

# Oracle Application Express Workshop I

Activity Guide – Volume I

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# Practices for Lesson 1: Oracle Application Express Workshop I

## Chapter 1

## Practices for Lesson 1

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### Practices Overview

There are no practices for lesson 1.

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# Practices for Lesson 2: Introducing Oracle Application Express

## Chapter 2

## Practices for Lesson 2: Overview

---

### Practices Overview

There are two practices for this lesson. In these practices, you log in to Oracle Application Express and create the user that you will need for the rest of the practices in this course. You run a sample database application, install and use a packaged application by unlocking it, and import the OEHR packaged database application.

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## Practice 2-1: Using Oracle Application Express as a Workspace Administrator

---

### Overview

In this practice, you log in to the Oracle Application Express workspace and create a developer user.

### Assumptions

N/A

### Tasks

- a. Log in to Oracle Application Express with the following details:

Workspace: `ora<n>`

Username: `ora<n>_admin`

Password: `ora<n>`

- b. Create a developer user with the following details:

Username and Password: `ora<n>`

Email: `ora<n>@oracle.com`

## Practice 2-2: Using Oracle Application Express as a Developer

---

### Overview

In this practice, you:

- Log in to Oracle Application Express as a developer user
- Run the sample database application
- Install a packaged application and use it
- Import the OEHR database application and its supporting objects

### Assumptions

You have created the `ora<n>` user from the previous practice.

### Tasks

- a. Log in to Oracle Application Express with the following details:  
Workspace: `ora<n>`  
Username: `ora<n>`  
Password: `ora<n>`
- b. Run the sample database application.
- c. Install, unlock, and use a packaged application.
- d. Install the OEHR packaged database application and its supporting objects from the following location:  
`/home/oracle/labs/oehr/oehr_object_app_installer.sql`

**Note:** This application installs the database objects required for the rest of the practices in this course.

# Solution 2-1: Using Oracle Application Express as a Workspace Administrator

## Overview

In this solution, the steps to log in to the Oracle Application Express workspace and create a developer user are provided.

## Tasks

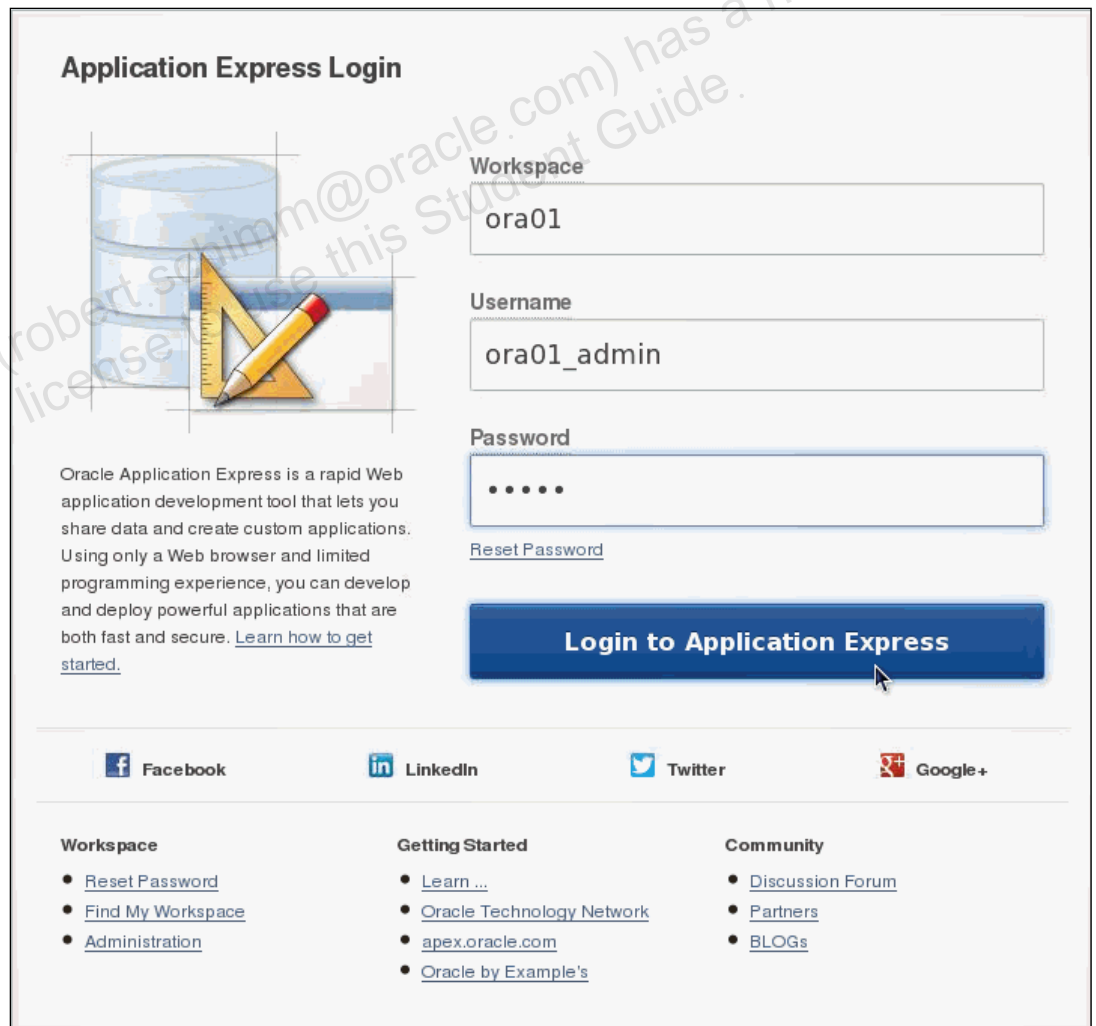
- a. Log in to Oracle Application Express with the following details:

Workspace: ora<n>

Username: ora<n>\_admin

Password: ora<n>

- 1) Enter the following URL in your browser address bar:  
http://<instructor\_machine\_name>:8080/apex
- 2) On the Login page, enter ora<n> for Workspace, ora<n>\_admin for Username, and ora<n> for Password. Click **Login to Application Express**.



**Application Express Login**

Oracle Application Express is a rapid Web application development tool that lets you share data and create custom applications. Using only a Web browser and limited programming experience, you can develop and deploy powerful applications that are both fast and secure. [Learn how to get started.](#)

Workspace  
ora01

Username  
ora01\_admin

Password  
.....

[Reset Password](#)

**Login to Application Express**

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**Workspace**

- [Reset Password](#)
- [Find My Workspace](#)
- [Administration](#)

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- 3) If you are prompted to change your password, enter the old and new passwords and click **Apply Changes**. (Make sure that the new password contains at least six characters, differs from the old password by at least two characters, contains at least one punctuation character, and contains at least one uppercase alphabetic character.)

**Change Password**

Username: **ORA01\_ADMIN**

\* Enter Current Password

\* Enter New Password

\* Confirm New Password

**Apply Changes**

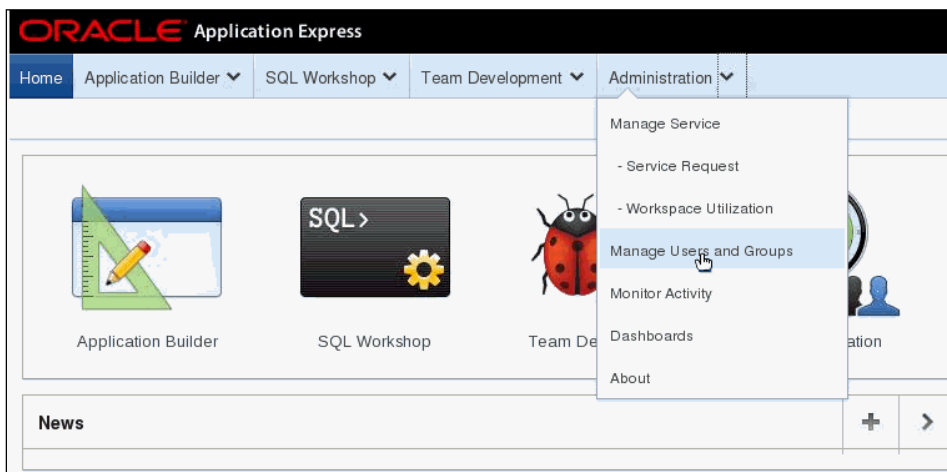
- 4) Click **Return**.
- 5) You will be directed to log in again. Enter the new password and click **Login**. You have successfully logged in to the Oracle Application Express application as an administrator user.

- b. Create a developer user with the following details:

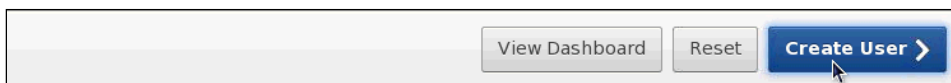
Username and Password: `ora<n>`

Email: `ora<n>@oracle.com`

- 1) Click the down arrow on the **Administration** tab and select **Manage Users and Groups**.



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



- 3) Enter ora<n> for **Username** and ora<n>@oracle.com for **Email Address**.

The screenshot shows a 'User Identification' form with the following fields and values:

- Username:** ora01
- Email Address:** ora01@oracle.com
- First Name:** (empty)
- Last Name:** (empty)
- Description:** (empty text area)
- Default Date Format:** (empty)

- 4) Scroll down and verify the account privileges. Make sure that “**User is a workspace administrator**” is set to **No** and “**User is a developer**” is set to **Yes**.

The screenshot shows an 'Account Privileges' form with the following settings:

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

- 5) Scroll down and enter ora<n> for **Password** and **Confirm Password**. Select **No** for **Require Change of Password on First Use**.

The screenshot shows a 'Password' form with the following fields and values:

- Password:** (masked with asterisks)
- Confirm Password:** (masked with asterisks)
- Require Change of Password on First Use:** No

- 6) Scroll up to the top of the page and click **Create User**.



- 7) Click **Logout**.



You have successfully created a developer user by logging in to the Oracle Application Express application as a workspace administrator.

## Solution 2-2: Using Oracle Application Express as a Developer

### Overview

In this practice solution, the steps to log in to Oracle Application Express as a developer, run a sample database application, import the OEHR sample database application and its supporting objects, and install a packaged application and use it are provided.

### Tasks

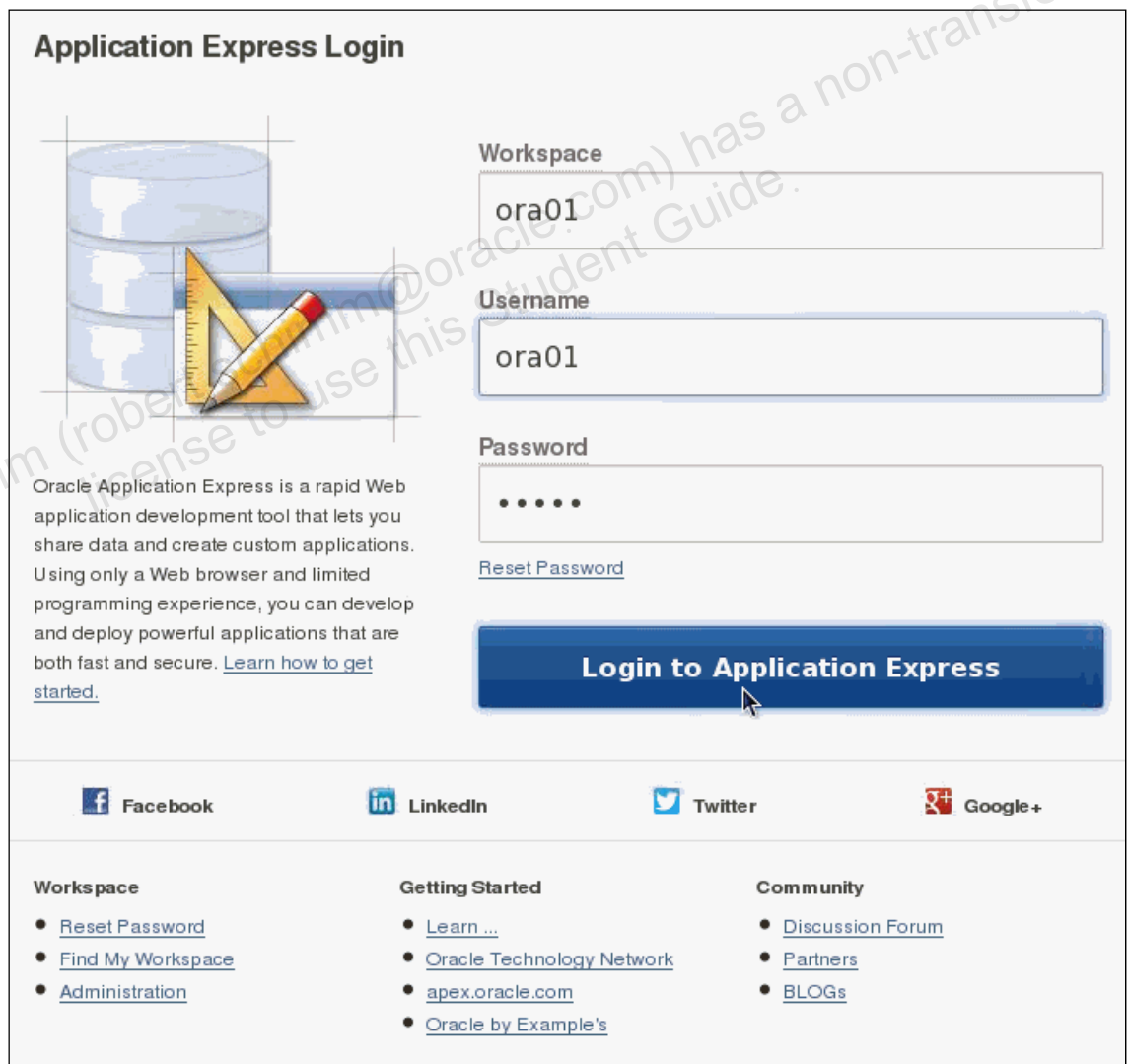
- a. Log in to Oracle Application Express with the following details:

Workspace: ora<n>

Username: ora<n>

Password: ora<n>

- 1) Enter ora<n> for **Workspace**, **Username**, and **Password**. Click **Login to Application Express**.



**Application Express Login**

Oracle Application Express is a rapid Web application development tool that lets you share data and create custom applications. Using only a Web browser and limited programming experience, you can develop and deploy powerful applications that are both fast and secure. [Learn how to get started.](#)

Workspace  
ora01

Username  
ora01

Password  
.....

[Reset Password](#)

**Login to Application Express**

Facebook LinkedIn Twitter Google+

**Workspace**

- [Reset Password](#)
- [Find My Workspace](#)
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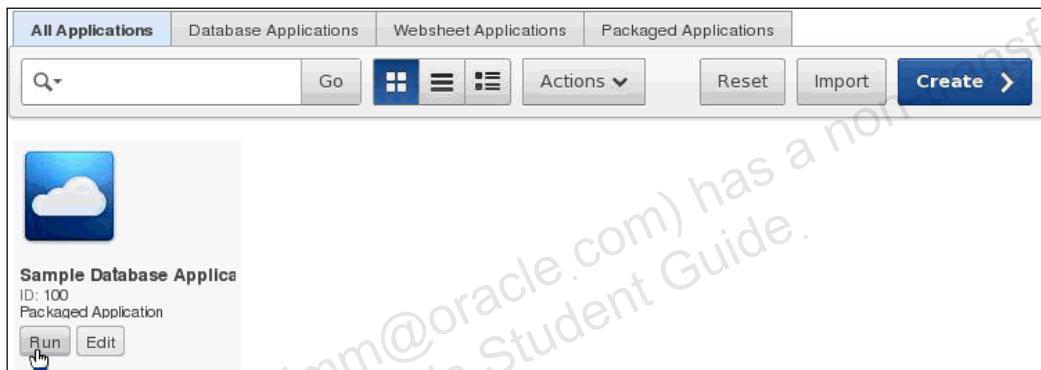
You have successfully logged in to Oracle Application Express as a developer.

b. Run the sample database application.

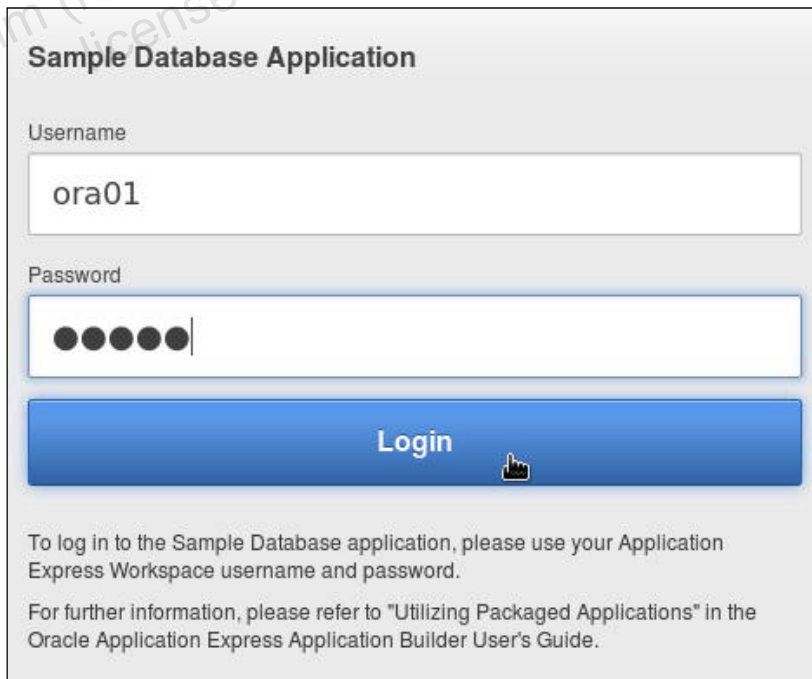
1) Click the **Application Builder** icon on the Oracle Application Express home page.



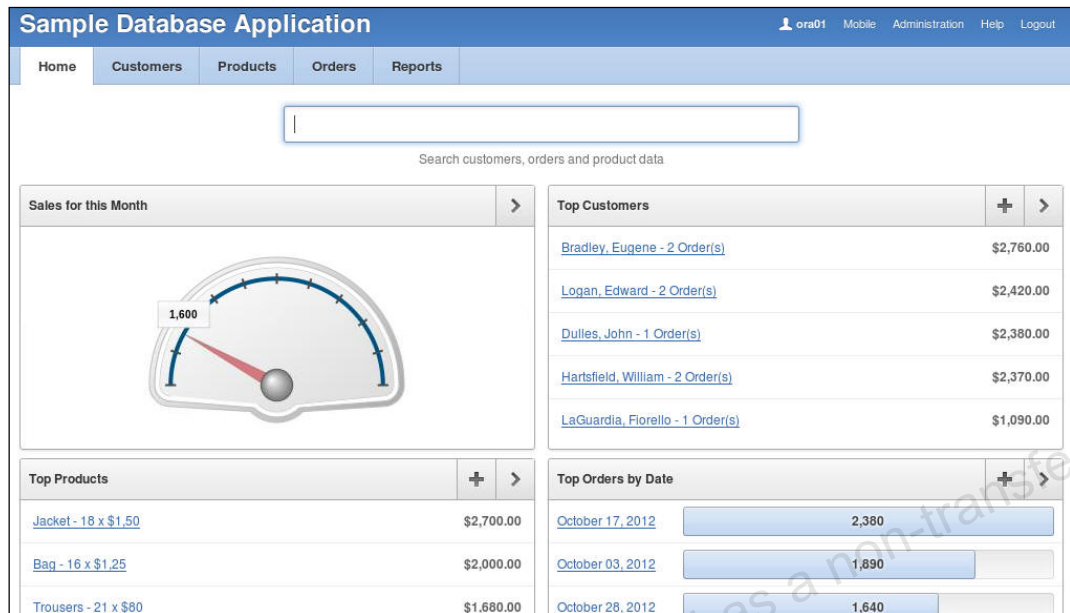
2) Click **Run** to run the **Sample Database Application**.



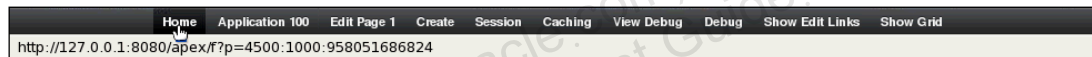
3) You will be prompted to enter your login credentials to log in to the application. Enter your Application Express Username and Password. Enter `ora<n>` for both Username and Password, and click **Login**.



- 4) The Sample Database Application is displayed. Click the various tabs and try to understand what the application does.



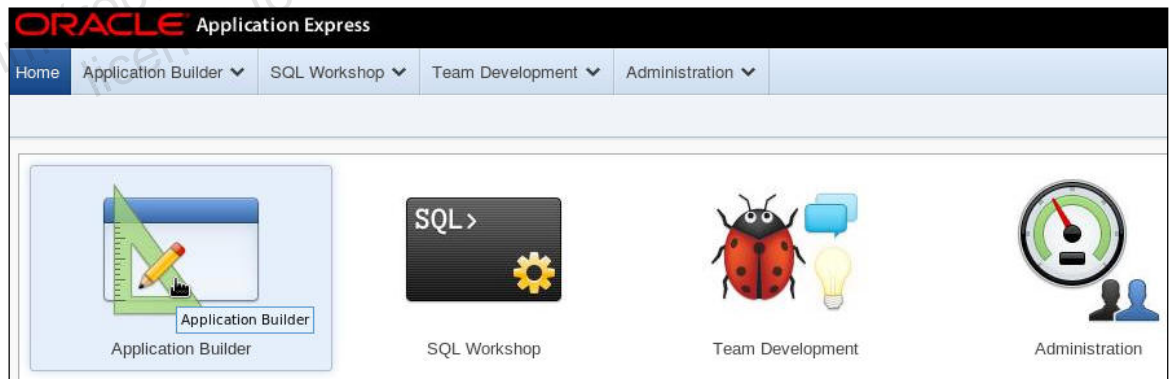
- 5) Click the **Home** button on the toolbar at the bottom.



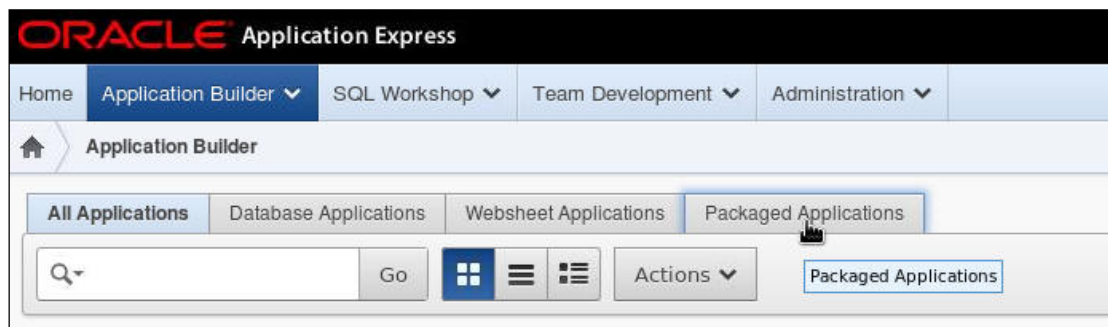
You have successfully run the sample database application.

- c. Install, unlock, and use a packaged application.

- 1) Navigate to the Application Builder page by clicking the Application Builder icon.



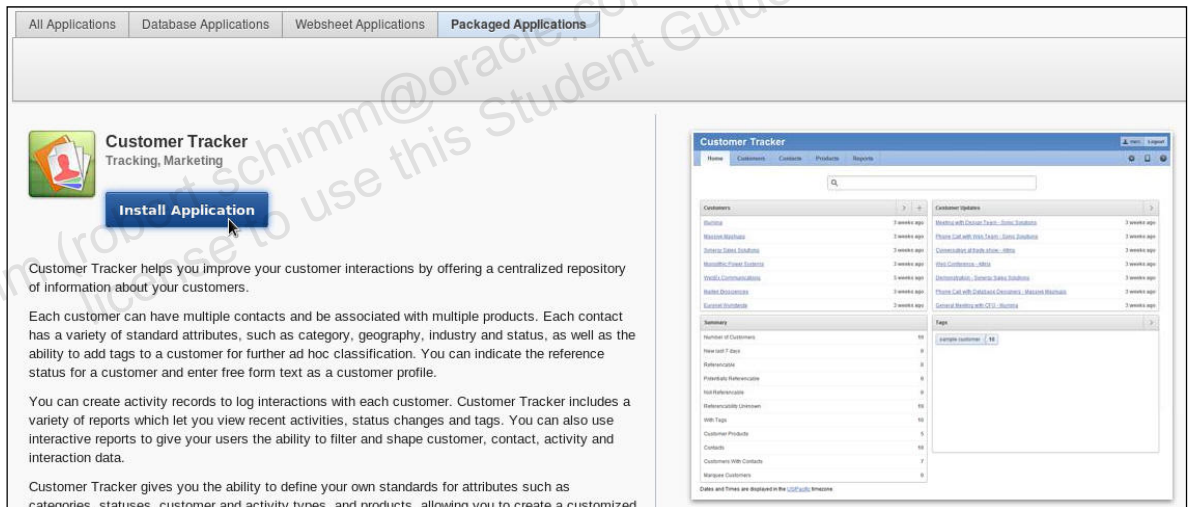
- 2) Click **Packaged Applications**.



- 3) You find a set of packaged applications that are available for you to install. In this activity, you install the Customer Tracker application. Click **Customer Tracker**.



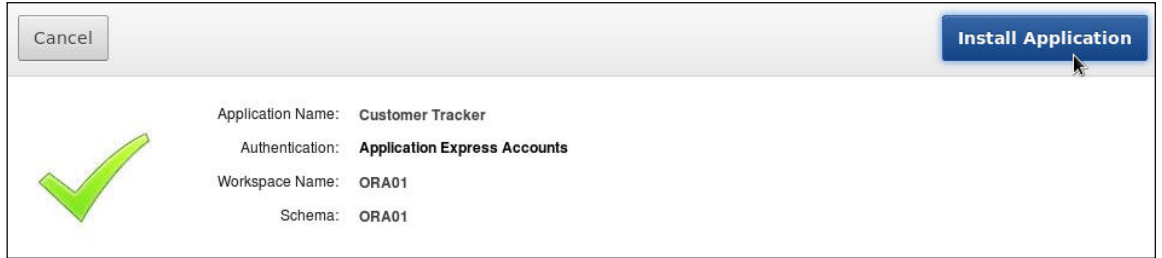
- 4) A description about the application is available. Read the description and click **Install Application**.



- 5) Retain the default authentication and click **Next >**.



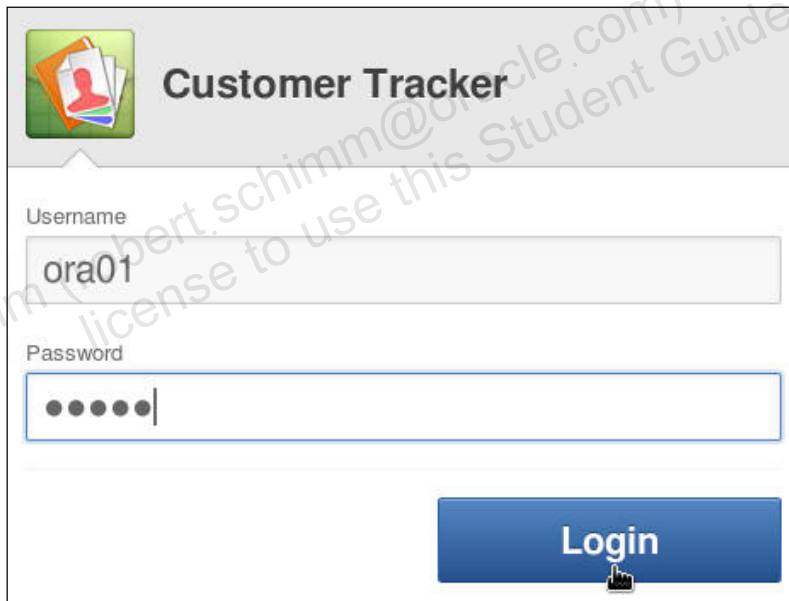
6) Click **Install Application**.



7) After installing the application, click **Run Application**.



8) Enter your login credentials to log in to the application.



- 9) You are taken to the Home page of the application. You can click the tabs to understand how the application works. Click **Customers**.

**Customer Tracker** | ora01 | Logout

Home | **Customers** | Contacts | Products | Reports

Search:

Customer Summary	
10	0
Total	Marquee
0	5
Referenceable	Products Used

Customers	
<a href="#">WebEx Communications</a>	7 minutes ago
<a href="#">Sonic Solutions</a>	7 minutes ago
<a href="#">Cephalon</a>	7 minutes ago
<a href="#">Euronet Worldwide</a>	7 minutes ago
<a href="#">Martek Biosciences</a>	7 minutes ago
<a href="#">Alliris</a>	7 minutes ago
<a href="#">Monolithic Power Systems</a>	7 minutes ago

Summary	
Number of Customers	10
New last 7 days	10
Referenceable	0

Customer Updates	
Product changed from "" to "Peregrine Enterprise Edition" - Eur	7 minutes ago
Product changed from "" to "Symmetric 2100" - Martek Bioscler	7 minutes ago
Product changed from "" to "Symmetric 2100" - Alliris	7 minutes ago

- 10) Click **Add Customer>** to add customer data.

**Customer Tracker** | ora01 | Logout

Home | **Customers** | Contacts | Products | Reports

Home > Customers

Search:  Go Actions Reset Report Upload Customers **Add Customer >**

View	Customer Name	Summary	Category	Marquee Customer	Referenceable	Product Uses	Location	Status	Tag
AAAF	Alliris	Software.	Corporate	No	No	Symmetric 2100	-	Partner	SAMP CUST

- 11) Provide some information in the form input fields and click **Add Customer** at the bottom of the page. This will add the customer data into the database.

### Customer Details

**Customer Name \***

Status  Category

Geography  Industry

Tags

Referencable

Marquee Customer

**Classification**

Stock Symbol

DUNS #

SIC

Web Site

LinkedIn

Facebook

Twitter (userid)

- 12) Similarly, you can try similar activities with the different tabs available. Click **Logout** to log out of the application.

ora01 Logout
Customer Tracker

Home
Customers
Contacts
Products
Reports
⚙️ 📱 ?

Home > Customers

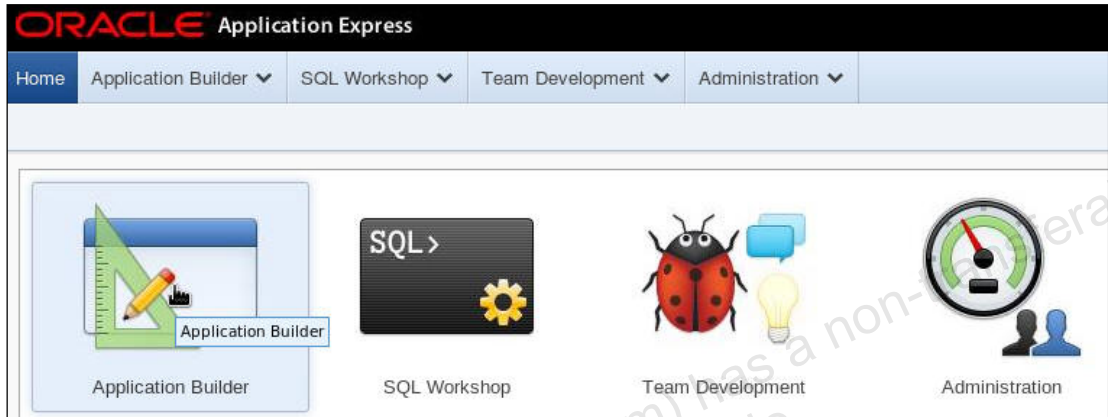
View	Customer Name	Summary	Category	Marquee Customer	Referencable	Product Uses	Location	Status	Tags
AAAF	Altiris	Software.	Corporate	No	No	Symmetric 2100	-	Partner	SAMPLE CUSTOM

- d. Install the OEHR packaged database application and its supporting objects from the following location:

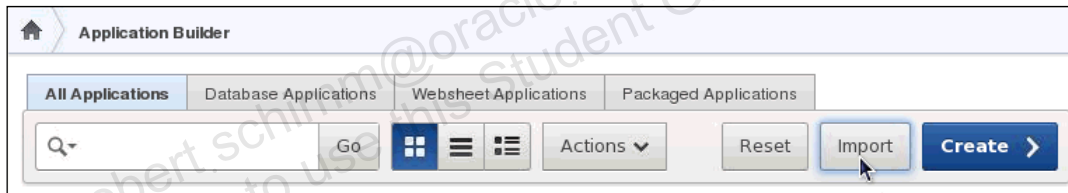
`/home/oracle/labs/oehr/oehr_object_app_installer.sql`

**Note:** This application installs the database objects required for the rest of the practices in this course.

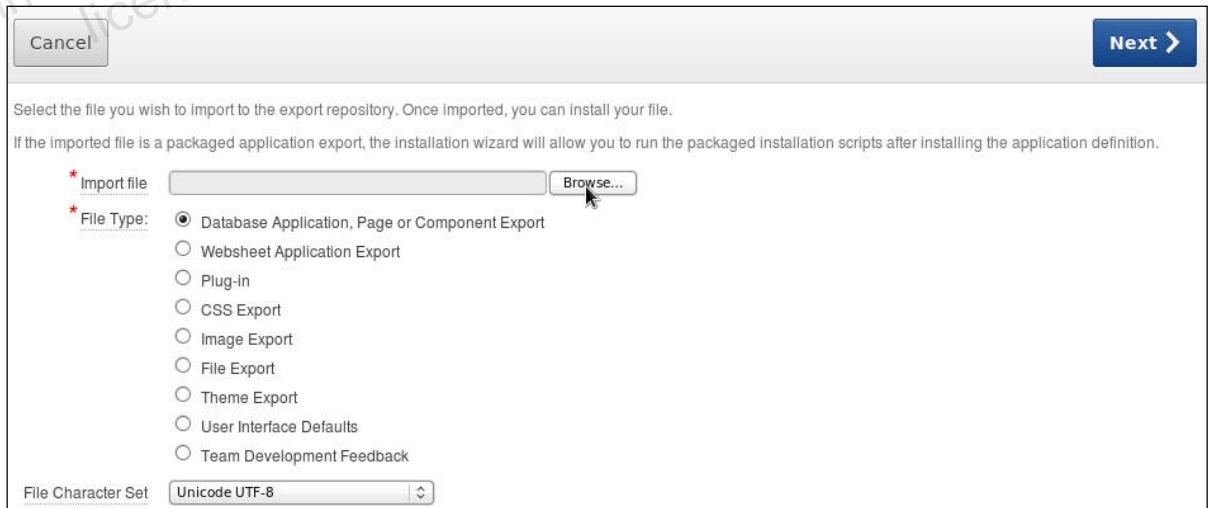
- 1) Navigate to the **Application Builder** page by clicking the **Application Builder** icon.



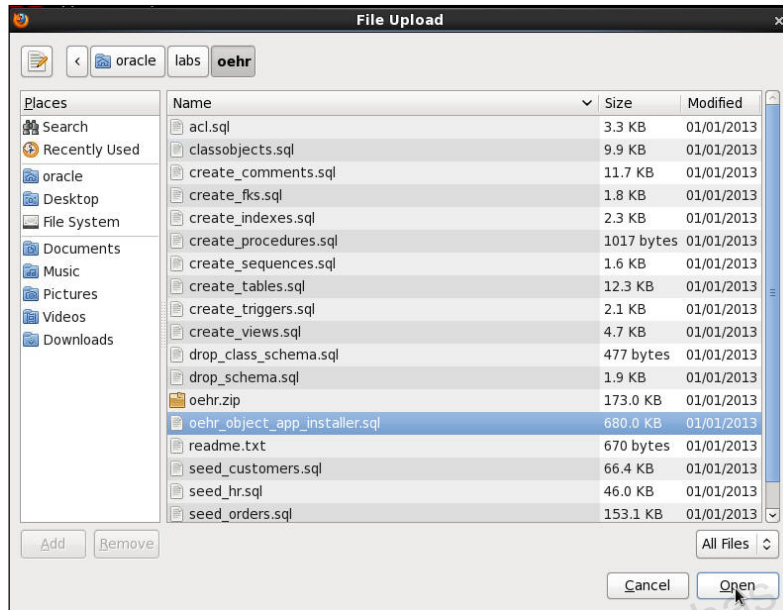
- 2) Click the **Import** button.



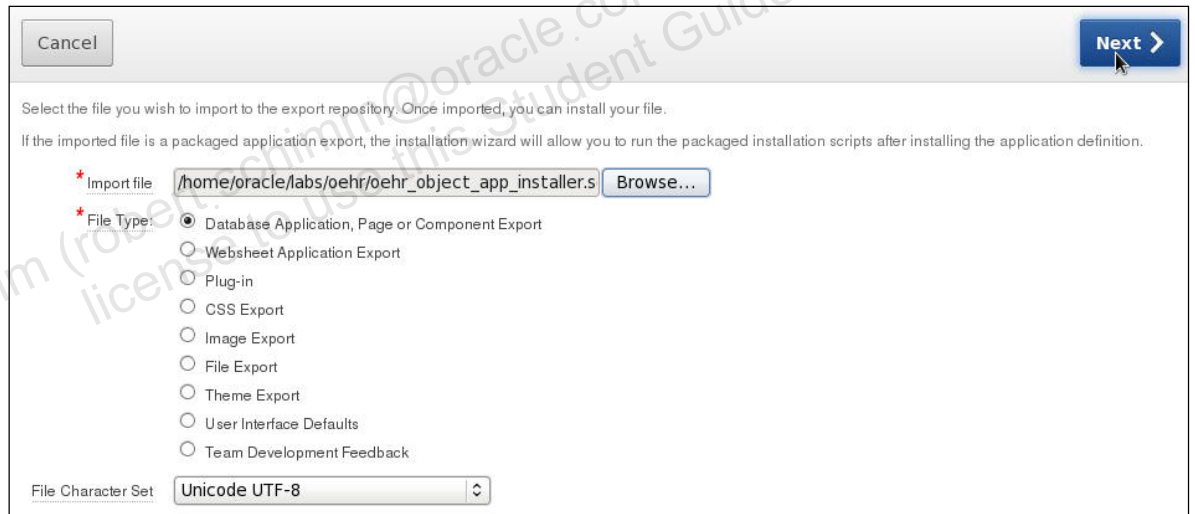
- 3) Click the **Browse** button.



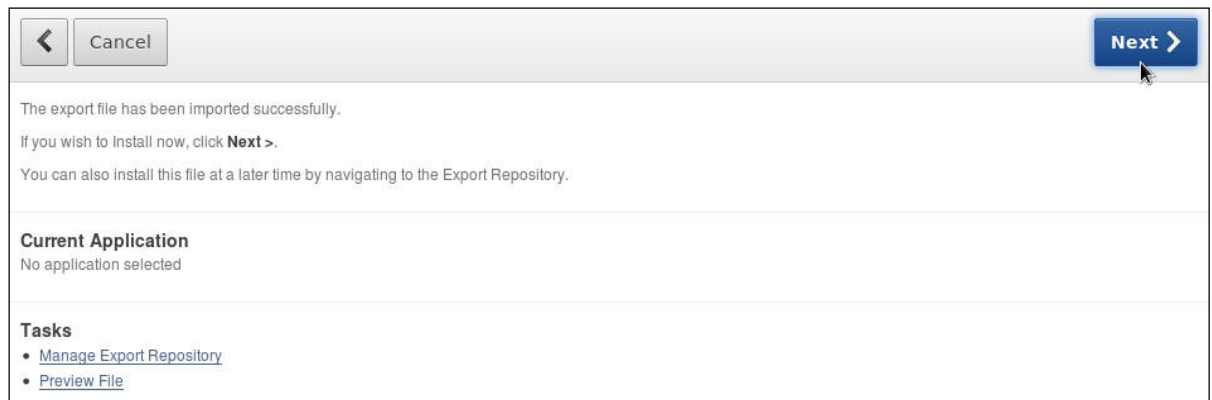
- 4) Browse to the `/home/oracle/labs/oehr` folder, select the `oehr_object_app_installer.sql` script file, and click **Open**.



- 5) Click **Next>** to import the file.



- 6) You have successfully imported the file. To install the application, click **Next >**.



7) Select **ora<n>** for the parsing schema and click **Install Application**.

When you install an application having the same ID as an existing application in the current workspace, the existing application is deleted and then replaced by the new application. If you attempt to install an application having the same ID as an existing application in a different workspace, a benign error message displays. If you are importing a packaged Application Express application, the installation wizard will allow you to install supporting objects.

Current Workspace: **ORA01**  
Export File Workspace ID: **56013809141722139**  
Export File Application ID: **654**  
Export File Version: **2006.02.24**  
Export File Parsing Schema: **OEHR**  
Application Origin: **This application was exported from another workspace.**  
\* Parsing Schema: **ORA01**  
\* Build Status: **Run and Build Application**  
\* Install As Application:  **Auto Assign New Application ID**  
 **Reuse Application ID 654 From Export File**  
 **Change Application ID**

8) To install the supporting objects for the application, ensure that **Install Supporting Objects** is **Yes** and click **Next >**.

The installation of this application creates the objects and loads the data necessary for the Oracle University Introduction to Oracle Application Express course. Deleting this application and selecting to deinstall supporting objects will completely remove all objects that were created.

Application: **124 - OEHR Sample Objects for OU**  
Parsing Schema: **ORA01**  
Free Space Required in KB: **4,096**  
Install Supporting Objects:  **No**  
 **Yes**

**Tasks**

- [Preview Installation Script](#)

9) Click **Install**.


Please confirm that you would like to install this application's supporting objects.

**Tasks**

- [Preview Installation Script](#)

10) Click **Install Summary**.

[Install Summary](#)   [Edit Application](#)   [Run Application](#)

  
**Your application's supporting objects have been installed.**

**Tasks**  
 Your imported file is located in the export repository. Unless you plan to install again, you should remove it.

- [Manage Export Repository](#)
- [Export](#)
- [Component Export](#)

11) Review the **Install Summary**.

Install Summary				
Script Name	Status	Statements Successful	Statements with Errors	Total Statements
create tables	Success	17	0	17
create procedures	Success	1	0	1
create sequences	Success	8	0	8
create indexes	Success	28	0	28
create fks	Success	10	0	10
create triggers	Success	7	0	7
create views	Success	9	0	9
create comments	Success	88	0	88
seed hr	Success	218	0	218
seed customers	Success	341	0	341
seed products	Success	576	0	576
seed orders	Success	1889	0	1889
<b>report total:</b>		<b>3192</b>	<b>0</b>	<b>3192</b>

1 - 12

You have successfully imported and installed the OEHR sample database application and its supporting objects.

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# Practices for Lesson 3: Creating a Database Application

## Chapter 3

## Practice 3-1: Creating Database Applications

---

### Overview

In this practice, you:

- Create a database application from a spreadsheet
- Create a desktop application
- Add a mobile user interface to the application

### Assumptions

You have performed Practice 2-1 and Practice 2-2.

### Tasks

- a. Create an application named Tasks based on the `tasks.txt` file available in the `/home/oracle/labs/files` folder. The file has tab-delimited information and the first row contains the column names. Name the table, where the data from the file is uploaded, Tasks.
- b. Create a database desktop application named Order Management. In the rest of the practices in this course, you will enhance and complete this application by creating pages, regions, processes, and so on.
- c. Add a mobile user interface to the Order Management desktop application.

## Solution 3-1: Creating Database Applications

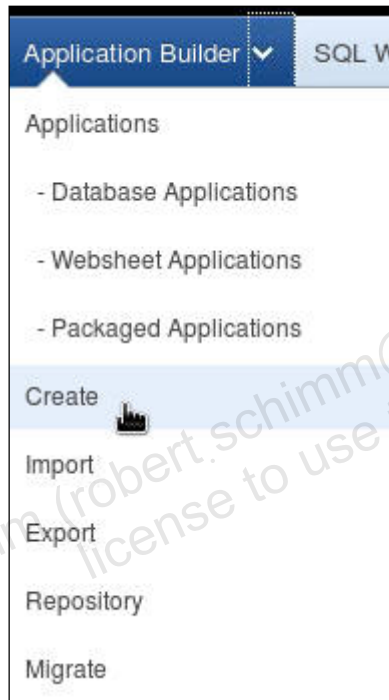
### Overview

In this practice solution, the steps to create a database application from a spreadsheet and steps to create a desktop application and add a mobile user interface to the application are provided.

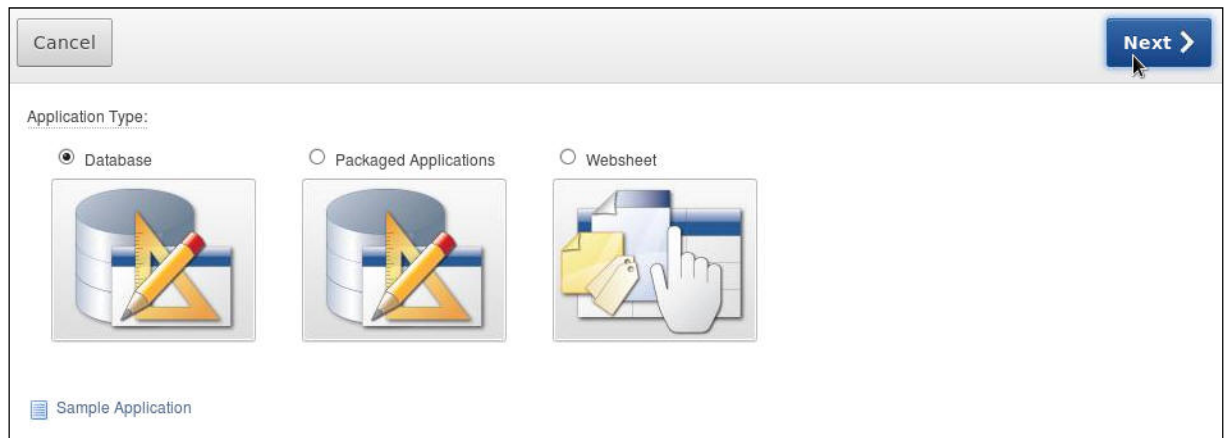
### Tasks

- a. Create an application named **TASKS** based on the `tasks.txt` file available in the `/home/oracle/labs/files` folder. The file has tab-delimited information and the first row contains the column names. Name the table, where the data from the file is uploaded, **Tasks**.

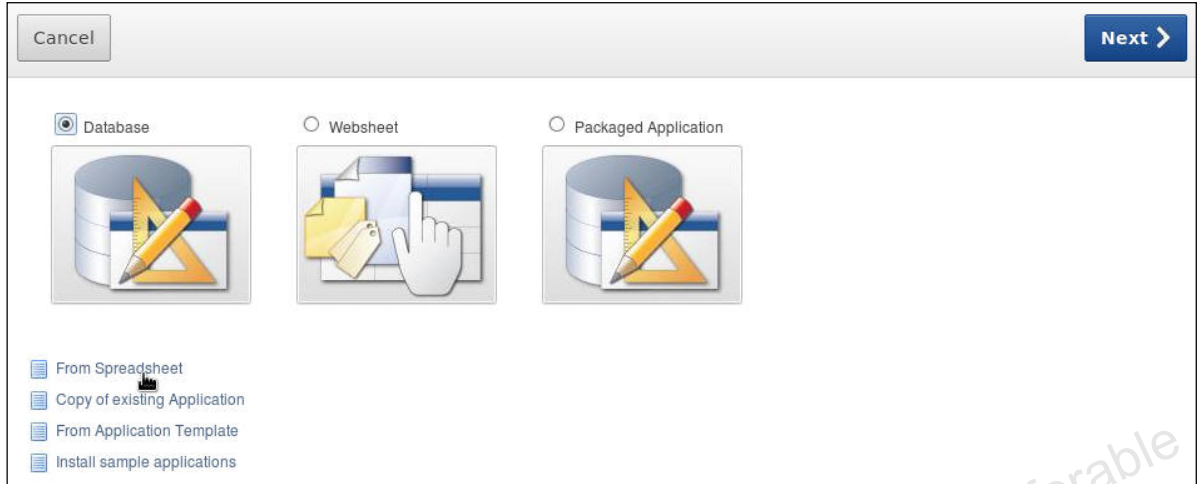
- 1) Select the **Application Builder** pull down and click **Create**.



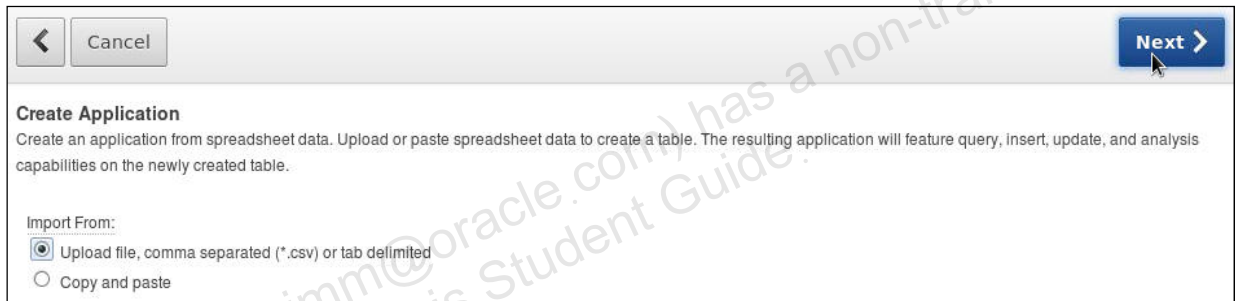
- 2) In the Create Application Wizard, make sure **Database** is selected and click **Next**.



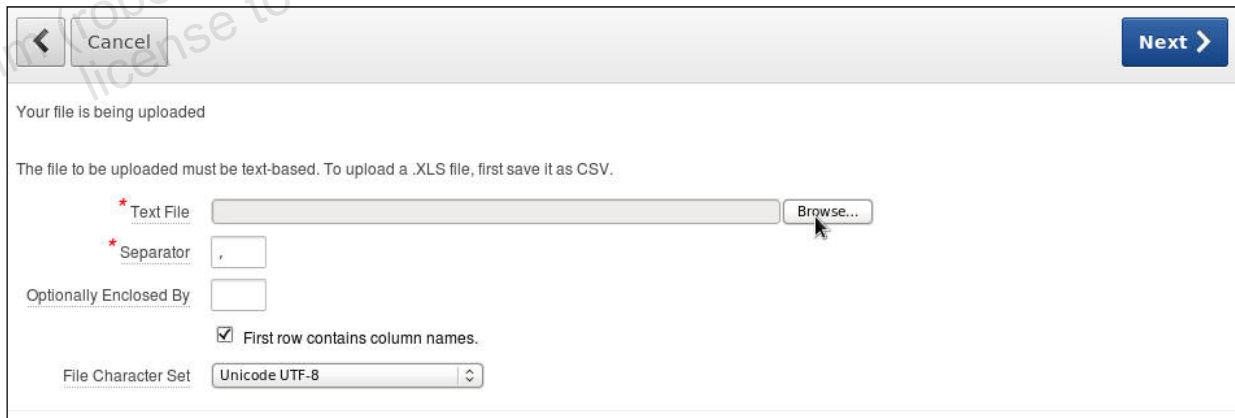
3) Select **From Spreadsheet**.



