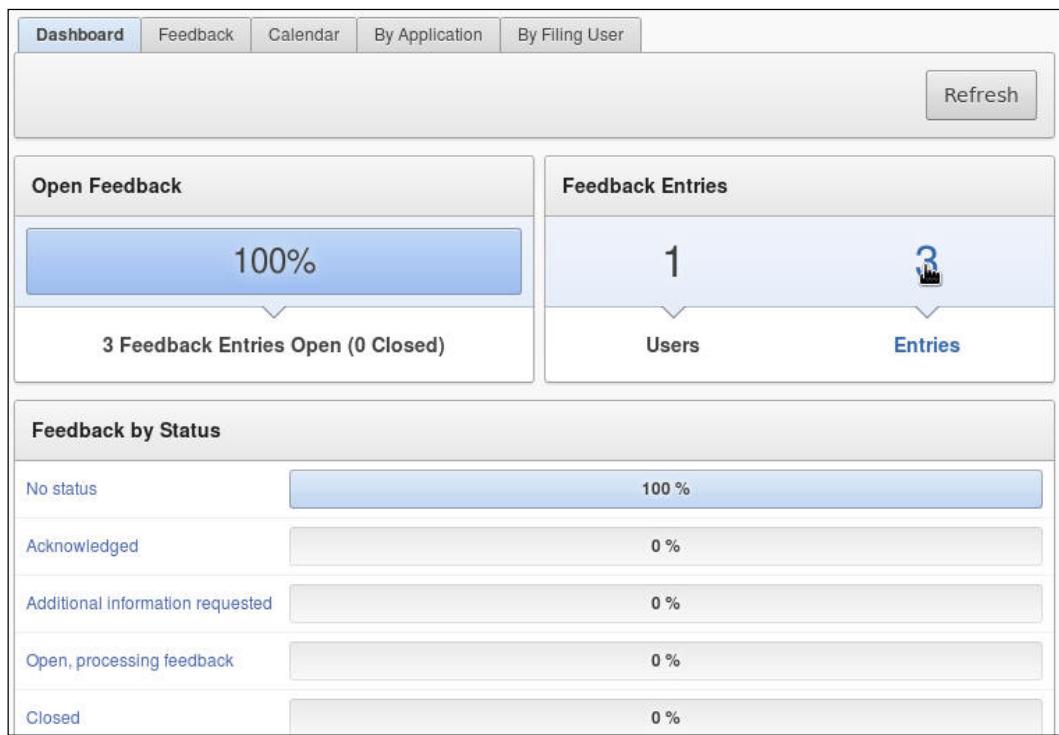


- c. Review your feedback in Team Development.

- 1) Select **Feedback** from the **Team Development** drop-down list.



- 2) The Feedback dashboard is displayed. Notice that feedback items have been filed. Under **Feedback Entries**, click **Entries**.



- d. Log feedback 1 ("Date format needs to be changed on Master detail") as a feature with a status of "Functionally complete - 80%."
- 1) Click the **Edit** icon for Feedback 1.

The screenshot shows the Feedback Entries list page with the following details:

	Feedback Number	Feedback	Status	Logged As	Application	Page	Filed By
	3	Add label help text on Orders page	No status		130	1	ora01
	2	Error when deleting a line item on an order	No status		130	1	ora01
	1	Date format needs to be changed on Master detail	No status		130	1	ora01

An **Edit** button is visible next to the first row (Feedback Number 1).

- 2) Your feedback is displayed. Click the **Log as Feature** button.

The screenshot shows a feedback entry for '130:Order Management' on '1:Home'. The comment is 'Date format needs to be changed on Master detail'. In the disposition section, the 'Log as Feature' button is highlighted with a mouse cursor.