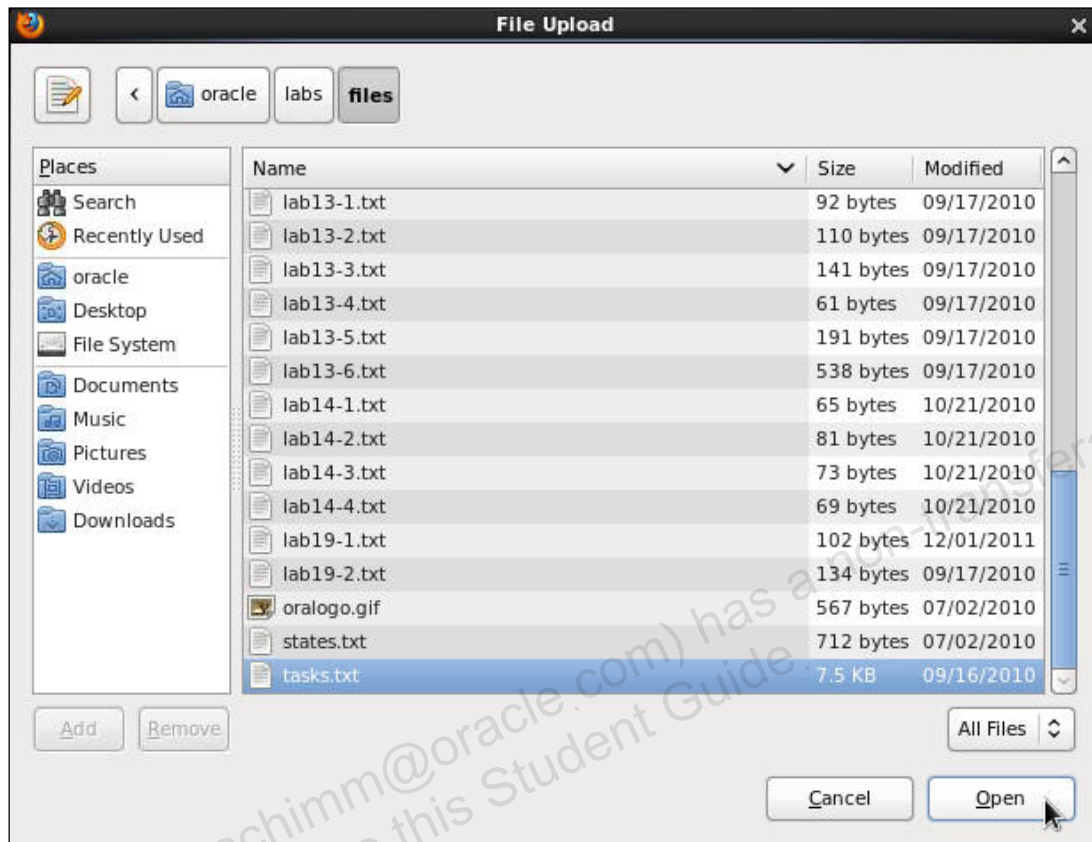
4) Select **Upload file, comma separated (\*.csv) or tab delimited** and click **Next >**.



5) Click the **Browse** button to select the file in the **Text File** field or enter the file name in the field.



- 6) Select the **tasks.txt** file from the `/home/oracle/labs/files` folder and click **Open**.



- 7) To specify that the data is tab delimited, enter `\t` in the Separator field. Ensure that the **First row contains column names** check box is selected and click **Next**.



- 8) For Table Name, enter **TASKS**. Note that you can see all the data sorted as rows and columns. Click **Next >**.

This page previews how your table will look. You can modify the suggested table name, change the column names or datatypes, or specify which columns to include.

\* Schema:    
 \* Table Name:   Preserve Case

**Set Table Properties**

Column Names	PROJECT	TASK_NAME	START_DATE	END_DATE	STATUS				
Data Type	<input type="text" value="VARCHAR2"/>	<input type="text" value="VARCHAR2"/>	<input type="text" value="DATE"/>	<input type="text" value="DATE"/>	<input text"="" type="text" value="VARCH&lt;/td&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Format&lt;/td&gt; &lt;td&gt;&lt;input type="/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Column Length	<input type="text" value="30"/>	<input type="text" value="255"/>	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="30"/>				
Upload	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>				
Row 1	Maintain Support Systems	HR software upgrades	1-Jan-10	27-Feb-10	Closed				
Row 2	Maintain Support Systems	Apply Billing System updates	1-Jan-10	28-Feb-10	closed				

- 9) Ensure that Plural Name is **Tasks** and accept all other default values. Click **Next >**.

Schema:    
 Table Name:    
 \* Singular Name:    
 \* Plural Name:

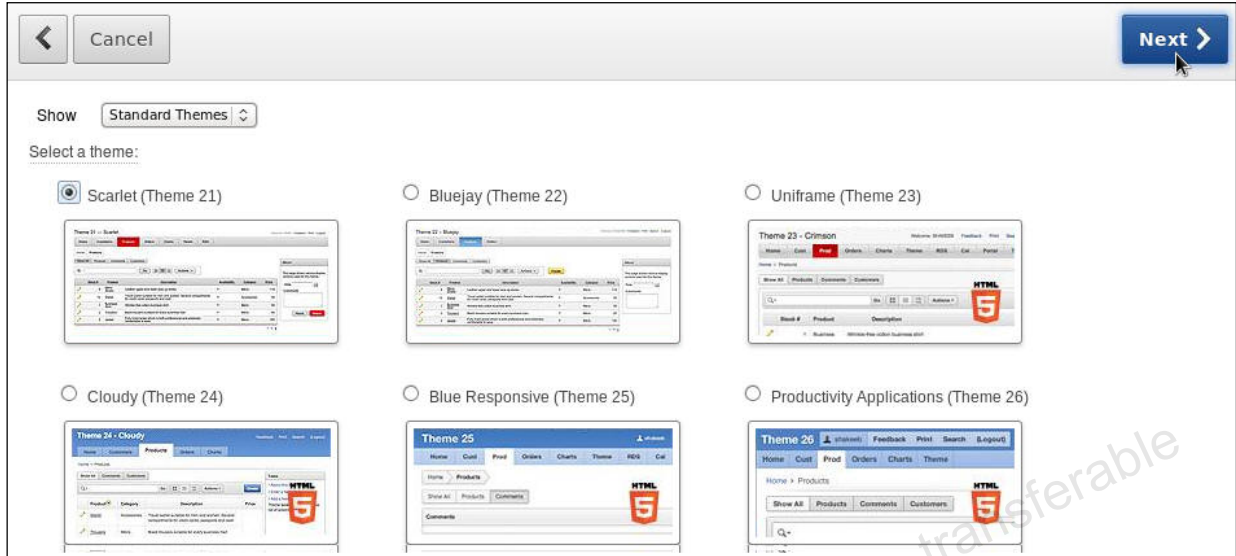
**Column User Interface Defaults**

Column	Label
PROJECT	<input type="text" value="Project"/>
TASK_NAME	<input type="text" value="Task Name"/>
START_DATE	<input type="text" value="Start Date"/>
END_DATE	<input type="text" value="End Date"/>
STATUS	<input type="text" value="Status"/>
ASSIGNED_TO	<input type="text" value="Assigned To"/>

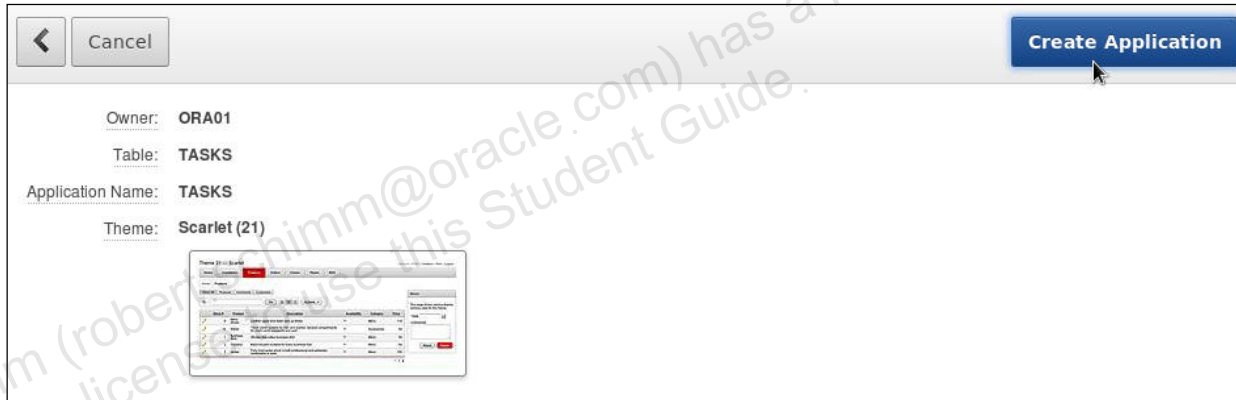
- 10) Ensure that Application Name is **TASKS**, Create Mode is **Read and Write**, and Report Implementation is **Interactive**. Click **Next >**.

Schema:    
 Table Name:    
 \* Application Name:    
 Create Mode:  Read Only   
 Read and Write   
 Report Implementation:

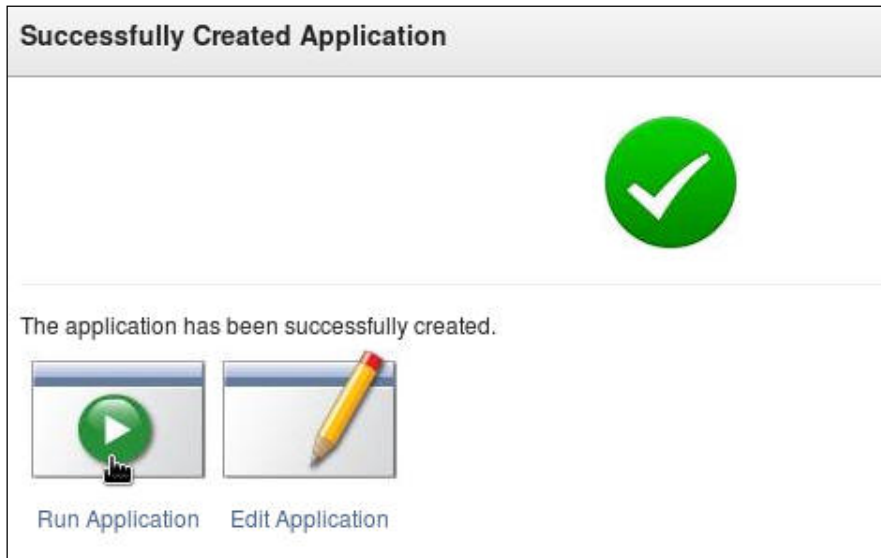
11) Select **Scarlet (Theme 21)**. Click **Next >**.



12) Click **Create Application**.



13) To view the application, click **Run Application**.



- 14) For Username and Password, use `ora<n>` (where `n` is the number that you are assigned). Click **Login**.

- 15) The home page of the TASKS application is displayed. It displays an interactive report by using the data from the flat file. Click **Home** on the Developer toolbar to return to the development environment.

TASKS Welcome: ORA01 [Logout](#)

**Tasks**

Home

Q-

Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
Maintain Support Systems	HR software upgrades	01-JAN-10	27-FEB-10	Closed	Pam King	8000	7000
Maintain Support Systems	Apply Billing System updates	01-JAN-10	28-FEB-10	closed	Russ Sanders	5000	7000
Maintain Support Systems	Investigate new Virus Protection software	15-FEB-10	23-MAR-10	Open	Pam King	1700	1500
Maintain Support Systems	Arrange for holiday coverage	10-JAN-10	12-JAN-10	Closed	Al Bines	300	500
Email Integration	Complete plan	08-FEB-10	14-FEB-10	Closed	Mark Nile	500	750
Email Integration	Check software licenses	12-FEB-10	13-FEB-10	Closed	Mark Nile	200	200
Email Integration	Get RFPs for new server	19-FEB-10	03-MAY-10	Open	Mark Nile	4000	1000
Email Integration	Purchase backup server	12-MAY-10	07-JUL-10	Pending	Al Bines	3200	3000
APEX Environment Configuration	Identify server requirements	19-FEB-10	20-FEB-10	Pending	John Watson	100	200
APEX Environment Configuration	Specify security authentication scheme(s)	20-FEB-10	22-FEB-10	Pending	Scott Spencer	200	300
APEX Environment Configuration	Determine Web listener configuration(s)	20-FEB-10	20-FEB-10	On-Hold	James Cassidy	100	100
APEX Environment Configuration	"Select servers for Development, Test, Production"	21-FEB-10	24-FEB-10	Pending	Al Bines	200	600
APEX Environment Configuration	Run installation	28-FEB-10	01-MAR-10	Pending	John Watson	100	100
APEX Environment Configuration	Configure Workspace provisioning	28-FEB-10	02-MAR-10	Pending	Scott Spencer	100	100

Home Application 127 Edit Page 1 Create Session Caching View Debug Debug Show Edit Links Show Grid

- b. Create a database desktop application named Order Management. In the rest of the practices in this course, you will enhance and complete this application by creating pages, regions, processes, and so on.

- 1) Navigate to the **Application Builder** home page and click the **Database Applications** subtab. Click **Create >**.

- 2) Enter **Order Management** for Name, and make sure that **ORA<n>** (where **n** is the number that you are assigned) is selected for Schema and **Desktop** for User Interface. Click **Next >**.

Enter an unique application ID and an application name and. Then, select a create option, user interface and database schema.

\* Application: 130  
 \* Name: Order Management  
 Schema: ORA01  
 Create Options: Include Home Page  
 User Interface: Desktop

Sample Applications  
[Install sample applications](#)

- 3) Notice that a Home page will be created. Click **Next >**.

Page	Page Name	Page Type	Source Type	Source	Delete
1	Home	Blank	-	-	X

Add Page

Select Page Type:

Blank  Report  Report and Form  Form

Tabular Form  Master Detail  Chart

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

Shared components are common application elements that can be displayed or applied across multiple pages in an application. To save time or maintain consistency between applications, copy the shared components from an existing application.

Copy Shared Components from Another Application:  
 Yes  
 No

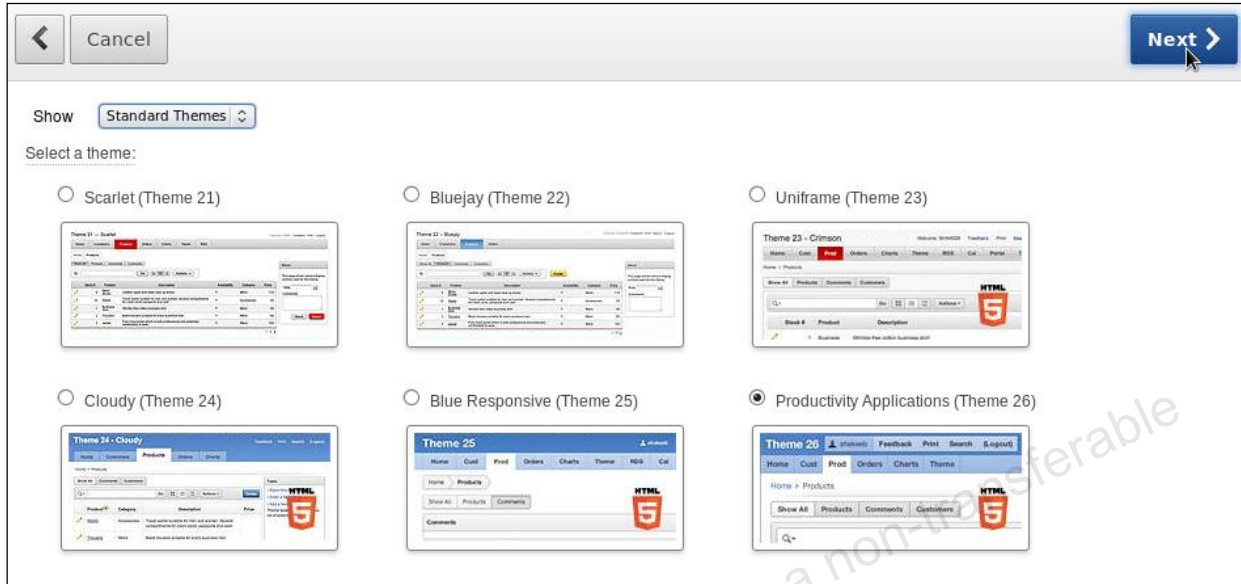
- 5) Select **DD-MON-YYYY** for **Date Format** by clicking the up arrow to the right, and click **Next >**.

This screenshot shows the Oracle configuration page with the following settings: Authentication Scheme: Application Express; Tabs: One Level of Tabs; Language: English (en); User Language Preference Derived From: Application Primary Language. The Date Format field is empty, and the Date Time Format, Timestamp Format, and Timestamp Time Zone Format fields are also empty. A mouse cursor is hovering over the up arrow button next to the Date Format field.

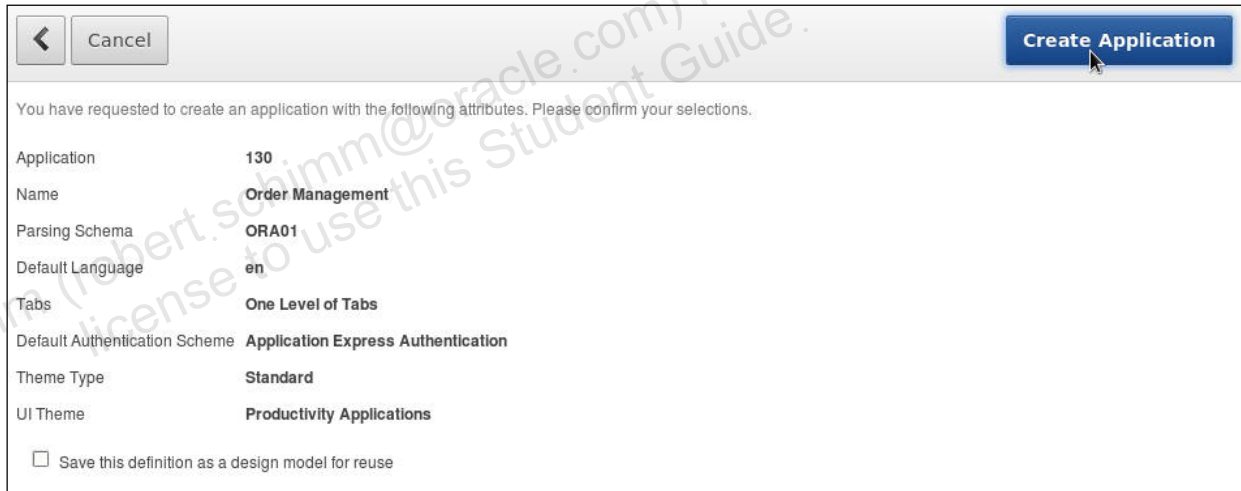
This screenshot shows the Oracle Date Format popup list. It contains the following options: 12-JAN-04, 12-JAN-2004, 12-JAN, 04-JAN-12, 2004-01-12, Monday, 12 January, 2004, 12-JAN-2004 14:30, 12-JAN-2004 14:30:00, 12-JAN-2004 02:30PM, and January. A mouse cursor is hovering over the 12-JAN-2004 option. The list also includes a search bar, Search, and Close buttons, and a footer indicating Row(s) 1 - 10.

This screenshot shows the Oracle configuration page with the Date Format field set to DD-MON-YYYY. The other settings remain the same as in the previous screenshot. A mouse cursor is hovering over the Next > button.

- 6) Accept the default theme **Productivity Applications (Theme 26)** and click **Next** >.



- 7) Click **Create Application**.



- 8) An application with an empty Home page and the default Application Express Authentication Login page are created. You will complete this application in the rest of the practices in this course.

Application 130 - Order Management

Run Application   Supporting Objects   Shared Components   Utilities   Export / Import

Page	Name	Updated	Updated By	Page Type	User Interface	Group	Lock	Run
1	<a href="#">Home</a>	1 seconds ago	-	Home	Desktop	<a href="#">Unassigned</a>		
101	<a href="#">Login</a>	1 seconds ago	-	Login	Desktop	<a href="#">Unassigned</a>		

- c. Add a mobile user interface to the Order Management desktop application.

- 1) Click **Edit Application Properties**.

Application 130 - Order Management

Run Application   Supporting Objects   Shared Components   Utilities   Export / Import

Page	Name	Updated	Updated By	Page Type	User Interface	Group	Lock	Run
1	<a href="#">Home</a>	1 seconds ago	-	Home	Desktop	<a href="#">Unassigned</a>		
101	<a href="#">Login</a>	1 seconds ago	-	Login	Desktop	<a href="#">Unassigned</a>		

2) Click the **User Interface** tab.

Definition Security Globalization **User Interface**

Application 130 User Interface Cancel Delete Apply Changes

Show All Name Properties Availability Error Handling Global Notification Substitutions Build Options

**Name** ^

Application 130

\* Name

Application Alias

\* Version

Application Group

**Properties** ^

Logging

3) Click the **User Interfaces** subtab.

Definition Security Globalization **User Interface**

Application 130 Cancel Apply Changes

Show All General Properties Logo JavaScript User Interface Detection **User Interfaces**

**General Properties** ^

Image Prefix

Content Delivery Network

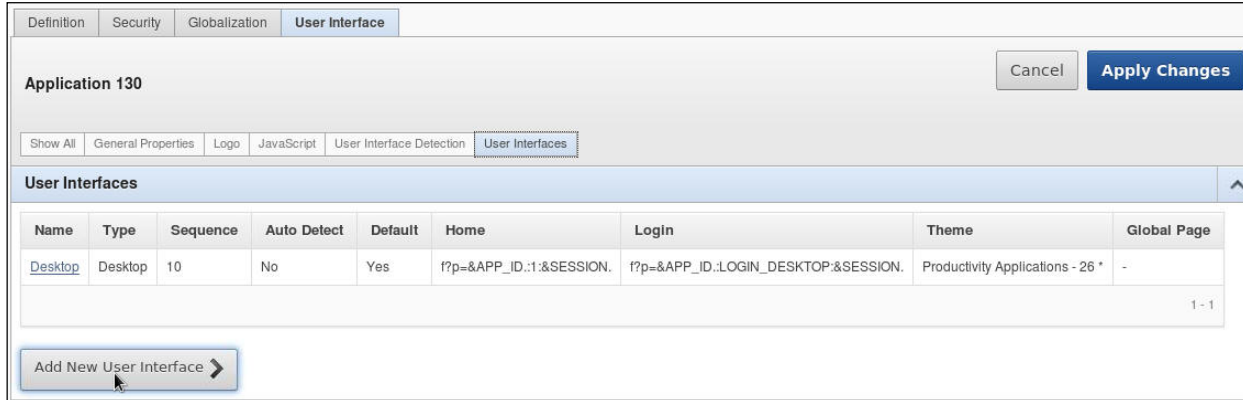
Media Type

**Logo** ^

Logo Type:

Image

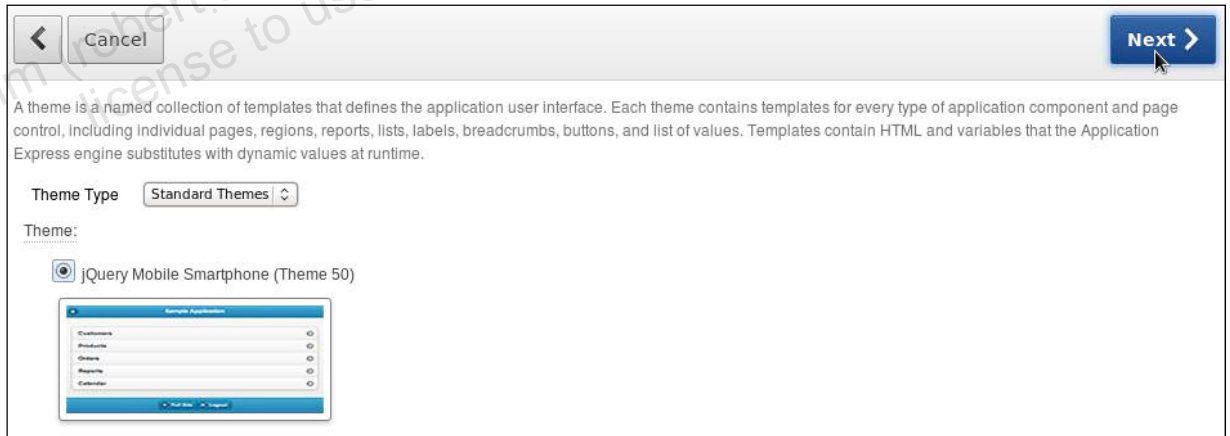
4) Click **Add New User Interface >**.



5) For Type, select **jQuery Mobile Smartphone** and click **Next >**.



6) Select **jQuery Mobile Smartphone (Theme 50)** and click **Next >**.



7) Click **Create**.



- 8) This will add a new set of mobile pages to the application. Each user interface has its own Home page. When running the application on a desktop, page 1 will be displayed. When running the application on a mobile device, page 2 will be displayed. This capability will be discussed in later lessons in the class.

The screenshot shows the Oracle Application Express interface for 'Application 130 - Order Management'. At the top, there is a navigation bar with 'Home', 'Application Builder', 'SQL Workshop', 'Team Development', and 'Administration'. A green notification banner at the top right says 'Theme created.' Below the navigation bar, there are icons for 'Run Application', 'Supporting Objects', 'Shared Components', and 'Utilities'. Below these icons is a search bar and an 'Actions' dropdown menu. The main content area contains a table with the following data:

Page	Name	Updated	Updated By	Page Type	User Interface	Group	Lock	Run
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	Now	ora01	Global Page	jQuery Mobile Smartphone	<a href="#">Unassigned</a>		
1	<a href="#">Home</a>	8 minutes ago	-	Home	Desktop	<a href="#">Unassigned</a>		
2	<a href="#">Home</a>	Now	ora01	Static HTML	jQuery Mobile Smartphone	<a href="#">Unassigned</a>		
101	<a href="#">Login</a>	8 minutes ago	-	Login	Desktop	<a href="#">Unassigned</a>		

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# Practices for Lesson 4: Using and Creating Interactive Reports

## Chapter 4

## Practices for Lesson 4: Overview

---

### Practices Overview

There are two practices for this lesson. In these practices, you build and manipulate an interactive report, and customize it.

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## Practice 4-1: Building and Manipulating an Interactive Report

---

### Overview

In this practice, you create and manipulate two interactive reports.

### Assumptions

You have performed the previous practices or imported the `LAB031_SOLN.sql` exported application.

### Tasks

- a. Create an interactive report to display all the columns from the `OEHR_CUSTOMERS` table on a new page in the Order Management application. Name the page **Customers** and the region **Customer Report**. Perform the following customizations to the report:
  - Create a filter on the city of Philadelphia.
  - Create a highlight where the Credit Limit is greater than 2500.
  - Display only the Customer Name, Address, and Credit Limit.
  - Delete the filter that you created previously.
  - Display the rows in ascending order by state.
  - Display only five rows to see how pagination works.
  - Create a Group By report to display the number of customers in a particular province or state. Change the pagination to display all rows.
  - Save the report as a private report called My Report.
  - Reset the Primary Report to its original state.
  - Display a single row view.
  
- b. Create an interactive report on a new page in the Order Management application to display details (`employee_id`, `first_name`, `last_name`, `manager_id`, and `commission_pct`) from the `OEHR_CUSTOMERS` table about who earns a commission. Name the page and the report **Employee Commissions**. From the Create Report Wizard, create a breadcrumb for the page and select the Home page as the parent page. After creating the report, make the following customizations to the report:
  - Management proposes to increase the commission of employees whose existing commission percentage is less than or equal to 0.15. Create a computed column called New Commission, to display the new commission. The new commission scheme includes:
    - Employees with a commission percentage of 0.1 will get an additional commission of 0.15.
    - Employees with a commission percentage of 0.15 will get an additional commission of 0.05.
  - Create a control break on Manager ID.
  - Display the maximum commission earned by employees under each manager.
  - Download the HTML report.

- Save all the customizations that you have made to this report so that it is available to other managers, but is not the default report. Name the saved report as Commission Proposal.
- Reset the Primary Report.

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## Practice 4-2: Customizing an Interactive Report

---

### Overview

In this practice, you customize the interactive report that you created in the previous practice.

### Assumptions

You have performed the previous practices.

### Tasks

- a. Make the following customizations to the Employee Commissions report.
  - Hide `EMPLOYEE_ID` and change `MANAGER_ID` to be the `FIRST_NAME` and `LAST_NAME` of the manager.
  - Remove the Highlight option from the Actions menu.
  - Remove the Single Row View icon for each row in the report.
  - Run the report and confirm the changes that you made.

# Solution 4-1: Building and Manipulating an Interactive Report

## Overview

In this practice, you create and manipulate two Interactive reports.

## Tasks

- a. Create an interactive report to display all the columns from the OEHR\_CUSTOMERS table on a new page in the Order Management application. Name the page **Customers** and give the region the **Customer Report**. Do not create a tab for the page now.
  - 1) Navigate to the Order Management application home page and click **Create Page** >

Page	Name	Updated	Updated By	Page Type	User Interface	Group	Lock	Run
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	26 minutes ago	ora01	Global Page	jQuery Mobile Smartphone	<a href="#">Unassigned</a>		
1	<a href="#">Home</a>	34 minutes ago	-	Home	Desktop	<a href="#">Unassigned</a>		
2	<a href="#">Home</a>	26 minutes ago	ora01	Static HTML	jQuery Mobile Smartphone	<a href="#">Unassigned</a>		
101	<a href="#">Login</a>	34 minutes ago	-	Login	Desktop	<a href="#">Unassigned</a>		

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

The screenshot shows a wizard interface with a 'Cancel' button on the left and a 'Next >' button on the right. There are four radio button options: 'Interactive Report' (selected), 'Classic Report', 'Report on Web Service Result', and 'Wizard Report'. Each option has a corresponding icon: a hand pointing at a table for Interactive Report, a simple table for Classic Report, a table with a globe for Report on Web Service Result, and a table with stars for Wizard Report.

- 4) Enter **Customers** for **Page Name** and **Customer Report** for **Region Name**. Click **Next >**.

The screenshot shows a configuration page with a 'Cancel' button on the left and a 'Next >' button on the right. The text reads: 'Identify a page number and name. If the page number you specify does not exist, the wizard creates the page for you.' The fields are: Application: 130 - Order Management; Page Number: 3; Page Name: Customers; Region Template: Interactive Report Region; Region Name: Customer Report; Breadcrumb: do not use breadcrumbs on page.

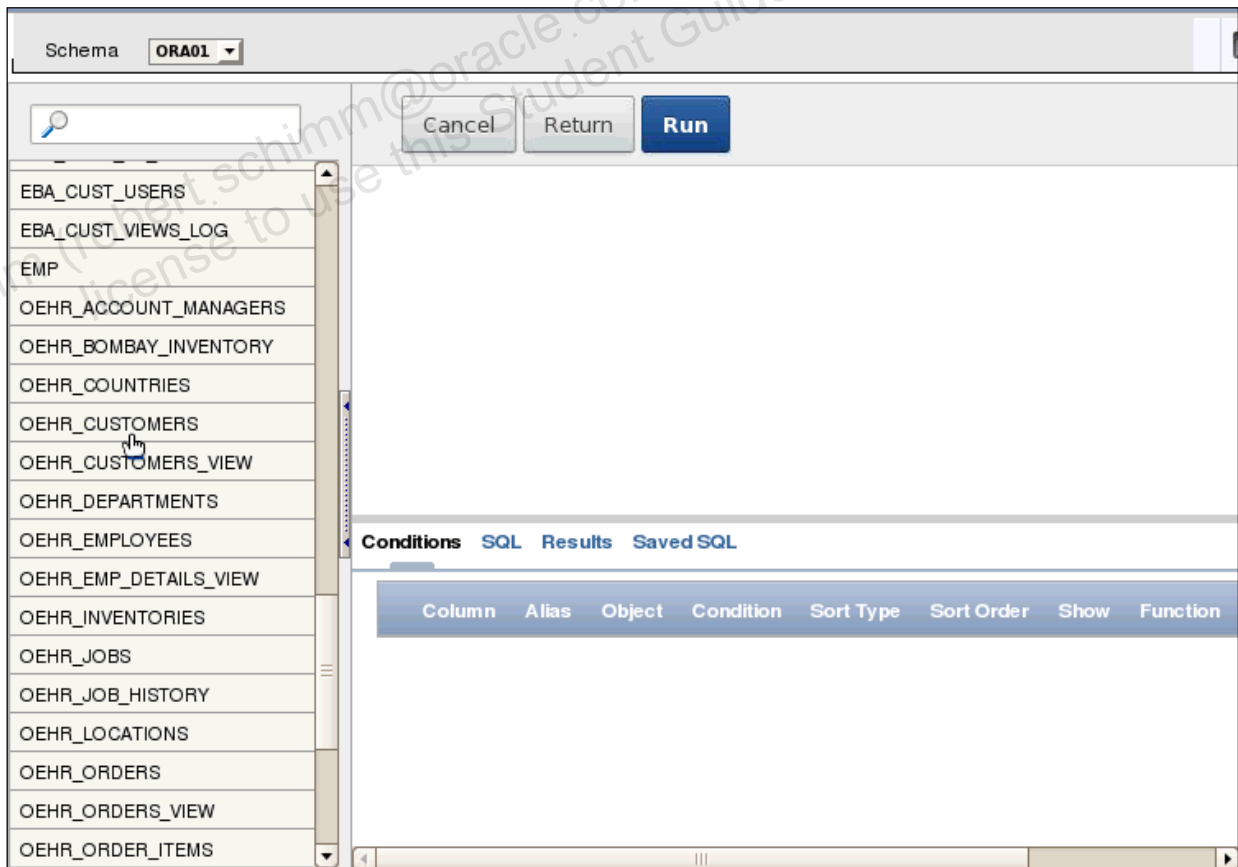
- 5) Select **Use an existing tab set and create a new tab within the existing tab set** for Tab Options, enter **Customers** for New tab Label, and click **Next >**.

The screenshot shows a tab options page with a 'Cancel' button on the left and a 'Next >' button on the right. The text reads: 'Page: 3'. Under 'Tab Options', there are three radio buttons: 'Do not use tabs', 'Use an existing tab set and create a new tab within the existing tab set.' (selected), and 'Use an existing tab set and reuse an existing tab within that tab set.'. Below are fields for 'Tab Set' (TS1 (Home)) and 'New Tab Label' (Customers).

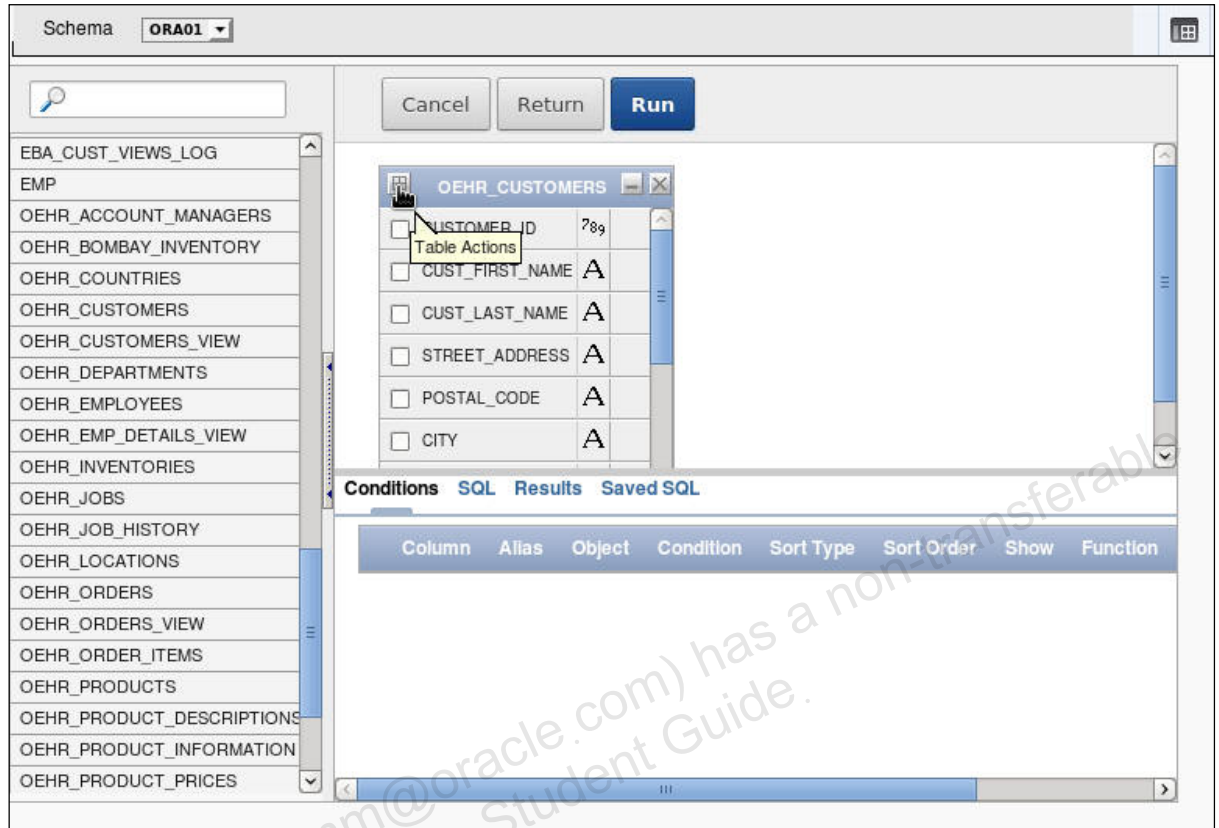
- 6) You can either directly enter the query to create the report or use Query Builder to create the query. Click **Query Builder**.



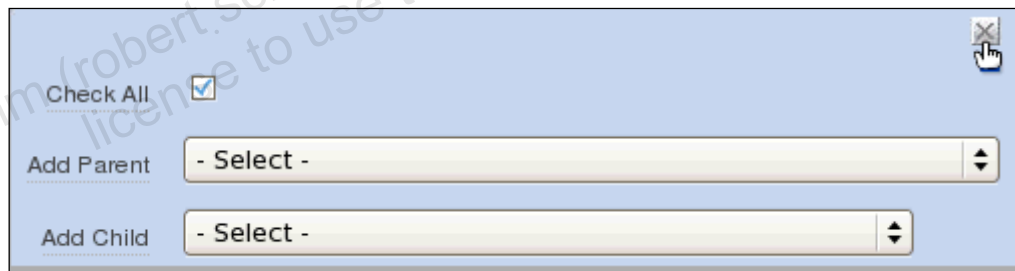
- 7) In the left pane, click the **OEHR\_CUSTOMERS** table name.



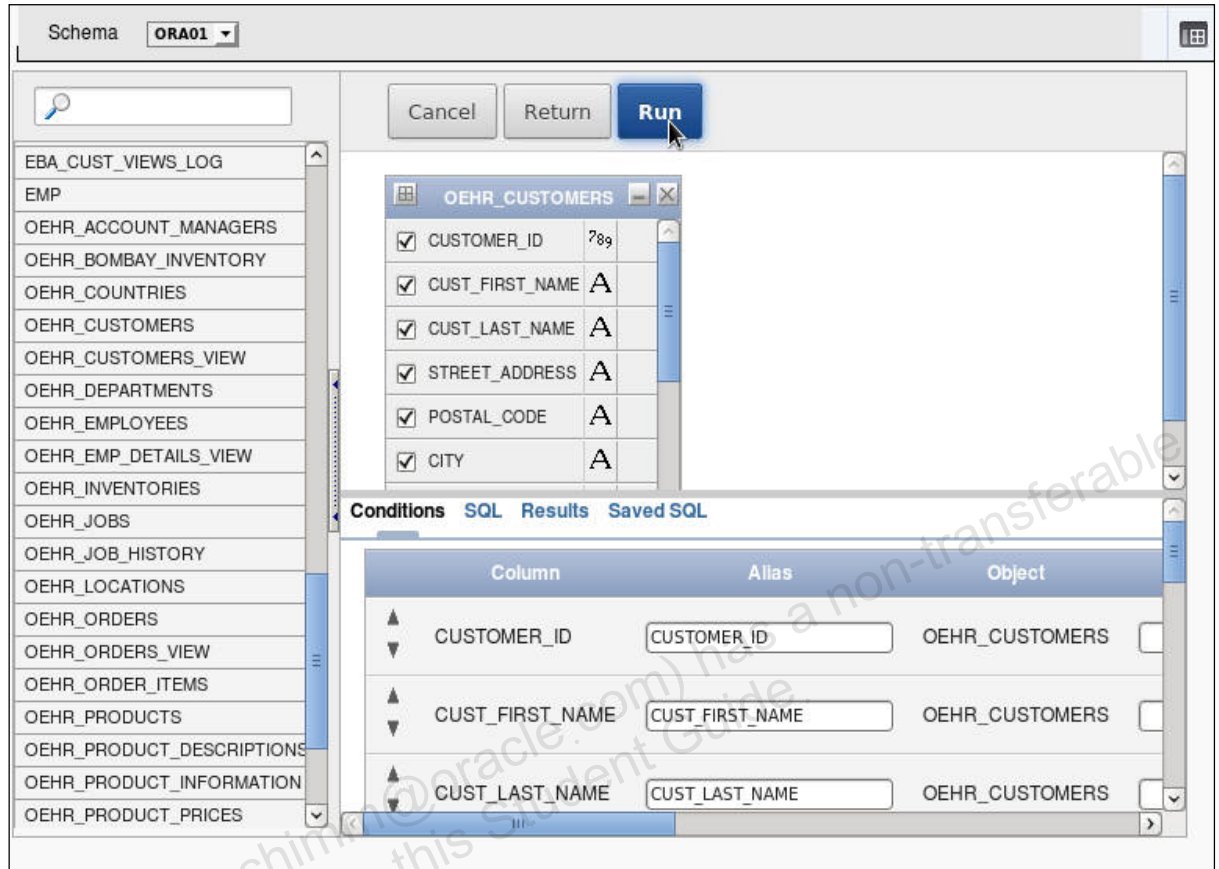
8) Click the **Table Actions** icon.



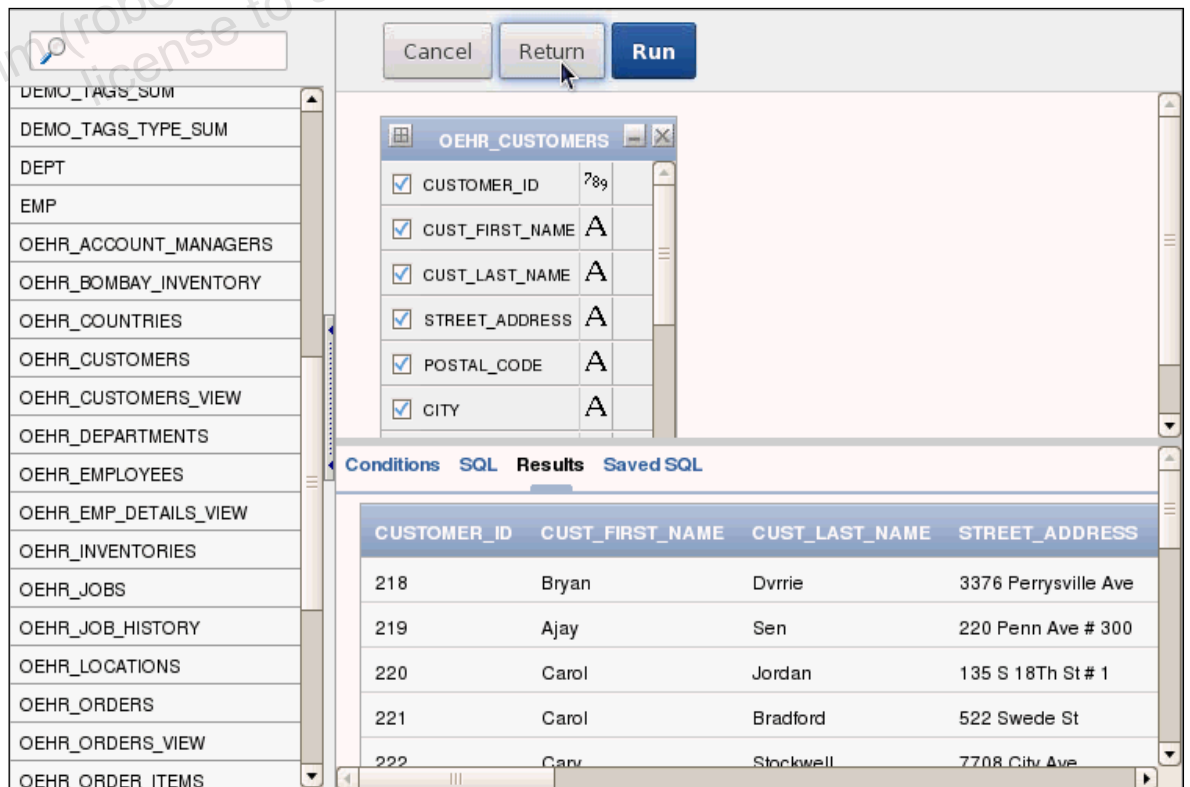
9) Select the **Check All** check box and close the dialog box.



10) Click the **Run** button.

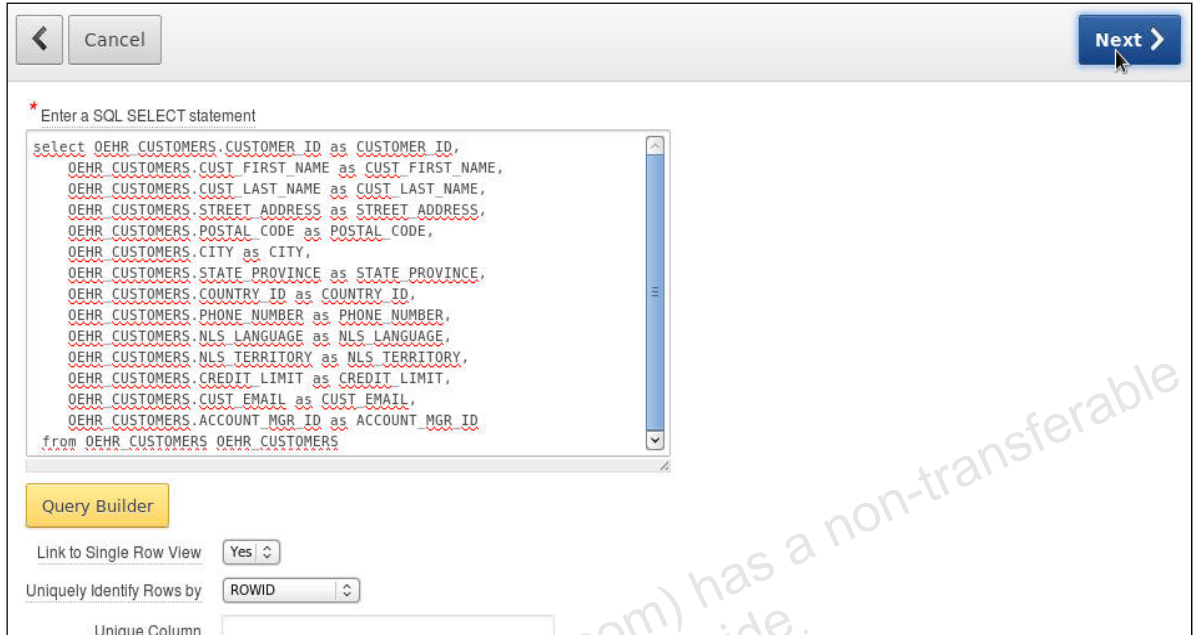


11) Click the **Return** button.



12) Click **Next >**.

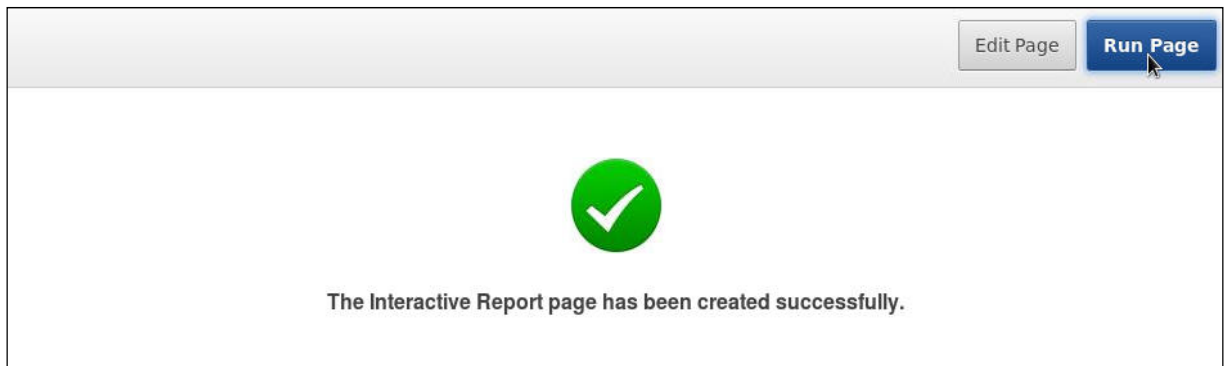
**Note:** You may receive an error when redirected back to this page. Ignore the error and click Next.



13) Click **Create**.



14) The report is created. To view the report, click **Run Page**.



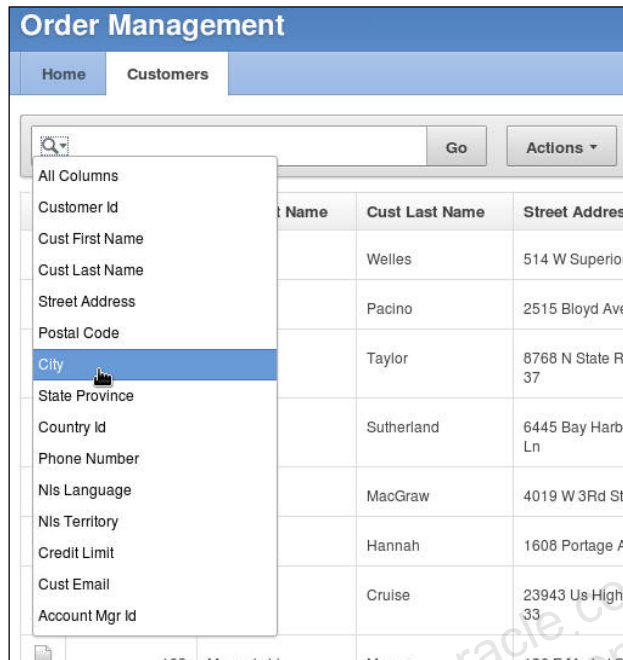
- 15) When you run the page, the Login window opens. Enter `ora<n>` for **Username** and **Password** and click **Login**.

- 16) The interactive report is displayed.

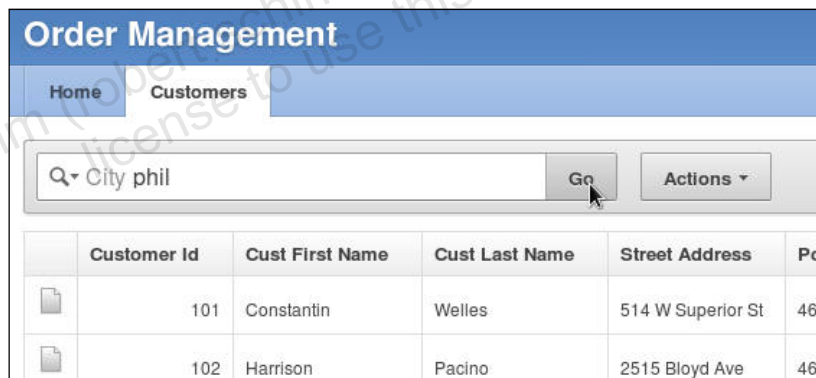
Order Management										
Home Customers										ora01 Logout
<input type="text" value="Q"/> <input type="button" value="Go"/> <input type="button" value="Actions"/>										
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Number	Nls Language
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 123 4104	us
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 123 4111	us
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 123 4115	us
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US	+1 317 123 4126	us
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US	+1 812 123 4129	us
	106	Matthias	Hannah	1608 Portage Ave	46616	South Bend	IN	US	+1 219 123 4136	us
	107	Matthias	Cruise	23943 Us Highway 33	46517	Elkhart	IN	US	+1 219 123 4138	us

- **Create a filter on the city of Philadelphia.**

17) You want to show records only for a particular city. Select **City** from the Column Selector. Note that if you do not select the column, the search criteria you enter in the next step will search all columns.



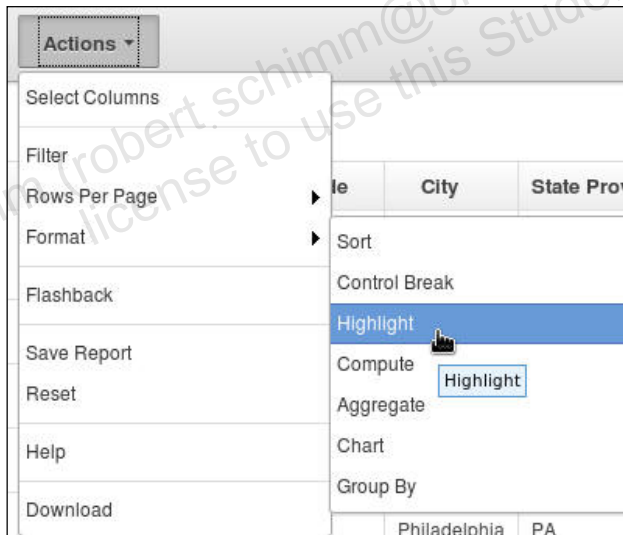
18) Enter **phil** in the search field and click **Go**. Note that the % wildcard is implied and is not entered.



A filter is applied and only the records that meet the search criteria are displayed.

Order Management								
Home		Customers						
Q				Go		Actions		
City contains 'phil' <input checked="" type="checkbox"/> <input type="checkbox"/>								
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country
	191	Maureen	Sanders	6432 Rising Sun Ave	19111	Philadelphia	PA	US
	199	Clint	Chapman	115 Chestnut St	19106	Philadelphia	PA	US
	209	Cyndi	Collins	100 N Peach St	19139	Philadelphia	PA	US
	212	Luchino	Falk	5643 N 5Th St	19120	Philadelphia	PA	US
	216	Orson	Koirala	810 Race St	19107	Philadelphia	PA	US
	280	Rob	MacLaine	5344 Haverford Ave	19139	Philadelphia	PA	US
	281	Don	Barkin	6959 Tulip St	19135	Philadelphia	PA	US

- **Create a highlight where credit limit is greater than 2500.**  
 19) To highlight only those customers whose credit limit is greater than 2500, click **Actions** and select **Format > Highlight**.



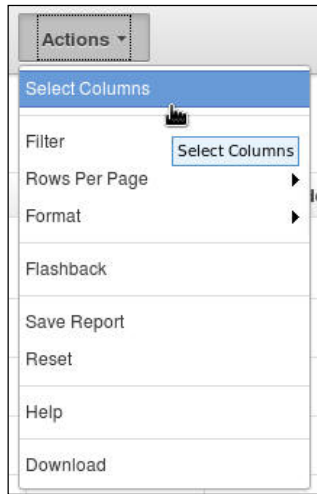
20) Enter a name for the highlight, for example, **Good Credit Rating**. Specify a color for the highlight, for example, select **[yellow]**. Select **Credit Limit** for Column, **>** for Operator, and enter **2500** for Expression. Then click **Apply**.

The records that meet the criteria are highlighted.

Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Number	Nis L
191	Maureen	Sanders	6432 Rising Sun Ave	19111	Philadelphia	PA	US	+1 215 123 4644	us
199	Clint	Chapman	115 Chestnut St	19106	Philadelphia	PA	US	+1 215 123 4676	us
209	Cyndi	Collins	100 N Peach St	19139	Philadelphia	PA	US	+1 215 123 4708	us
212	Luchino	Falk	5643 N 5Th St	19120	Philadelphia	PA	US	+1 215 123 4721	us
216	Orson	Koirala	810 Race St	19107	Philadelphia	PA	US	+1 215 123 4738	us
220	Carol	Jordan	135 S 18Th St # 1	19103	Philadelphia	PA	US	+1 215 123 4743	us
222	Cary	Stockwell	7708 City Ave	19151	Philadelphia	PA	US	+1 215 123 4745	us
224	Clara	Krige	101 E Olney Ave	19120	Philadelphia	PA	US	+1 215 123 4748	us
229	Ian	Chapman	601 Market St	19106	Philadelphia	PA	US	+1 215 123 4768	us
230	Danny	Wright	5565 Baynton St	19144	Philadelphia	PA	US	+1 215 123 4771	us
264	George	Adjani	1136 Arch St	19107	Philadelphia	PA	US	+1 215 123 4702	us
265	Irene	Laughton	6Th And Master St	19122	Philadelphia	PA	US	+1 215 123 4749	us

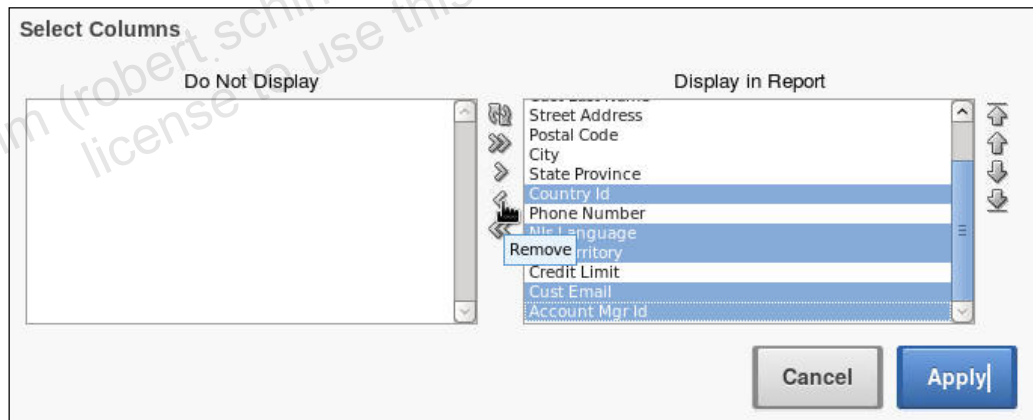
- **Display only the Customer Name, Address, and Credit Limit.**

- 21) You do not want some of the columns to appear on the report. Click **Actions** and select **Select Columns**.



- 22) Ctrl-select the following columns and click **Remove (<)** to move them to the **Do Not Display** area. Note that you will still be able to perform other actions against these columns even though they are not displayed in the report.

Country ID  
NLs Language  
NLs Territory  
Cust Email  
Account Mgr ID



23) Click **Apply**.

Only the columns you selected appear in the report.

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Phone Number	Credit Limit
	191	Maureen	Sanders	6432 Rising Sun Ave	19111	Philadelphia	PA	+1 215 123 4644	1200
	199	Clint	Chapman	115 Chestnut St	19106	Philadelphia	PA	+1 215 123 4676	1400
	209	Cyndi	Collins	100 N Peach St	19139	Philadelphia	PA	+1 215 123 4708	1400
	212	Luchino	Falk	5643 N 5Th St	19120	Philadelphia	PA	+1 215 123 4721	1500
	216	Orson	Koirala	810 Race St	19107	Philadelphia	PA	+1 215 123 4738	1900
	220	Carol	Wojdan	135 S 18Th St # 1	19103	Philadelphia	PA	+1 215 123 4743	2300
	222	Cary	Stockwell	7708 City Ave	19151	Philadelphia	PA	+1 215 123 4745	2300
	224	Clara	Krige	101 E Olney Ave	19120	Philadelphia	PA	+1 215 123 4748	2300
	229	Ian	Chapman	601 Market St	19106	Philadelphia	PA	+1 215 123 4768	2400
	230	Danny	Wright	5565 Baynton St	19144	Philadelphia	PA	+1 215 123 4771	2400
	264	George	Adjani	1136 Arch St	19107	Philadelphia	PA	+1 215 123 4702	3600
	265	Irene	Laughton	6Th And Master St	19122	Philadelphia	PA	+1 215 123 4749	3600

- **Delete the filter that you created previously.**

24) You want to delete the filter that you created earlier. Click the **Remove Filter** icon for the **City contains 'phil'** filter.

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City
	191	Maureen	Sanders	6432 Rising Sun Ave	19111	Philad
	199	Clint	Chapman	115 Chestnut St	19106	Philad
	209	Cyndi	Collins	100 N Peach St	19139	Philad
	212	Luchino	Falk	5643 N 5Th St	19120	Philad
	216	Orson	Koirala	810 Race St	19107	Philad
	280	Rob	MacLaine	5344 Haverford Ave	19139	Philad
	281	Don	Barkin	6959 Tulip St	19135	Philad
	220	Carol	Jordan	135 S 18Th St # 1	19103	Philad

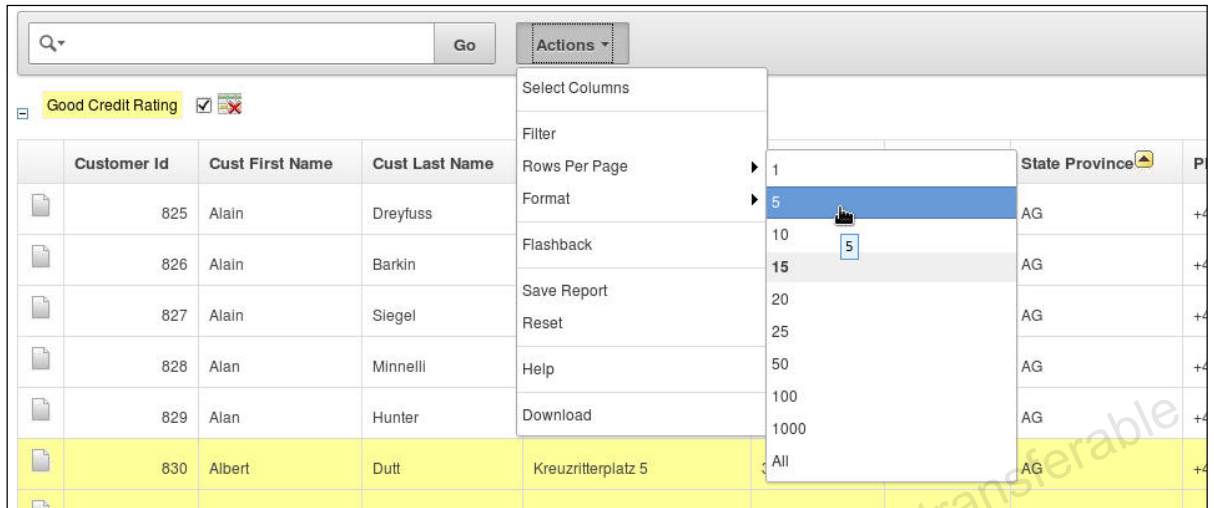
- **Display the rows in ascending order by state.**

25) You want to sort by **State Province**. Select the Column Header for the **State Province** and click the **Sort Ascending** icon.

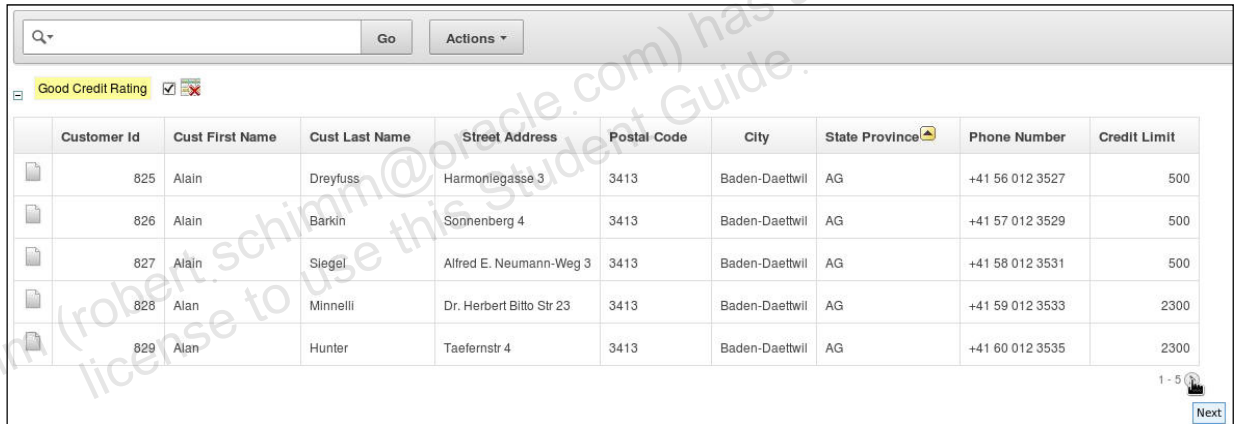
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Phone Number
	101	Constantin	Welles	514 W Superior St	46901	Kokomo		
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis		
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington		
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis		
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington		
	106	Matthias	Hannah	1608 Portage Ave	46616	South Bend		
	107	Matthias	Cruise	23943 Us Highway 33	46517	Elkhart		
	108	Meenakshi	Mason	136 E Market St # 800	46204	Indianapolis	IN	+1 317 123 414

- **Display only five rows to see how pagination works.**

26) You want to change the number of rows that are displayed in the report. Click **Actions > Rows Per Page > 5**. Note that the default value is 15.

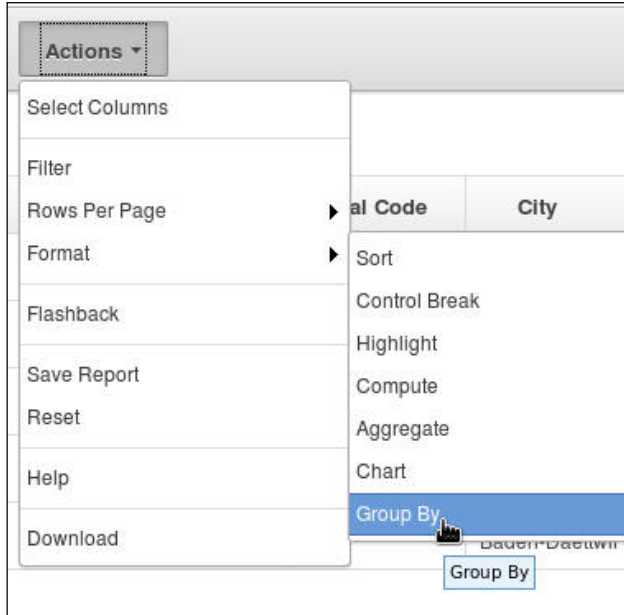


27) Note that only five rows are displayed. The pagination is automatically specified and you can click the right arrow (>) to move to the next page.

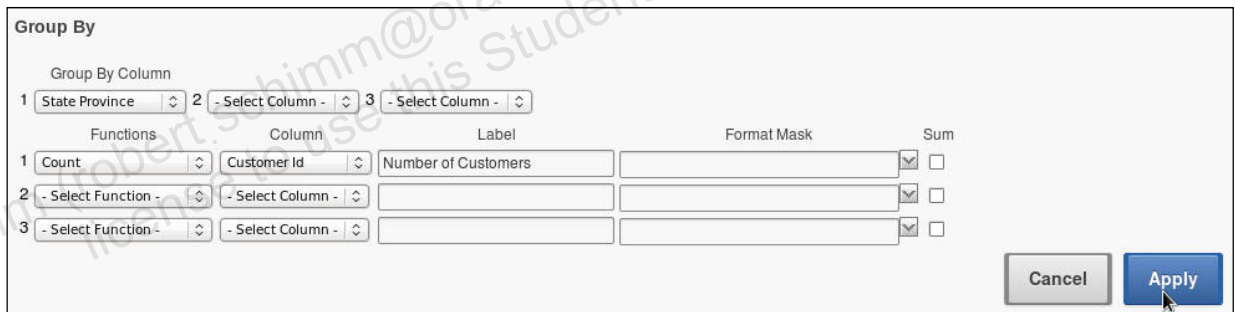


- **Create a Group By report to display the number of customers in a particular province or state. Change the pagination to display all rows.**

28) To create a **Group By** report, click **Actions** and select **Format > Group By**.



29) You want to show a list of states and how many customers are contained in that state. Select **State Province** for Group By Column, **Count** for Functions, and **Customer Id** for Column, and enter **Number of Customers** for Label. Then click **Apply**.



30) Your **Group By** report is displayed. Because the report does not have many rows, you want to show them all. Click **Actions**, select **Rows Per Page**, and select **All**.

The screenshot shows a report interface with a search bar, 'Go' button, and 'Actions' dropdown menu. The report is titled 'Good Credit Rating' and is grouped by 'State Province'. The 'Actions' menu is open, showing options like 'Filter', 'Rows Per Page', 'Format', 'Flashback', 'Save Report', 'Reset', 'Help', and 'Download'. The 'Rows Per Page' option is selected, and the 'All' option is highlighted in the dropdown list.

State Province	Number of Customers
MN	12
-	67
ZH	10
SG	2
Har	2

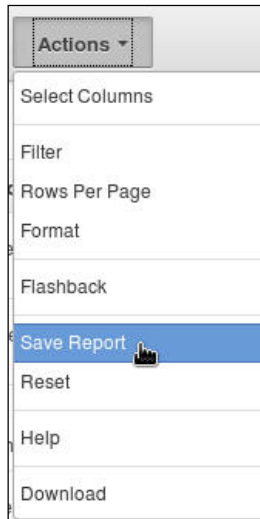
31) The state provinces and the number of customers per state are displayed. To return to the detail report, click the **View Report** icon.

The screenshot shows the same report interface, but now the report is displayed in a list view. The 'View Report' button is visible in the top right corner. The report shows the following data:

State Province	Number of Customers
MN	12
-	67
ZH	10
SG	2
Har	2
WI	25
Tam	6
BE	1
MD	18

- **Save the report as a private report called My Report.**

32) You want to save this report as a private report that is available only to you. Click **Actions** and select **Save Report**.



33) Enter **My Report** for Name and click **Apply**.

The 'Save Report' dialog box contains the following fields and controls:

- Save:** A dropdown menu set to 'As Named Report' with a note '(Only displayed for developers)' to its right.
- Name:** A text input field containing 'My Report'.
- Description:** An empty text input field.
- Buttons:** 'Cancel' and 'Apply' buttons at the bottom right.

34) The report is saved. Click the Reports drop-down list to see the list of reports.

The screenshot shows the report interface with a search bar, a 'Go' button, and a 'Reports' dropdown menu. The dropdown menu is open, showing a list of reports:

- 1. My Report (highlighted)
- Default
- 1. Primary Report
- Private
- 1. My Report

Below the dropdown, there is a table with columns: Customer Id, Cust First Name, Cust Last Name, Street Address, Postal Code, and City. The first row shows data for Customer Id 825, Name Alain Dreyfuss, and City Baden-Daettwil.

- **Reset the Primary Report to its original state.**

35) Select **Primary Report**.

The screenshot shows a report interface with a search bar, a 'Go' button, and a 'Reports' dropdown menu. The dropdown menu is open, showing '1. My Report' as the selected item. Below the menu, there are two options: 'Default' and 'Private', each with a sub-option '1. Primary Report'. A table below shows customer data with columns: Customer Id, Cust First Name, Cust Last Name, Street Address, Postal Code, and City.

Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City
825	Alain	Dreyfuss	Harmoniegasse 3	3413	Baden-Daettwil
826	Alain	Barkin	Sonnenberg 4	3413	Baden-Daettwil
827	Alain	Siegel	Alfred E. Neumann-Weg 3	3413	Baden-Daettwil

36) To return to the default settings, click **Actions** and select **Reset**.

The screenshot shows the same report interface as in step 35, but with the 'Actions' menu open. The 'Reset' option is highlighted in blue. The table below shows customer data with columns: Cust Last Name, Street Address, and Postal Code.

Cust Last Name	Street Address	Postal Code
Dreyfuss	Harmoniegasse 3	3413
Barkin	Sonnenberg 4	3413
Siegel	Alfred E. Neumann-Weg 3	3413
Minnelli	Dr. Herbert Blitto Str	3413

37) Click **Apply**.

The screenshot shows a dialog box titled 'Reset' with the text 'Restore report to the default settings.' Below the text are two buttons: 'Cancel' and 'Apply'. The 'Apply' button is highlighted in blue.

38) You see the original report without customizations.

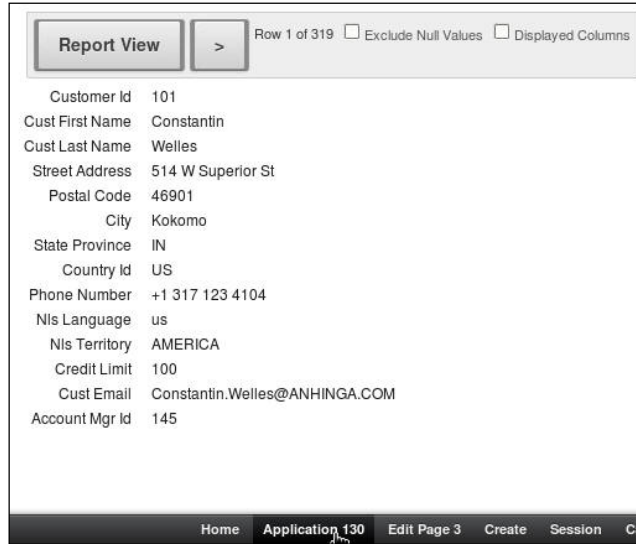
<input type="text" value="Q-"/> <input type="button" value="Go"/> Reports <span>1. Primary Report</span> <input type="button" value="Actions"/>								
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US
	106	Matthias	Hannah	1608 Portage Ave	46616	South Bend	IN	US
	107	Matthias	Cruise	23943 Us Highway 33	46517	Elkhart	IN	US

- **Display a single row view.**

39) You can view a row at a time. Click a **Single Row View** icon for one of the rows.

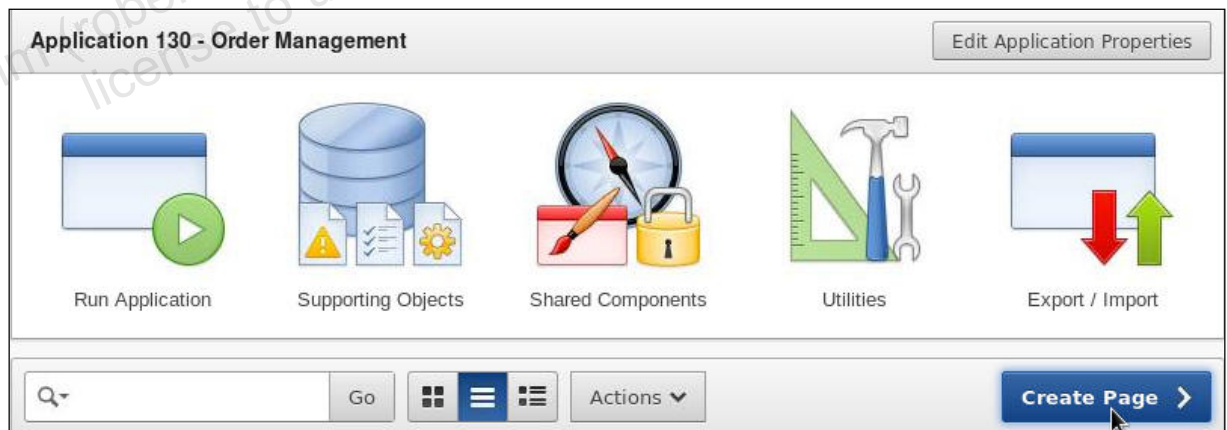
<input type="text" value="Q-"/> <input type="button" value="Go"/> Reports <span>1. Primary Report</span> <input type="button" value="Actions"/>								
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US

- 40) One row is displayed. You can click the right arrow (>) or left arrow (<) to scroll to the next or previous row. You have completed this interactive report. Click the **Application** link at the bottom of the page.

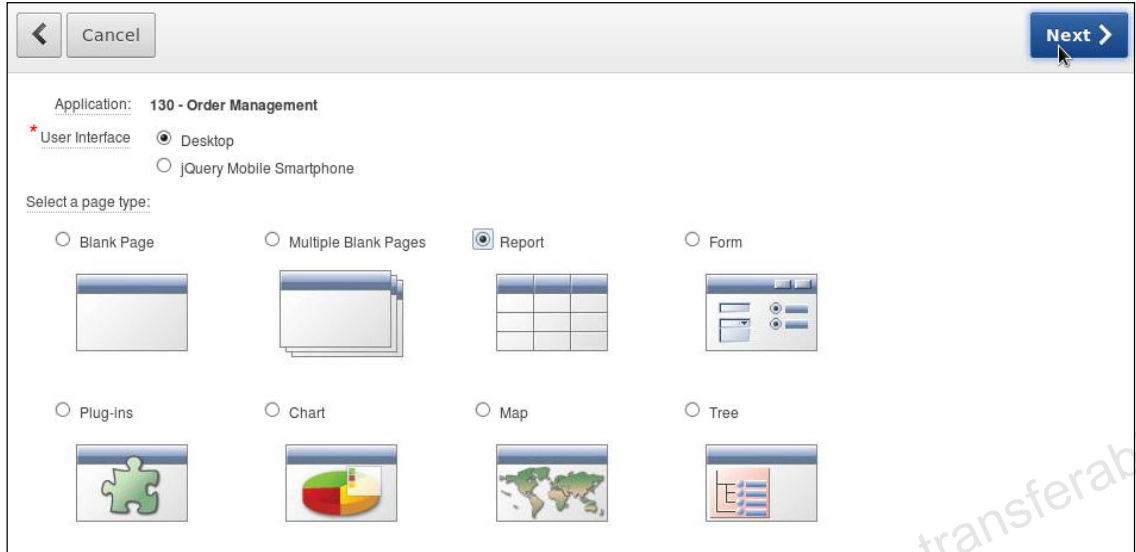


- b. Create an interactive report on a new page in the Order Management application to display details (`employee_id`, `first_name`, `last_name`, `manager_id`, and `commission_pct`) from the `OEHR_CUSTOMERS` table about who earns a commission. Name the page and the report **Employee Commissions**. From the Create Report Wizard, create a breadcrumb for the page and select the Home page as the parent page.

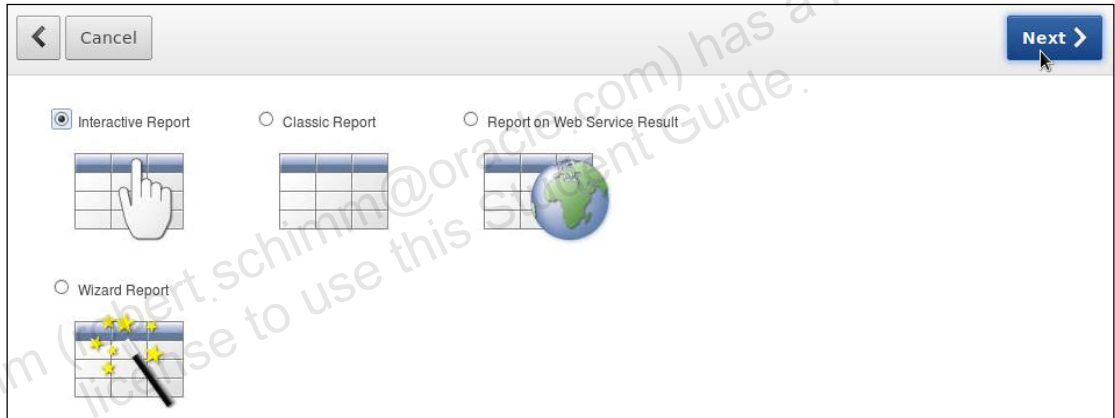
- 1) Navigate to the **Order Management** application page. Click **Create Page >**.



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



3) Select **Interactive Report** and click **Next >**.



- 4) Enter **Employee Commission** for both **Page Name** and **Region Name**. Select **Breadcrumb** for **Breadcrumb** and select **Home** for **Parent Entry** and click **Next >**.

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

- 6) Enter the following SQL **SELECT** statement and click **Next >**. You can copy and paste the SQL statement from `/home/oracle/labs/files/commission.sql`. Alternatively, you can use the Query Builder button to create the report query.

```
SELECT employee_id, first_name, last_name, manager_id,
commission_pct
FROM OEHR_EMPLOYEES
WHERE commission_pct IS NOT NULL;
```


7) Click **Create**.



You have requested to create an Interactive Report page with the following attributes. Please confirm your selections.

Application	130
Page	4
Page Name	Employee Commission
Tab Set	TS1
Tab Name	
Tab Label	
Region Title	Employee Commission
Region Template	Interactive Report Region

8) Click **Run Page**.



The Interactive Report page has been created successfully.

9) If prompted, enter your login credentials. Your report is displayed.

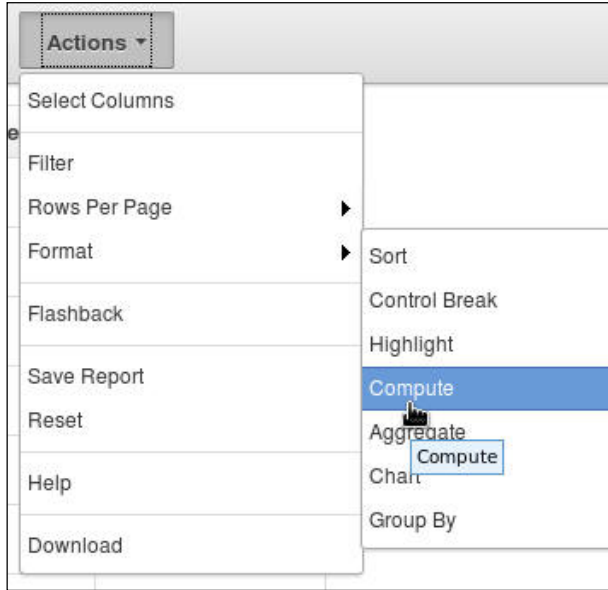
Home > Employee Commission

Q- Go Actions ▾

	Employee Id	First Name	Last Name	Manager Id	Commission Pct
	145	John	Russell	100	.4
	146	Karen	Partners	100	.3
	147	Alberto	Errazuriz	100	.3
	148	Gerald	Cambrault	100	.3
	149	Eleni	Zlotkey	100	.2
	150	Peter	Tucker	145	.3
	151	David	Bernstein	145	.25
	152	Peter	Hall	145	.25
	153	Christopher	Green	145	.2

- Management proposes to increase the commission of employees whose existing commission percentage is less than or equal to 0.15. Create a computed column called New Commission, to display the new commission. The new commission scheme includes:
  - Employees with a commission percentage of 0.1 will get an additional commission of 0.15.
  - Employees with a commission percentage of 0.15 will get an additional commission of 0.05.

10) To create a new computation, click **Actions** and select **Format > Compute**.



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- 11) Enter **New Commission** for Column Heading. The computation should add .15 to a commission of .1 and .05 to a commission of .15. You will use the following **CASE** statement to perform the computation (located in /home/oracle/labs/files/lab4\_1\_1.txt):

```
CASE E WHEN 0.1 THEN E+0.15 WHEN 0.15 THEN E+0.05 ELSE E END
```

You can use the columns list, functions list, and keypad to enter the code in the computation area or paste the previous **CASE** statement into the computation area. When you select Commission Pct from Columns, notice that the letter corresponding to the column appears in the computation area. This is the column alias. After entering the code, click **Apply**.

**Compute**

Computation: - New Computation -

Column Heading: New Commission

Computation Expression: `CASE E WHEN 0.1 THEN E+0.15 WHEN 0.15 THEN E+0.05 ELSE E END`

Columns	Keypad	Function
A. Employee Id	( ) *	ABS
B. First Name	7 8 9 -	ADD_MONTHS
C. Last Name	4 5 6 +	CASE
D. Manager Id	1 2 3 *	CEIL
E. Commission Pct	0 . /	CHR
	space ,	COALESCE
		COS
		CURRENT_DATE

Create a computation using column aliases.  
Examples:  
1. (B+C)\*100  
2. INITCAP(B)||', '||INITCAP(C)  
3. CASE WHEN A = 10 THEN B + C ELSE B END

Buttons: Cancel, Apply

Note that the computed column now appears in the report.

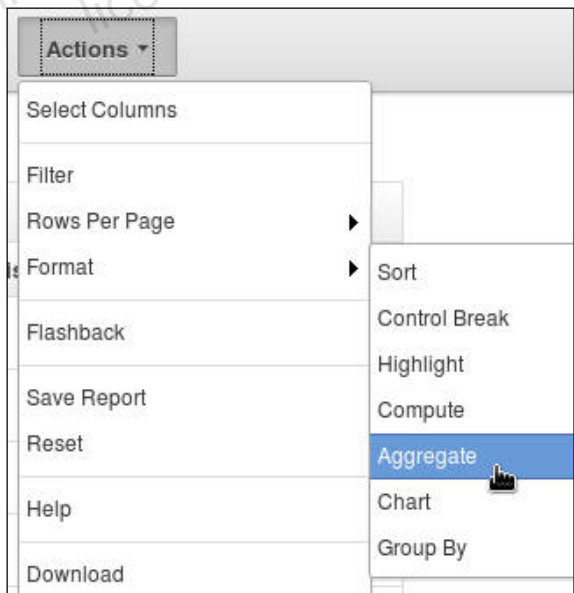


Manager Id : 100					
	Employee Id	First Name	Last Name	Commission Pct	New Commission
	145	John	Russell	.4	.4
	146	Karen	Partners	.3	.3
	147	Alberto	Errazuriz	.3	.3
	148	Gerald	Cambraut	.3	.3
	149	Eleni	Zlotkey	.2	.2

Manager Id : 145					
	Employee Id	First Name	Last Name	Commission Pct	New Commission
	150	Peter	Tucker	.3	.3
	151	David	Bernstein	.25	.25
	152	Peter	Hall	.25	.25
	153	Christopher	Olsen	.2	.2
	154	Nephte	Cambraut	.2	.2

- **Display the maximum commission earned by employees under each manager.**
- 13) To find out the maximum commission earned by employees under each manager, click **Actions** and select **Format > Aggregate**.



- 14) Select **Maximum** from the function list. Select **\*\*New Commission**, which is a computed column from the column list, and click **Apply**.

**Aggregate**

Aggregation - New Aggregation -

Function Maximum

Column \*\*New Commission

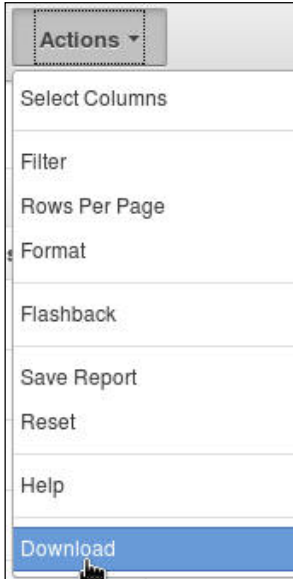
Cancel
Apply

The report now includes the maximum commission earned by employees under each manager.

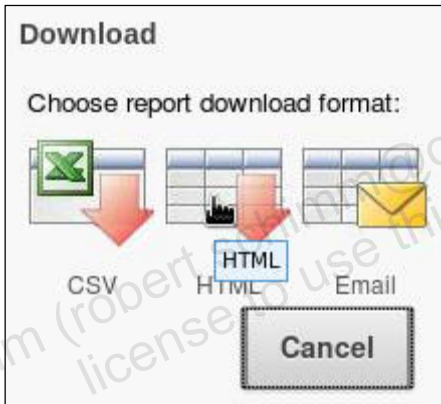
Manager Id : 100					
	Employee Id	First Name	Last Name	Commission Pct	New Commission
	145	John	Russell	.4	.4
	146	Karen	Partners	.3	.3
	147	Alberto	Errazuriz	.3	.3
	148	Gerald	Cambrault	.3	.3
	149	Eleni	Zlotkey	.2	.2
					Maximum: .4
Manager Id : 145					
	Employee Id	First Name	Last Name	Commission Pct	New Commission
	150	Peter	Tucker	.3	.3

- **Download the HTML report.**

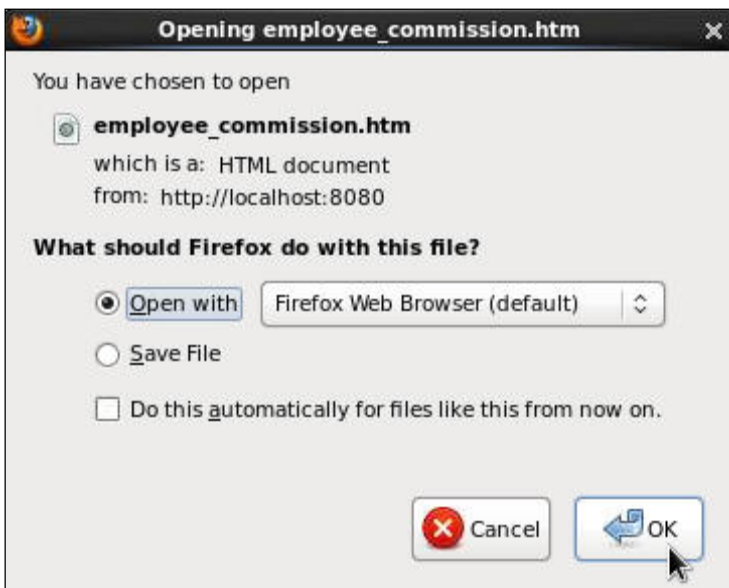
15) To download a report in multiple formats, click **Actions** and select **Download**.



16) Click **HTML**.



17) Click **OK** to view a report in a web browser.

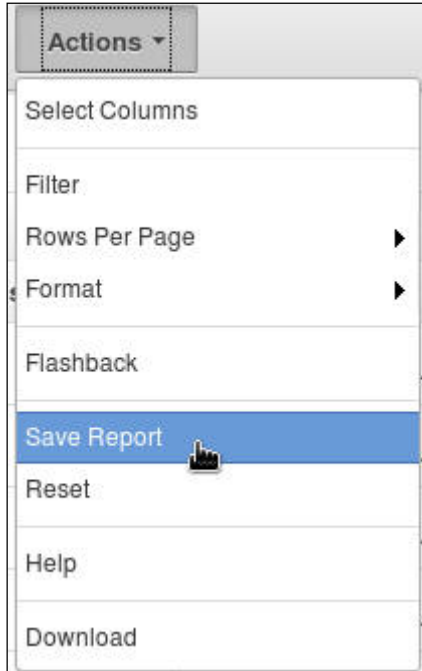


The HTML report is displayed on a new tab.

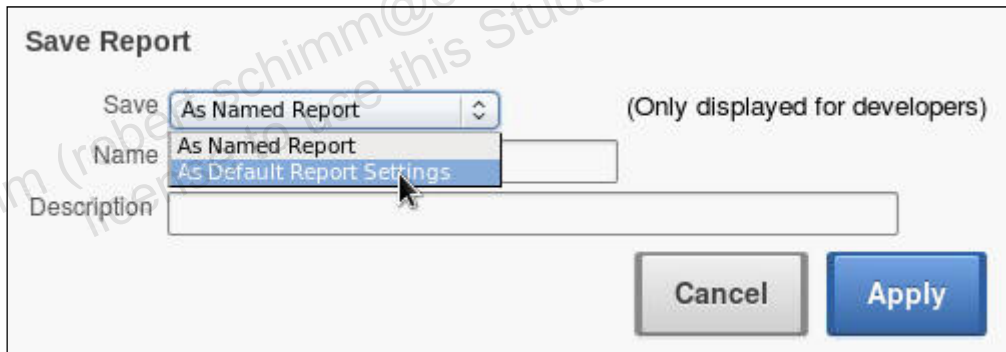
Manager Id	Employee Id	First Name	Last Name	Commission Pct	New Commission
100	145	John	Russell	.4	.4
100	146	Karen	Partners	.3	.3
100	147	Alberto	Errazuriz	.3	.3
100	148	Gerald	Cambrault	.3	.3
100	149	Eleni	Zlotkey	.2	.2
145	150	Peter	Tucker	.3	.3
145	151	David	Bernstein	.25	.25
145	152	Peter	Hall	.25	.25
145	153	Christopher	Olsen	.2	.2
145	154	Nanette	Cambrault	.2	.2
145	155	Oliver	Tuvault	.15	.2
146	156	Janette	King	.35	.35
146	157	Patrick	Sully	.35	.35

- **Save all the customizations that you made to this report so that it is available to other managers but is not the default report. Name the saved report Commission Proposal.**

- 18) Click the Interactive Report tab. To save all the customizations that you made to this report and to make it available to other managers, click **Actions** and select **Save Report**.



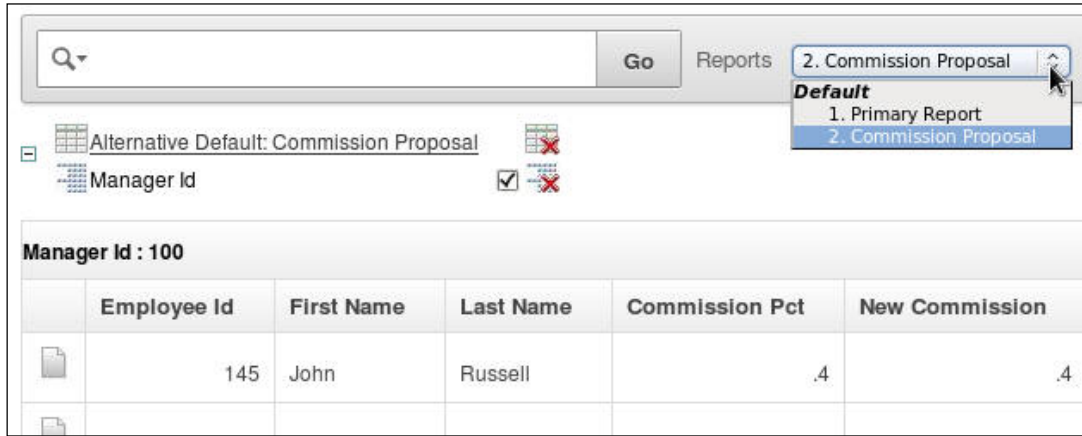
- 19) Select **As Default Report Settings** from the **Save** drop-down list.



- 20) You want to make this report available to other users. However, you do not want to make it the default report. Select **Alternative** for **Default Report Type**, enter **Commission Proposal** for **Name**, and click **Apply**.

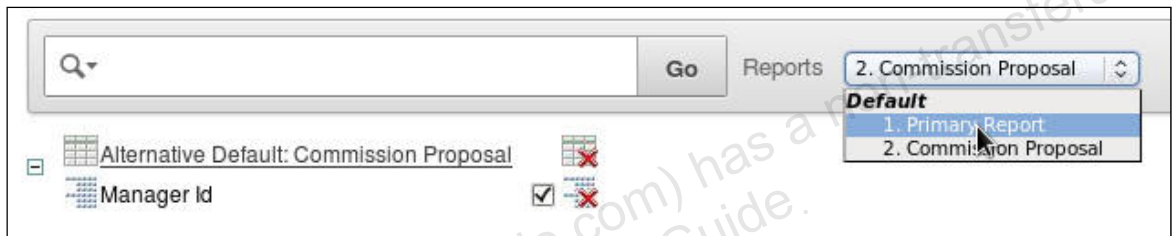


The alternative report is now listed in the **Reports** drop-down list.



- **Reset the Primary Report.**

21) Select **Primary Report** from the Reports drop-down list.



22) To reset this primary report to its original settings, click **Actions** and select **Reset**.



23) Click **Apply**.



The primary report is reset to its original settings.

Home > Employee Commission

Search: [ ] Go Reports: 1. Primary Report

	Employee Id	First Name	Last Name	Manager Id	Commission Pct
	145	John	Russell	100	.4
	146	Karen	Partners	100	.3
	147	Alberto	Errazuriz	100	.3
	148	Gerald	Cambrault	100	.3
	149	Eleni	Zlotkey	100	.2
	150	Peter	Tucker	145	.3

## Solution 4-2: Customizing an Interactive Report

### Overview

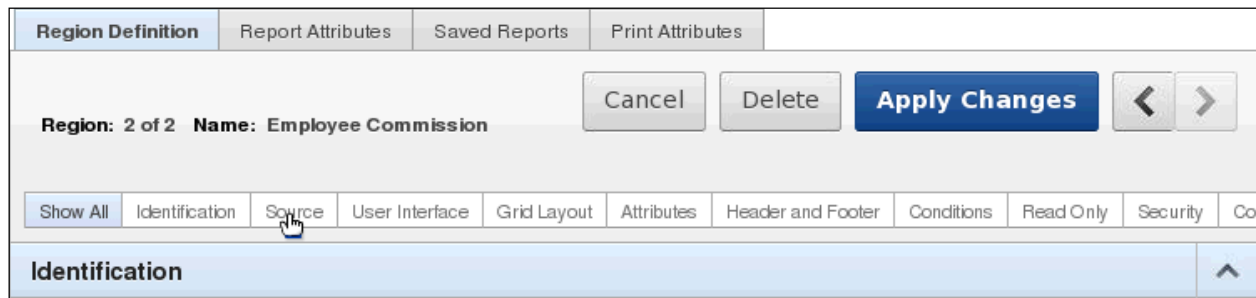
In this practice, you customize the Employee Commission interactive report that you created in the previous practice.

### Tasks

- a. Make the following customizations to the Employee Commission report:
  - **Hide the EMPLOYEE\_ID column and change the MANAGER\_ID to be the FIRST\_NAME and LAST\_NAME of the manager.**
- 1) Navigate to the Employee Commission report page in the Order Management application. Under **Regions > Body**, double-click **Employee Commission**.



- 2) Click the **Source** tab.

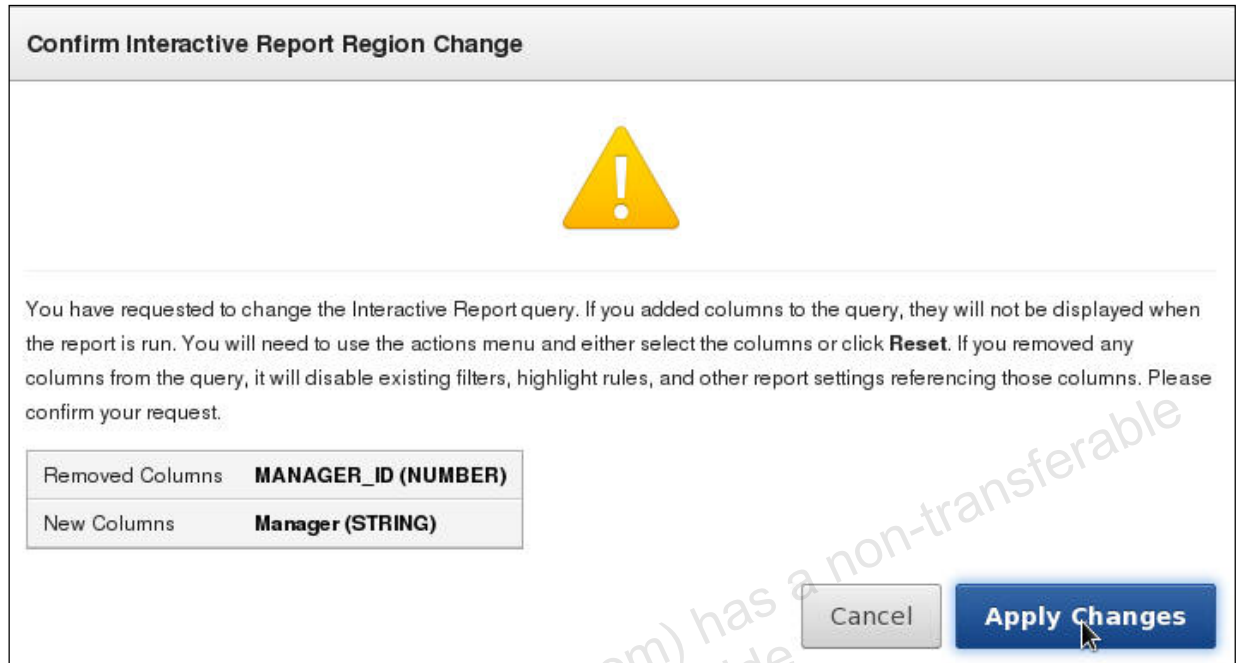


- 3) Change Region Source to the following query (located in /home/oracle/labs/files/lab4\_2\_1.txt) and click **Apply Changes**:

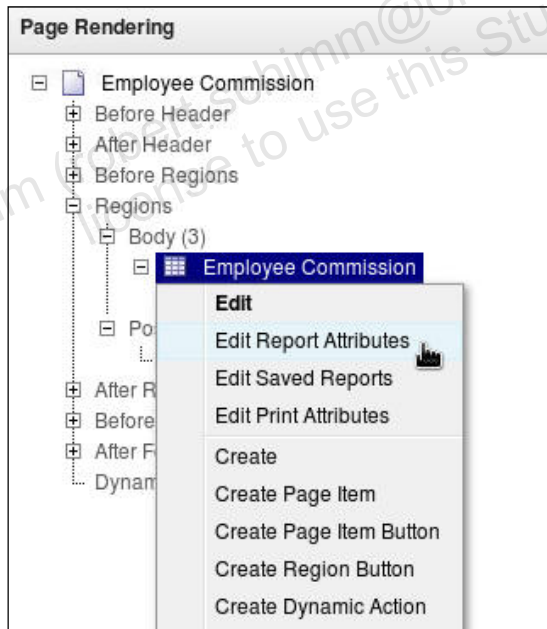
```
SELECT e.employee_id,
       e.first_name,
       e.last_name,
       (SELECT e1.first_name||' '||e1.last_name from
        OEHR_EMPLOYEES e1 where e1.employee_id = e.manager_id) as
        "Manager",
       e.commission_pct
FROM OEHR_EMPLOYEES e
where e.commission_pct IS NOT NULL;
```

The screenshot shows the Oracle BI Report Designer interface. At the top, there are tabs for 'Region Definition', 'Report Attributes', 'Saved Reports', and 'Print Attributes'. Below these, there are buttons for 'Cancel', 'Delete', and 'Apply Changes'. The main area is titled 'Region: 2 of 2 Name: Employee Commission'. Below this, there are tabs for 'Show All', 'Identification', 'Source', 'User Interface', 'Grid Layout', 'Attributes', 'Header and Footer', 'Conditions', 'Read Only', and 'Security'. The 'Identification' section shows 'Page: 4 Employee Commission', 'Title: Employee Commission', and 'Type: Interactive Report'. The 'Source' section is titled 'Region Source' and contains the SQL query from the previous block. The 'Apply Changes' button is highlighted with a mouse cursor.