Name	Value
Application	130:Order Management
Type	General comment
User	ORA01
Number	1
User Provided Comment:	
Date format needs to be changed on Master detail	
<b>Disposition</b>	
Status	0. No status
Tags	
Developer Comment	

- 3) Specify the following and click **Create Feature**:

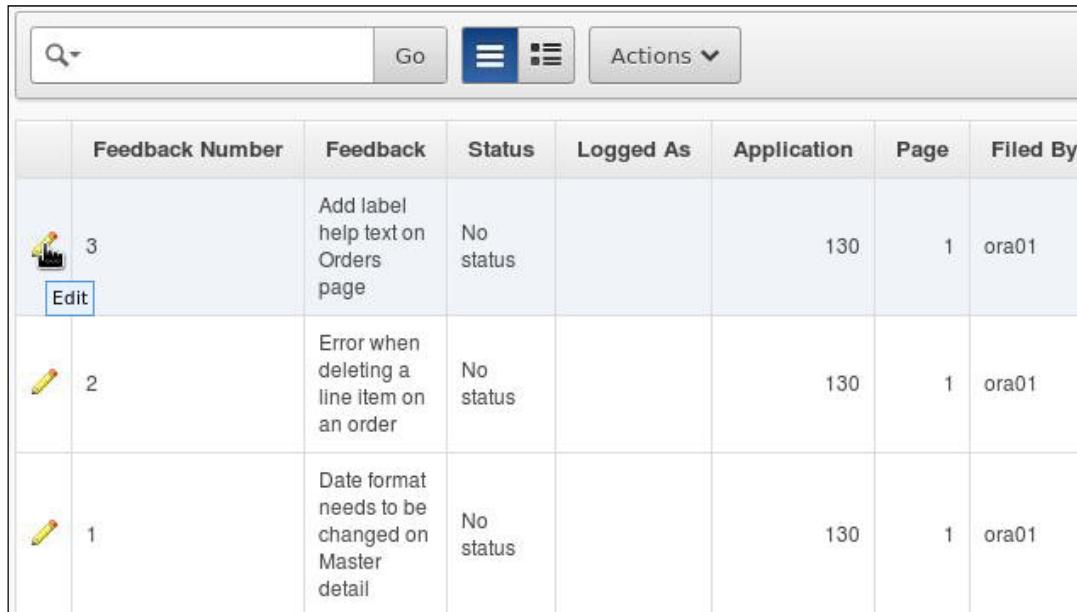
Name	Value
Feature Name	<b>Date format needs to be changed on Master detail</b>
New Release	<b>6.0</b>
New Assignee	<b>karen</b>
Start Date	<b>Select tomorrow's date</b>
Due Date	<b>Select date one month from now</b>
Desirability	<b>3. Desirable</b>
Priority	<b>3. Normal Priority</b>
Feature Status	<b>Functionally complete - 80%</b>

The dialog box contains the same feature details as the previous table, with the 'Create Feature' button highlighted.

Name	Value
Feedback	Date format needs to be changed on Master detail
Type	General comment
Created By	ORA01
Logged	12 hours ago
Application	130
Page	1
Feature Name	Date format needs to be changed on Master detail
Release	- Select Release -
New Release	6.0
Assigned To	- Select Assignee -
New Assignee	karen
Start Date	01/17/2013
Due Date	02/15/2013
Desirability	3. Desirable
Development Priority	3. Normal priority
Feature Status	Functionally complete - 80%
Feature Description	
Date format needs to be changed on Master detail	