- 4) A window appears to confirm the changes to the columns in your interactive report. Click **Apply Changes**.



- 5) In **Region > Body**, right-click **Employee Commission** and select **Edit Report Attributes**.



- 6) Under Column Attributes, select **Hidden** from the **Display Text As** drop-down list for **EMPLOYEE\_ID**.

Region Name: Employee Commission

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 using the arrows. Then select Save Report from the Action Menu and save **As Default Report Settings**.

	Heading	Type	Link	Display Text As
EMPLOYEE_ID	Employee Id	NUMBER		Display as Text (escape special characters)
FIRST_NAME	First Name	STRING		Display as Text (escape special characters)
LAST_NAME	Last Name	STRING		Display as Text (escape special characters)
COMMISSION_PCT	Commission Pct	NUMBER		Display as Text (escape special characters)
Manager	Manager	STRING		Display as Text (escape special characters)

- Remove the Highlight option from the Actions menu.

- 7) Click the **Search Bar** tab.

Region Name: Employee Commission

Search Bar

Column Attributes

To change the column display order run the report as a developer. Click Select Columns from the Actions Menu and move the display using the arrows. Then select Save Report from the Action Menu and save **As Default Report Settings**.

	Heading	Type	Link	Display Text As
EMPLOYEE_ID	Employee Id	NUMBER		Hidden
FIRST_NAME	First Name	STRING		Display as Text (escape special characters)
LAST_NAME	Last Name	STRING		Display as Text (escape special characters)
COMMISSION_PCT	Commission Pct	NUMBER		Display as Text (escape special characters)

8) Deselect the **Highlight** check box so that it is not displayed in the Actions menu.

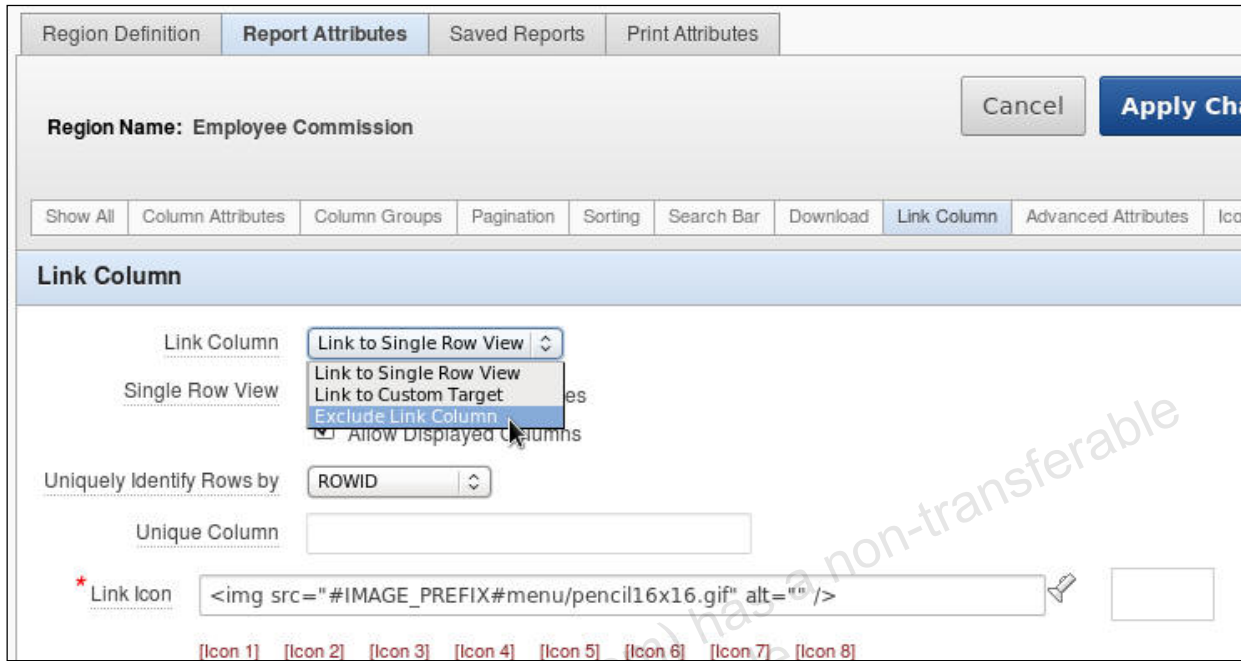
The screenshot shows the 'Report Attributes' dialog box for the 'Employee Commission' region. The 'Search Bar' tab is active. Under the 'Include in Actions Menu' section, the 'Highlight' checkbox is being deselected. Other options like 'Search Field', 'Filter', 'Rows Per Page', 'Sort', and 'Control Break' are checked.

- Remove the Single Row View icon for each row in the report.

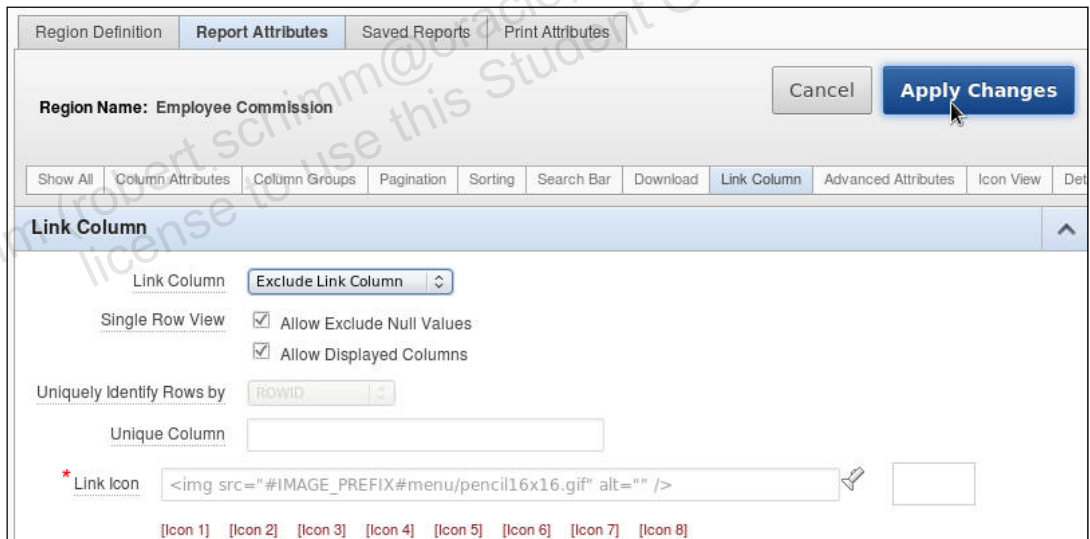
9) Click the **Link Column** tab.

The screenshot shows the 'Report Attributes' dialog box for the 'Employee Commission' region. The 'Link Column' tab is now selected. The 'Search Bar' tab is still visible but not active. The 'Highlight' checkbox remains deselected.

- 10) To not display the Single Row View, select **Exclude Link Column** from the Link Column drop-down list.

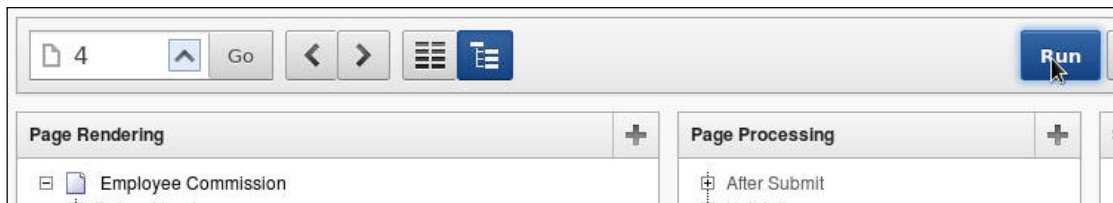


- 11) Click **Apply Changes**.



- **Run the report and confirm the changes that you made.**

- 12) Click **Run**.



- 13) Note that Employee ID and the single row view are also excluded from the report. You need to add the Manager column to the report. Click **Actions**, and then **Select Columns**.

The screenshot shows a report interface with a search bar, a 'Go' button, and a dropdown menu for 'Reports' set to '1. Primary Report'. An 'Actions' dropdown menu is open, showing options like 'Select Columns', 'Filter', 'Rows Per Page', 'Format', 'Flashback', 'Save Report', 'Reset', 'Help', and 'Download'. The 'Select Columns' option is highlighted.

First Name	Last Name	Commission Pct
John	Russell	.4
Karen	Partners	.3
Alberto	Errazuriz	.3
Gerald	Cambrault	.3
Eleni	Zlotkey	.2
Peter	Tucker	.3
David	Bernstein	.25
Peter	Hall	.25

- 14) Select **Manager** and click the Move > icon.

The 'Select Columns' dialog box is shown with two panes: 'Do Not Display' and 'Display in Report'. The 'Manager' column is selected in the 'Do Not Display' list. The 'Move >' icon is highlighted, indicating the action to move the column to the 'Display in Report' list.

- 15) Click **Apply**.

The 'Select Columns' dialog box is shown with 'Manager' now moved to the 'Display in Report' list. The 'Apply' button is highlighted, indicating the final step in the process.

- 16) Note that the Manager column is now displayed. Click **Actions** and select **Format**. Notice that the **Highlight** option is not there.

First Name	Last Name	Commission Pct	Manager
John	Russell	.4	Steven King
Karen	Partners	.3	Steven King
Alberto	Errazuriz	.3	Steven King
Gerald	Cambrault	.3	Steven King
Eleni	Zlotkey	.2	Steven King
Peter	Tucker	.3	John Russell
David	Bernstein	.25	John Russell
Peter	Hall	.25	John Russell
Christopher	Olsen	.2	John Russell

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# Practices for Lesson 5: Creating Classic Reports, Wizard Reports, and Reports for Mobile Applications

## Chapter 5

## Practices for Lesson 5: Overview

---

### Practices Overview

There are two practices for this lesson. In these practices, you create a classic report and a wizard report. You add a page with a List View in your application.

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## Practice 5-1: Creating Classic and Wizard Reports

---

### Overview

In this practice, you create a classic report and a wizard report and edit the attributes of the reports.

### Assumptions

You have performed the previous practices or imported `LAB042_SOLN.sql`.

### Tasks

- a. On a new page in the Order Management application, create a SQL report. Name the new page and the report Top Tier Salary. The report should display the last name, email, and salary of employees who earn between \$5000 and \$12000 from the `OEHR_EMPLOYEES` table. The report should contain a search bar.
- b. On a new page in the Order Management application, create a wizard report. Name the page and the report Customer Address List. The report should display the address information of the customers, such as the first and last names, address, city, and state from the `OEHR_CUSTOMERS` table.
- c. Modify the Customer Address List report with the following requirements:
  - Change the report headings for `CUST_FIRST_NAME` and `CUST_LAST_NAME` to First Name and Last Name, respectively.
  - Change the Pagination to Row Ranges X to Y of Z (with pagination).
  - Review the query definition and add the `OEHR_COUNTRIES.COUNTRY_NAME` column to the report. **Hint:** You will need to create a join.

## Practice 5-2: Creating a List View

---

### Overview

In this practice, you create a page with a List View in the Order Management application.

### Assumptions

You have performed the previous practices.

### Tasks

- a. On a new page in the Order Management application, create a List View, which is a report type used for mobile applications. Enter **Employee List** as the Page Name and Region Name. Change the Page Number to 205. The list view should select all the columns from the **OEHR\_EMPLOYEES** table and should display the last names as the text column. The list view should also be enabled to search the last name column with the Search Type “Like & Ignore Case.” Open the application on a separate tab to view the list view.

## Solution 5-1: Creating Classic and Wizard Reports

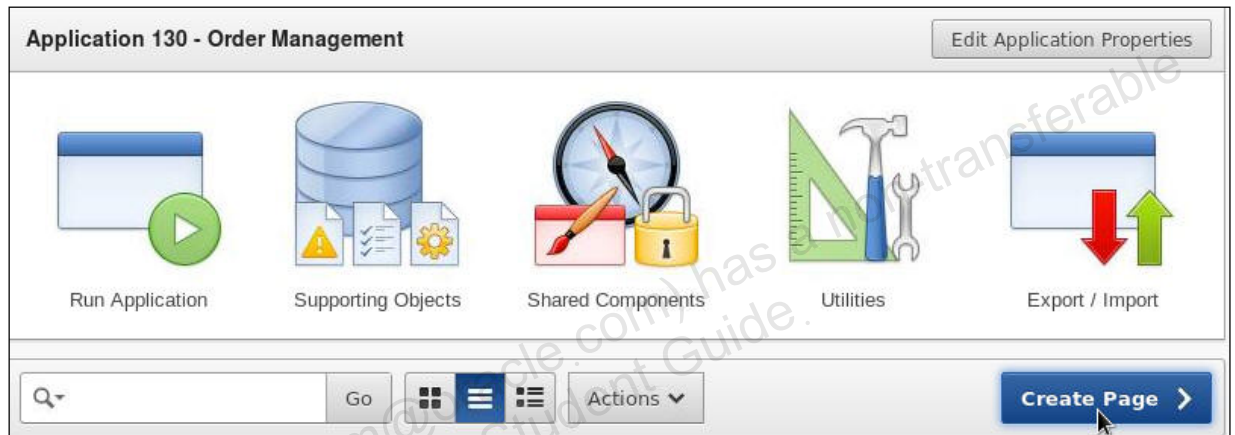
### Overview

In this practice, you create two classic reports and edit the attributes of the report.

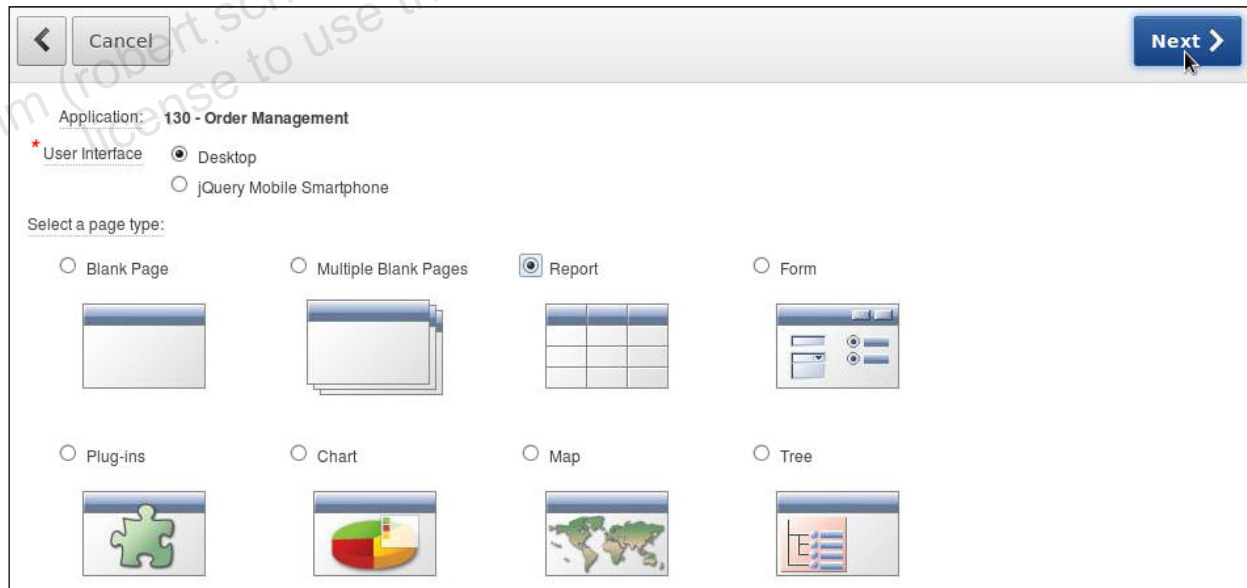
### Tasks

- a. On a new page in the Order Management application, create a SQL report. Name the new page and the report Top Tier Salary. The report should display the last name, email, and salary of employees who earn between \$5000 and \$12000 from the `OEHR_EMPLOYEES` table. The report should contain a search bar.

- 1) Navigate to the Order Management application page and click **Create Page**.



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



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

Cancel Next >

Interactive Report     Classic Report     Report on Web Service Result

Wizard Report

4) Enter **Top Tier Salary** for both Page Name and Region Name. Click **Next >**.

Cancel Next >

Application: 130 - Order Management

\* Page Number: 5

\* Page Name: Top Tier Salary

\* Region Name: Top Tier Salary

\* Region Template: Reports Region

\* Report Template: template: 26. Standard

Breadcrumb: - do not use breadcrumbs on page -

5) Accept the default and click **Next >**.

Cancel Next >

Page: 5

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) For **Report Source**, select **SQL Query** from the drop-down list.

Cancel Next >

Report Source: Table

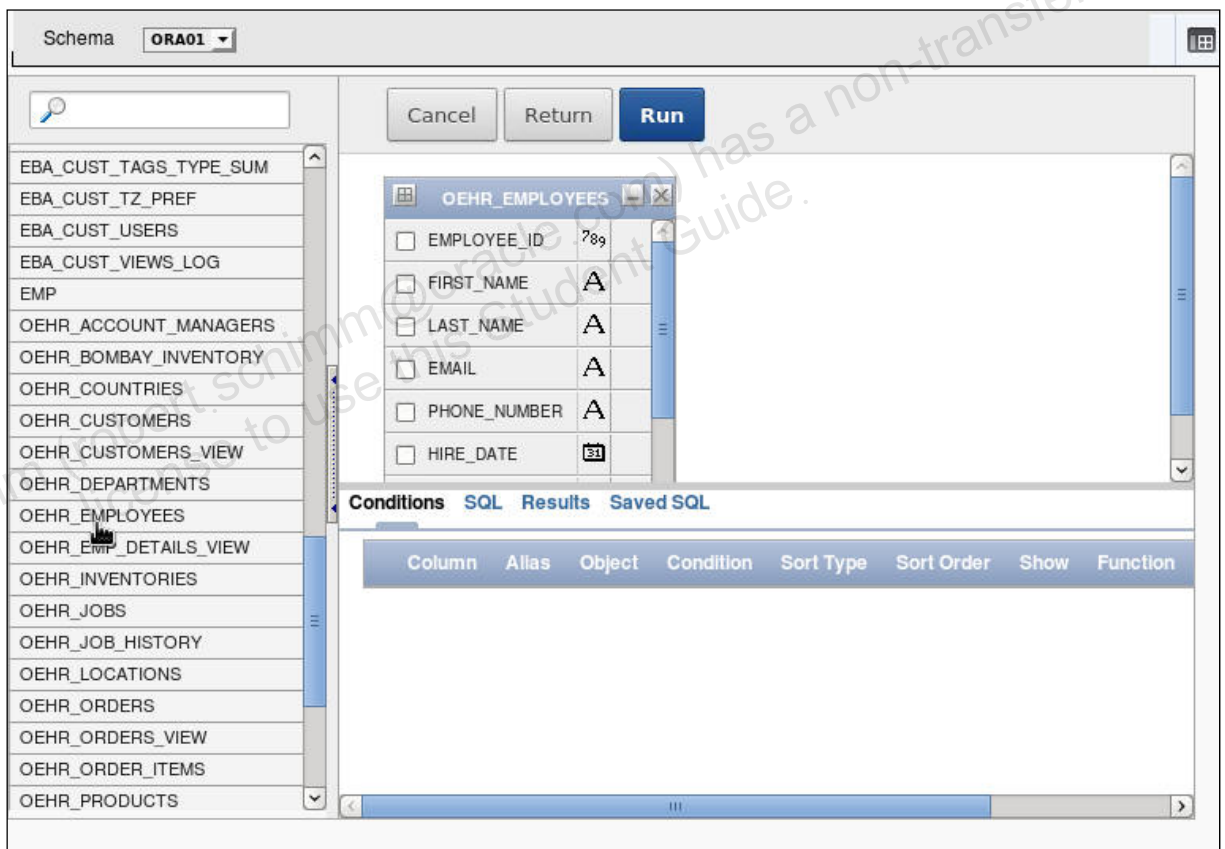
\* Table / View Owner: SQL Query

\* Table / View Name: - Select Value -

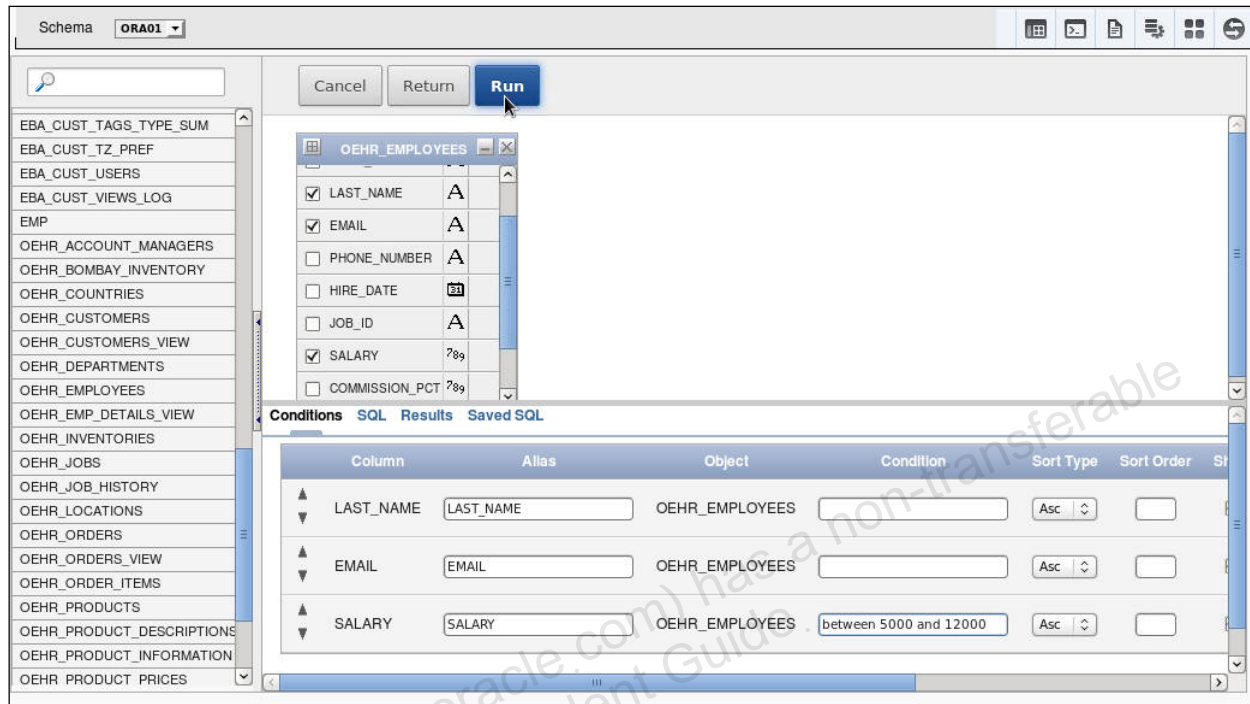
7) You will create the query using the Query Builder. Click **Query Builder**.



8) From the Object Selection pane, select **OEHR\_EMPLOYEES**.



- 9) Select the **LAST\_NAME**, **EMAIL**, **SALARY** columns. For the **SALARY** column, enter the condition **BETWEEN 5000 and 12000**. Click in another field to confirm the condition, and then click **Run**.



10) Click **Return**.

The screenshot shows the Oracle SQL Developer interface. The 'Schema' is set to 'ORA01'. A list of tables is on the left, with 'OEHR\_EMPLOYEES' selected. A dialog box for 'OEHR\_EMPLOYEES' is open, showing columns: LAST\_NAME (checked), EMAIL (checked), PHONE\_NUMBER (unchecked), HIRE\_DATE (unchecked), JOB\_ID (unchecked), SALARY (checked), and COMMISSION\_PCT (unchecked). The 'Return' button is highlighted. Below, the 'Results' tab displays a table of employee data:

LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	6000
Greenberg	NGREENBE	12000
Faviet	DFAVIET	9000
Chen	JCHEN	8200
Sciarra	ISCIARRA	7700
Urman	JMURMAN	7800

11) Click **Next >**.

The screenshot shows the 'Query Builder' dialog in Oracle SQL Developer. The 'Report Source' is set to 'SQL Query'. The 'Next >' button is highlighted. The text area contains the following SQL query:

```
select OEHR_EMPLOYEES.LAST_NAME as LAST_NAME,
       OEHR_EMPLOYEES.EMAIL as EMAIL,
       OEHR_EMPLOYEES.SALARY as SALARY
from OEHR_EMPLOYEES OEHR_EMPLOYEES
where OEHR_EMPLOYEES.SALARY between 5000 and 12000
```

- 12) Select **No** for **Column Heading Sorting**, select **No** for **CSV Output**, and select **Yes** for **Enable Search**. Select the **LAST\_NAME** and **EMAIL** columns and click the double right arrow (>>) to search on those columns. Click **Next** >.

Column Heading Sorting: No | v  
CSV Output: No | v | Link Label: Download  
Report Printing: No | v | Link Label: | Output Format: PDF | v  
Enable Search: Yes | v  
Select Columns for Search: LAST\_NAME, EMAIL  
Next >

- 13) Click **Create**.


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

Application	130
Page	5
Tab Set	TS1
Tab Name	
Tab Label	
Region Title	Top Tier Salary
Region Template	Reports Region
Report Template	template: Standard
Region Column	1
Column Headings	Derived from query columns
Maximum Number of Columns	60

Create

- 14) Click **Run Page**.

Edit Page | Run Page



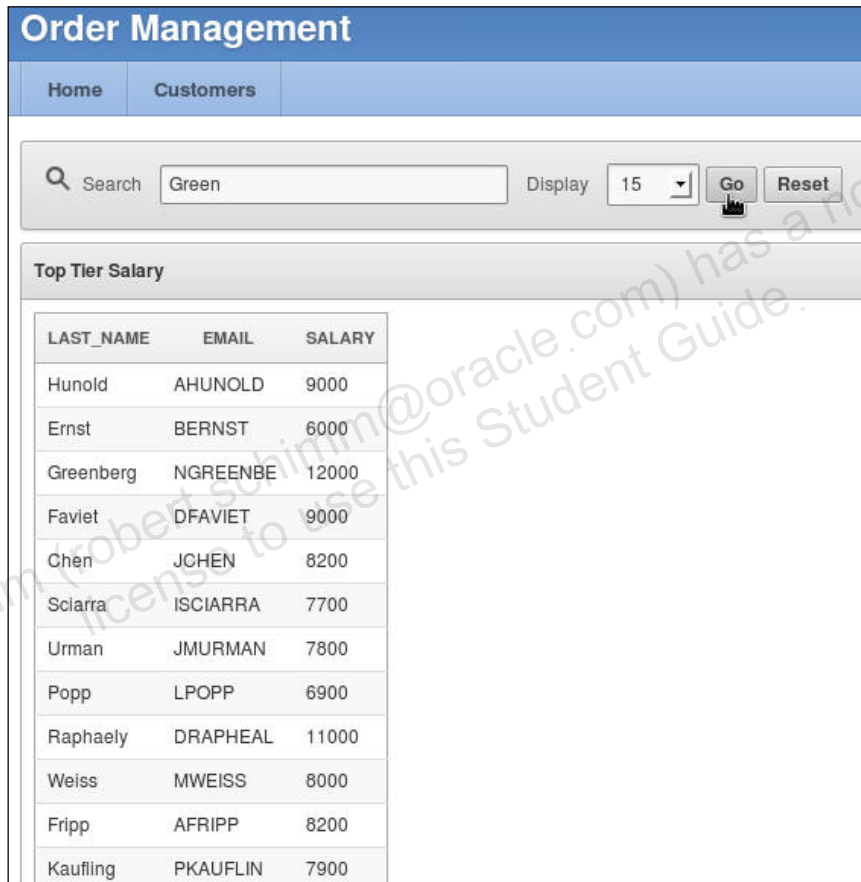
The report has been created successfully.

- 15) If the login window opens, enter `ora<n>` for Username and Password, and click **Login**.



Username: ora01  
Password: ●●●●●  
Login

- 16) Review the report. Enter **Green** in the Search area and click **Go**.



Order Management

Home Customers

Search: Green Display: 15 Go Reset

Top Tier Salary

LAST_NAME	EMAIL	SALARY
Hunold	AHUNOLD	9000
Ernst	BERNST	6000
Greenberg	NGREENBE	12000
Favier	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

- 17) Review the search results. Note that you can make changes to the SQL with this report type. Click **Application<n>**.

**Order Management**

Home Customers

Search Green Display 15 Go Reset

**Top Tier Salary**

LAST_NAME	EMAIL	SALARY
Greenberg	NGREENBE	12000
Greene	DGREENE	9500

1 - 2

Home Application 130 Edit Page 5 Create Session Caching

- b. On a new page in the Order Management application, create a wizard report. Name the page and the report Customer Address List. The report should display the address information of the customers, such as the first and last names, address, city, and state from the `OEHR_CUSTOMERS` table.

- 1) Navigate to the Order Management application page and click **Create Page**.

**Application 130 - Order Management** Edit Application Properties

Run Application Supporting Objects Shared Components Utilities Export / Import

Q- Go Actions Create Page >

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

Interactive Report  Classic Report  Report on Web Service Result

Wizard Report

4) Enter **Customer Address List** for Page Title and Region Title and click **Next >**.

Identify page and template information. If the page you specify does not exist, the wizard creates the page for you

Application: 130 - Order Management

\* Page Number

\* Page Title

\* Region Title

\* Region Template

Breadcrumb

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

Specify whether to include a tabs on this page. All tabs must be part of a tab set.

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) From the Table/View drop-down list, select **OEHR\_CUSTOMERS (table)**. Ctrl-click to select **CUST\_FIRST\_NAME, CUST\_LAST\_NAME, STREET\_ADDRESS, CITY, and STATE\_PROVINCE**. Click the right arrow (>) to move the columns to the Displayed Columns area. Click **Next >**.

Table / View Owner:

Table/View:

Show Only Related Tables:  No  Yes

Select the columns to display in your report.

Available Columns	Displayed Columns
CUSTOMER_ID	OEHR_CUSTOMERS.CUST_FIRST_NAME
POSTAL_CODE	OEHR_CUSTOMERS.CUST_LAST_NAME
COUNTRY_ID	OEHR_CUSTOMERS.STREET_ADDRESS
PHONE_NUMBER	OEHR_CUSTOMERS.CITY
NLS_LANGUAGE	OEHR_CUSTOMERS.STATE_PROVINCE
NLS_TERRITORY	
CREDIT_LIMIT	
CUST_EMAIL	
ACCOUNT_MGR_ID	

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

Report Template:

Rows Per Page:

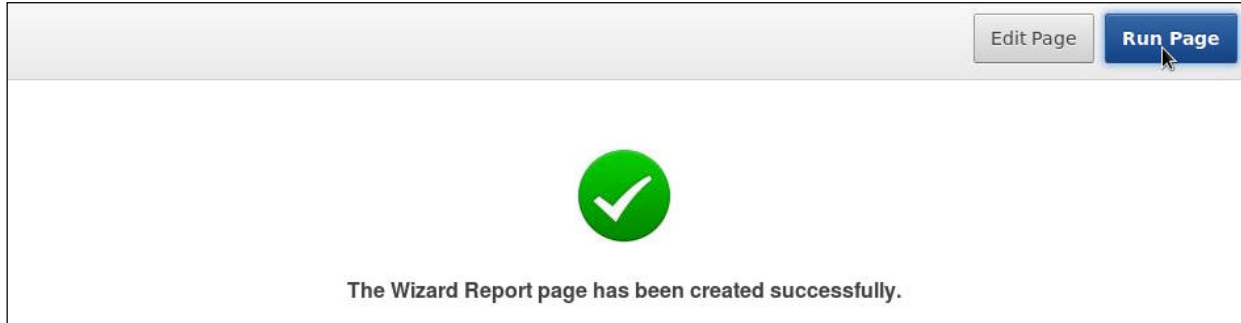
Use Column Heading Sorting:

- 8) Click **Create Report Page**.

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

Application	130
Page	6
Page Name	Customer Address List
Region Title	Customer Address List
Region Template	Reports Region
Tab Set	TS1
Tab Label	
Report Template	template: Standard
Sort Option	

9) Click **Run Page**.



10) Review the report. To make changes to the report, click the **Edit Page <n>** link.

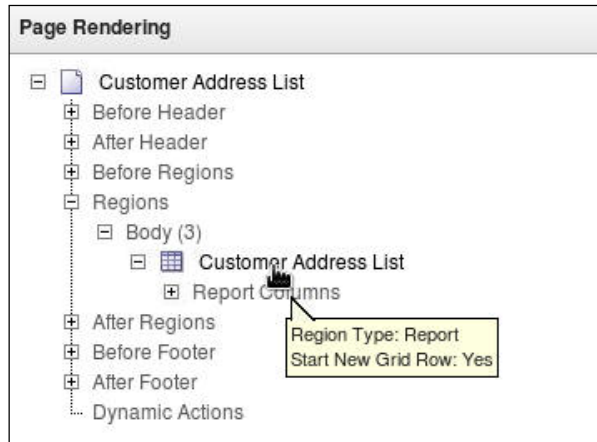
Customer Address List				
Cust First Name	Cust Last Name	Street Address	City	State Province
Constantin	Welles	514 W Superior St	Kokomo	IN
Harrison	Pacino	2515 Bloyd Ave	Indianapolis	IN
Manisha	Taylor	8768 N State Rd 37	Bloomington	IN
Harrison	Sutherland	6445 Bay Harbor Ln	Indianapolis	IN
Matthias	MacGraw	4019 W 3Rd St	Bloomington	IN
Matthias	Hannah	1608 Portage Ave	South Bend	IN
Matthias	Cruise	23943 Us Highway 33	Elkhart	IN
Meenakshi	Mason	136 E Market St # 800	Indianapolis	IN
Christian	Cage	1905 College St	South Bend	IN
Charlie	Sutherland	3512 Rockville Rd # 137C	Indianapolis	IN
Charlie	Pacino	1303 E University St	Bloomington	IN
Guillaume	Jackson	115 N Weinbach Ave	Evansville	IN
Daniel	Costner	2067 Rollett Ln	Evansville	IN
Dianne	Derek	1105 E Allendale Dr	Bloomington	IN
Geraldine	Schneider	18305 Van Dyke St	Detroit	MI

row(s) 1 - 15 of 319 Next >

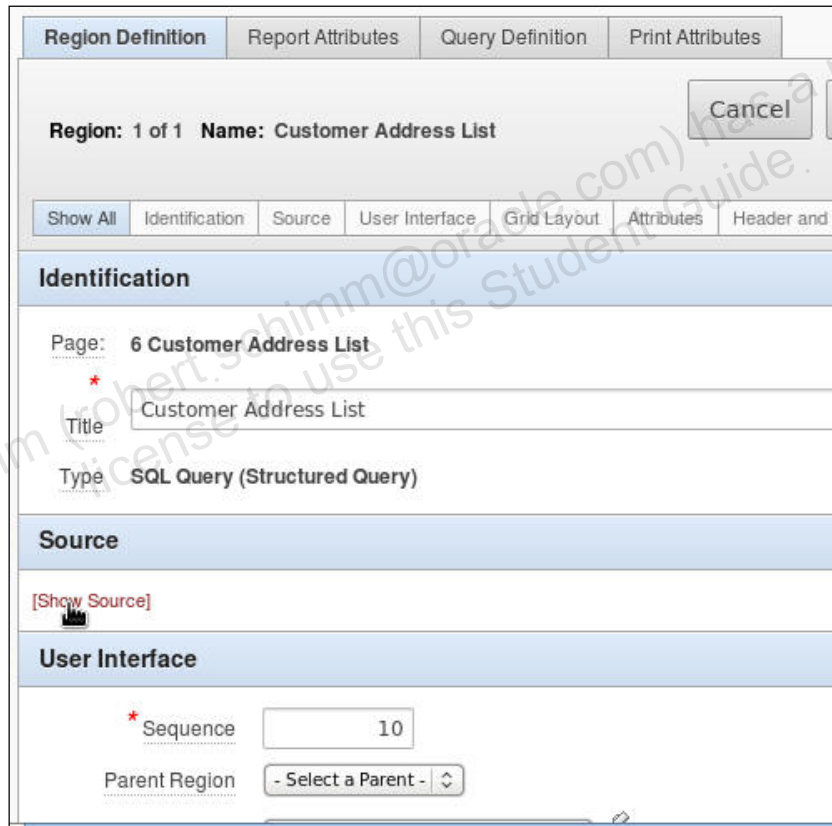
Home Application 130 **Edit Page 6** Create Session Caching View

- c. Modify the Customer Address List report with the following requirements:
- **Change the report headings for CUST\_FIRST\_NAME and CUST\_LAST\_NAME to First Name and Last Name, respectively.**

- 1) Under **Regions > Body**, double-click **Customer Address List** to open the report settings.



- 2) Click the **[Show Source]** link.



- 3) Note that you cannot edit the query definition here. Click the **Report Attributes** tab.

The screenshot shows the 'Report Attributes' tab in Oracle BI Report Designer. At the top, there are tabs for 'Region Definition', 'Report Attributes', 'Query Definition', and 'Print Attributes'. Below these, the 'Report Attributes' tab is active, showing 'Region: 1 of 1 Name: Customer Address List'. There are buttons for 'Cancel', 'Delete', and 'Apply Changes', along with left and right navigation arrows. A secondary set of tabs includes 'Show All', 'Identification', 'Source', 'User Interface', 'Grid Layout', 'Attributes', 'Header and Footer', 'Conditions', 'Read Only', 'Security', and 'Configuration'. The 'Identification' section is expanded, showing 'Page: 6 Customer Address List', a 'Title' field containing 'Customer Address List', and a 'Type' field set to 'SQL Query (Structured Query)'. There is an 'exclude title from translation' checkbox. The 'Source' section is also expanded, showing a '[Hide Source]' link and a text area containing the following SQL query:

```
SELECT
  "OEHR_CUSTOMERS"."CUST_FIRST_NAME" "CUST_FIRST_NAME",
  "OEHR_CUSTOMERS"."CUST_LAST_NAME" "CUST_LAST_NAME",
  "OEHR_CUSTOMERS"."STREET_ADDRESS" "STREET_ADDRESS",
  "OEHR_CUSTOMERS"."CITY" "CITY",
  "OEHR_CUSTOMERS"."STATE_PROVINCE" "STATE_PROVINCE"
FROM
  "OEHR_CUSTOMERS"
```

- 4) Change the Heading for CUST\_FIRST\_NAME to **First Name** and CUST\_LAST\_NAME to **Last Name**.

Region Name: **Customer Address List** Cancel Apply Changes

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

Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show	Sum	Sort
CUST_FIRST_NAME			First Name		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CUST_LAST_NAME			Last Name		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STREET_ADDRESS			Street Address		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CITY			City		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- **Change the Pagination to Row Ranges X to Y of Z (with pagination).**

- 5) Click the **Layout and Pagination** tab.

Region Name: **Customer Address List**

Layout and Pagination

Column Attributes

6) Select **Row Ranges X to Y of Z (with pagination)** for Pagination Scheme.

- Review the query definition and add the `OEHR_COUNTRIES.COUNTRY_NAME` column to the report. Hint: You will need to create a join.

7) Click the **Query Definition** tab.

- 8) Note that you can change the query from this tab. You want to add another column to the query. Click **Add/Remove Columns**.

Number	Column
1	OEHR_CUSTOMERS.CUST_FIRST_NAME
2	OEHR_CUSTOMERS.CUST_LAST_NAME
3	OEHR_CUSTOMERS.STREET_ADDRESS
4	OEHR_CUSTOMERS.CITY
5	OEHR_CUSTOMERS.STATE_PROVINCE

- 9) You want to add the country name to the report. Select **OEHR\_COUNTRIES (table)** from the drop-down list for Table / View Name. (Ensure that No is selected for Show Related Tables Only.) Select **COUNTRY\_NAME** from the Select Columns list and click the right arrow (>) to select the column.

10) Click **Next >**.

11) Because you are selecting a column from a different table, you must specify a join. Enter **"OEHR\_CUSTOMERS"."COUNTRY\_ID" = "OEHR\_COUNTRIES"."COUNTRY\_ID"** and click **Apply Changes**.

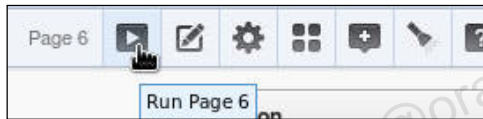
12) You can view the changes in the source. Double-click the **Customer Address List** region again.

13) Click the **Source** tab and select **[Show Source]**.

```
Source
[Hide Source]

SELECT
  "OEHR_CUSTOMERS"."CUST_FIRST_NAME" "CUST_FIRST_NAME",
  "OEHR_CUSTOMERS"."CUST_LAST_NAME" "CUST_LAST_NAME",
  "OEHR_CUSTOMERS"."STREET_ADDRESS" "STREET_ADDRESS",
  "OEHR_CUSTOMERS"."CITY" "CITY",
  "OEHR_CUSTOMERS"."STATE_PROVINCE" "STATE_PROVINCE",
  "OEHR_COUNTRIES"."COUNTRY_NAME" "COUNTRY_NAME"
FROM
  "OEHR_CUSTOMERS",
  "OEHR_COUNTRIES"
WHERE "OEHR_CUSTOMERS"."COUNTRY_ID" = "OEHR_COUNTRIES"."COUNTRY_ID"
```

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



15) Note the changes that you made to the report. Click **Application <n>**.

Customer Address List					
First Name	Last Name	Country Name	Street Address	City	State Province
Constantin	Welles	United States of America	514 W Superior St	Kokomo	IN
Harrison	Pacino	United States of America	2515 Bloyd Ave	Indianapolis	IN
Manisha	Taylor	United States of America	8768 N State Rd 37	Bloomington	IN
Harrison	Sutherland	United States of America	6445 Bay Harbor Ln	Indianapolis	IN
Matthias	MacGraw	United States of America	4019 W 3Rd St	Bloomington	IN
Matthias	Hannah	United States of America	1608 Portage Ave	South Bend	IN
Matthias	Cruise	United States of America	23943 Us Highway 33	Elkhart	IN
Meenakshi	Mason	United States of America	136 E Market St # 800	Indianapolis	IN
Christian	Cage	United States of America	1905 College St	South Bend	IN
Charlie	Sutherland	United States of America	3512 Rockville Rd # 137C	Indianapolis	IN
Charlie	Pacino	United States of America	1303 E University St	Bloomington	IN
Guillaume	Jackson	United States of America	115 N Weinbach Ave	Evansville	IN
Daniel	Costner	United States of America	2067 Rollett Ln	Evansville	IN
Dianne	Derek	United States of America	1105 E Allendale Dr	Bloomington	IN

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

## Solution 5-2: Creating a List View

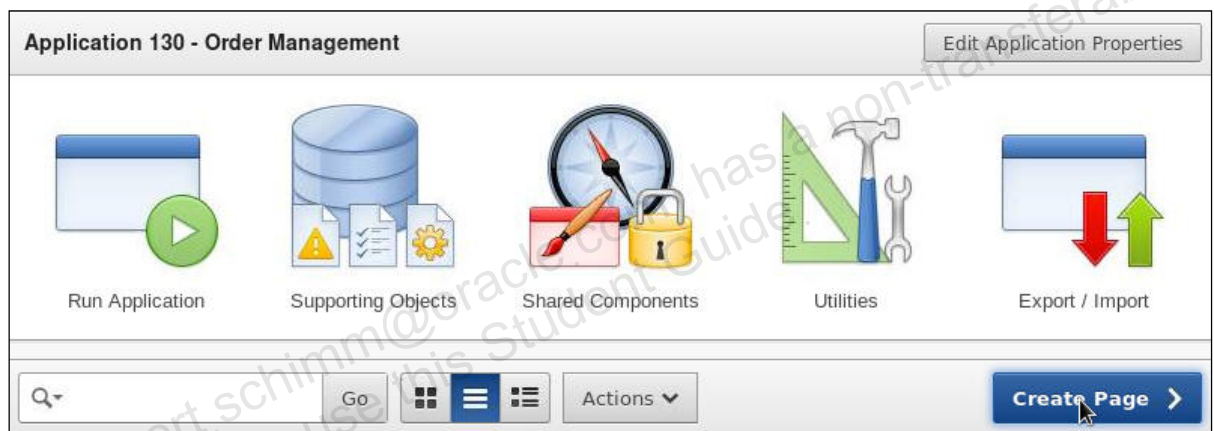
### Overview

In this practice, you create a page with a List View in the Order Management application.

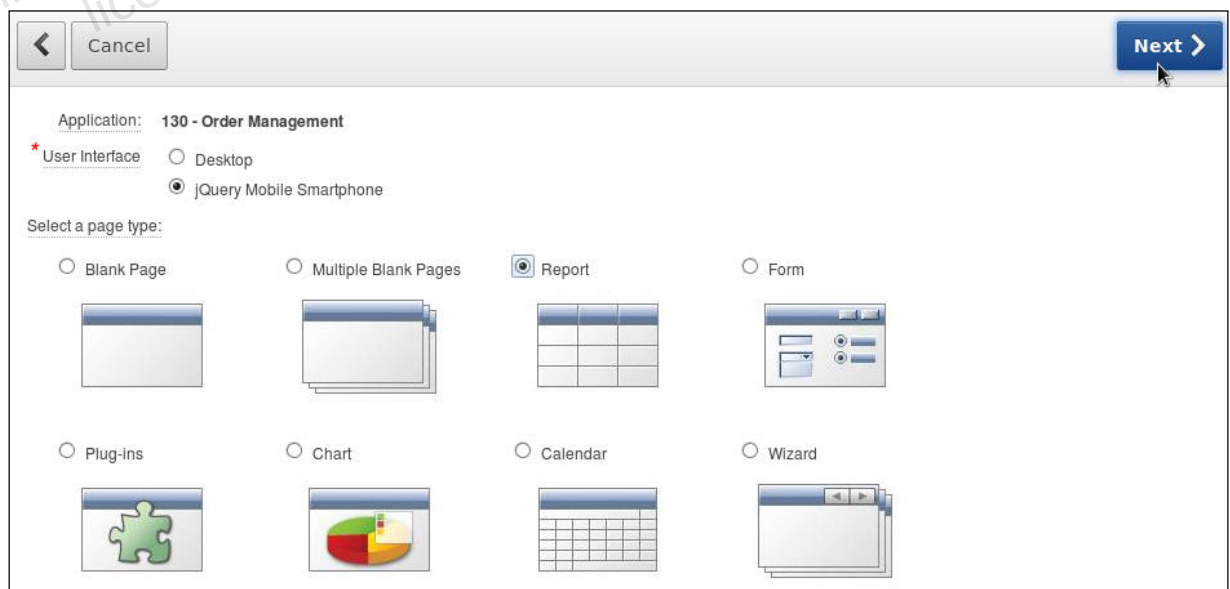
### Tasks

- a. On a new page in the Order Management application, create a List View, which is a report type used for mobile applications. Enter **Employee List** as the Page Name and Region Name. Change the Page Number to 205. The list view should select all the columns from the **OEHR\_EMPLOYEES** table and should display the last names as the text column. The list view should also be enabled to search the last name column with the Search Type “Like & Ignore Case.” Open the application on a separate tab to view the list view.

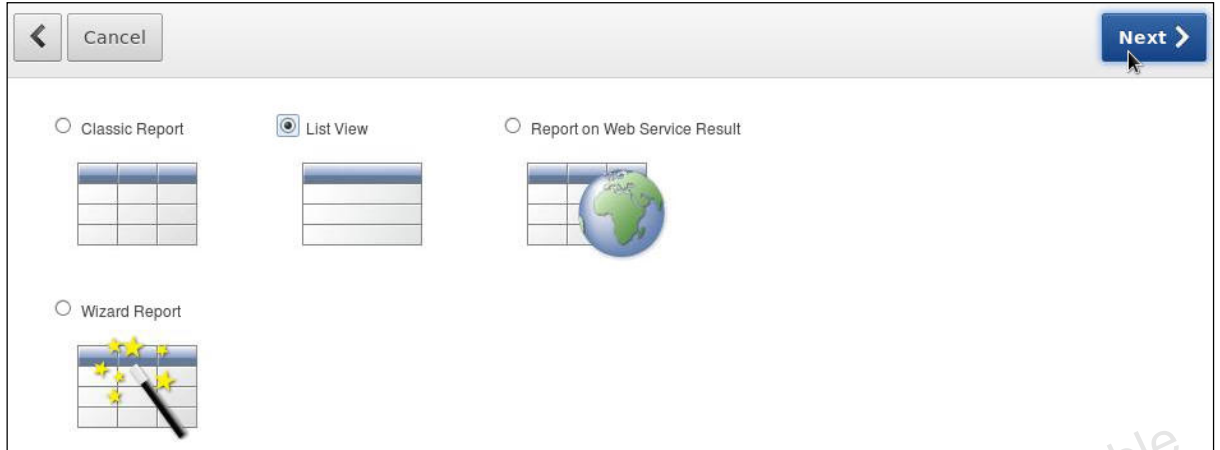
- 1) Navigate to the Order Management application page and click **Create Page**.



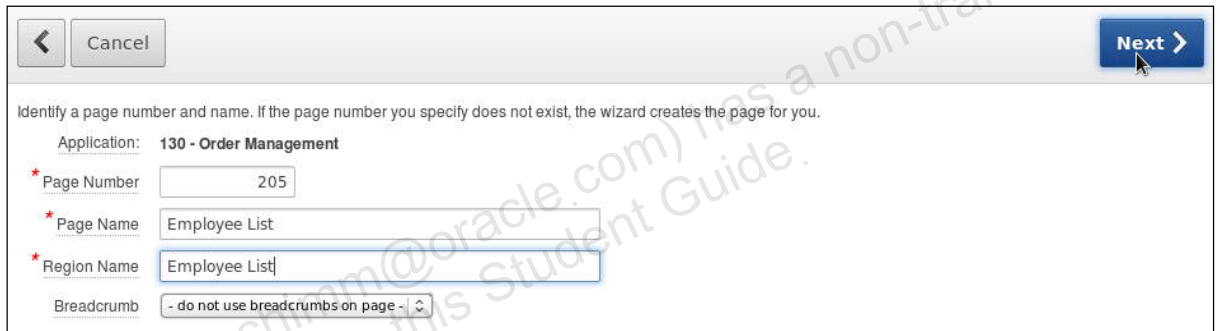
- 2) Select **jQuery Mobile Smartphone** for **User Interface** and select **Report**. Click **Next**.



3) Select **List View** and click **Next >**.

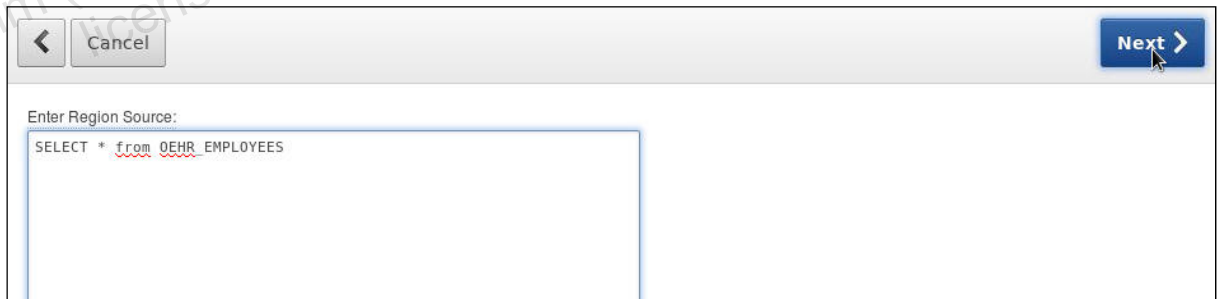


4) Change the Page Number to **205** and enter **Employee List** as the Page Name and Region Name. Click **Next >**.



5) In the Region Source, enter the following SQL statement and click **Next >**.

```
SELECT * from OEHR_EMPLOYEES
```



- 6) To display the last name as the text column, select **LAST\_NAME** from the drop-down list for Text Column. To perform a search in the report, select **Enable Search**. For Search Type, select **Server: Like & Ignore Case** and for Search Column select **LAST\_NAME**. Select the **Inset List** check box. Click **Next >**.

The screenshot shows a configuration dialog with the following settings:

- Features:**
  - Advanced Formatting
  - Show Image
  - Show List Divider
  - Has Split Button
  - Enable Search
  - Is Nested List View
  - Inset List
- Text Column:** LAST\_NAME
- Supplemental Information Column:** - select -
- Counter Column:** - select -
- Link Target:** (empty)
- Search Type:** Server: Like & Ignore Case
- Search Column:** LAST\_NAME
- Search Box Placeholder:** (empty)

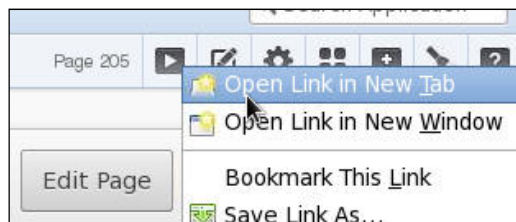
- 7) Click **Create**.

The screenshot shows a confirmation dialog with the following text:

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

Application 130  
 Page 205  
 Page Name Employee List  
 Region Title Employee List

- 8) Run the page on a new tab. Right-click **Run Page** and select **Open Link in New Tab**.

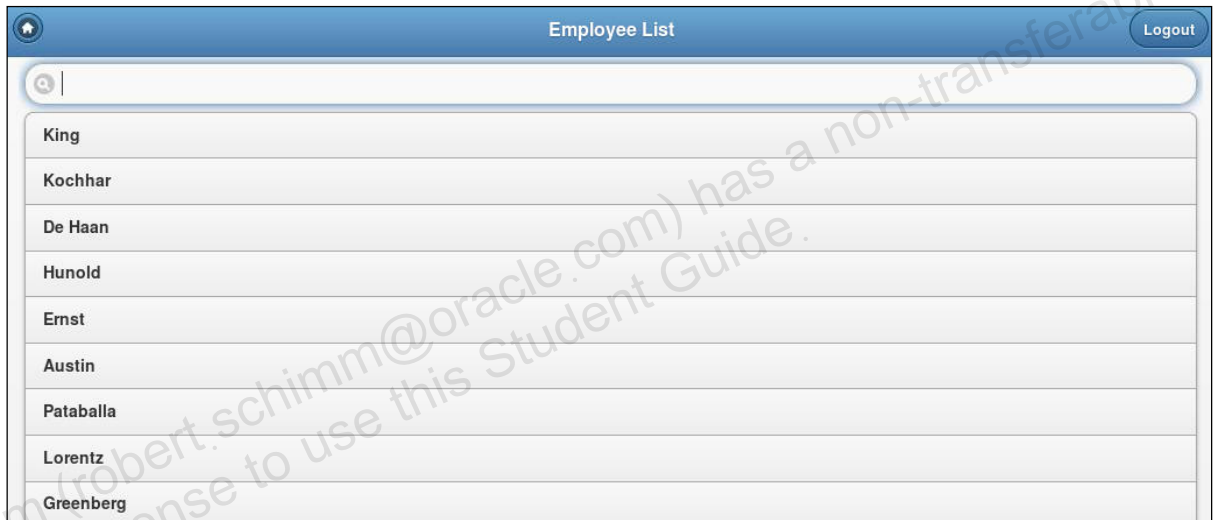


- 9) If the login window opens, enter `ora<n>` for Username and Password, and click **Login**.



The screenshot shows a login window with two input fields. The first field is labeled 'Username' and contains the text 'ora01'. The second field is labeled 'Password' and contains five dots, indicating a masked password. Below the fields is a blue button labeled 'Login' with a mouse cursor hovering over it.

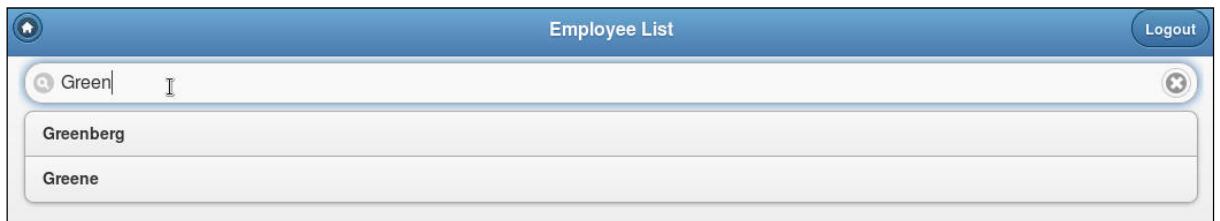
- 10) Review the **List View Report**.



The screenshot shows the 'Employee List' report. The title bar is blue and contains the text 'Employee List' and a 'Logout' button. Below the title bar is a search bar. The main content area is a table with the following rows:

King
Kochhar
De Haan
Hunold
Ernst
Austin
Pataballa
Lorentz
Greenberg

- 11) Enter **Green** in the search bar and press the Enter key. Notice that search is performed and the results are displayed.



The screenshot shows the 'Employee List' report with the search bar containing the text 'Green'. The search results are displayed in a table with the following rows:

Greenberg
Greene

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# Practices for Lesson 6: Creating Forms

## Chapter 6

## Practices for Lesson 6: Overview

---

### Practices Overview

There are four practices for this lesson. In these practices, you create a form on a table, a master detail form, a tabular form, and a form on a table with list view for mobile applications.

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## Practice 6-1: Creating a Form on a Table

---

### Overview

In this practice, you create a form based on a table, and then link to the form from the Customer Report that was created previously.

### Assumptions

You have performed the previous practices or imported `LAB052_SOLN.sql`.

### Tasks

- a. Create a form based on the `OEHR_CUSTOMERS` table. The form page and region should be titled Customer Details and contain the Customer First Name, Last Name, Email, and Manager ID fields. The following are the other requirements:
  - Ensure that the primary key has the value `CUSTOMER_ID`.
  - The source of the primary key is an existing sequence.
  - The Create, Save, and Delete buttons are required.
  - Branch to the Customers page for both: After Page Submit and Processing, and When Cancel Button Pressed.

Run the form for verification.

- b. Link the Customer Report that was created previously to the newly created Customer Details form. When the Edit icon in the report is clicked, the user should be redirected to the form and the details populated in the form. After you create the link, run the report and verify the changes.

## Practice 6-2: Creating a Master Detail Form

---

### Overview

In this practice, you create a master detail form and make some modifications to it.

### Assumptions

You have performed the previous practices.

### Tasks

- a. On a new page called Master Detail Form, create a master detail form based on the `OEHR_ORDERS` and `OEHR_ORDER_ITEMS` tables.
  - Include a report page called List of Orders on the master table.
  - Display the master table and detail table forms on a single page.
  - Exclude the `ORDER_ID` column in the `OEHR_ORDER_ITEMS` table.
  - Use the Existing trigger option as the primary key source for the master and detail tables.
  - Include navigation based on the `ORDER_ID` column.
- b. On the Master Detail Form page, change the region name for the master region to Order Master and change the region name for the detail region to Order Details.
- c. On the Master Detail page, move the Order Status item to appear before the Customer ID in the Order Master region.
- d. On the “List of Orders (master report)” page, change the region title to “List of Orders.” Do not show the `PROMOTION_ID` column. Change the heading of Sales Rep ID to Sales Rep.

## Practice 6-3: Creating a Tabular Form

---

### Overview

In this practice, you create and manipulate a tabular form.

### Assumptions

You have performed the previous practices.

### Tasks

- a. On a new page called Update Employee Information, create a tabular form that displays the `FIRST_NAME`, `LAST_NAME`, `EMAIL`, `JOB_ID`, and `COMMISSION_PCT` from the `OEHR_EMPLOYEES` table. The columns `EMAIL`, `JOB_ID`, and `COMMISSION_PCT` should be updatable columns. Change the element width of the `CUST_EMAIL` column to 40.

## Practice 6-4: Create a Form on a Table for Mobile Applications

---

### Overview

In this practice, you add a form page to the mobile application and link it from a list view page.

### Assumptions

You have performed the practice 5-2 that adds a list view page to your mobile application.

### Tasks

- a. Add a form page called Employee Detail to the application for mobile interface. Link this Employee Detail form page to the existing Employee List list view page.

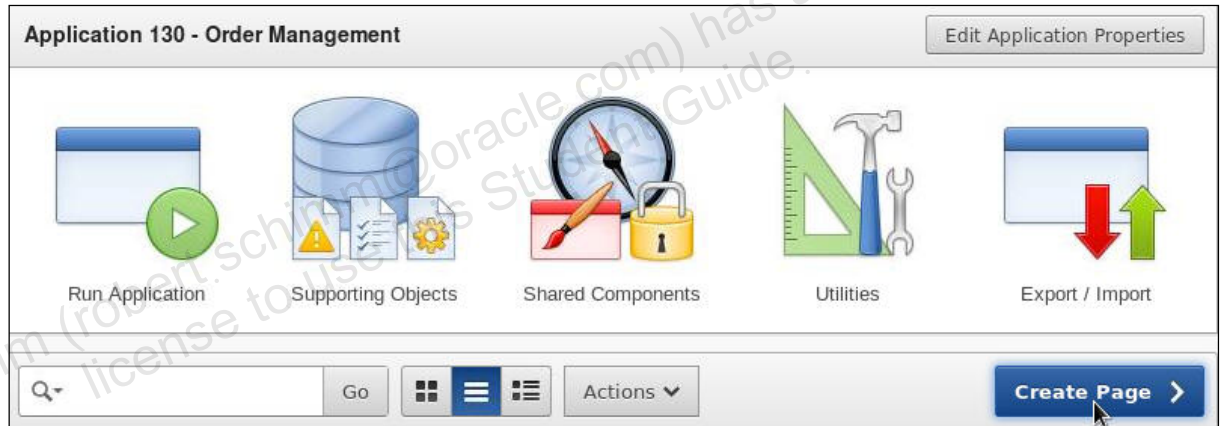
## Solution 6-1: Creating a Form on a Table

### Overview

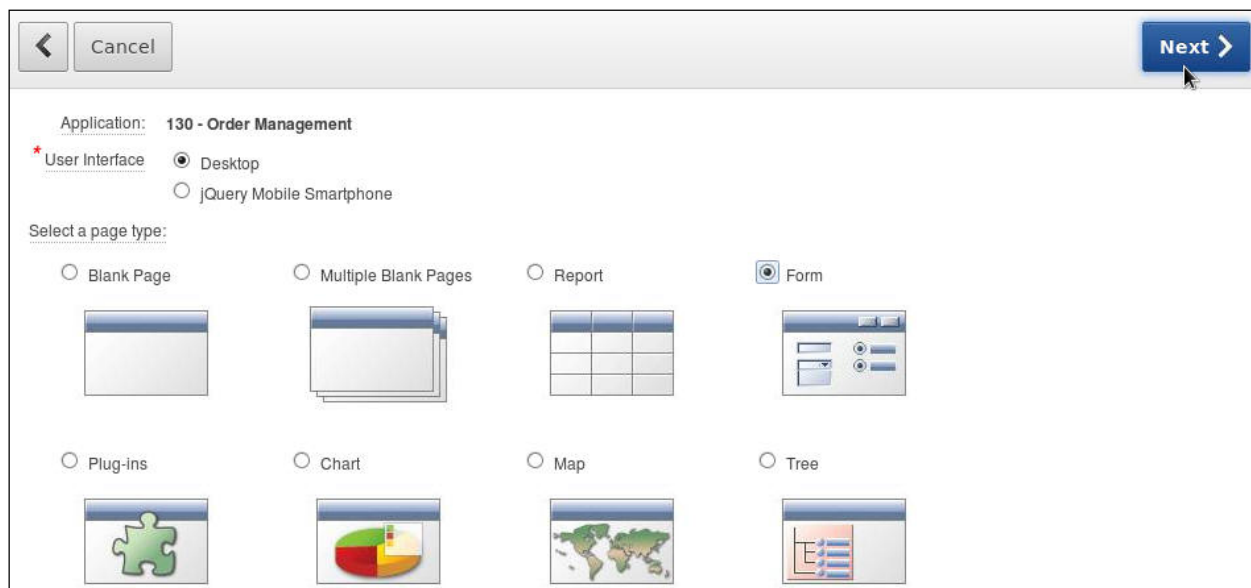
In this practice, you create a form based on a table, and then link this form from the Customer Report that was created previously.

### Tasks

- a. Create a form based on the `OEHR_CUSTOMERS` table. The form page and region should be titled Customer Details and contain the Customer First Name, Last Name, Email, and Manager ID fields. The following are the other requirements:
  - Ensure that the primary key has the value of `CUSTOMER_ID`.
  - The source of the primary key is an existing sequence.
  - The Create, Save, and Delete buttons are required.
  - Branch to Customers page for both: After Page Submit and Processing, and When Cancel Button Pressed.
- 1) On the Order Management application home page, click **Create Page** >.



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



- 3) Accept the default **Form on a Table or View** option and click **Next >**.

This screenshot shows the Oracle Forms wizard's selection screen. At the top, there are 'Cancel' and 'Next >' buttons. Below, there are nine radio button options, each with a small preview icon:
 

- Form on a Procedure
- Form on a Table or View
- Form on a Table with Report
- Master Detail Form
- Tabular Form
- Form on a SQL Query
- Summary Page
- Form on Web Service
- Form and Report on Web Service

- 4) Ensure that your schema is selected. From the list of tables, select **OEHR\_CUSTOMERS (table)**. Click **Next >**.

This screenshot shows the wizard's selection screen for the schema and table. It includes 'Cancel' and 'Next >' buttons. The text reads: "This wizard builds a form to update a single row in a database table or view. Identify the schema owner and name of the table or view on which you wish to build a form."
 

- \* Table / View Owner:
- \* Table / View Name:

- 5) For Page Name and Region Title, enter **Customer Details** and click **Next >**.

This screenshot shows the wizard's configuration screen for page and region information. It includes 'Cancel' and 'Next >' buttons. The text reads: "Specify page and region information. If the page you specify does not exist, the page will be created."
 

- Owner:
- Table / View Name:
- \* Page Number:
- Use User Interface Defaults:  No  Yes
- \* Page Name:
- \* Region Title:
- \* Region Template:
- Breadcrumb:

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

This screenshot shows the wizard's tab options screen. It includes 'Cancel' and 'Next >' buttons. The text reads: "Page: 8"
 

- 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) For Primary Key Type, select Primary Key Column(s). Ensure that the primary key has a value of **CUSTOMER\_ID** and click **Next >**.

Forms perform insert, update and delete operations on table rows in the database. The rows are identified using either a Primary Key defined on the table, or the ROWID pseudo column, which uniquely identifies a row in a table. Select "Managed by Database" if you would like to use the ROWID. Otherwise select the Primary Key column(s) defined for your table. Forms support up to two columns in the Primary Key. For tables using Primary Keys with more than two columns, the ROWID option should be used.

Page: 8  
 Owner: ORA01  
 Table / View Name: OEHR\_CUSTOMERS

\* Primary Key Type:  Managed by Database (ROWID)  Select Primary Key Column(s)

\* Primary Key Column 1: CUSTOMER\_ID

\* Primary Key Column 2: - Select Primary Key 2 -

- 8) Because the source of the primary key is an existing sequence, select the **Existing trigger** option and click **Next >**.

Select the method by which the primary key is populated.

- Choose Existing Trigger if there is already a trigger to populate the primary key.
- Choose Custom PL/SQL Function to define custom PL/SQL logic to generate the primary key value.
- Choose Existing Sequence if an existing sequence will be used to generate the primary key.

Owner: ORA01  
 Table / View Name: OEHR\_CUSTOMERS  
 Primary Key Column 1: CUSTOMER\_ID

\* Source Type:  Existing trigger  Custom PL/SQL function  Existing sequence

- 9) Make sure **CUST\_FIRST\_NAME**, **CUST\_LAST\_NAME**, **CUST\_EMAIL**, and **ACCOUNT\_MGR\_ID** are on the right and ensure that the rest of the columns are on the left. Use the right arrow (>) and left arrow (<) to move the columns. Click **Next >**.

Select the columns to include on the form.

Page: 8  
 Owner: ORA01  
 Table / View Name: OEHR\_CUSTOMERS

\* Select Column(s)

STREET_ADDRESS (Varchar2)	CUST_FIRST_NAME (Varchar2)
POSTAL_CODE (Varchar2)	CUST_LAST_NAME (Varchar2)
CITY (Varchar2)	CUST_EMAIL (Varchar2)
STATE_PROVINCE (Varchar2)	ACCOUNT_MGR_ID (Number)
COUNTRY_ID (Char)	
PHONE_NUMBER (Varchar2)	
NLS_LANGUAGE (Varchar2)	
NLS_TERRITORY (Varchar2)	
CREDIT_LIMIT (Number)	

- 10) You want to be able to cancel, create, save, and delete. Accept the default values and click **Next >**.

Identify the process options and button display text for the form. For example, to prevent users from being able to delete from the form, choose **No** for the delete button option.

Page: 8  
 Owner: ORA01  
 Table / View Name: OEHR\_CUSTOMERS  
 Cancel Button Label:   
 Show Create Button: Yes |  Create Button Label:   
 Show Save Button: Yes |  Save Button Label:   
 Show Delete Button: Yes |  Delete Button Label:

- 11) Click the arrow icon to the right of both the boxes and select the **Customers** page in both cases. Then click **Next >**.

Page: 8  
 Owner: ORA01  
 Table / View Name: OEHR\_CUSTOMERS  
 \* After Page Submit and Processing Branch to Page:    
 \* When Cancel Button Pressed Branch to this Page:

- 12) Review the details and click **Create**.

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

Application	130
Page	8
Page Name	Customer Details
Tab Set	TS1
Tab Label	
Region Title	Customer Details
Region Template	Form Region
Table / View Owner	ORA01
Table / View Name	OEHR_CUSTOMERS
Primary Key Column 1	CUSTOMER_ID
Primary Key Column 2	
Display Columns	CUST_FIRST_NAME CUST_LAST_NAME CUST_EMAIL ACCOUNT_MGR_ID
Process Options	Insert,Update,Delete

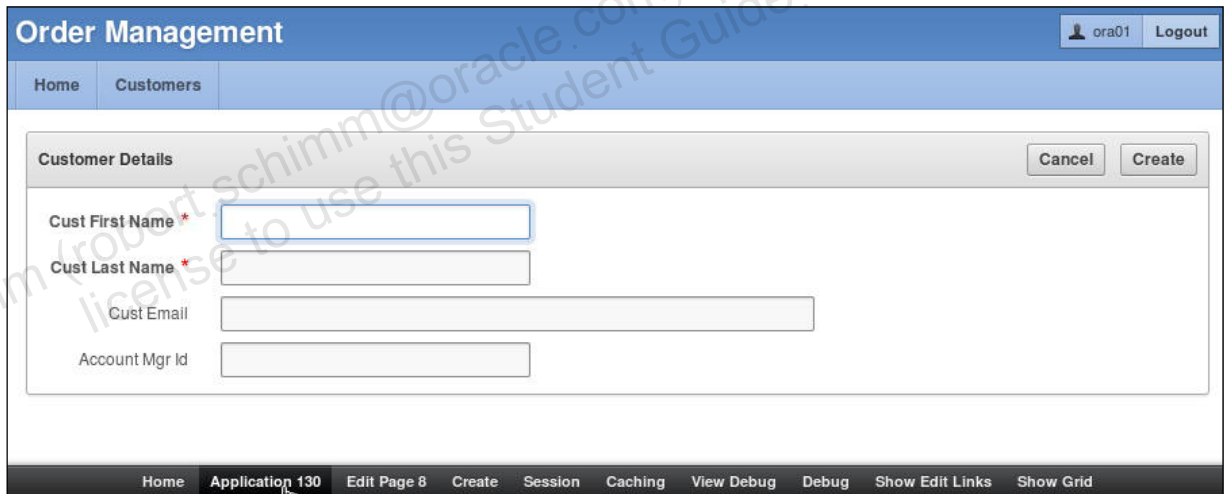
13) Click **Run Page**.



14) If the Login page appears, enter your login credentials and click **Login**.




15) Review the form. You will link this form from the Customer Report. To return to the application home page, click the **Application <n>** link on the Developer toolbar.





b. Link the Customer Report that was created previously to the newly created Customer Details form. When the Edit icon in the report is clicked, the user should be redirected to the form and the details populated in the form. After you create the link, run the report and verify the changes.


- 1) On the Order Management application home page, click the **View Icons** icon.


**Application 130 - Order Management**
Edit Application Properties

  
Run Application




  
Supporting Objects

  
Shared Components





  
Utilities

  
Export / Import

Go


Actions ▾
Create Page >


Page	Name	Updated	Updated By	Page Type	User Interface	Group	Lock	Run
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	44 hours ago	ora01	Global Page	jQuery Mobile Smartphone	Unassigned		
1	<a href="#">Home</a>	44 hours ago	-	Home	Desktop	Unassigned		

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

**Application 130 - Order Management**
Edit Application Properties

  
Run Application

  
Supporting Objects

  
Shared Components

  
Utilities

  
Export / Import


Go






Actions ▾
Create Page >


  
0 - Global Page -  
jQuery Mobile  
Smartphone

  
1 - Home

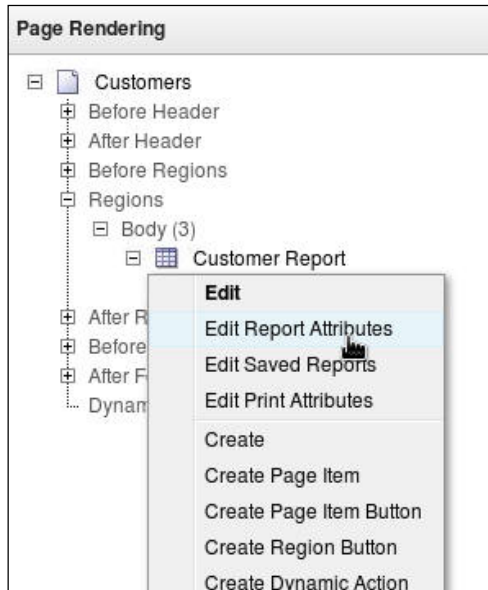
  
2 - Home

  
3 - Customers

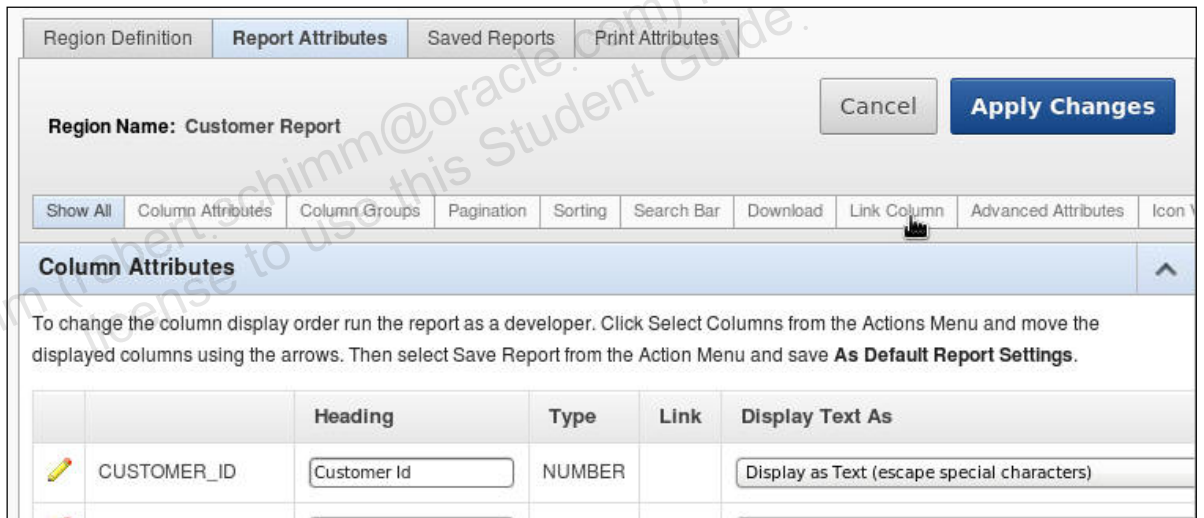
  
4 - Employee  
Commission

  
5 - Top Tier Salary

- 3) Under Regions, right-click the **Customer Report** subregion and select **Edit Report Attributes**.



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



- 5) Instead of linking to a single row view, you want to link to a custom target page. Select **Link to Custom Target** for Link Column.

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

**Link Column**

Link Column: Link to Single Row View

Single Row View: Link to Single Row View, **Link to Custom Target**, Exclude Link Column

Uniquely Identify Rows by: ROWID

Unique Column: [ ]

- 6) Click the **[Icon 6]** quick pick for Link icon. Click the up arrow to the right of Page and select **Customer Details**. Click the icon to the right of **Item 1 Name**.

**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	[ ]
Item 2	[ ]

Find Item

- 7) From the list in the pop-up window, click the link corresponding to `P<n>_CUSTOMER_ID`. Similarly, click the icon to the right of the Item 1 Value box. From the list in the pop-up window, click the `#CUSTOMER_ID#` link. When you have finished, click Apply Changes.

Region Name: Customer Report

Cancel Apply Changes

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

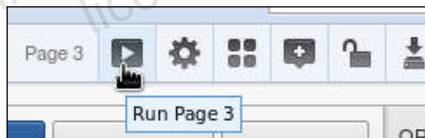
Link Attributes

Target Page in this Application Page 8  Reset Pagination

Request Clear Cache

	Name	Value
Item 1	P8_CUSTOMER_ID	#CUSTOMER_ID#
Item 2		

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



- 9) Click the **Edit** icon for any one of the rows.

Order Management						
Home		Customers				
Q		Go		Reports	1. Primary Report	Actions
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City
	101	Constantin	Welles	514 W Superior St	46901	Kokoro
	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	Mathias	MacGraw	4010 W 3rd St	47404	Bloomington

- 10) Note that you are redirected to the Customer Details form and that the values are automatically populated in the form. You can make changes and delete the active record by using this form. To return to the application home page, click the **Application <n>** link on the Developer toolbar.

Order Management	
Home Customers	
<b>Customer Details</b>	
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.COM"/>
Account Mgr Id	<input type="text" value="145"/>

Home Application 130 Edit Page 8 Create Session Caching View Debug Debug S

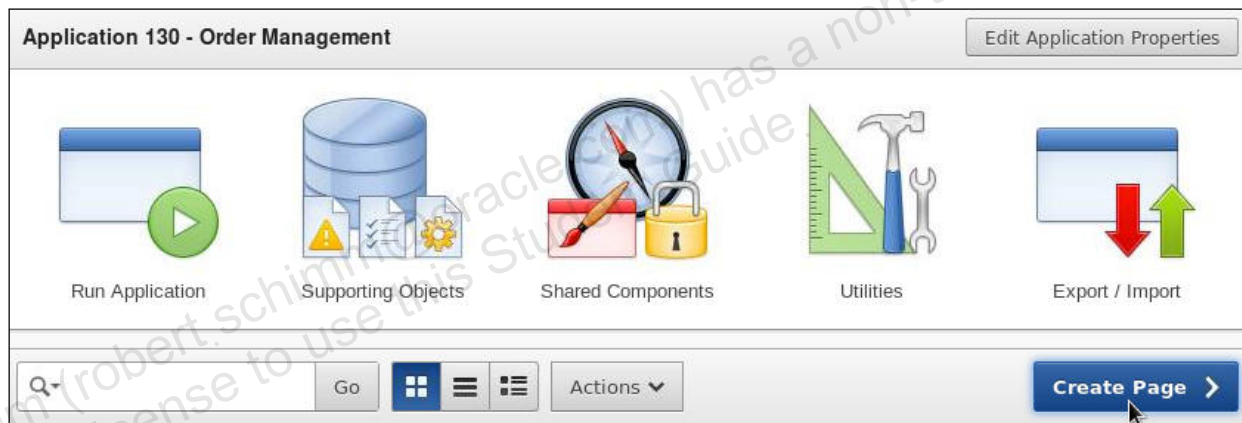
## Solution 6-2: Creating a Master Detail Form

### Overview

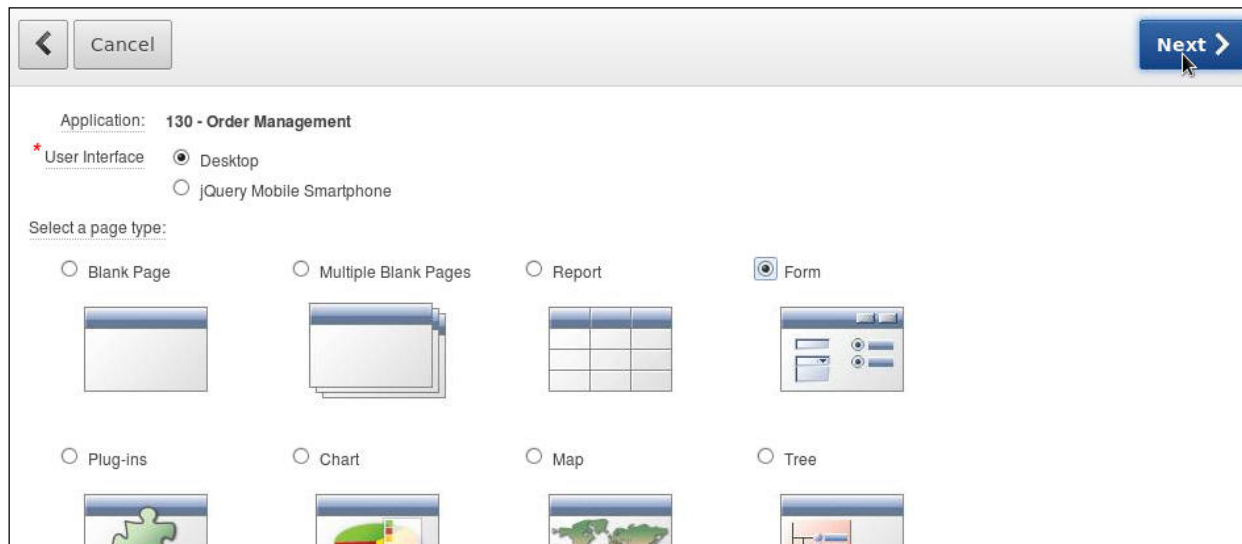
In this practice, you create a master detail form and make some modifications to it.

### Tasks

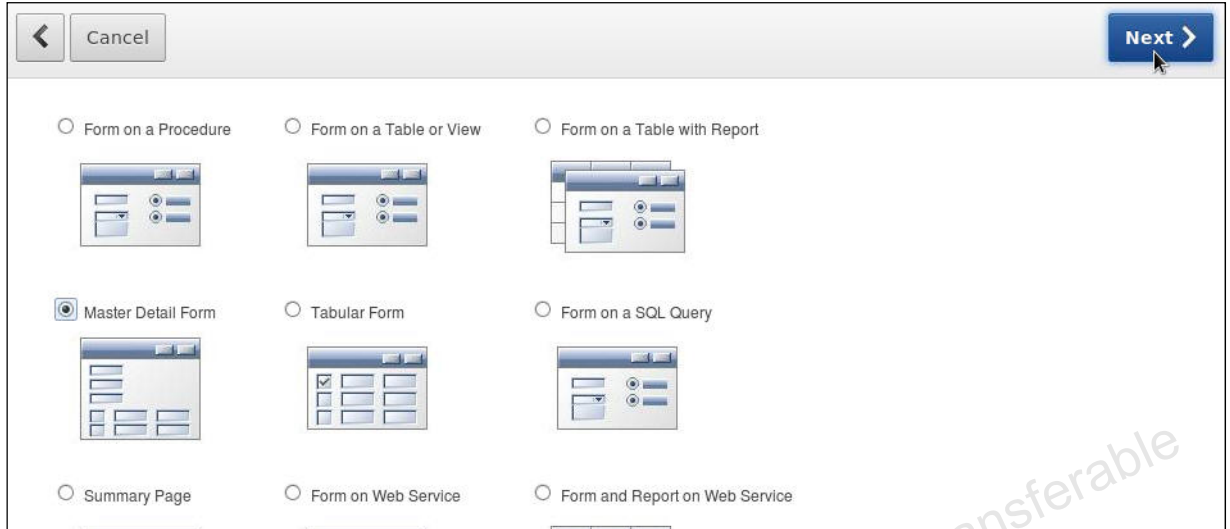
- a. On a new page called Master Detail Form, create a master detail form based on the `OEHR_ORDERS` and `OEHR_ORDER_ITEMS` tables.
  - Include a report page called List of Orders on the master table.
  - Display the master table and detail table forms on a single page.
  - Exclude the `ORDER_ID` column in the `OEHR_ORDER_ITEMS` table.
  - Use the Existing trigger option as the primary key source for the master and detail tables.
  - Include navigation based on the `ORDER_ID` column.
- 1) On the Order Management application home page, click **Create Page** >.



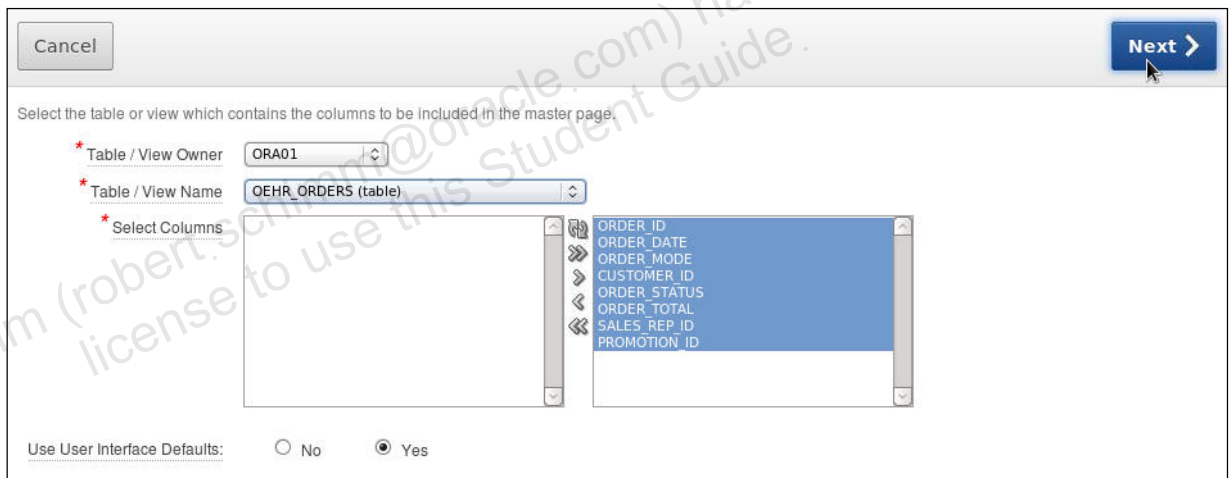
- 2) Select the **Form** option and click **Next** >.



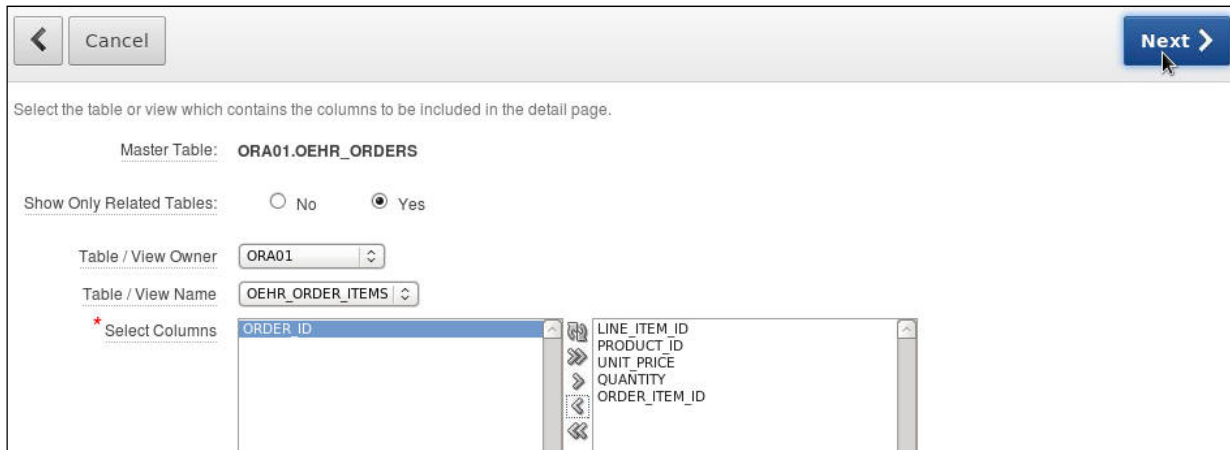
- 3) Select the **Master Detail Form** option and click **Next >**.



- 4) Ensure that your schema is selected. From the Table / View Name drop-down list, select **OEHR\_ORDERS (table)**. Select all the columns in the **OEHR\_ORDERS** table and **Next >**.



- 5) Ensure that your schema is selected. From the Table / View Name list, select **OEHR\_ORDER\_ITEMS**. Select the **ORDER\_ID** column and move it to the left by using the left arrow (<). Click **Next >**.



- 6) For both the tables, select **Select Primary Key Column(s)** for Primary Key Type. Select **ORDER\_ID** and **ORDER\_ITEM\_ID** as the primary keys for the respective tables. Click **Next >**.

Forms perform insert, update and delete operations on table rows in the database. The rows are identified using either a primary key defined on the table, or the ROWID pseudo column, which uniquely identifies a row in a table. Select "Managed by Database" if you would like to use the ROWID. Otherwise select the primary key column(s) defined for your table. Forms support up to two columns in the primary key. For tables using primary keys with more than two columns, the ROWID option should be used.

**Master Table: ORA01.OEHR\_ORDERS**

\* Primary Key Type:  Managed by Database (ROWID)  Select Primary Key Column(s)

\* Primary Key Column 1: ORDER\_ID

Primary Key Column 2: - Select Column -

---

**Detail Table: ORA01.OEHR\_ORDER\_ITEMS**

\* Primary Key Type:  Managed by Database (ROWID)  Select Primary Key Column(s)

\* Primary Key Column 1: ORDER\_ITEM\_ID

Primary Key Column 2: - Select Column -

- 7) For the Primary Key Source of the **OEHR\_ORDERS** table, accept the default value of **Existing trigger**. Click **Next >**.

Select the method by which the master table primary key is populated.




- Choose Existing Trigger if there is already a trigger to populate the primary key.
- Choose Custom PL/SQL Function to define custom PL/SQL logic to generate the primary key value.
- Choose Existing Sequence if an existing sequence will be used to generate the primary key.

Table Name: ORA01.OEHR\_ORDERS

Primary Key Column 1: ORDER\_ID

\* Primary Key Source:

Existing trigger     Custom PL/SQL function     Existing sequence

- 8) For the Primary Key Source of the **OEHR\_ORDER\_ITEMS** table, accept the default value of **Existing trigger** and click **Next >**.

Select the method by which the detail table primary key is populated.

- Choose Existing Trigger if there is already a trigger to populate the primary key.
- Choose Custom PL/SQL Function to define custom PL/SQL logic to generate the primary key value.
- Choose Existing Sequence if an existing sequence will be used to generate the primary key.

Table Name: **ORA01.OEHR\_ORDER\_ITEMS**

Primary Key Column 1: **ORDER\_ITEM\_ID**

\* Primary Key Source:

Existing trigger       Custom PL/SQL function       Existing sequence

- 9) Select the following values and click **Next >**.

- Include master row navigation?: **Yes**
- Master Row Navigation Order: **ORDER\_ID**
- Include master report?: **Yes**

Determine whether to include master row navigation. If you include master row navigation, define navigation order column(s). If a navigation order column is not defined, the master update form will navigate by the primary key column.

By default, this wizard creates a master report page. You can choose to not create master report page if you already have a report page.

Master Table: **ORA01.OEHR\_ORDERS**

Include master row navigation? **Yes**

Master Row Navigation Order: **ORDER\_ID**

Secondary Navigation Order: **- Select Column -**

Include master report?  No       Yes

- 10) Ensure that **“Edit detail as tabular form on same page”** is selected. Click **Next >**.

Build Master Detail with:

Edit detail as tabular form on same page       Edit detail on separate page

- 11) For Page Attributes, change the Page Title for OEHR\_ORDERS on the master page to **List of Orders**, select **Breadcrumb** from the Breadcrumb drop-down list, and click **Next >**.

This page specifies master and detail page information. If the pages you specify do not exist, the pages will be created for you.

Master Table: **ORA01.OEHR\_ORDERS**  
Detail Table: **ORA01.OEHR\_ORDER\_ITEMS**

	* Page	* Page Title	* Region Title
Master	9	List of Orders	OEHR_ORDERS
Detail	10	Master Detail	Edit OEHR_ORDERS
			OEHR_ORDER_ITEMS Detail

Breadcrumb: **Breadcrumb**

**Create Breadcrumb Entry**

Entry Name (Master Report)	List of Orders
Entry Name (Master Detail Page)	Master Detail
Parent Entry	No parent breadcrumb entry

[No parent breadcrumb entry]

- 12) Accept the default 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.

13) Click **Create**.

← Cancel
Create

You have requested to create master detail pages with the following attributes. Please confirm your selections.

Application	130
Master Table	ORA01.OEHR_ORDERS
Master Display Column(s)	ORDER_ID ORDER_DATE ORDER_MODE CUSTOMER_ID ORDER_STATUS ORDER_TOTAL SALES_REP_ID PROMOTION_ID
Detail Table	ORA01.OEHR_ORDER_ITEMS
Detail Display Column(s)	LINE_ITEM_ID PRODUCT_ID UNIT_PRICE QUANTITY ORDER_ITEM_ID
Navigate master record by	ORDER_ID
Include master report?	Yes
Master Detail Layout	Two page master detail
Tab Set	TS1

14) To view the master detail form, click the **Run Page** button.

Edit Page
Run Page

The master detail pages have been created successfully.

15) The master report is displayed. Click the **Edit** icon next to one of the rows.

**OEHR\_ORDERS**
Create

	Order Date	Order Mode	Customer Id	Order Status	Order Total	Sales Rep Id	Promotion Id
✎	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	
✎	31-AUG-99 08.53.06.008765 PM	direct	107	3	70576.9	156	
✎	08-JAN-98 09.19.44.123456 PM	direct	108	5	59872.4	158	
✎	10-FEB-00 10.22.35.564789 PM	direct	109	5	21863	158	

- 16) The Master detail form is displayed. Review the information. Click **Application** **<n>** on the Developer toolbar.

List of Orders > Master Detail

**Edit OEHR\_ORDERS** Cancel Delete Apply Changes < >

Order Date \* 19-NOV-1999

Order Mode direct

Customer Id \* 102

Order Status 1

Order Total 42283.2

Sales Rep Id 154

Promotion Id

44 of 105

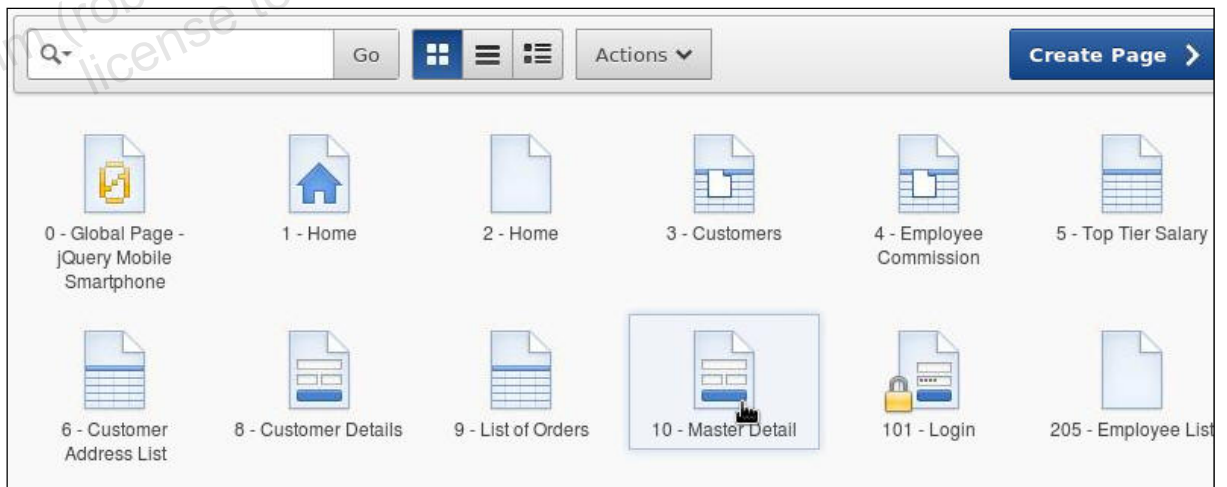
---

**OEHR\_ORDER\_ITEMS Detail** Delete Checked Add Row

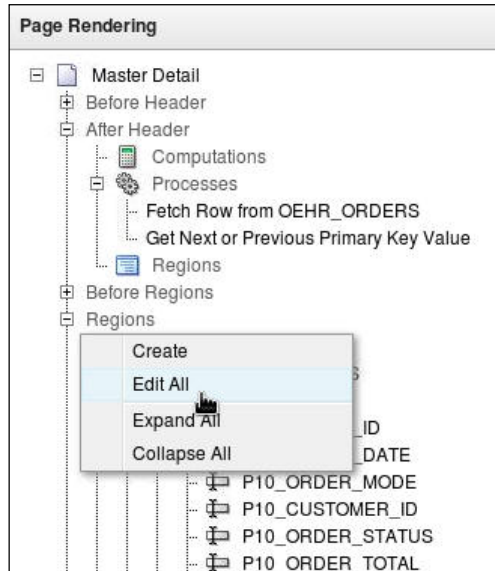
<input type="checkbox"/>	Line Item Id	Product Id	Unit Price	Quantity
<input type="checkbox"/>	1	2976	52	2
<input type="checkbox"/>	2	2986	120	8
<input type="checkbox"/>	3	2999	880	16
<input type="checkbox"/>	4	3000 Application 130	1696.2	16

Home Application 130 Edit Page 10 Create Session Caching View Debug Debug Show Edit Links Show Grid

- b. On the Master Detail Form page, change the region name for the master region to Order Master and change the region name for the detail region to Order Details.
- 1) You want to make some changes to the master detail form. On the Order Management application page, click the **Master Detail** page.



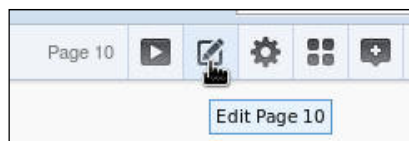
2) Right-click **Regions** and select **Edit All**.



3) Change the Region Name for the Oehr Orders region to **Order Master** and the Region Name for Oehr Order Items details to **Order Details**, and click **Apply Changes**.

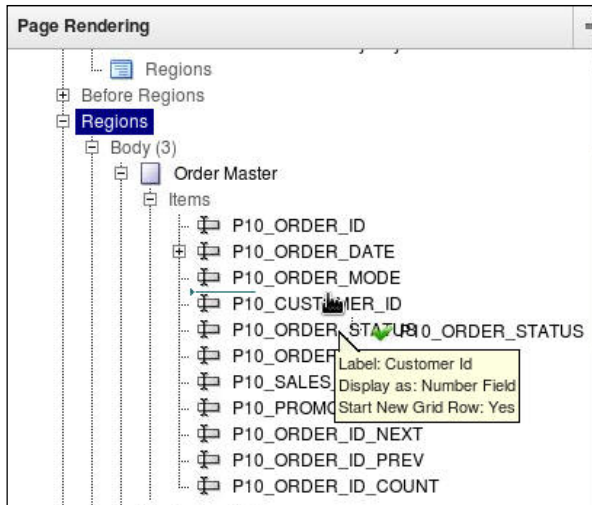
Sequence	Region Name	Template	Type	Items	Buttons	Display Point
0	Order Master	26. Reports Region	HTML Text	11	6	Page Template
15	Order Details	26. Reports Region	SQL Query (updateable report)	0	2	Page Template
10	Breadcrumb	26. Breadcrumb Region	BREADCRUMB Breadcrumb	0	0	Page Template

4) Click the **Edit Page** icon in the top-right corner of the window.