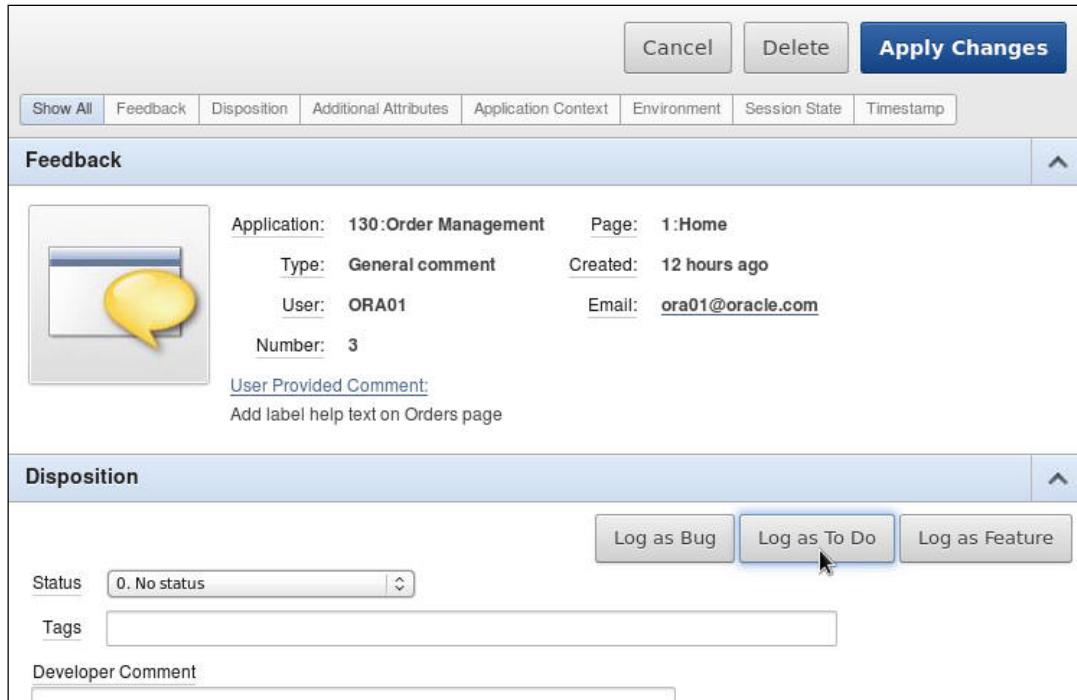
- e. Log feedback 3 ("Add label help text on Orders page") as a To Do, assign it to tom, and change the status to "Assigned - 30%." Delete the feedback entry after logging as a To Do.

- 1) Click **Edit** icon for Feedback 3.



Feedback Number	Feedback	Status	Logged As	Application	Page	Filed By
3	Add label help text on Orders page.	No status		130	1	ora01
2	Error when deleting a line item on an order	No status		130	1	ora01
1	Date format needs to be changed on Master detail	No status		130	1	ora01

- 2) You want to make Feedback 3 a To Do. Click the **Log as To do** button for Feedback 3.



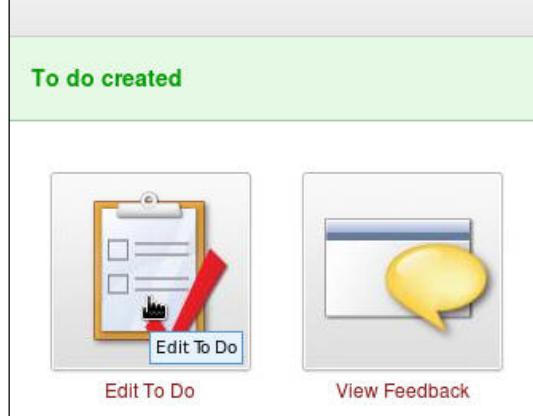
Show All	Feedback	Disposition	Additional Attributes	Application Context	Environment	Session State	Timestamp
<b>Feedback</b>  Application: 130:Order Management Page: 1:Home Type: General comment Created: 12 hours ago User: ORA01 Email: ora01@oracle.com Number: 3 User Provided Comment: Add label help text on Orders page							
<b>Disposition</b> Log as Bug Log as To Do Log as Feature Status: 0. No status Tags: Developer Comment:							

- 3) Specify the following and click **Create To do**.

Name	Value
Release	6.0
New Assignee	tom
To do status	Assigned - 30%

Feedback: Add label help text on Orders page  
Type: General comment  
Created By: ORA01  
Feedback Logged: Tuesday January 15, 2013 18:58  
Application: 130. Order Management  
Page: 1. Home  
To Do Name: Add label help text on Orders page  
Description: Add label help text on Orders page  
Release: 6.0  
Assigned To: - Select Assignee -  
New Assignee: tom  
To do status: Assigned - 30%  
Category: - No Category -  
 Delete feedback entry

- f. Edit the To Do, changing the status to “Work Progressing - 80%” and specifying Documentation for the category.
- Click **Edit To Do**.



- 2) Change the Status to **Work Progressing – 80%**, enter **Documentation** for New Category, and click **Apply Changes**.

The screenshot shows a feedback item with the following details:

- To Do Action:** Add label help text on Orders page
- Assigned To:** tom
- Contributor:** - Select Contributor -
- Parent To Do:** (empty)
- Status:** Work Progressing - 80% (highlighted)
- Created By:** ORA01, 32 seconds ago
- Dates:**
  - Start Date: (empty)
  - Due Date: (empty)
  - Date Completed: (empty)
- Details:**
  - Category: - Select Category - (highlighted)
  - New Category: Documentation
  - Release: 6.0
  - New Release: (empty)

- g. Log Feedback 2 ("Error when deleting a line item on an order") as a bug. Set the severity to "4. Moderate Impact," and assign it to tom.