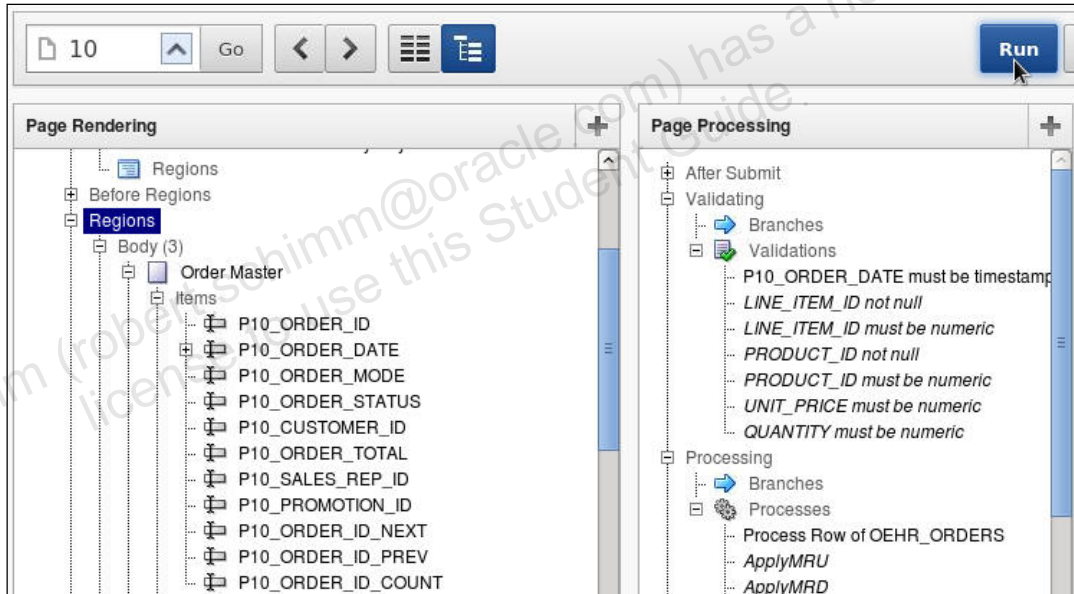


c. On the Master Detail page, move the Order Status item to appear before the Customer ID in the Order Master region.

- 1) You can reorder items very easily by dragging them. Drag P<n>\_ORDER\_STATUS to above P<n>\_CUSTOMER\_ID.



- 2) Notice that the item is moved. Click the **Run Page** icon.



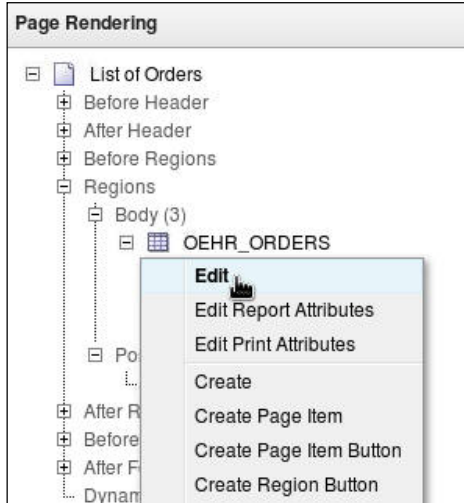
- 3) Click the **List of Orders** breadcrumb to return to the master report.

- d. On the List of Orders (master report) page, change the region title to List of Orders. Do not show the `PROMOTION_ID` column. Change the heading of Sales Rep ID to Sales Rep.

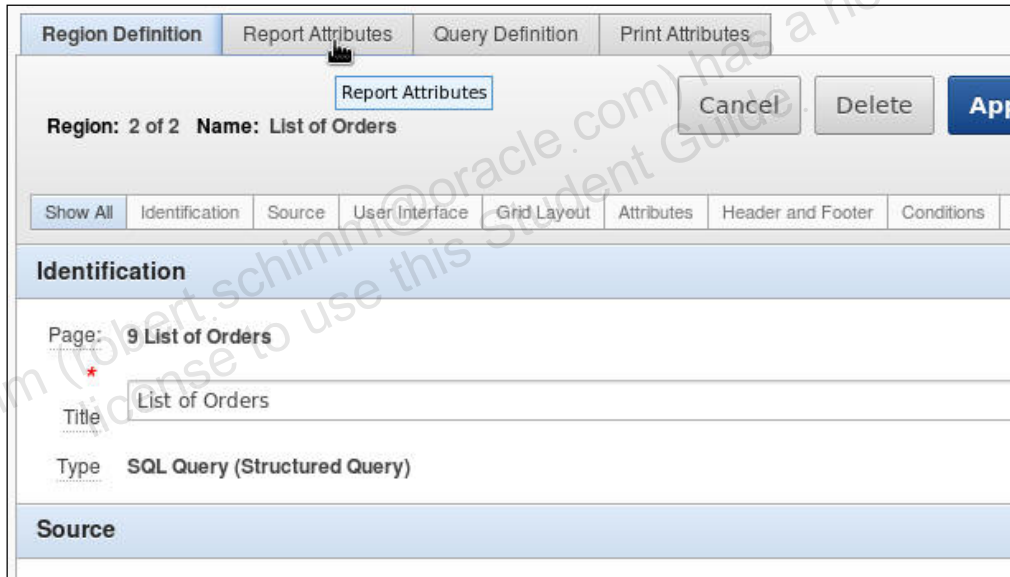
- 1) Click the **Edit Page <n>** link on the Developer toolbar.

Edit	Order Date	Order Mode	Customer Id	Order Status	Order Total	Sales Rep Id	Promotion Id
	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	

- 2) Under Regions, right-click **OEHR\_ORDERS** and select **Edit**.



- 3) Click the Show All tab if not already selected. Change the Title to **List of Orders** and click the **Report Attributes** tab.



- 4) For the **PROMOTION\_ID** column, deselect the Show check box. Change the Heading for **SALES\_REP\_ID** to **Sales Rep**, and click **Apply Changes**.

Region Name: List of Orders 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	Seq
ORDER_ID	<input checked="" type="checkbox"/>	<input type="text" value="Edit"/>		<input type="text"/>	right	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
ORDER_DATE		<input type="text" value="Order Date"/>		<input type="text"/>	left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
ORDER_MODE		<input type="text" value="Order Mode"/>		<input type="text"/>	left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
CUSTOMER_ID		<input type="text" value="Customer Id"/>		<input type="text"/>	right	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
ORDER_STATUS		<input type="text" value="Order Status"/>		<input type="text"/>	right	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
ORDER_TOTAL		<input type="text" value="Order Total"/>		<input type="text"/>	right	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
SALES_REP_ID		<input type="text" value="Sales Rep"/>		<input type="text"/>	right	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
PROMOTION_ID		<input type="text" value="Promotion Id"/>		<input type="text"/>	right	center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-







- 5) To run the page, click the **Run** button.

Page 9

**Run Page 9**

- 6) Review the report. Note that **PROMOTION\_ID** is no longer shown, the headings for Sales Rep have changed, and the region title has changed to List of Orders. Click the **Application <n>** link on the Developer toolbar.

List of Orders

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	
	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	

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## Solution 6-3: Creating a Tabular Form

### Overview

In this solution, you create and manipulate a tabular form.

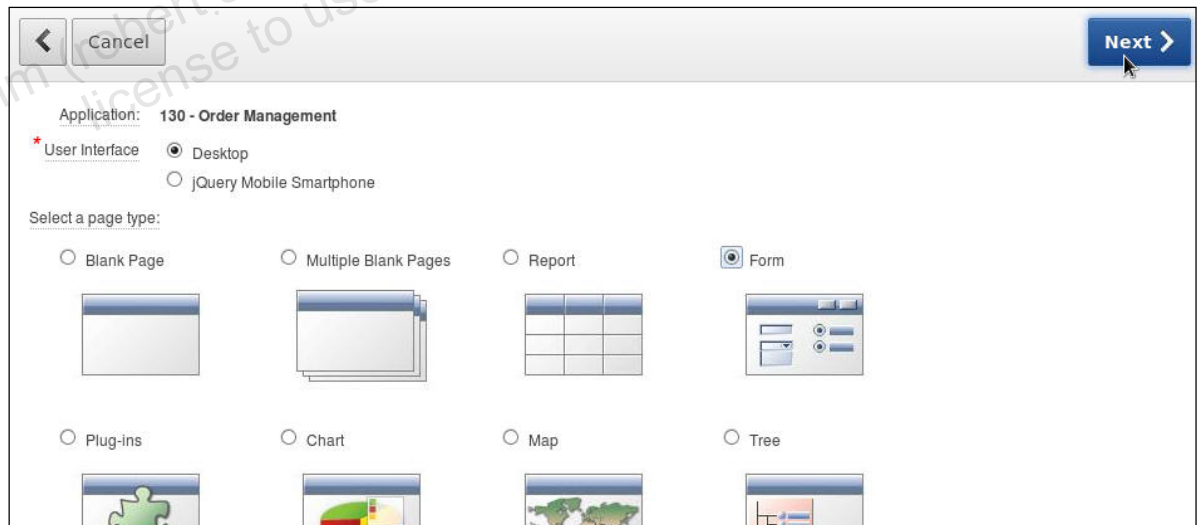
### Tasks

- a. On a new page called Update Employee Information, create a tabular form that displays the `FIRST_NAME`, `LAST_NAME`, `EMAIL`, `JOB_ID`, and `COMMISSION_PCT` columns from the `OEHR_EMPLOYEES` table. The `EMAIL`, `JOB_ID`, and `COMMISSION_PCT` columns should be updatable columns. Change the element width of the `CUST_EMAIL` column to 40.

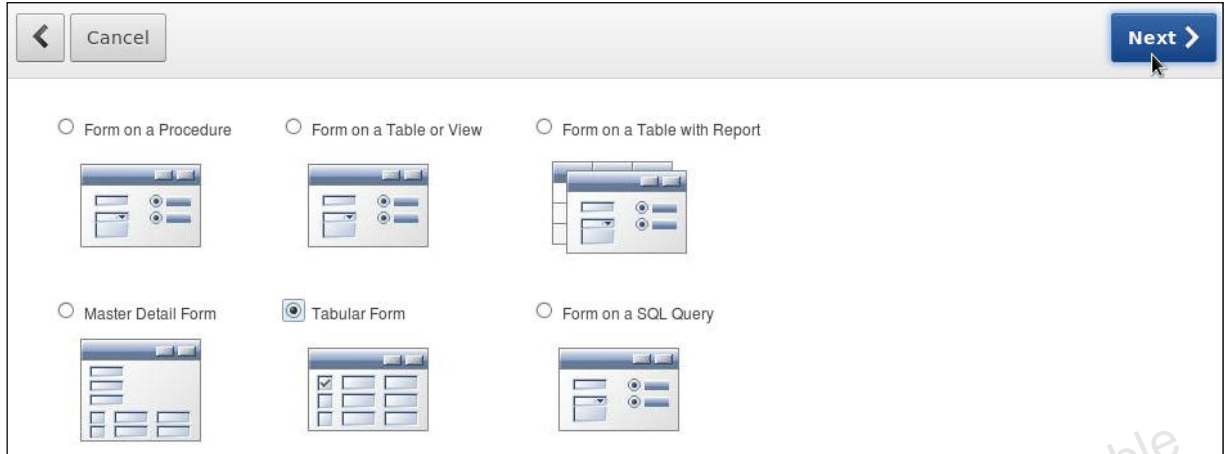
- 1) From the Order Management application home page, click **Create Page >**.



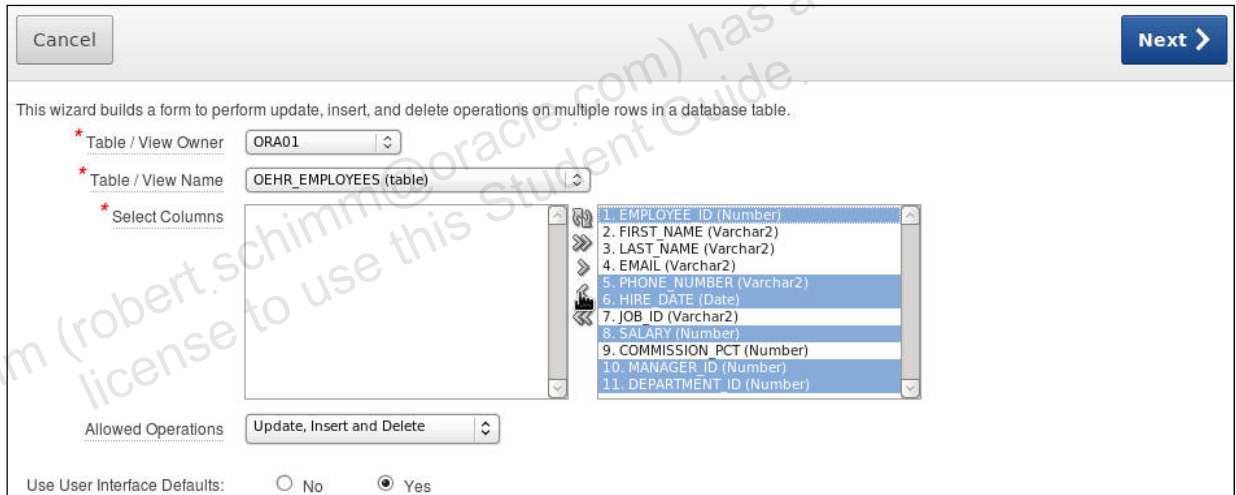
- 2) For the page type, select the **Form** option and click **Next >**.



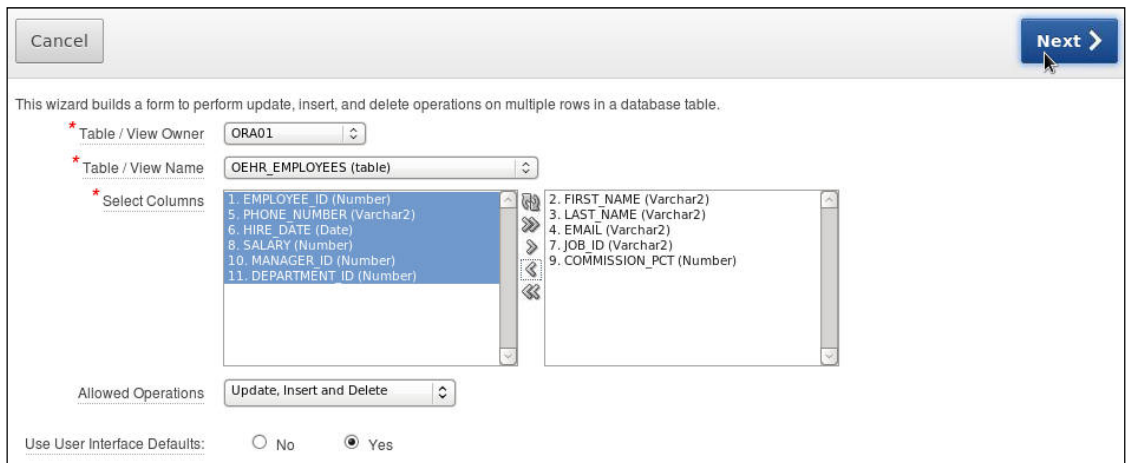
- 3) Select the **Tabular Form** option and click **Next >**.



- 4) Ensure that your schema is selected in the Table / View Owner field. For the Table / View Name field, select **OEHR\_EMPLOYEES (table)** from the drop-down list. Select all columns, except **FIRST\_NAME**, **LAST\_NAME**, **EMAIL**, **JOB\_ID**, and **COMMISSION\_PCT** from the right and click the left arrow (<).



- 5) Ensure that **Update, Insert and Delete** is selected in the Allowed Operations drop-down list. Click **Next >**.



- 6) For Primary Key Type, select **Select Primary Key Column(s)**. Select **EMPLOYEE\_ID** for Primary Key Column 1 and click **Next >**.

Tabular forms perform insert, update and delete operations on table rows in the database. The rows are identified using either a primary key defined on the table, or the ROWID pseudo column, which uniquely identifies a row in a table. Select "Managed by Database" if you would like to use the ROWID. Otherwise select the primary key column(s) defined for your table. Tabular forms support up to two columns in the primary key. For tables using primary keys with more than two columns, the ROWID option should be used.

Owner: **ORA01**  
 Table Name: **OEHR\_EMPLOYEES**

\* Primary Key Type:  Managed by Database (ROWID)  Select Primary Key Column(s)

\* Primary Key Column 1: **1. EMPLOYEE\_ID (Number)**

Primary Key Column 2: **- Select Column -**

- 7) For Source Type, accept the default **Existing trigger** and click **Next >**.

Select the method by which the primary key is populated.

- Choose Existing Trigger if there is already a trigger to populate the primary key.
- Choose Custom PL/SQL Function to define custom PL/SQL logic to generate the primary key value.
- Choose Existing Sequence if an existing sequence will be used to generate the primary key.

Table Owner: **ORA01**  
 Table Name: **OEHR\_EMPLOYEES**

**Primary Key 1 Defaults**  
 Primary Key Column 1: **EMPLOYEE\_ID**

\* Source Type:  Existing trigger  Custom PL/SQL function  Existing sequence

- 8) For Updatable Columns, you want all the columns to be updatable except **FIRST\_NAME** and **LAST\_NAME**. Select **FIRST\_NAME** and **LAST\_NAME**, and click the left arrow (←).

Owner: **ORA01**  
 Table Name: **OEHR\_EMPLOYEES**  
 Primary Key Column 1: **EMPLOYEE\_ID**

\* Updatable Columns: [Empty list]

Column List:  
 FIRST\_NAME (Varchar2)  
 LAST\_NAME (Varchar2)  
 EMAIL (Varchar2)  
 JOB\_ID (Varchar2)  
 COMMISSION\_PCT (Number)

9) Click **Next >**.

10) On the “Identify page and Region Attributes” page, enter **Update Employee Information** for both Page Name and Region Title. Click **Next >**.

11) Ensure that the **Do not use tabs** option is selected and click **Next >**.

12) For Button Labels and Branches, accept the defaults and click **Next >**.

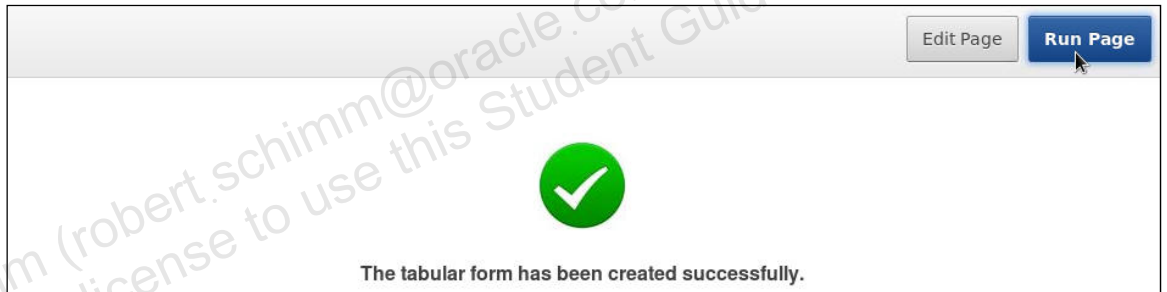
13) Click **Create**.

← Cancel
Create

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

Application	130
Page	13
Page Name	Update Employee Information
Region Title	Update Employee Information
Tab Set	TS1
Tab Label	
Table Owner	ORA01
Table Name	OEHR_EMPLOYEES
Columns	FIRST_NAME LAST_NAME EMAIL JOB_ID COMMISSION_PCT
Updateable Columns	EMAIL JOB_ID COMMISSION_PCT
Primary Key Column	EMPLOYEE_ID

14) Click **Run Page** to view your new form.



15) You notice that the email field is smaller than required. Click the **Edit Page <n>** link on the Developer toolbar.

Update Employee Information
Cancel Delete Submit

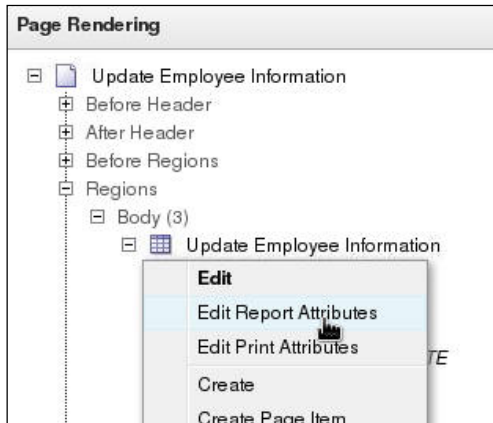
<input type="checkbox"/>	First Name	Last Name	Email	Job Id	Commission Pct
<input type="checkbox"/>	Steven	King	SKING	AD_PRES	
<input type="checkbox"/>	Neena	Kochhar	NKOCHHAR	AD_VP	
<input type="checkbox"/>	Lex	De Haan	LDEHAAN	AD_VP	
<input type="checkbox"/>	Alexander	Hunold	AHUNOLD	IT_PROG	
<input type="checkbox"/>	Bruce	Ernst	BERNST	IT_PROG	
<input type="checkbox"/>	David	Austin	DAUSTIN	IT_PROG	
<input type="checkbox"/>	Valli	Pataballa	VPATABAL	IT_PROG	
<input type="checkbox"/>	Diana	Lorentz	DLORENTZ	IT_PROG	
<input type="checkbox"/>	Nancy	Greenberg	NGREENBE	FI_MGR	
<input type="checkbox"/>	Daniel	Faviet	DFAVIET	FI_ACCOUNT	

row(s) 1 - 10 of 107
Next >

Add Row

Home Application 130 Edit Page 13 Create Session Caching View Debug Debug Show Edit Links Show Grid

- 16) Under Regions, right-click **Update Employee Information** and select **Edit Report Attributes**.



- 17) Click the Edit icon to the left of **EMAIL**.

Region Definition | **Report Attributes** | Print Attributes

Region Name: Update Employee Information 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
[row selector]		✓	Select Row		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
EMPLOYEE_ID		✓	Employee Id		left		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
FIRST_NAME			First Name		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
LAST_NAME			Last Name		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
EMAIL		✓	Email		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
JOB_ID		✓	Job Id		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
COMMISSION_PCT		✓	Commission Pct		left		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

When moving the last column further down, it will show up as the first column of your report.  
When moving the first column up, it will be moved to the end of your report.

- 18) Select the **Column Attributes** subtab and enter 40 for element width and click **Apply Changes**.

Column Attributes: EMAIL

Cancel Apply Changes

Show All Column Definition Column Attributes List of Values Tabular Form Attributes Column Formatting Column Link Authorization Conditional Display

Column Attributes

Display As Text Field

Number / Date Format

Numeric format mask: 999G999G999G999G999

Graphical formatting for percentages, whole numbers between 0 and 100

Field Template - render form field without template -

Element Width 40

Element CSS Classes

Element Attributes

Element Online Attributes

- 19) Run the form to see the results.

Page 13

Run Page 13

- 20) Notice that the length of the Cust Email column has changed. Click **Application <n>** on the Developer toolbar.

Update Employee Information

<input type="checkbox"/>	First Name	Last Name	Email	Job Id	Commission Pct
<input type="checkbox"/>	Steven	King	SKING	AD_PRES	
<input type="checkbox"/>	Neena	Kochhar	NKOCHHAR	AD_VP	
<input type="checkbox"/>	Lex	De Haan	LDEHAAN	AD_VP	
<input type="checkbox"/>	Alexander	Hunold	AHUNOLD	IT_PROG	
<input type="checkbox"/>	Bruce	Ernst	BERNST	IT_PROG	
<input type="checkbox"/>	David	Austin	DAUSTIN	IT_PROG	
<input type="checkbox"/>	Valli	Pataballa	VPATABAL	IT_PROG	
<input type="checkbox"/>	Diana	Lorentz	DLORENTZ	IT_PROG	
<input type="checkbox"/>	Nancy	Greenberg	NGREENBE	FI_MGR	
<input type="checkbox"/>	Daniel	Faviet	DFAVIET	FI_ACCOUNT	

row(s) 1 - 10 of 107 Next >

Home Application 130 Edit Page 13 Create Session Cache http://localhost:8080/apex/f?p=4000:4...O\_

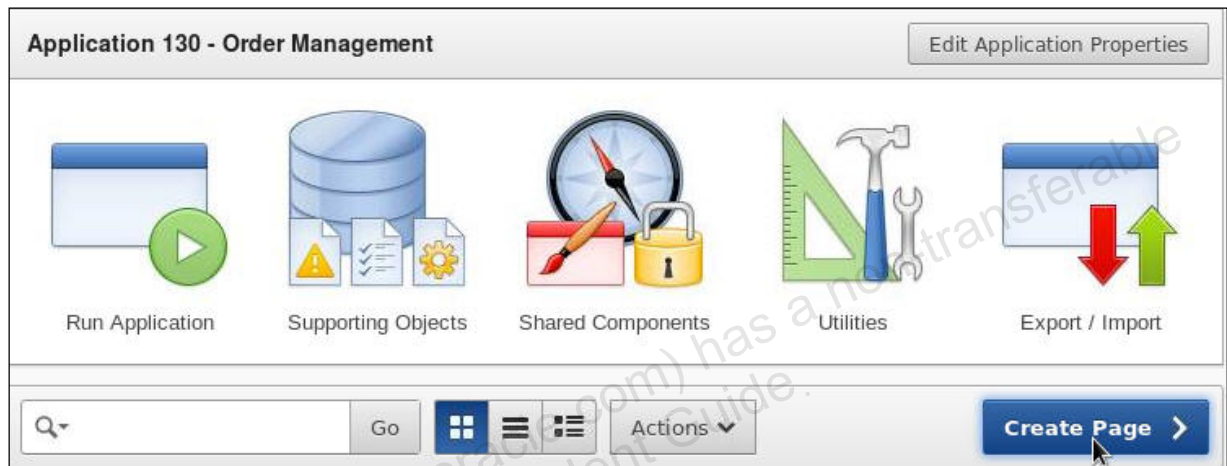
## Solution 6-4: Create a Form on a Table for Mobile Applications

### Overview

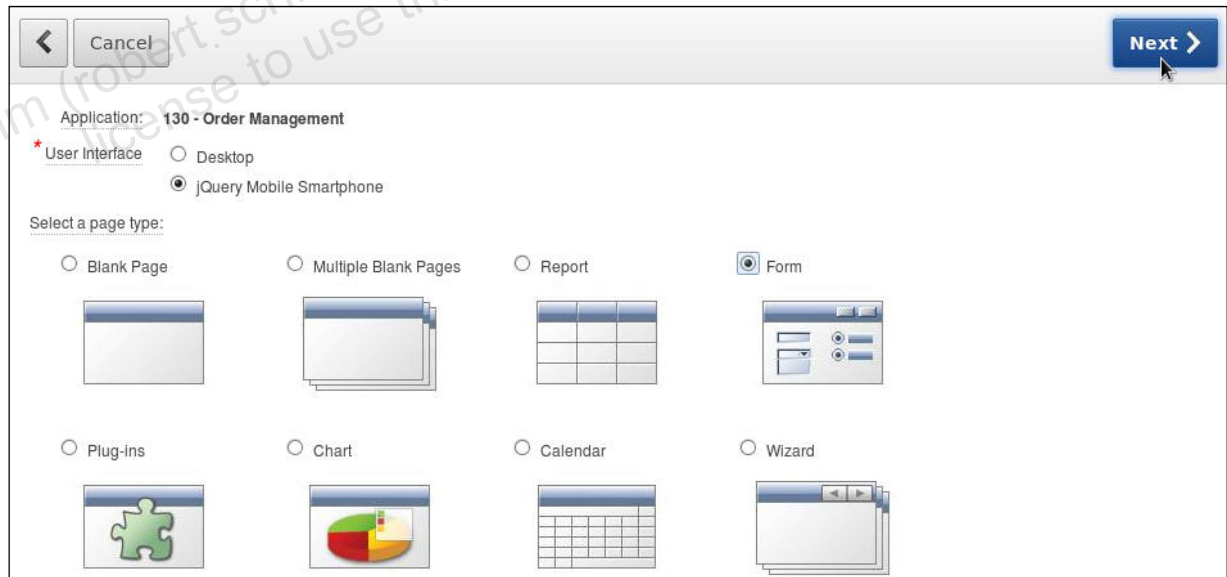
In this solution, you add a form page to the mobile application and link it from a list view page.

### Tasks

- a. Add a form page called Employee Detail to the application for mobile interface. Link this Employee Detail form page to the existing Employee List list view page.
  - 1) Navigate to the Application Builder Home page and click **Create Page >**.



- 2) Select **jQuery Mobile Smartphone** for **User Interface**. Select **Form** and click **Next >**.



3) Select the default and click **Next >**.

4) Select **OEHR\_EMPLOYEES** for Table / View Name and click **Next >**.

5) Change the Page Number to **206** and enter the Page Name and Region Name as **Employee Detail**. Click **Next >**.

6) For Primary Key Type, select **Select Primary Key Column(s)**. Click **Next >**.

7) For Source Type, accept the default **Existing trigger** and click **Next >**.

Select the method by which the primary key is populated.

- Choose Existing Trigger if there is already a trigger to populate the primary key.
- Choose Custom PL/SQL Function to define custom PL/SQL logic to generate the primary key value.
- Choose Existing Sequence if an existing sequence will be used to generate the primary key.

Owner: **ORA01**

Table / View Name: **OEHR\_EMPLOYEES**

Primary Key Column 1: **EMPLOYEE\_ID**

\* Source Type:

Existing trigger     Custom PL/SQL function     Existing sequence

8) Click **Next >**.

Select the columns to include on the form.

Page: **206**

Owner: **ORA01**

Table / View Name: **OEHR\_EMPLOYEES**

\* Select Column(s)

<input type="checkbox"/>	FIRST_NAME (Varchar2)
<input type="checkbox"/>	LAST_NAME (Varchar2)
<input type="checkbox"/>	EMAIL (Varchar2)
<input type="checkbox"/>	PHONE_NUMBER (Varchar2)
<input type="checkbox"/>	HIRE_DATE (Date)
<input type="checkbox"/>	JOB_ID (Varchar2)
<input type="checkbox"/>	SALARY (Number)
<input type="checkbox"/>	COMMISSION_PCT (Number)
<input type="checkbox"/>	MANAGER_ID (Number)
<input type="checkbox"/>	DEPARTMENT_ID (Number)

9) Accept the default for Buttons and click **Next >**.

Identify the process options and button display text for the form. For example, to prevent users from being able to delete from the form, choose **No** for the delete button option.

Page: **206**

Owner: **ORA01**

Table / View Name: **OEHR\_EMPLOYEES**

Cancel Button Label:

Show Create Button:  Create Button Label:

Show Save Button:  Save Button Label:

Show Delete Button:  Delete Button Label:

- 10) Select the **Employee List** list view page for both “After Page Submit and Processing Branch to Page” and “When Cancel Button Pressed Branch to this Page,” and click **Next >**.

Page: 206  
Owner: ORA01  
Table / View Name: OEHR\_EMPLOYEES

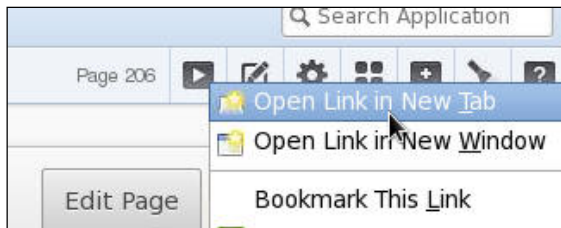
\* After Page Submit and Processing Branch to Page 205  
\* When Cancel Button Pressed Branch to this Page 205

- 11) Click **Create**.

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

Application	130
Page	206
Page Name	Employee Detail
Region Title	Employee Detail
Region Template	Plain (No Title)
Table / View Owner	ORA01
Table / View Name	OEHR_EMPLOYEES
Primary Key Column 1	EMPLOYEE_ID
Primary Key Column 2	
Display Columns	FIRST_NAME LAST_NAME EMAIL PHONE_NUMBER HIRE_DATE JOB_ID SALARY COMMISSION_PCT MANAGER_ID DEPARTMENT_ID
Process Options	Insert, Update, Delete

- 12) To run the page on a new tab, right-click the **Run** icon and select **Open Link in New Tab**.

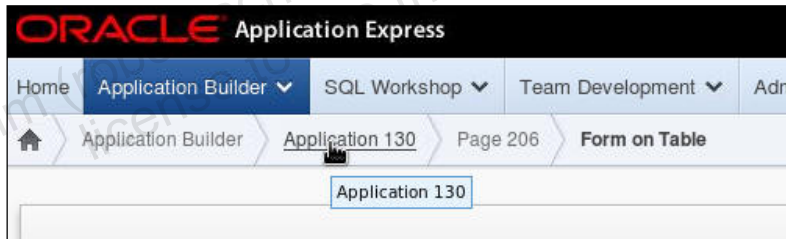


- 13) You will notice that there is no data on the Employee Detail page. You will have to link the **Employee List** list view page to the **Employee Detail** form.

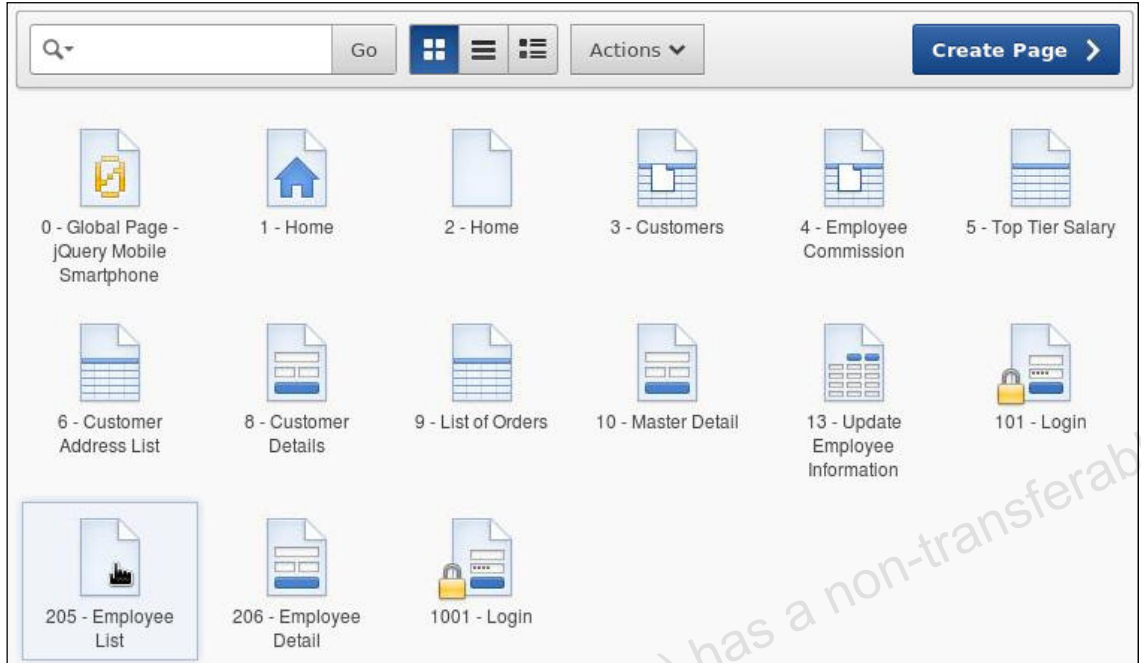


The screenshot shows the 'Employee Detail' form in Oracle APEX. The form has a blue header with a home icon, the text 'Employee Detail', and a 'Logout' button. Below the header are several input fields for the following fields: First Name, Last Name (marked with a red asterisk), Email (marked with a red asterisk), Phone Number, Hire Date (marked with a red asterisk), Job Id (marked with a red asterisk), Salary, Commission Pct, Manager Id, and Department Id. At the bottom of the form are two buttons: 'Cancel' and 'Create'.

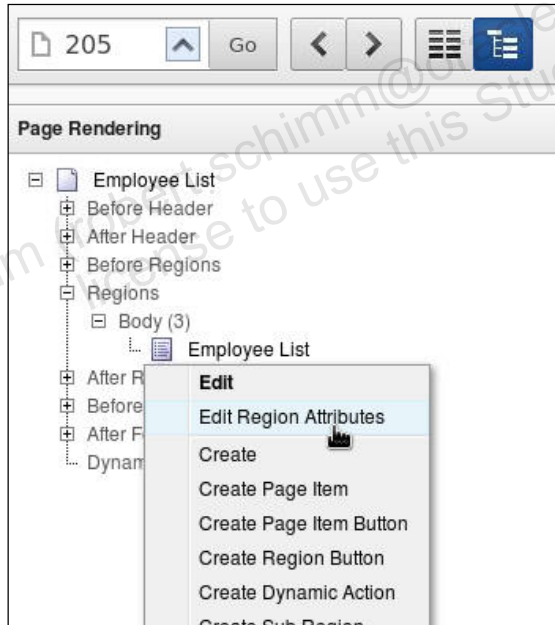
- 14) Go back to the **Create Form on Table** tab and click the **Application <n>** breadcrumb.



15) Click the **Employee List** page.



16) Under Regions, right-click **Employee List** and select **Edit Region Attributes**.



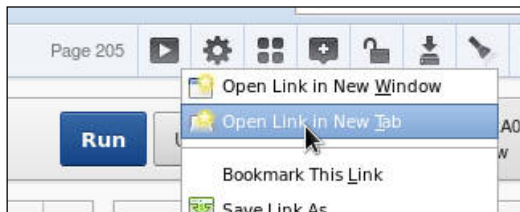
- 17) For Link Target, enter the following code (also located in /home/oracle/labs/files/lab6\_4.txt) and click **Apply Changes**.

```
f?p=&APP_ID.:<n>:&APP_SESSION.::&DEBUG.:RP,<n>:P<n>_EMPLOYEE_ID:&EMPLOYEE_ID.
```

This specifies the URL to the target page (change <n> to the page number of your form) and set P<n>\_EMPLOYEE\_ID to the EMPLOYEE\_ID value of the EMPLOYEE\_LIST list view entry.

The screenshot shows the 'Region Attributes' configuration window for the 'Employee List' region. The 'Link Target' field is populated with the URL: `f?p=&APP_ID.:206:&APP_SESSION.::&DEBUG.:RP,206:P206_EMPLOYEE_ID:&EMPLOYEE_ID.` Other settings include 'Enable Search' and 'Inset List' checked, and 'Text Column' set to 'LAST\_NAME'.

- 18) Right-click **Run Page** on the Employee List page and select **Open Link in New Tab**.



- 19) On the Employee List page, click any **Employee Name** and note that it is linked to the Employee Detail page and the employee details are populated.

The screenshot shows the 'Employee List' page. At the top, there is a search bar and a 'Logout' button. Below the search bar is a list of employee names, each with a right-pointing arrow indicating it is a link. The names listed are: King, Kochhar, De Haan, Hunold, Ernst, Austin, Pataballa, Lorentz, Greenberg, Favier, Chen, and Sciarra. The 'Pataballa' entry is highlighted, and a mouse cursor is visible over it.

- 20) Click **Cancel** and you will be redirected to the **Employee List** page.

The screenshot shows the 'Employee Detail' page. At the top, there is a 'Logout' button. The page displays the following employee details in a form:

First Name	Valli
*Last Name	Pataballa
*Email	VPATABAL
Phone Number	590.423.4560
*Hire Date	1998-02-05
*Job Id	SA_REP
Salary	4800
Commission Pct	.3
Manager Id	103
Department Id	60

At the bottom of the form, there are three buttons: 'Cancel', 'Delete', and 'Apply Changes'. The 'Cancel' button is highlighted with a mouse cursor.

# Practices for Lesson 7: Working with Pages and Regions

## Chapter 7

## Practices for Lesson 7: Overview

---

### Practices Overview

In these practices, you create a report region on a Products page and modify the attributes of the report. You create a side bar region and a footer to the Customer Details page. Finally, you create a Global page for the desktop application, add a Static HTML region to the Global page, and run it. You also modify the Home region on the Mobile Home page.

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## Practice 7-1: Creating and Modifying Pages and Regions

---

### Overview

In this practice, you create a report region on a Products page and modify the attributes of the report. You create a sidebar region, and add a footer to the Customer Details page.

### Assumptions

You have performed the previous practices or imported the `LAB064_SOLN.sql` packaged application.

### Tasks

- a. Create a blank page called Products with a region called Products. Create a new tab called Products by using the existing tab set for this page.
- b. Create a new report region called List of Products on the Products page. Use a Classic Report and display all the rows in the `OEHR_PRODUCTS_INFORMATION` table. Run the report after it is created.
- c. Change the Page Template so there is no sidebar.
- d. Modify the report so that it is a subregion under the Product region parent and displays only the Product ID, Product Name, Product Status, Category ID, and List Price columns in the report. Also, you want to display only 10 rows at a time and show the pagination in a select list. After you have performed these tasks, run the report.
- e. Create a Hint sidebar region on the right side of the Customer Details page that includes the following HTML code (located in `/home/oracle/labs/files/lab7_1_1.txt`):

```
Use this page to enter and <br> maintain customer information.
```

- f. Add a footer to the Customer Details region on the Customer Details page so that the following message (located in `/home/oracle/labs/files/lab7_1_2.txt`) appears at the bottom of the region when a user enters this page:

```
<i>The record created or modified in this form is reflected in  
the Customer Report.</i>
```

## Practice 7-2: Creating a Global Page and Adding a Region

---

### Overview

In this practice, you create a Global desktop page for the Order Management application and review the page. You also add a Static HTML region to the Global Desktop page.

### Assumptions

You should have completed the previous practices.

### Tasks

- a. Create a Global desktop page in the Order Management application and review it in the Application Properties.
- b. Add a Static HTML region to the Global Desktop page. Call the region as “In the News” on the Global page with the following code (located in `/home/oracle/labs/files/lab7_2.txt`):

## Practice 7-3: Modify the Mobile Home Page

---

### Overview

In this practice, you modify the Home region on the Mobile Home page.

### Assumptions

You should have completed the previous practices.

### Tasks

- a. Modify the Home region on the Mobile Home page.

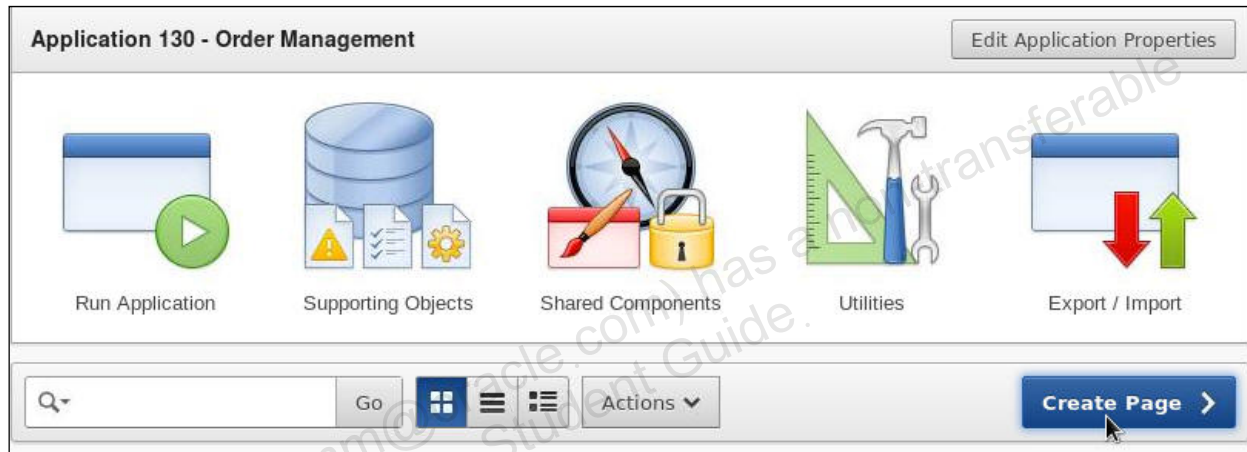
## Solution 7-1: Creating and Modifying Pages and Regions

### Overview

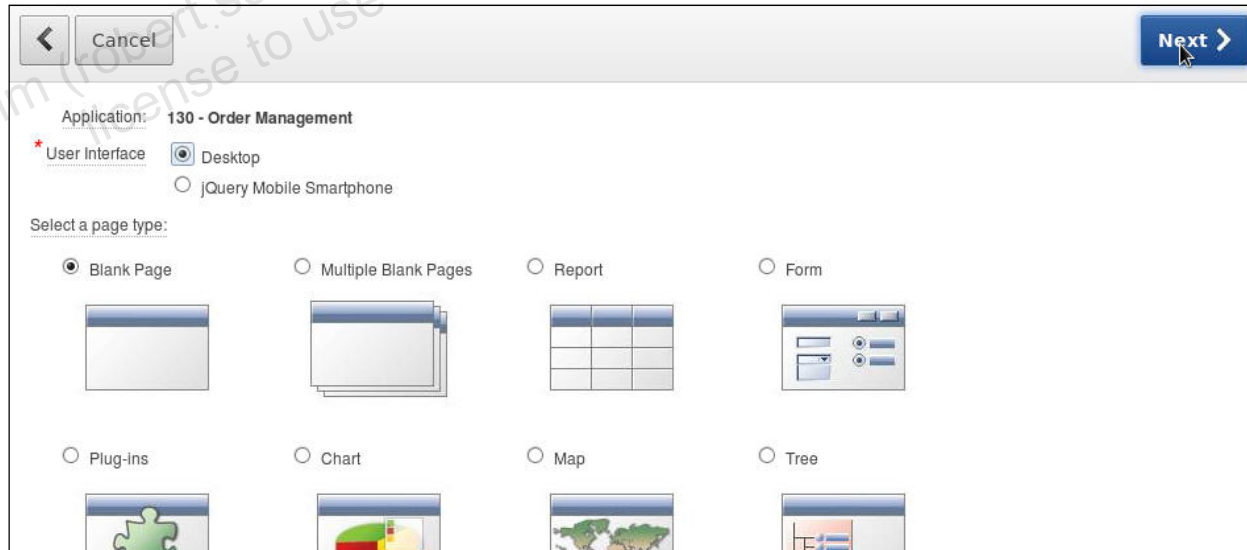
In this practice, you create a report region on a Products page, and modify the attributes of the report. You create a sidebar region, and add a footer to the Customer Details page.

### Steps

- a. Create a blank page called Products with a region called Products. Create a new tab called Products by using the existing tab set for this page.
  - 1) Navigate to the **Order Management** application home page and click **Create Page >**.



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



- 3) Accept the default 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:

**Next >**

- 4) Enter **Products** for Name and HTML Region 1. Click **Next >**.

Page: **16**

\* Name:

Breadcrumb:

**Optional HTML Regions**

HTML Region 1:

2:

3:

4:

5:

**Next >**

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

Page: **16**

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:

**Next >**

- 6) Click **Finish**.

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

Application: **130**

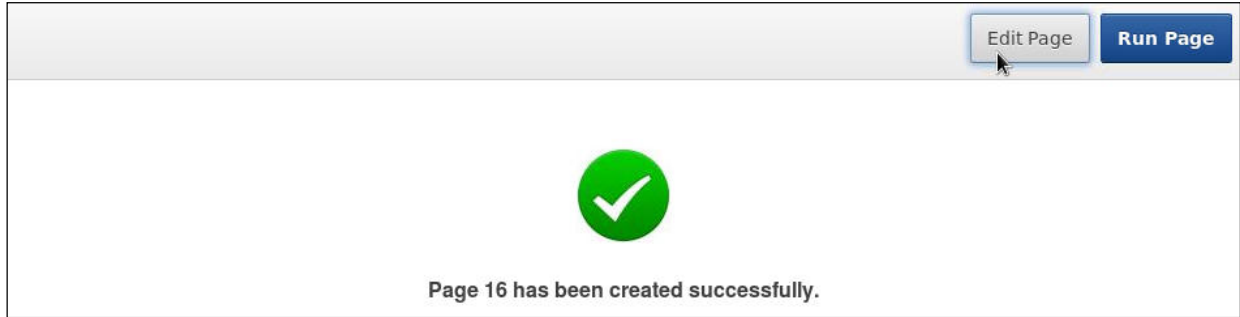
Page: **16**

Page Name: **Products**

Page Title: **Products**

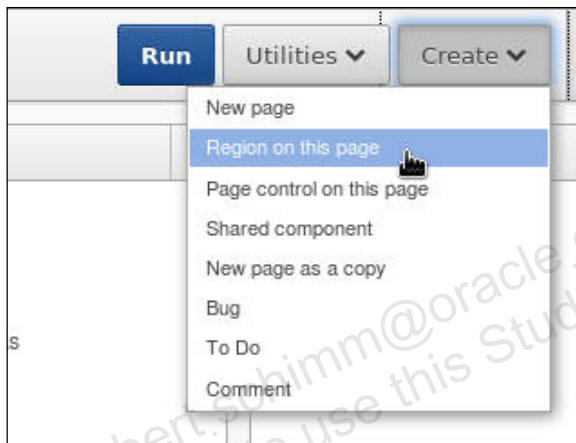
**Finish**

7) Click the **Edit Page** icon.

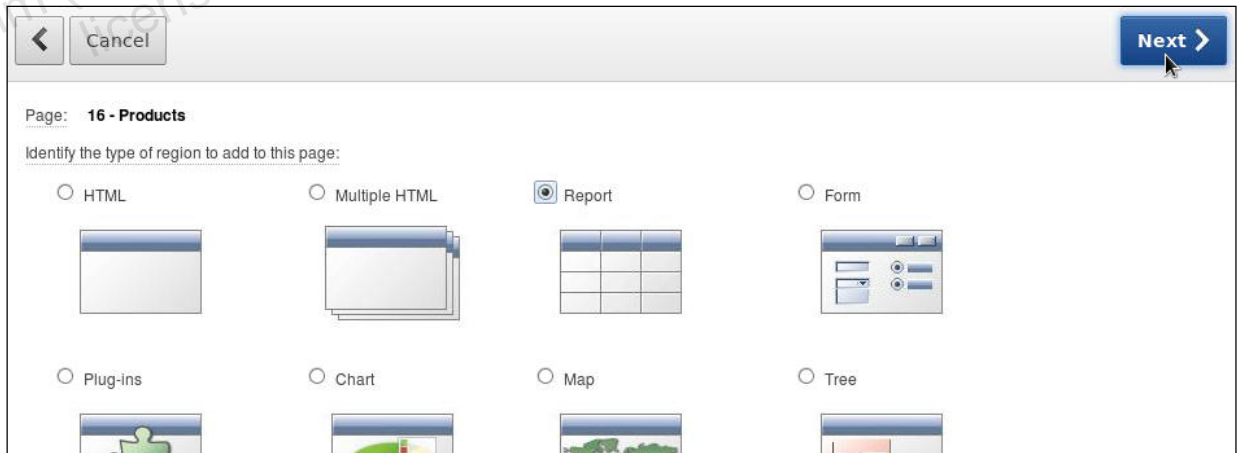


b. Create a new report region called List of Products on the Products page. Use a Classic report and display all the rows in the OEHR\_PRODUCTS\_INFORMATION table. Run the report after it is created.

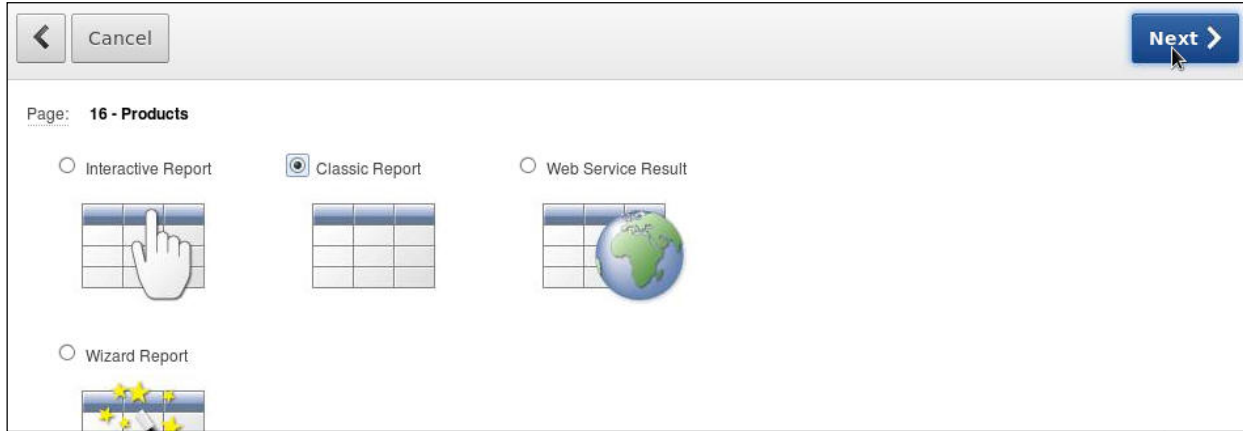
1) On the Page Definition page, click **Create** and select **Region on this page**.



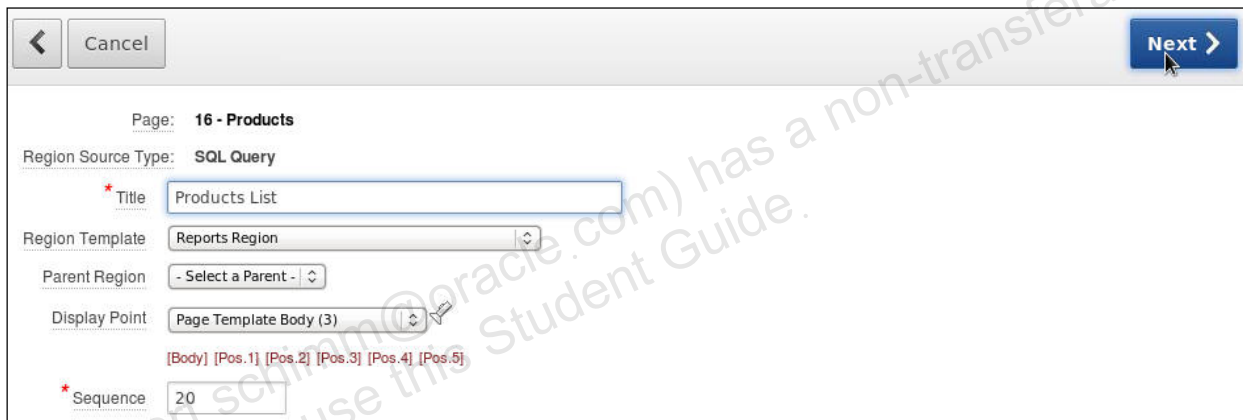
2) Select the **Report** option, and click **Next >**.



3) Select the **Classic Report** option and click **Next >**.



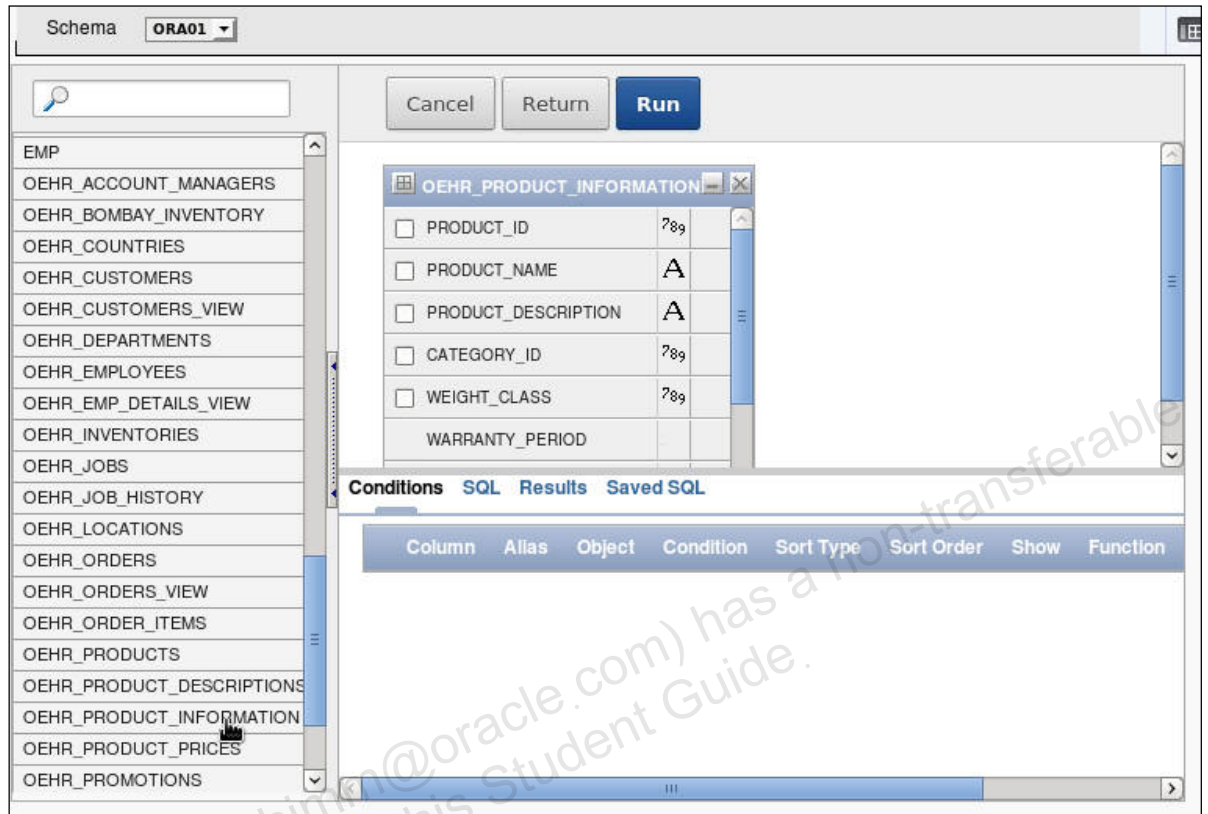
4) Enter **Products List** for **Title** and click **Next >**.



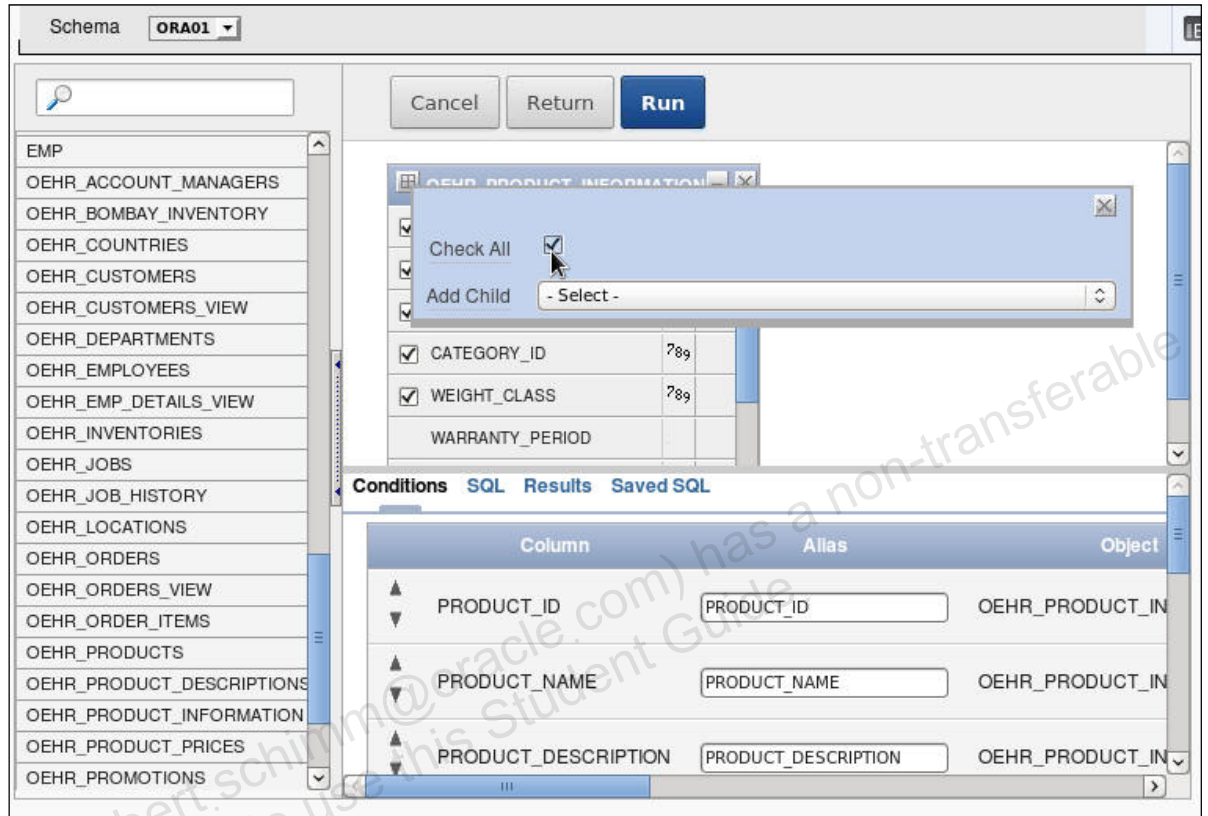
5) Click the **Query Builder** button.



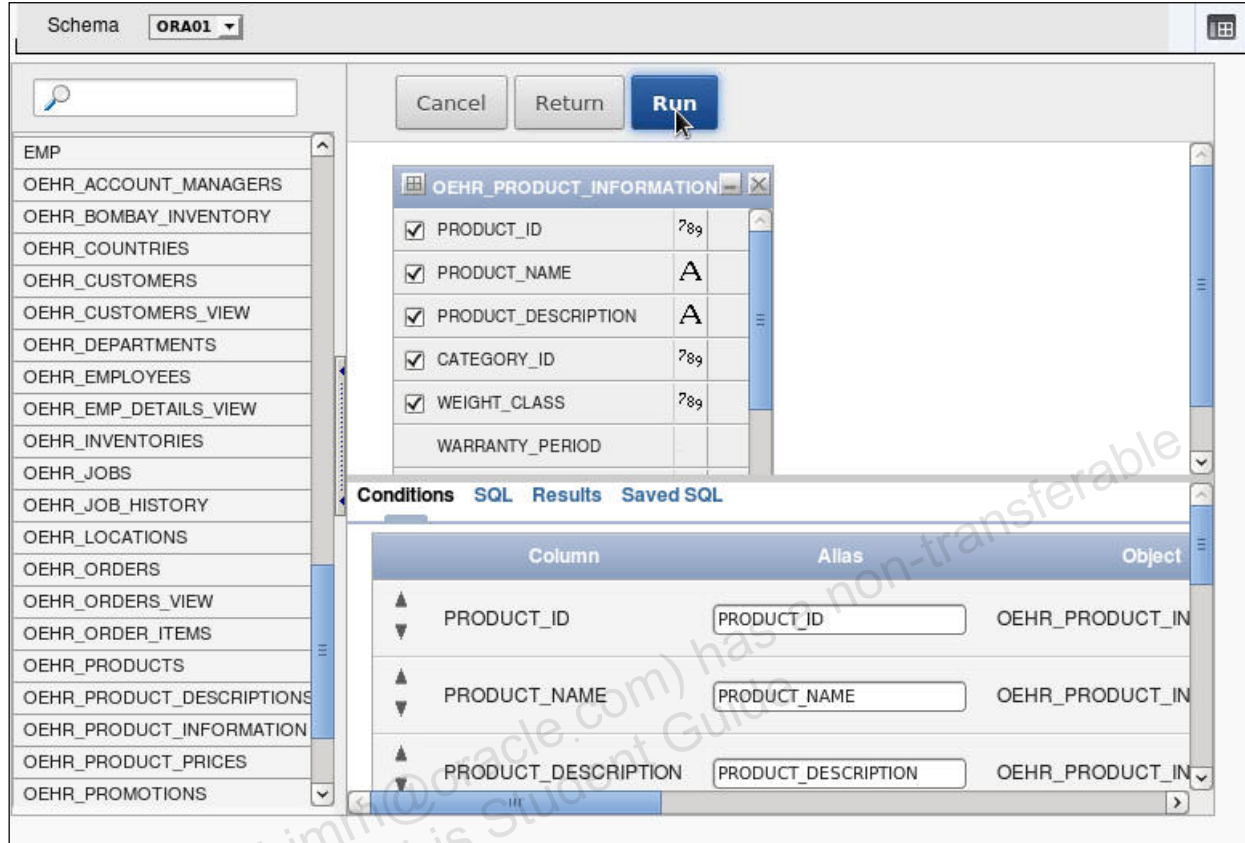
- 6) Scroll down and select **OEHR\_PRODUCT\_INFORMATION** from the Object Selection pane.



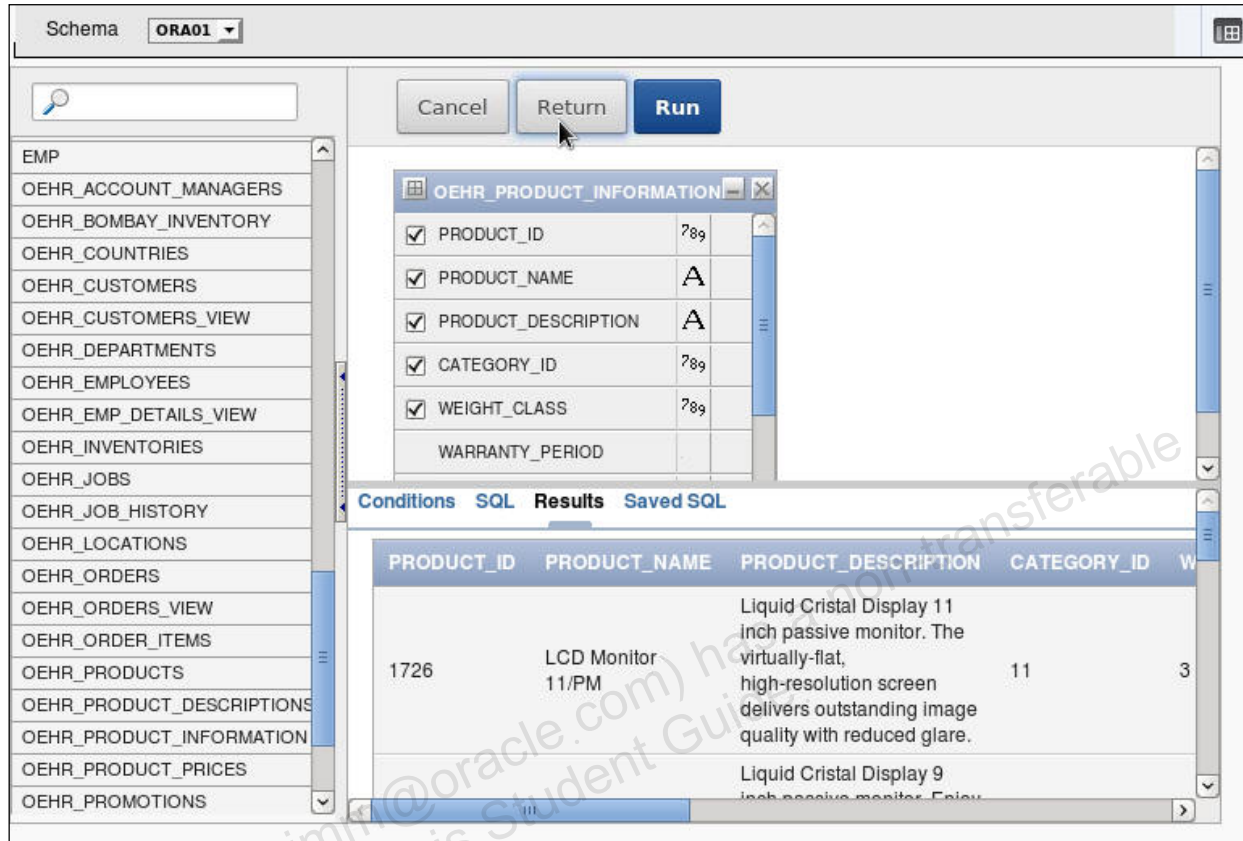
- 7) The selected object appears in the Design pane. Click the **Table Actions** icon in the top-left corner of the OEHR\_PRODUCT\_INFORMATION table and select the **Check All** check box. This enables you to select all the columns for your query. Notice that all the columns are listed in the bottom pane.



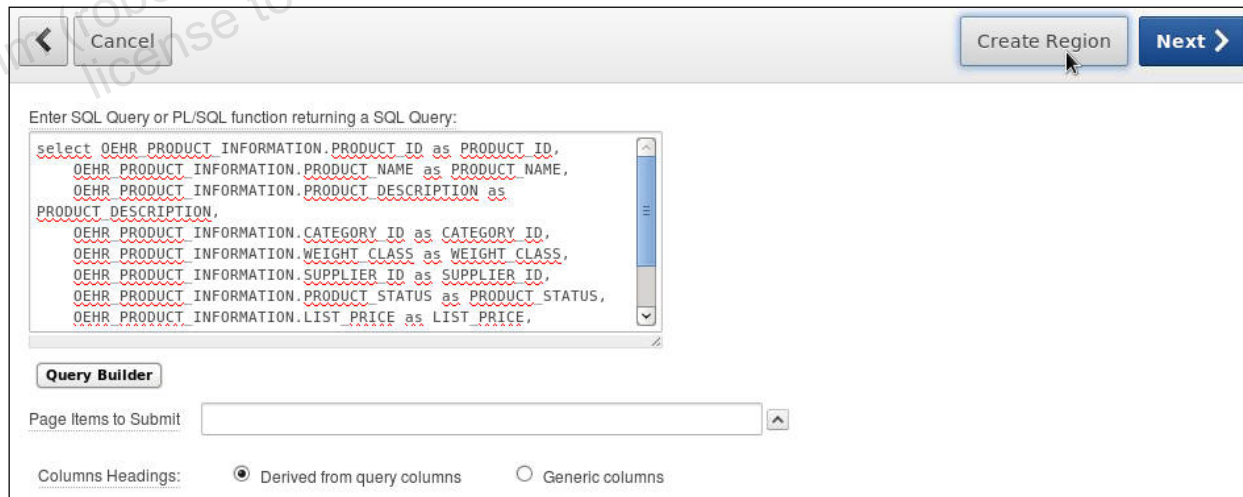
8) Click **Run**.



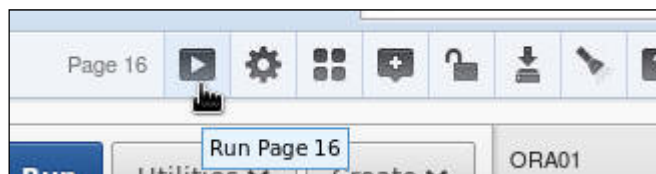
9) Click **Return**.



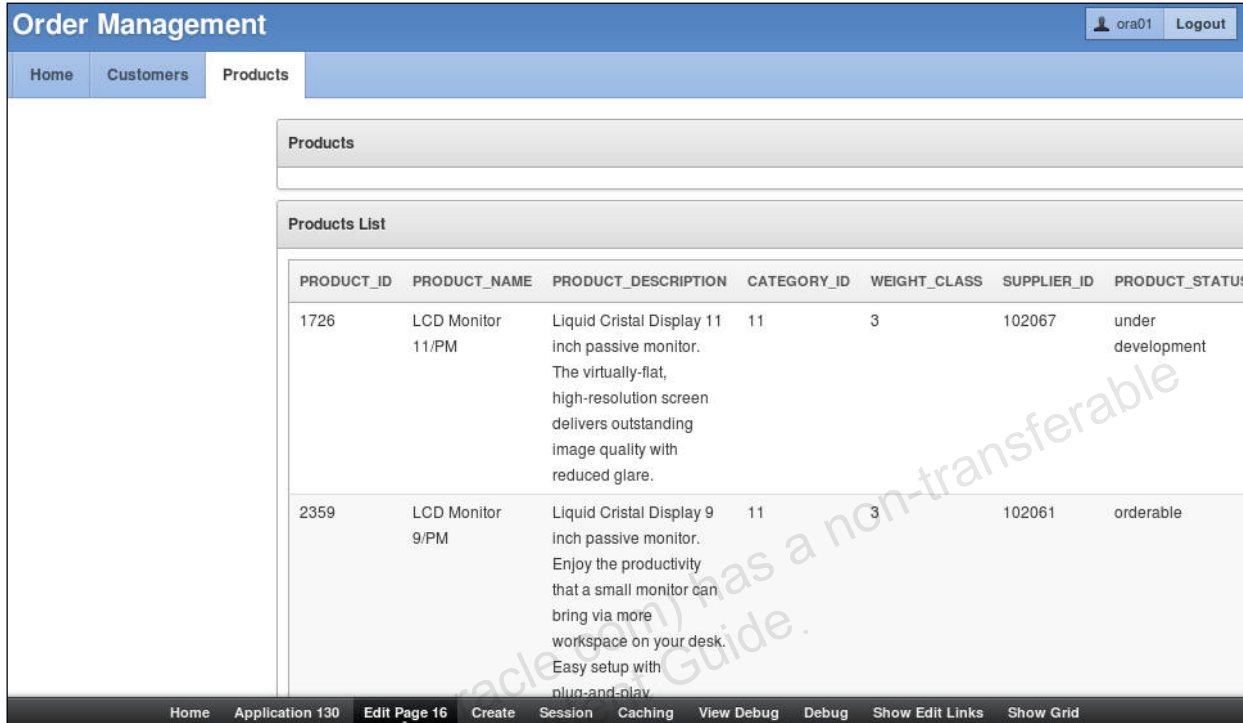
10) Notice that a query is built that contains all the columns in the OEHR\_PRODUCT\_INFORMATION table. Click the **Create Region** button.



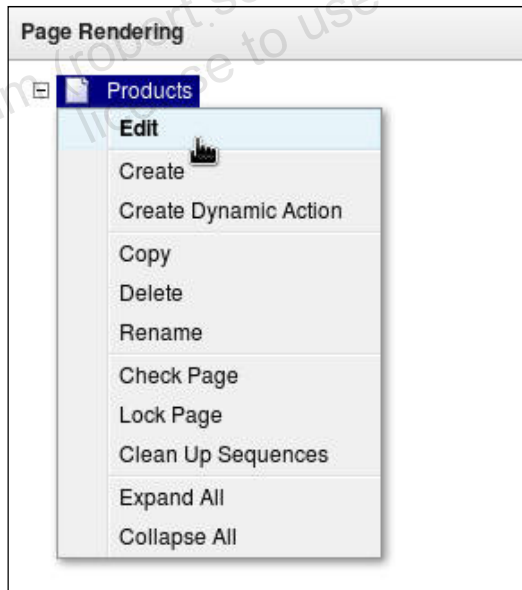
11) Test your page and its new query. Click the **Run** button.



- 12) The report is displayed. (**Note:** If you had to re-login, the Home page is displayed. Click the **Products** tab to view the report.) Click the **Edit Page** link on the Developer toolbar.



- c. Change the Page Template so there is no sidebar.  
 1) Right-click the **Products** page definition and select **Edit**.



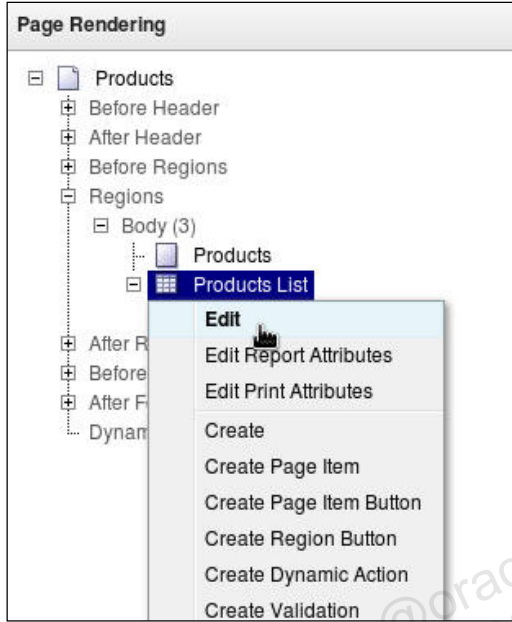
2) Select **One Level Tabs – No Sidebar** for Page Template.

The screenshot shows the 'Page Attributes' dialog box for page 12 of 16. A dropdown menu is open for the 'Page Template' field, listing various options. The option 'One Level Tabs - No Sidebar' is highlighted by the mouse cursor. Other visible options include 'Use Theme Default', 'Login', 'Minimal Page', 'No Tabs - Left Sidebar', 'No Tabs - Left and Right Sidebar', 'No Tabs - No Sidebar', 'No Tabs - Right Sidebar', 'One Level Tabs - Content Frame', 'One Level Tabs - Left Sidebar', 'One Level Tabs - Left and Right Sidebar', 'One Level Tabs - Right Sidebar', 'One Level Tabs - Search Filter Bar', 'One Level Tabs - Wizard Page', 'Popup', 'Printer Friendly', 'Two Level Tabs - Left Sidebar', 'Two Level Tabs - Left and Right Sidebar', 'Two Level Tabs - No Sidebar', and 'Two Level Tabs - Right Sidebar'. The 'Page Template' field currently shows 'One Level Tabs - Left Sidebar'. Other fields include 'Page: 16', 'Name: Products', 'Page Alias', 'Group: - No Group Assigned -', 'User Interface', 'Standard Tab Set: TS1 (Home, Customers, Products)', and 'Title: Products'. Buttons for 'Cancel' and 'Delete' are visible at the top right.

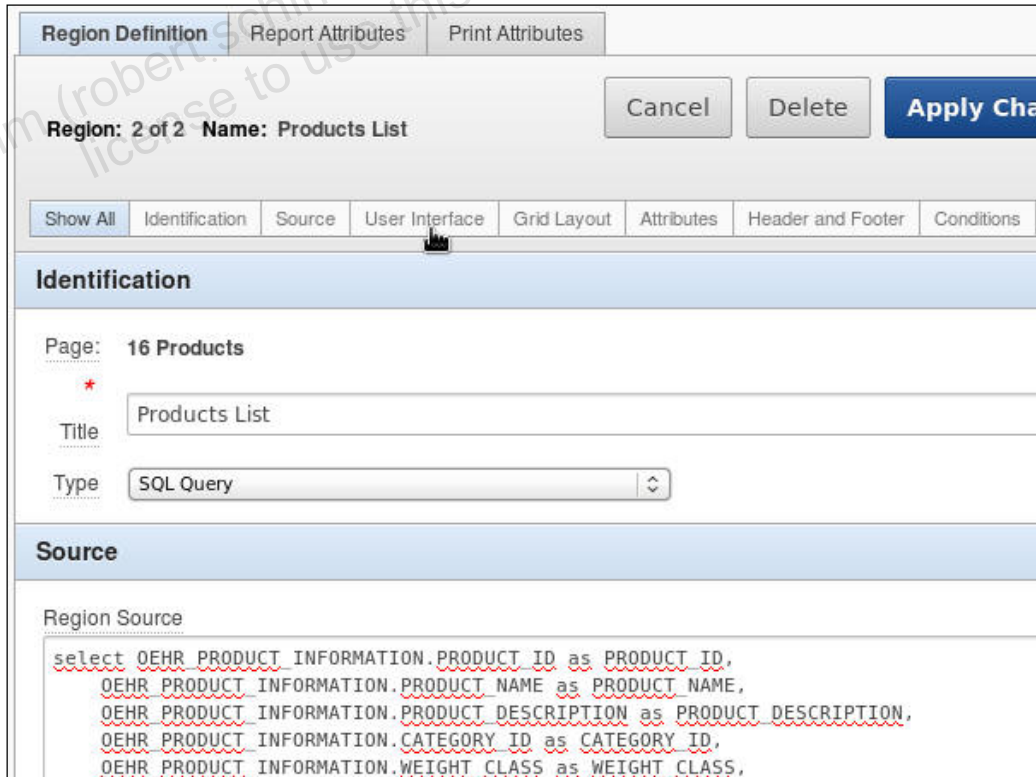
3) Click **Apply Changes**.

The screenshot shows the 'Page Attributes' dialog box for page 12 of 16. The 'Apply Changes' button is highlighted with a mouse cursor. The 'Page Template' field now displays 'One Level Tabs - No Sidebar'. Other fields include 'Page: 16', 'Name: Products', 'Page Alias', 'Group: - No Group Assigned -', 'User Interface: Desktop', 'Standard Tab Set: TS1 (Home, Customers, Products)', and 'Title: Products'. Buttons for 'Cancel', 'Delete', and 'Apply Changes' are visible at the top right.

- d. Modify the report so that it is a subregion under the Product region parent and displays only the Product ID, Product Name, Product Status, Category ID, and List Price columns in the report. Also, you want to display only 10 rows at a time and show the pagination in a select list. After you have performed these tasks, run the report.
  - 1) You want to make a few changes to the report. Right-click **Products List** and select **Edit**.



- 2) Click the **User Interface** subtab.



- 3) Select **Products** for Parent Region so that this region becomes a subregion of the Products parent.

The screenshot shows the 'Region Definition' tab for 'Region: 2 of 2 Name: Products List'. Under the 'User Interface' section, the 'Parent Region' dropdown menu is open, with 'Products (10)' selected. Other visible fields include 'Sequence' (20), 'Template' (Reports Region), and 'Item Display Position' (Above Content). The 'Display Point' dropdown is also open, showing options like [Body], [Pos.1], etc.

- 4) Click the **Report Attributes** tab.

The screenshot shows the 'Report Attributes' tab for 'Region: 2 of 2 Name: Products List'. The 'Parent Region' is now set to 'Products (10)'. The 'Grid Layout' section is visible, with options for 'Start New Grid' (No), 'Start New Row' (Yes), 'Column' (Automatic), and 'Column Span' (Automatic). The 'Apply' button is highlighted in blue.

- 5) On the Report Attributes page, **deselect** the check boxes in the **Show** column that correspond to the following, and then click the **Layout and Pagination** tab.
  - PRODUCT\_DESCRIPTION
  - WEIGHT\_CLASS

- SUPPLIER\_ID
- MIN\_PRICE
- CATALOG\_URL

<span>Show All</span> <span>Column Attributes</span> <span>Layout and Pagination</span> <span>Sorting</span> <span>Messages</span> <span>Report Export</span> <span>Break Formatting</span> <span>External Processing</span>								
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	
PRODUCT_ID			PRODUCT_ID		left		<input checked="" type="checkbox"/>	
PRODUCT_NAME			PRODUCT_NAME		left		<input checked="" type="checkbox"/>	
PRODUCT_DESCRIPTION			PRODUCT_DESCRIPTION		left		<input type="checkbox"/>	
CATEGORY_ID			CATEGORY_ID		left		<input checked="" type="checkbox"/>	
WEIGHT_CLASS			WEIGHT_CLASS		left		<input type="checkbox"/>	
SUPPLIER_ID			SUPPLIER_ID		left		<input type="checkbox"/>	
PRODUCT_STATUS			PRODUCT_STATUS		left		<input checked="" type="checkbox"/>	
LIST_PRICE			LIST_PRICE		left		<input checked="" type="checkbox"/>	
MIN_PRICE			MIN_PRICE		left		<input type="checkbox"/>	
CATALOG_URL			CATALOG_URL		left		<input type="checkbox"/>	

- 6) From the list of links displayed below the Pagination Scheme select list, click **[Select List]**.

**Layout and Pagination**

Report Template:

[HTML] [Look 1] [Look 2] [Look 3] [Look 4] [CSV] [XML]

Report Attributes Substitution:

Show Null Values as:

Pagination Scheme:

[None] [Use pagination buttons] [Rows X to Y] [Select List] [Search Engine]

Enable Partial Page Refresh:

Display Position:

Number of Rows:

Number of Rows (Item):

Maximum Row Count:

Strip HTML:

Sort Nulls:

- 7) In the Number of Rows column, enter 10 and click **Apply Changes**.

Region Definition | **Report Attributes** | Print Attributes

Region Name: **Products List**

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

**Layout and Pagination**

Report Template:

[HTML] [Look 1] [Look 2] [Look 3] [Look 4] [CSV] [XML]

Report Attributes Substitution:

Show Null Values as:

Pagination Scheme:

[None] [Use pagination buttons] [Rows X to Y] [Select List] [Search Engine]

Enable Partial Page Refresh:

Display Position:

Number of Rows:

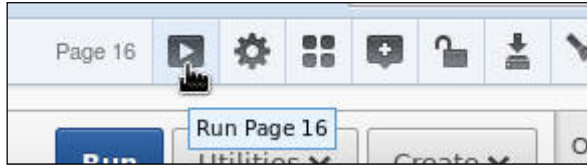
Number of Rows (Item):

Maximum Row Count:

Strip HTML:

Sort Nulls:

- 8) Run the page to view your changes. Click the **Run** button.



- 9) Notice that the List of Products region is now contained within the Products parent region, that only the columns that you specified are shown, and that the pagination is now in a select list. Click the **Application <n>** link on the Developer toolbar.

### Order Management

Home
Customers
Products

**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
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
3064	Monitor 21/SD	11	planned	1023
3155	Monitor Hinge - HD	11	orderable	49
3234	Monitor Hinge - STD	11	orderable	39
3350	Plasma Monitor 10/LE/VGA	11	orderable	740
2236	Plasma Monitor 10/TFT/XGA	11	under development	964

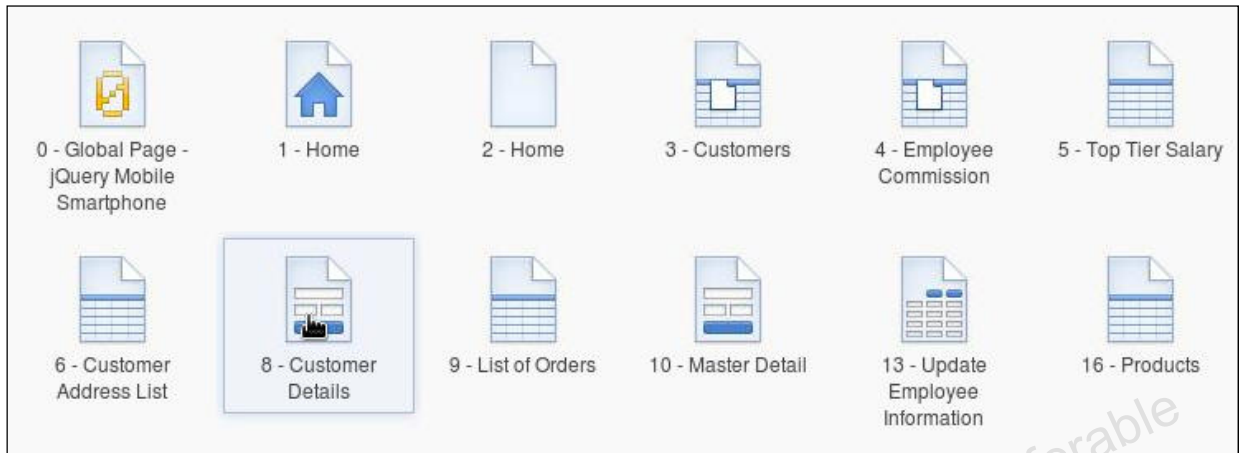
Application 130
row(s) 1 - 15 of 288
Next >

Home
Application 130
Edit Page 16
Create
Session
Caching
View Debug
Deb

- e. Create a Hint sidebar region on the right side of the Customer Details page that includes the following HTML code (located in /home/oracle/labs/files/lab7\_1\_1.txt):

```
Use this page to enter and <br> maintain customer information.
```

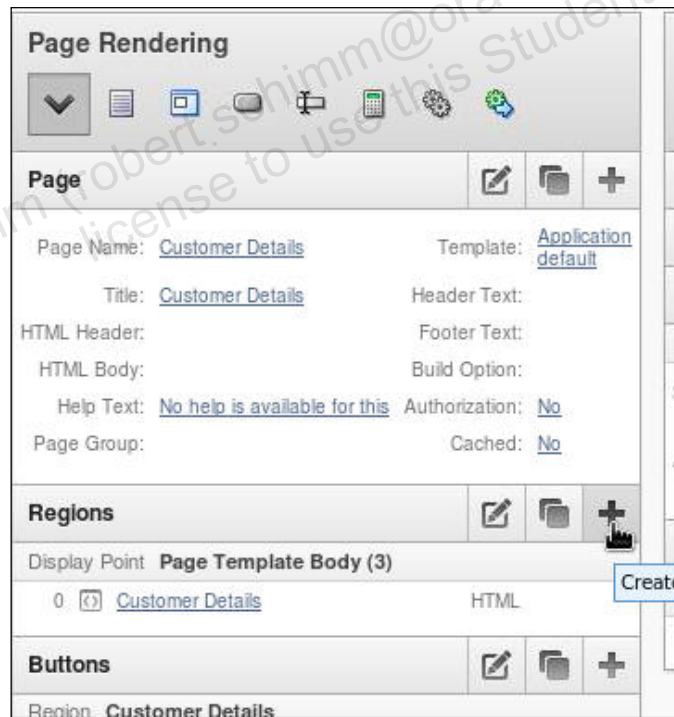
- 1) You want to make some changes to the Customer Details page. Click the **Customer Details** page.



- 2) Switch to the Component View by clicking the **Component View** icon.



- 3) Under Regions, click the **Create** icon.



- 4) For the region type, select the **HTML** option and click **Next >**.

Page: **8 - Customer Details**

Identify the type of region to add to this page:

HTML     
  Multiple HTML     
  Report     
  Form

Plug-ins     
  Chart     
  Map     
  Tree

- 5) Select **HTML** again and click **Next >**.

Page: **8 - Customer Details**

Select the type of HTML region container you wish to create:

HTML     
  HTML Text (with shortcuts)     
  HTML Text (escape special characters)

- 6) For Display Attributes, enter **Hint** for Title, select **Sidebar Region** for Region Template, and select **Page Template Region Position 3** for Display Point. Then click **Next >**.

Page: **8 - Customer Details**

Region Source Type: **HTML Text**

\* Title:

Region Template:

Parent Region:

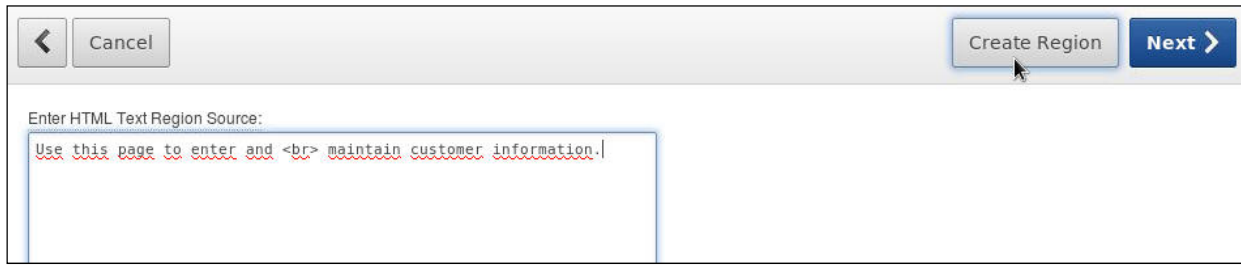
Display Point:

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

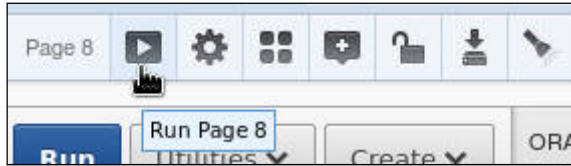
\* Sequence:

- 7) In **Enter HTML Text Region Source**, enter the following (located in /home/oracle/labs/files/lab7\_1\_1.txt) and click **Create Region**.

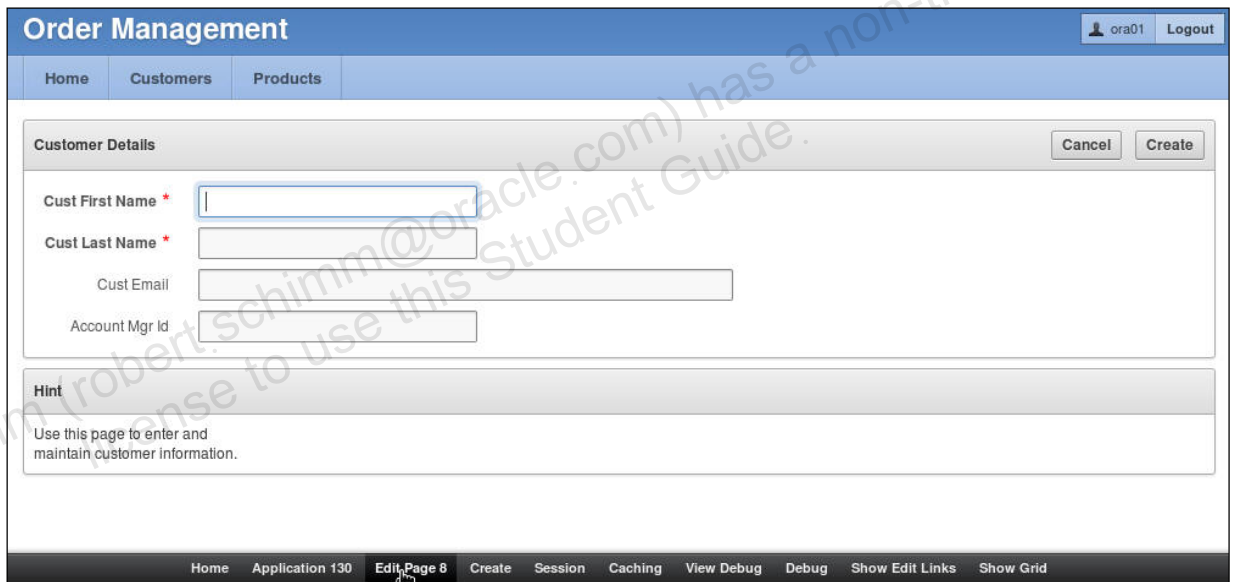
Use this page to enter and <br> maintain customer information.



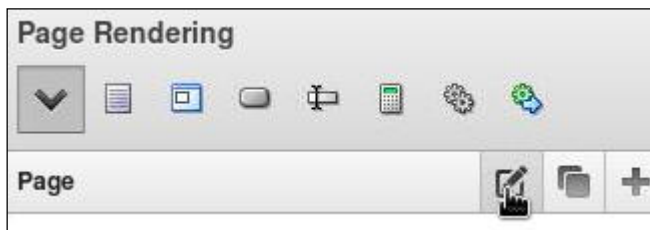
- 8) Run the page by clicking the **Run Page** icon.



- 9) Note that the Hint region is not displayed as a sidebar region on the right side of the page. You need to change the page template so that a sidebar is provided. Click the **Edit Page** link on the Developer toolbar.



- 10) Click the **Edit** page icon.



- 11) Select **One Level Tabs – Right Sidebar** for Page Template and click **Apply Changes**.

The screenshot shows the 'Page Attributes' editor for page 8 of 16. At the top right are buttons for 'Cancel', 'Delete', and 'Apply Changes'. Below is a navigation bar with tabs: 'Show All', 'Name', 'Display Attributes', 'JavaScript', 'CSS', 'HTML Header', 'Header and Footer', 'Read Only', 'Security', 'Duplicate Submission', and 'Server'. The 'Name' section includes fields for 'Page: 8', 'Name: Customer Details', 'Page Alias', and 'Group: - No Group Assigned -'. The 'Display Attributes' section includes 'User Interface: Desktop', 'Page Template: One Level Tabs - Right Sidebar', 'Standard Tab Set: TS1 (Home, Customers, Products)', 'Title: Customer Details', and 'Cursor Focus: First item on page'.

- 12) Run the page again and you see that the Hint is now displayed in the right sidebar area. Click the **Edit Page** link on the Developer toolbar.

The screenshot shows the 'Order Management' application. The top navigation bar includes 'Home', 'Customers', and 'Products'. The 'Customer Details' form is visible with fields for 'Cust First Name', 'Cust Last Name', 'Cust Email', and 'Account Mgr Id'. In the right sidebar, a 'Hint' box contains the text: 'Use this page to enter and maintain customer information.' The bottom developer toolbar shows 'Home', 'Application 130', 'Edit Page 8', 'Create', 'Session', 'Caching', 'View Debug', 'Debug', 'Show Edit Links', and 'Show Grid'.

- f. Add a footer to the Customer Details region on the Customer Details page so that the following message (located in /home/oracle/labs/files/lab7\_1\_2.txt) appears at the bottom of the region when a user enters this page:

```
<i>The record created or modified in this form is reflected in the Customer Report.</i>
```

- 1) Under Regions, select **Customer Details**.

Regions		✎	🗑	+
Display Point	Page Template Body (3)			
0	Customer Details	HTML		
Display Point	Region Position 03			
10	Hint	HTML		
Buttons		✎	🗑	+
Region	Customer Details			

- 2) Click the **Header and Footer** tab from the list of links at the top of the page.

**Region Definition**

Region: 1 of 2 Name: Customer Details

Cancel Delete **Apply Changes**

Show All Identification Source User Interface Grid Layout Attributes **Header and Footer** Conditions R

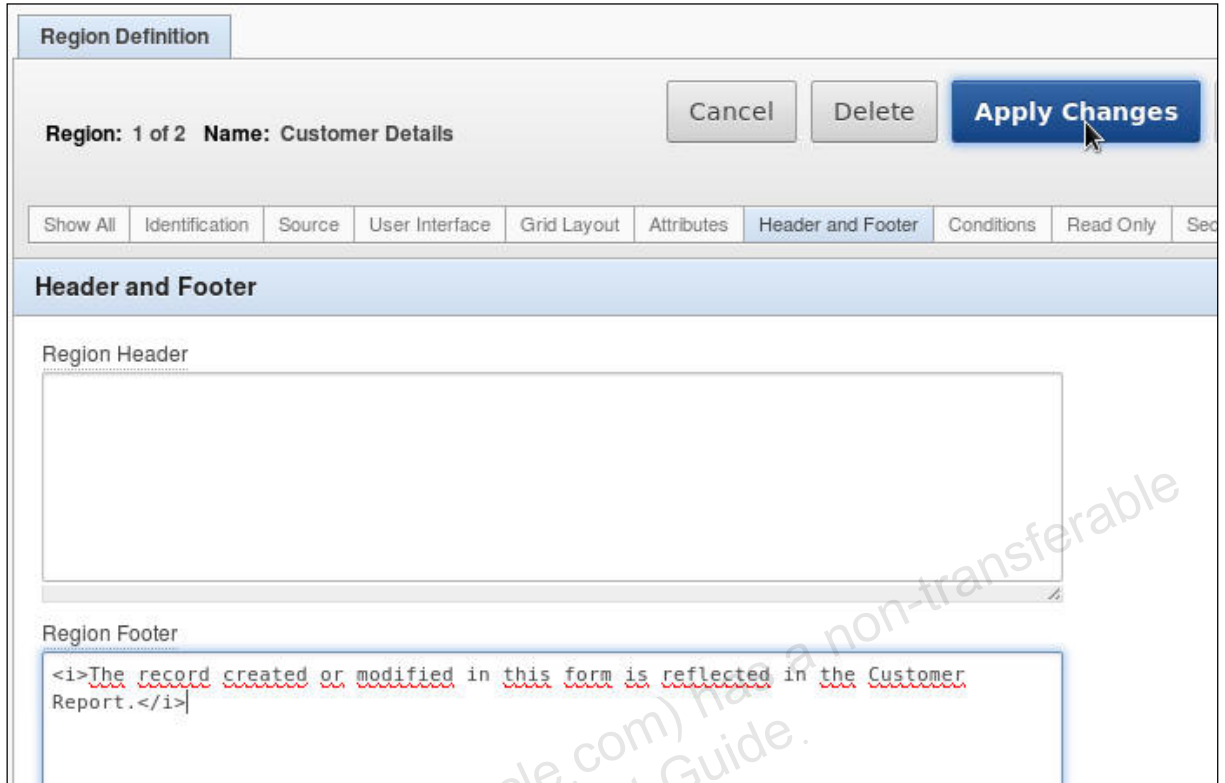
**Identification**

Page: 8 Customer Details

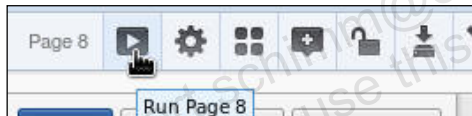
Title: Customer Details

- 3) Enter the following (located in /home/oracle/labs/files/lab7\_1\_2.txt) in the Region Footer field and click **Apply Changes**.

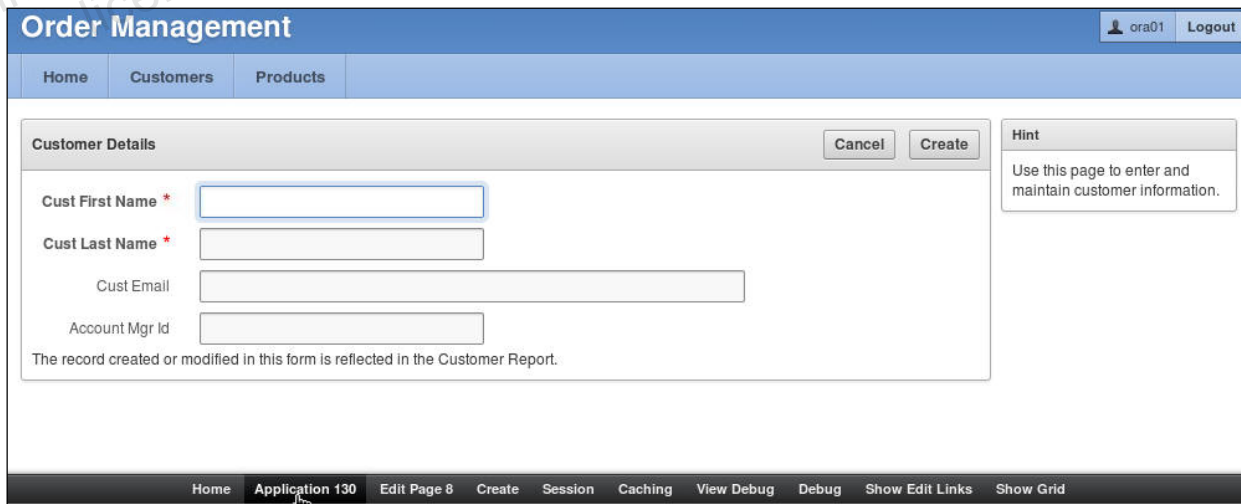
```
<i>The record created or modified in this form is reflected
in the Customer Report.</i>
```



- 4) Test the page by clicking the **Run Page** icon in the top-right corner.