- 1) Click **Edit** icon for Feedback 2.

The screenshot shows a list of feedback items:

	Feedback Number	Feedback	Status	Logged As	Application	Page	Filed By
	3	Add label help text on Orders page	No status		130	1	ora01
	2	Error when deleting a line item on an order	No status		130	1	ora01
	1	Date format needs to be changed on Master detail	No status		130	1	ora01

- 2) Feedback 2 is a bug. Click the **Log as Bug** button for Feedback 2.

The screenshot shows the Feedback page with Feedback 2 selected. The top navigation bar includes 'Cancel', 'Delete', and 'Apply Changes' buttons. Below the navigation is a toolbar with links: Show All, Feedback, Disposition, Additional Attributes, Application Context, Environment, Session State, and Timestamp. The main area displays Feedback 2 details: Application: 130:Order Management, Page: 1:Home, Type: Bug, Created: 12 hours ago, User: ORA01, Email: ora01@oracle.com, Number: 2. A yellow speech bubble icon is shown next to the application name. Below the details is a 'User Provided Comment': 'Error when deleting a line item on an order'. The 'Disposition' section follows, featuring a 'Log as Bug' button which is highlighted with a mouse cursor. Other buttons in this section are 'Log as To Do' and 'Log as Feature'. The disposition form also includes fields for Status (0. No status), Tags, and Developer Comment.

- 3) Specify the following and click **Create Bug**.

Name	Value
Severity	<b>4. Moderate Impact</b>
Release	<b>6.0</b>
Assign To	<b>tom</b>

The screenshot shows the 'Create Bug' dialog box. It contains a message: 'Converting feedback to a bug will set the feedback status to closed.' Below this are the original feedback details: Feedback: 'Error when deleting a line item on an order', Type: 'Bug', Created By: 'ORA01', Feedback Logged: 'Tuesday January 15, 2013 18:58', Application: '130. Order Management', Page: '1. Home'. The 'Bug Title' field is filled with 'Error when deleting a line item on an order'. The 'Severity' dropdown is set to '4. Moderate Impact', and the 'Release' dropdown is set to '6.0'. At the bottom, there are 'Assign To' and 'New Assignee' fields, both currently showing 'tom'. The 'Create Bug' button is located at the top right of the dialog.

- h. Edit the bug and change the status to “80. Fixed in development”, and set the priority to “1. As soon as possible.”

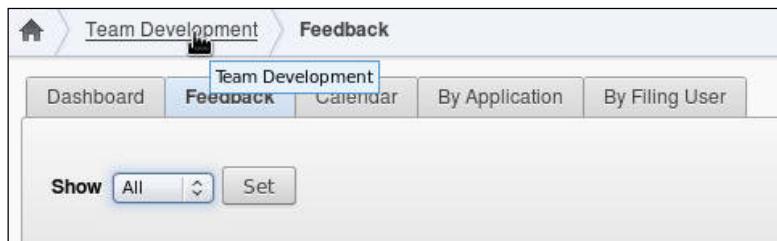
- 1) In the **Team Development** breadcrumb, click **Edit Bug**.



- 2) Select **80. Fixed in development** for Status, **As soon as possible** for Priority. Click **Apply Changes**.

Show All	Bug	Resolution	Description	Application Context	Context	Impact	Customer
<b>Bug</b>							
* Bug: Error when deleting a line item on an order Status: 80. Fixed in development Severity: 4. Moderate Impact Priority: 1. As soon as possible Created By: ORA01, 31 seconds ago							
<b>Resolution</b>							
Assigned To: tom New Assignee: _____ Fix By Release: 6.0 New Release: _____ Target Milestone: - Select Milestone - Estimated Fix Date: _____ Actual Fix Date: _____ Duplicate of Bug: _____							

- i. Review the Team Development dashboard.
- 1) Click the **Team Development** breadcrumb.



- 2) An overview of all your features, milestones, to dos, and bugs are displayed.