- 5) The footer text is displayed. Click the **Application <n>** link on the Developer toolbar.



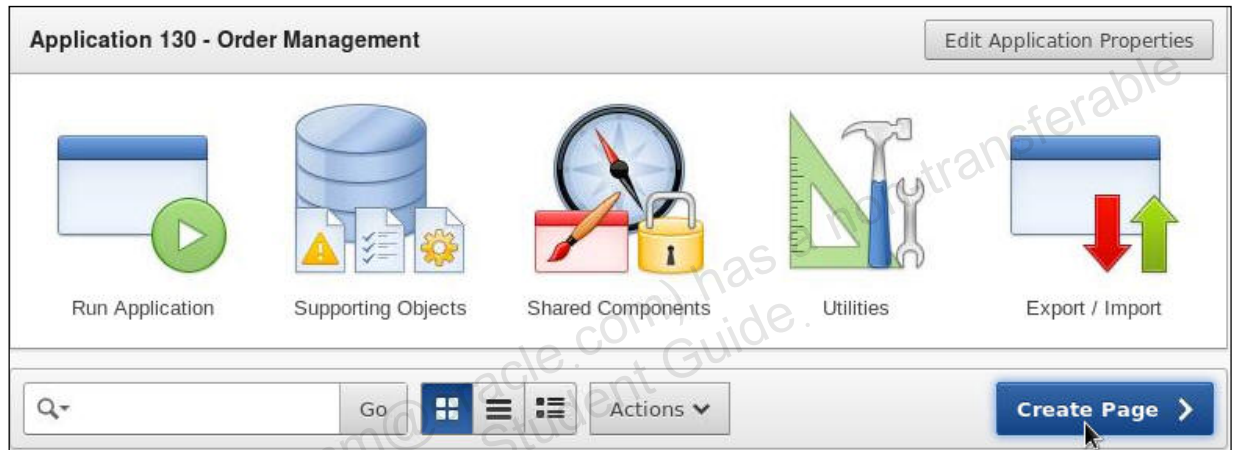
## Solution 7-2: Creating a Global Page and Adding a Region

### Overview

In this solution, you create a Global desktop page for the Order Management application and review the page. You also add a Static HTML region to the Global Desktop page.

### Tasks

- a. Create a Global desktop page to the Order Management application and review it in Application Properties.
  - 1) Navigate to the **Order Management** application home page and click **Create Page >**.



- 2) Select **Global Page** and click **Next >**. Make sure you have selected **Desktop** for User Interface.

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
- Calendar
- Wizard
- Data Loading
- Feedback Page
- Login Page
- Access Control
- Global Page

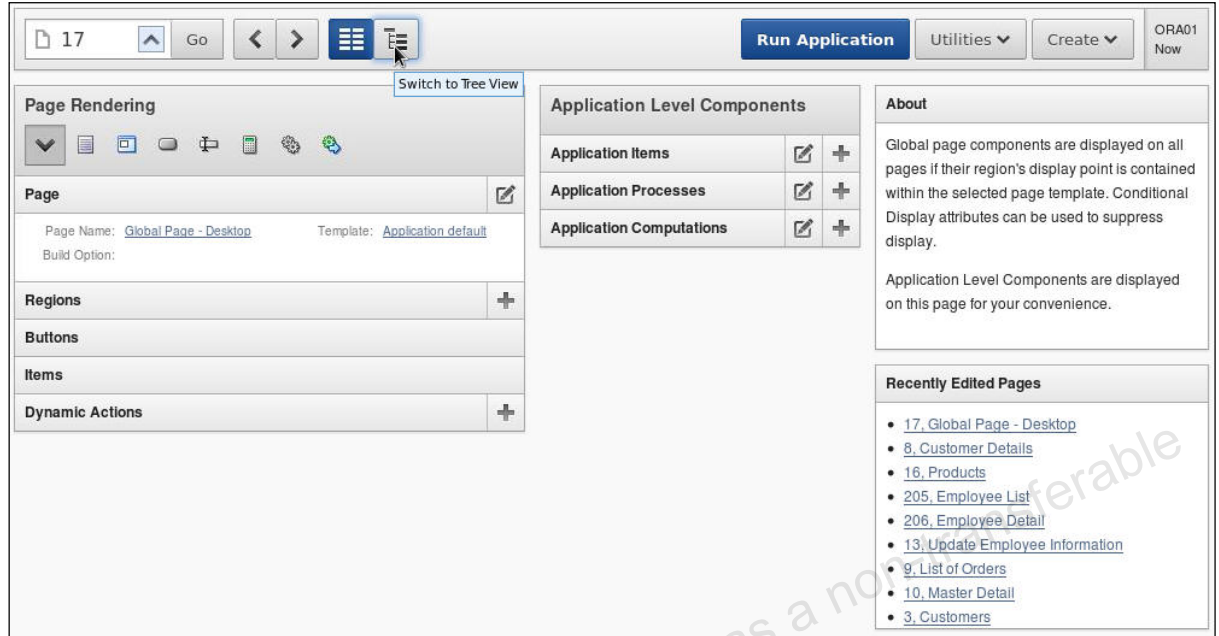
- 3) Click **Finish**.

Global page components are displayed on all pages if their region's display point is contained within the selected page template. Conditional Display attributes can be used to suppress display.

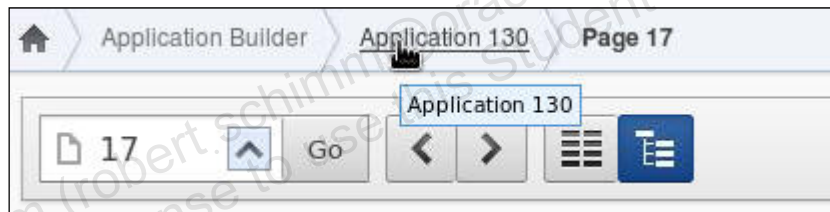
\* Page Number

Finish

4) Click the “Switch to Tree View” icon.



5) To review if the Global Page was added for the desktop user interface, click the **Application <n>** breadcrumb. You are taken to the Order Management application home page.



6) Click **Edit Application Properties**.



7) Click the **User Interface** tab.

Application 130

Buttons: Cancel, Delete, Apply Changes

Subtabs: Show All, Name, Properties, Availability, Error Handling, Global Notification, Substitutions, Build Options

**Name**

Application: 130

\* Name: Order Management

Application Alias: F\_130

\* Version: release 1.0

Application Group: - Unassigned -

**Properties**

8) Click the **User Interfaces** subtab.

Application 130

Buttons: Cancel

Subtabs: Show All, General Properties, Logo, JavaScript, User Interface Detection, User Interfaces

**General Properties**

Image Prefix: /i/

Content Delivery Network: None (use Web Server)

9) Your Global desktop page has been assigned to the Desktop interface. Click the **Edit Page** icon in the upper right corner.

Application 130

Buttons: Cancel, Apply Changes

Subtabs: Show All, General Properties, Logo, JavaScript, User Interface Detection, User Interfaces

**User Interfaces**

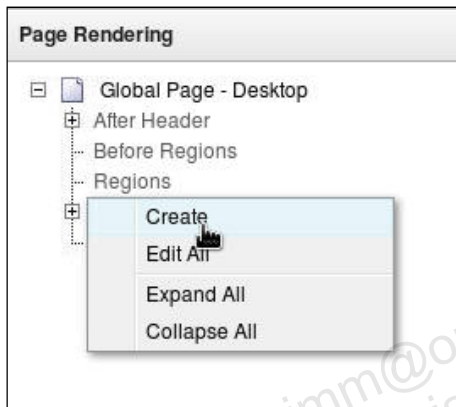
Name	Type	Sequence	Auto Detect	Default	Home	Login	Theme	Global Page
Desktop	Desktop	10	No	Yes	?p=&APP_ID:1:&SESSION.	?p=&APP_ID.LOGIN_DESKTOP:&SESSION.	Productivity Applications - 26 *	17
jQuery Mobile Smartphone	jQuery Mobile Smartphone	20	Yes	No	?p=&APP_ID.HOME_JQM_SMARTPHONE:&SESSION.	?p=&APP_ID.LOGIN_JQM_SMARTPHONE:&SESSION.	jQuery Mobile Smartphone - 50 *	0

Buttons: Edit Page 17, Edit the Application's Interface definitions.

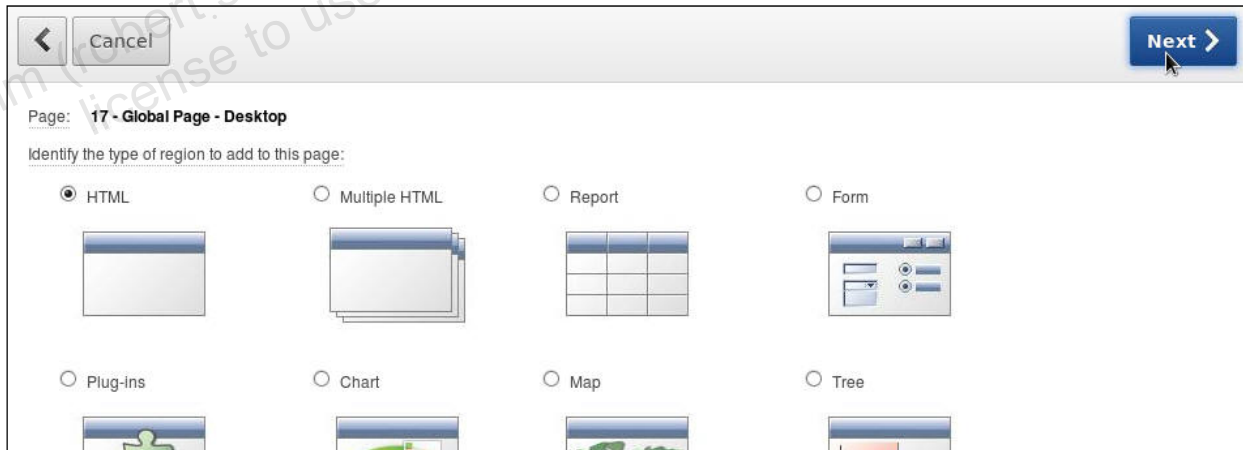
- b. Add a Static HTML region to the Global Desktop page. Call the region as “In the News” on the Global page with the following code (located in /home/oracle/labs/files/lab7\_2.txt):

```
<html><body>
<table width="179" border="1">
<tr>
<td><p><strong>News and Events</strong></p>
<p> Visit us at &nbsp;<a href="http://www.oracle.com">
www.oracle.com</a></p>
</td>
</tr>
</table></body></html>
```

- 1) Right-click the **Regions** node and click **Create**.



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



- 3) Select **HTML** again and click **Next >**.

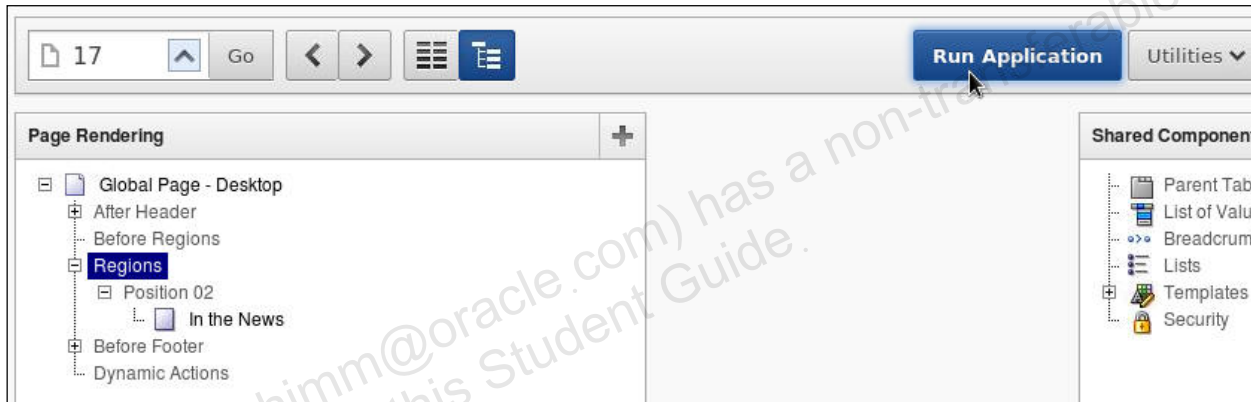
- 4) For Title, enter **In the News**. For Display Point, select **Page Template Region Position 2** and click **Next >**.

- 5) In the **Enter HTML Text Region Source** field, enter the following code and click **Create Region**. You can copy and paste the code from **/home/oracle/labs/files/lab7\_2.txt**.

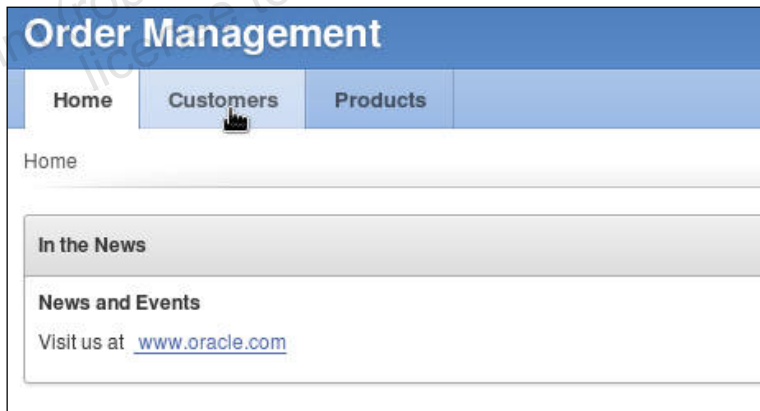
```
<html><body>
<table width="179" border="1">
<tr>
<td><p><strong>News and Events</strong></p>
<p> Visit us at &nbsp;<a href="http://www.oracle.com">
www.oracle.com</a></p>
</td>
</tr>
</table>
</body></html>
```



6) Click the **Run Application** button.



7) The home page is displayed with the “In the News” region. Click the **Customers** tab.



- 8) Note that the “In the News” region appears on this page too. Click the **Products** tab.

**Order Management**

Home Customers **Products**

**In the News**

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

Q- Go Reports 1. Primary Report Actions

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State
	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

- 9) The region appears on this page too.

**Order Management**

Home Customers **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
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

Home Application 130 Edit Page 16 Create Session Caching View Debug Debug

## Solution 7-3: Modify the Mobile Home Page

### Overview

In this solution, you modify the Mobile Home page.

### Tasks

- 1) Navigate to the Order Management application home page and click **View Report**.

- 2) Select **User Interface** and select **jQuery Mobile Smartphone** to create a filter that will only display the mobile pages.

Page	Name	Updated	Updated By	Page Type	User Interface	Group	Lock
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	5 days ago	ora01	Global Page	<div style="border: 1px solid gray; padding: 2px;"> <span>⬆</span> <span>⬇</span> <span>✖</span> <span>⬆</span>   <input type="text"/> </div>		
1	<a href="#">Home</a>	5 days ago	-	Home	Desktop		
2	<a href="#">Home</a>	5 days ago	ora01	Static HTML	jQuery Mobile Smartphone	<a href="#">Unassigned</a>	

3) Select the **Home** page.

Page	Name	Updated	Updated By	Page Type	User Interface	Group	Loc
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	5 days ago	ora01	Global Page	jQuery Mobile Smartphone	<a href="#">Unassigned</a>	
2	<a href="#">Home</a>	5 days ago	ora01	Static HTML	jQuery Mobile Smartphone	<a href="#">Unassigned</a>	
205	<a href="#">Employee List</a>	2 days ago	ora01	Static HTML	jQuery Mobile Smartphone	<a href="#">Unassigned</a>	

4) Double-click the **Home** region.

**Page Rendering**

- [-] Home
  - [-] Before Header
  - [-] After Header
  - [-] Before Regions
  - [-] **Regions**
    - [-] Body (3)
      - [-] Home
 

Region Type: HTML  
 Start New Grid Row: Yes
  - [-] After Region
  - [-] Before Footer
  - [-] After Footer
  - [-] Dynamic Actions

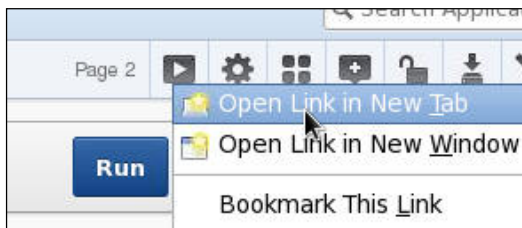
5) Click the **Source** subtab. Enter the following code in the Region Source area and click **Apply Changes**. You can copy and paste the code from `/home/oracle/labs/files/lab7_3.txt`. Make sure that you change the reference to the page number of the employee list page, in this case, 205.

```

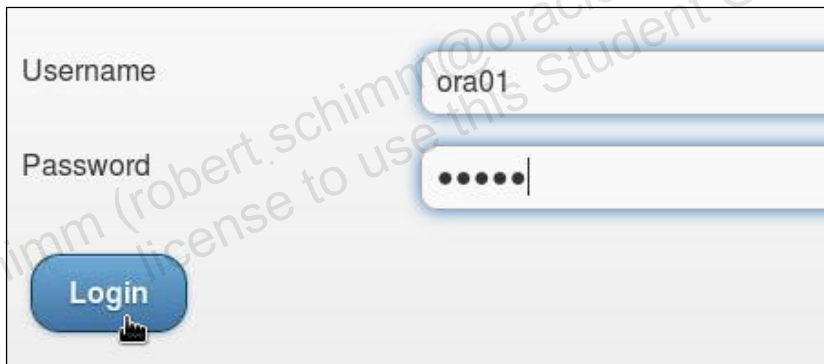
<ul>
<li><a href="f?p=&APP_ID.:<employee_list page number>:&APP_SESSION.">Employee
List</li>
</ul>
```



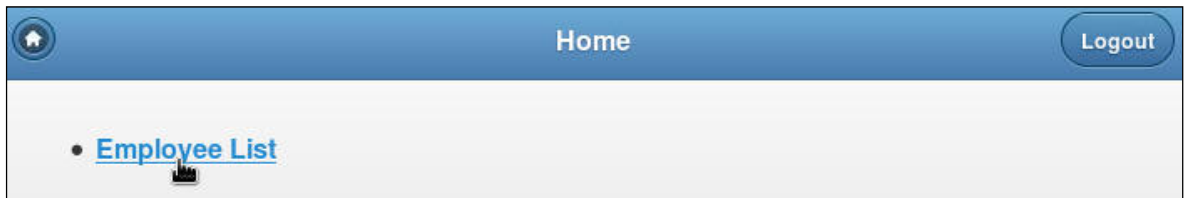
- 6) Right-click the **Run Page** icon and select **Open Link in New Tab**.



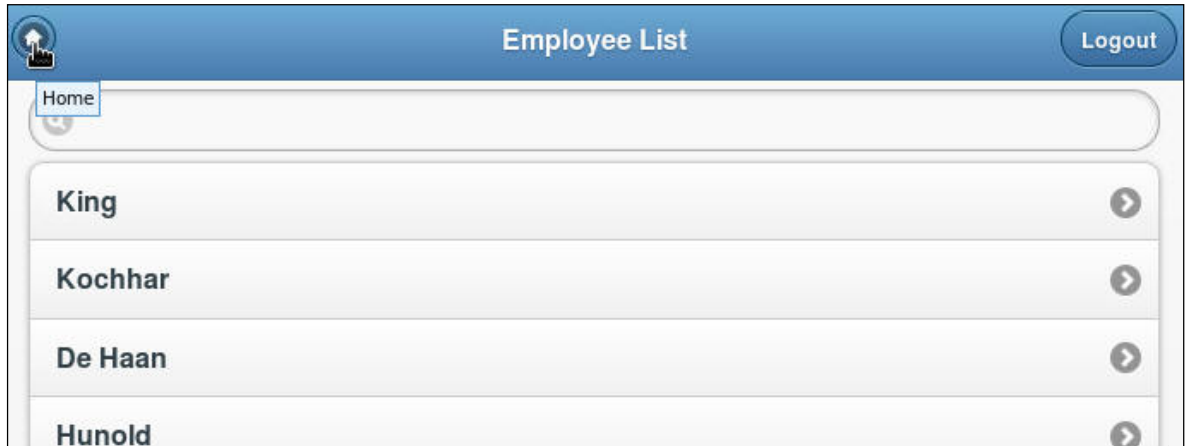
- 7) Enter **ora<n>** for Username and Password, and click **Login**.



- 8) The Home page is displayed. Click the **Employee List** link to go to the Employee List page.



- 9) The Employee List page is displayed. Click the **Home** icon to return to the Home page.



# Practices for Lesson 8: Adding Items and Buttons

## Chapter 8

## Practices for Lesson 8: Overview

---

### Practices Overview

There are two practices for this lesson. In these practices, you create a variety of items, manipulate the way they work, and change the layout on the page.

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## Practice 8-1: Adding Items and Buttons

---

### Overview

In this practice, you create a Customer Feedback form that contains some items and two buttons. You create a button on the Customers page to link to the feedback form.

### Assumptions

You have performed the previous practices or imported the `LAB073_SOLN.sql` packaged application.

### Tasks

- a. Create a blank page called Customer Feedback.
- b. Add the following items to the form:

Customer ID	Text Field
Feedback	Text Area
Added On	Date Picker

- c. Add a button on the Customers page to redirect to the Customer Feedback page.
- d. Add an Apply button on the Customer Feedback page.
- e. Add a Cancel button on the Customer Feedback page to redirect to the Customers page.

## Practice 8-2: Manipulating Items

---

### Overview

In this practice, you add some additional item types (select list and cascading LOV) and modify the way the fields in the Customer Details form are displayed.

### Assumptions

You have performed the previous practices.

### Tasks

Modify the Customer Details page as follows:

- a. Modify the Account Manager item to be a select list with the following query (located in /home/oracle/labs/files/lab8\_2\_1.txt):

```
select LAST_NAME||', '||FIRST_NAME display_value, EMPLOYEE_ID
return_value
from OEHR_EMPLOYEES
where DEPARTMENT_ID=80
order by 1
```

- b. Add a quick pick list to the Account Manager item with the following labels and values:

Label	Value
Bates, Elizabeth	172
Russell, John	145
Cambraut, Gerald	148

- c. Add a select list item called Country that contains the following query (located in /home/oracle/labs/files/lab8\_2\_2.txt). This item should allow nulls.

```
select COUNTRY_NAME display_value, COUNTRY_ID return_value
from OEHR_COUNTRIES
order by 1
```

- d. Add another item, City, based on the Country item that you just created with the following query (located in /home/oracle/labs/files/lab8\_2\_3.txt). Select the Country item as the cascading LOV.

**Note:** You may need to change the query so that you do not have multiple rows.

```
select CITY display_value, CITY return_value
from OEHR_LOCATIONS
where country_id = :P<n>_COUNTRY_ID
order by 1
```

- e. Change the Account Manager of an existing customer record.  
**Note:** You must navigate to the customer report and edit one of the records.
- f. Modify the Employee Detail mobile form page to take advantage of some of the new HTML5 item types.

## Solution 8-1: Adding Items and Buttons

### Overview

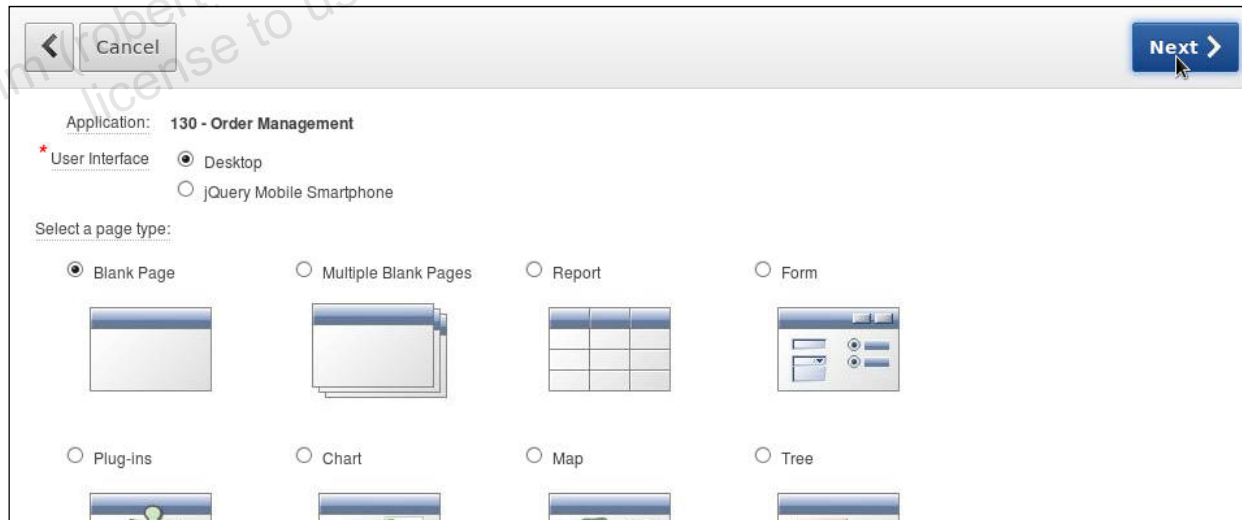
In this practice, you create a Customer Feedback form that contains some items and two buttons. You create a button on the Customers report to link to the feedback form.

### Tasks

- a. Create a blank page called Customer Feedback.
  - 1) Navigate to the Order Management application home page and click **Create Page** >.



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



3) Accept the default 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:

Next >

4) In the Name field, enter **Customer Feedback**. Click **Next >**.

Page: **18**

\* Name:

Breadcrumb:

Next >

5) Accept the default and click **Next >**.

Page: **18**

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.

Next >

6) Click **Finish**.

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

Application: **130**

Page: **18**

Page Name: **Customer Feedback**

Page Title: **Customer Feedback**

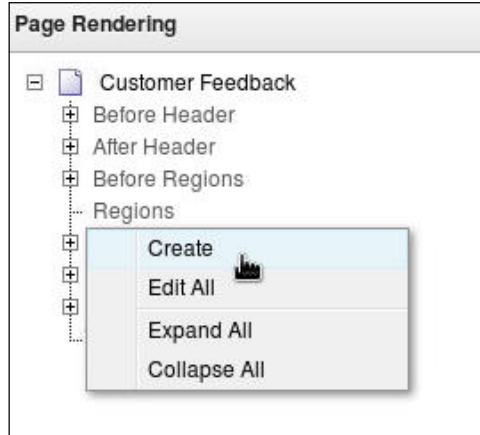
Finish

7) You want to create a region on this page. Click the **Edit Page** icon.

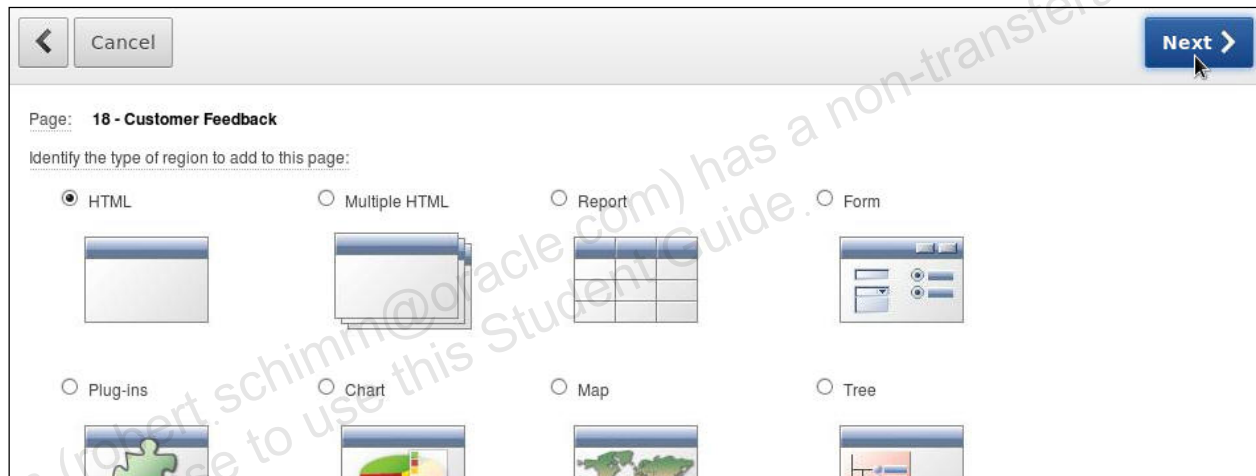
Edit Page Run Page

Page 18 has been created successfully.

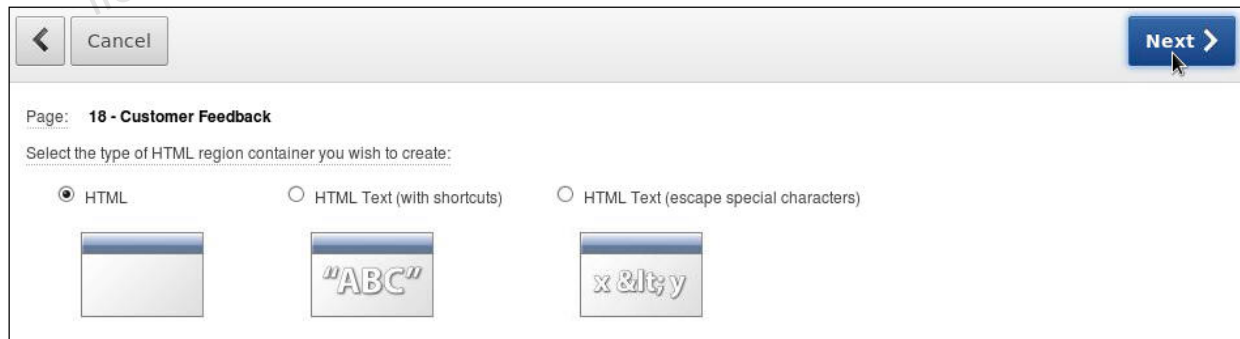
8) Right-click **Regions** and select **Create**.



9) Select the **HTML** region type and click **Next >**.



10) Select **HTML** again and click **Next >**.



- 11) For Title, enter **Customer Feedback**, accept the defaults for other fields, and click **Create Region**.

Page: 18 - Customer Feedback

Region Source Type: HTML Text

\* Title: Customer Feedback

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]

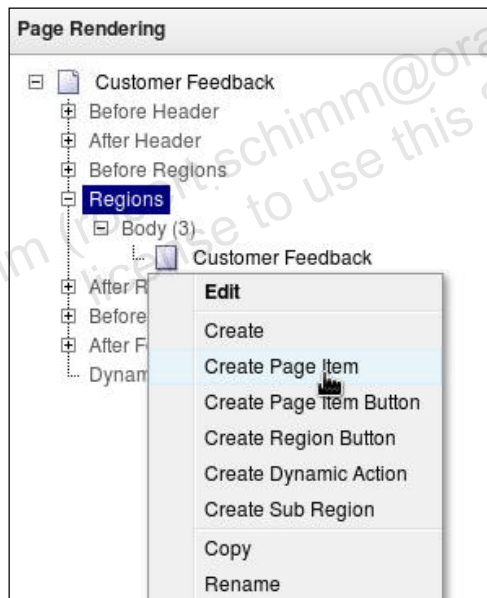
\* Sequence: 10

Buttons: Cancel, Create Region, Next

- b. Add the following items to the form:

Customer ID	Text Field
Feedback	Text Area
Added On	Date Picker

- 1) You want to create some page items in the **Customer Feedback** region. Right-click **Customer Feedback** and select **Create Page Item**.



2) Select **Text Field** for Item Type and click **Next >**.

Page: **18 - Customer Feedback**

Select Item Type:

- Checkbox
- Color Picker
- Date Picker
- Display Image
- Display Only
- File Browse...
- Hidden
- List Manager
- Number Field
- Password
- Plug-Ins
- Popup LOV
- Radio Group
- Rich Text Editor
- Select List
- Shuttle
- Text Field
- Text Field with autocomplete
- Textarea
- Yes/No

3) Enter **P<n>\_CUSTOMER\_ID** for Item Name and click **Next >**.

Page: **18 - Customer Feedback**

Display As: **Text Field**

\* Item Name:

\* Sequence:

\* Region:

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

Page: **18 - Customer Feedback**

Item Name: **P18\_CUSTOMER\_ID**

Display As: **Text Field**

Label:  [Clear]

Field Width:

Template:

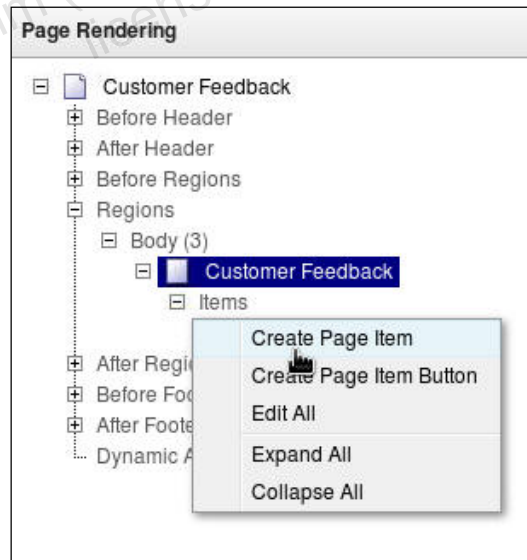
5) Accept the defaults and click **Next >**.

The screenshot shows the 'Page Rendering' dialog box for the 'Customer Feedback' page item. The 'Page' is '18 - Customer Feedback', the 'Item Name' is 'P18\_CUSTOMER\_ID', and the 'Display As' is 'Text Field'. Other settings include 'Value Required' (No), 'Subtype' (Text), 'Submit when Enter pressed' (No), and 'Disabled' (No). A 'Next >' button is visible in the top right corner.

6) Select **Database Column** for Source Type and click **Create Item**.

The screenshot shows the 'Page Rendering' dialog box for the 'Customer Feedback' page item. The 'Page' is '18 - Customer Feedback', the 'Item Name' is 'P18\_CUSTOMER\_ID', and the 'Display As' is 'Text Field'. The 'Source Used' is 'Always, replacing any existing value in session state'. The 'Source Type' is 'Database Column', and the 'Database Column Name' is 'CUSTOMER\_ID'. A 'Create Item' button is visible in the top right corner.

7) Right-click **Customer Feedback** and select **Create Page Item**.



8) Select **Text Area** for Item Type and click **Next >**.

Cancel Next >

Page: **18 - Customer Feedback**

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 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 
<input type="radio"/> Text Field 	<input type="radio"/> Text Field with autocomplete 	<input checked="" type="radio"/> Textarea 	<input type="radio"/> Yes/No 

9) Enter **P<n>\_FEEDBACK** for Item Name and click **Next >**.

< Cancel Next >

Page: **18 - Customer Feedback**

Display As: Textarea

\* Item Name:

\* Sequence:

\* Region:

10) Accept the defaults and click **Next >**.

< Cancel Next >

Page: **18 - Customer Feedback**

Item Name: **P18\_FEEDBACK**

Display As: Textarea

Label:  [Clear]

Field Width:

Height:

Template:

11) Accept the defaults and click **Next >**.

The screenshot shows a dialog box for creating a page item. At the top left are 'Cancel' and a back arrow. At the top right is a 'Next >' button. The main content area contains the following fields and options:

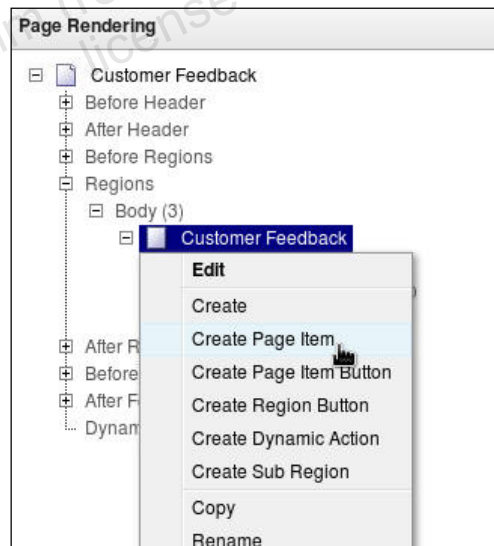
- Page: 18 - Customer Feedback
- Item Name: P18\_FEEDBACK
- Display As: Textarea
- Value Required: No (dropdown)
- Resizable: Yes (dropdown)
- Auto-Height: No (dropdown)
- Character Counter: No (dropdown)

12) Select **Database Column** for Source Type and click **Create Item**.

This screenshot shows the 'Create Item' dialog box with the 'Source Type' set to 'Database Column'. The 'Create Item' button is highlighted at the top right. The fields are:

- Page: 18 - Customer Feedback
- Item Name: P18\_FEEDBACK
- Display As: Textarea
- Source Used: Always, replacing any existing value in session state (dropdown)
- Source Type: Database Column (dropdown)
- Database Column Name: FEEDBACK
- Format Mask: (empty)
- Default: (empty)

13) Right-click **Customer Feedback** and select **Create Page Item**.



14) Select **Date Picker** for Item Type and click **Next >**.

Cancel Next >

Page: **18 - Customer Feedback**

Select Item Type:

Checkbox  Color Picker  Date Picker  Display Image

Display Only  File Browse...  Hidden  List Manager

15) Enter **P18\_ADDED\_ON** for Item Name and click **Next >**.

< Cancel Next >

Page: **18 - Customer Feedback**

Display As: **Date Picker**

\* Item Name:

\* Sequence:

\* Region:

16) Accept the defaults and click **Next >**.

< Cancel Next >

Page: **18 - Customer Feedback**

Item Name: **P18\_ADDED\_ON**

Display As: **Date Picker**

Label:  [Clear]

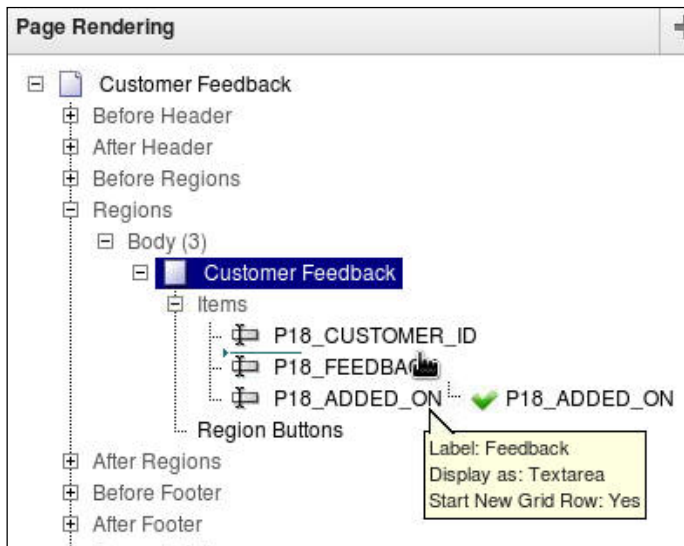
Field Width:

Template:

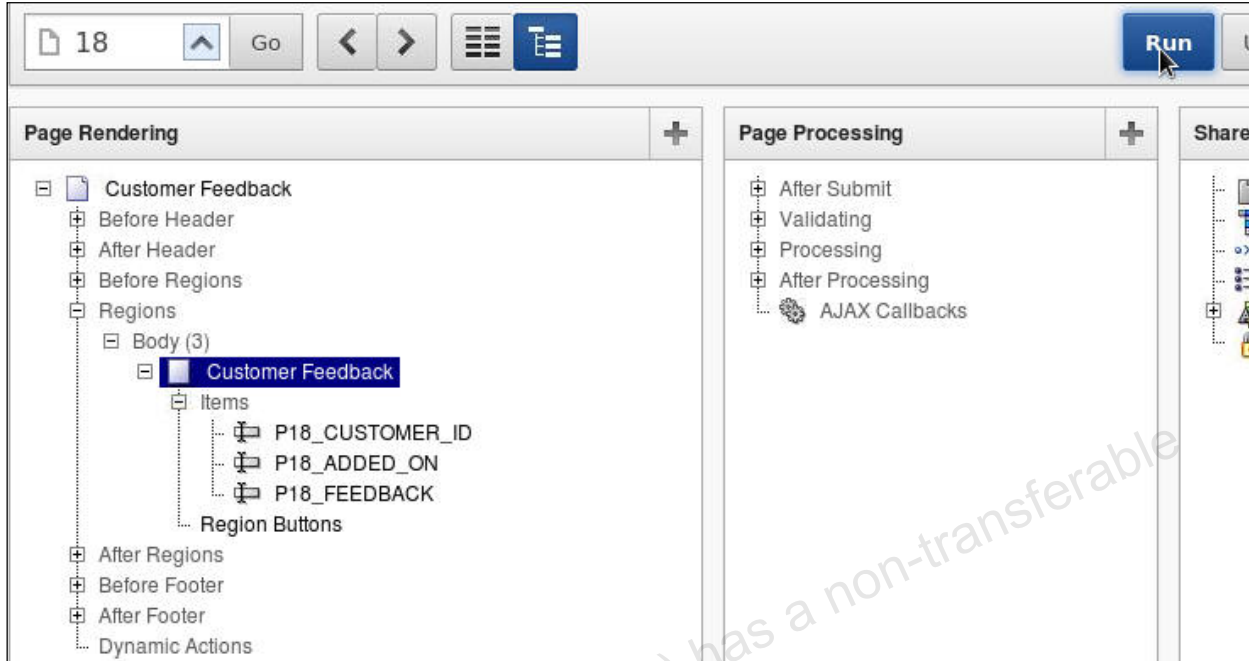
17) Accept the defaults and click **Next >**.

18) Select **Database Column** for Source Type and click **Create Item**.

19) You can also drag an item to reposition the item in the list. Drag the **P<n>\_ADDED\_ON** item to above the **P<n>\_FEEDBACK** item.



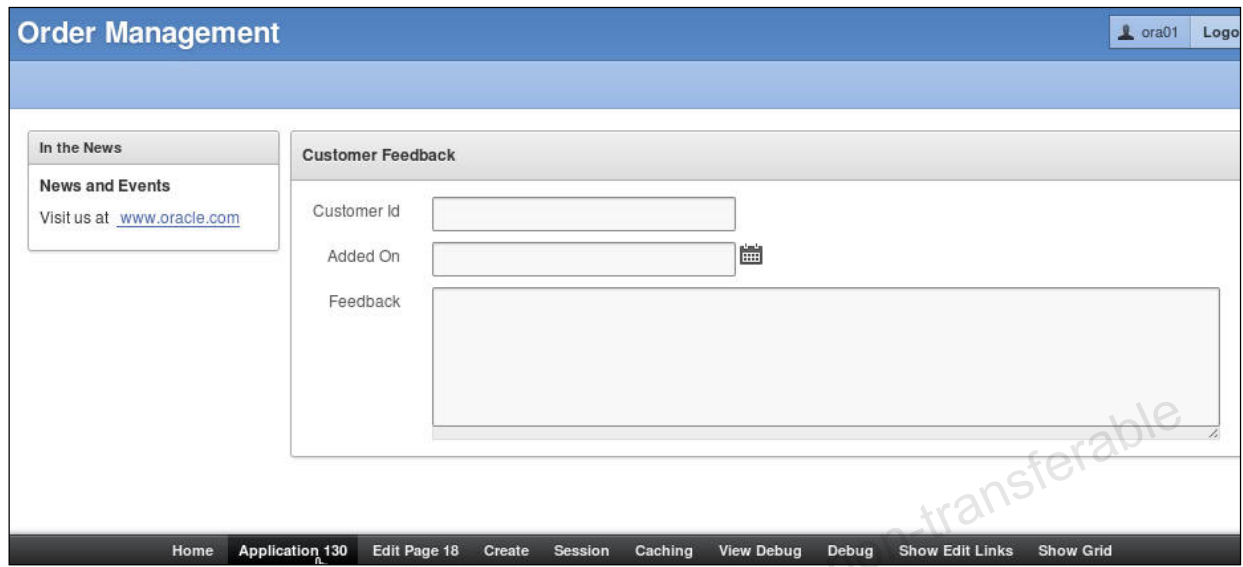
20) Run the page. Click the **Run** button.



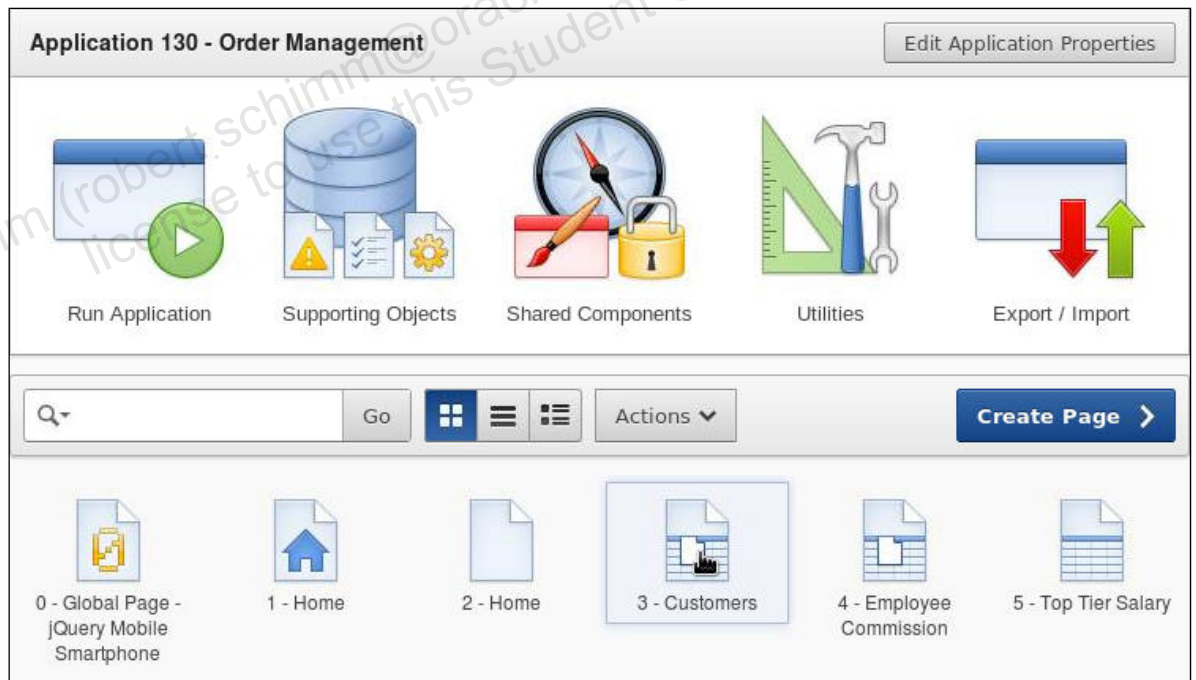
21) On the login page, enter your login credentials if prompted.



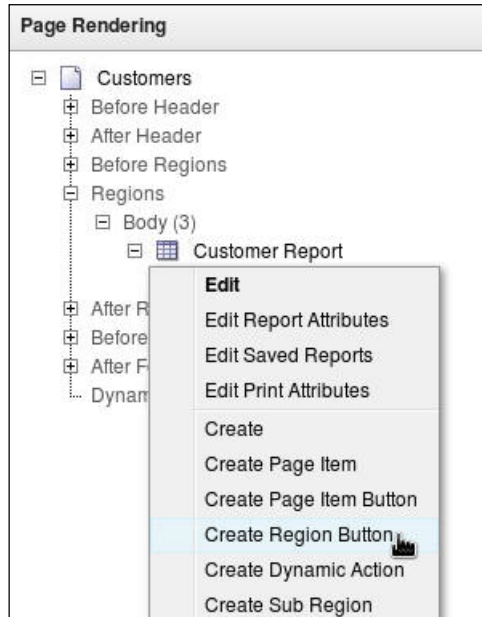
- 22) You want to create a button on the **Customers** page to redirect to the Customer Feedback page. Click the **Application <n>** link on the Developer toolbar.



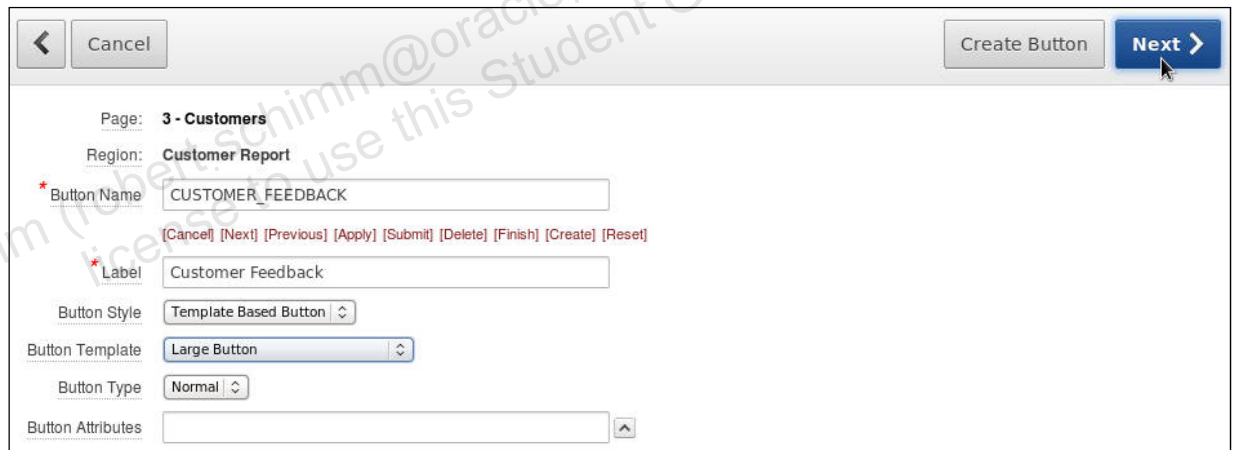
- c. Add a button on the Customers page to redirect to the Customer Feedback page.
- 1) Click the **Customers** page icon.  
**Note:** You may need to remove the filter you created previously and click View Icons to see what is displayed in the screenshot.



- 2) Right-click the **Customer Report** region and select **Create Region Button**.




- 3) For Button Name, enter **Customer Feedback** and for Button Style, select **Template Based Button**. For Button Template, select **Large Button**. Click **Next >**.



- 4) Select **Right of Interactive Report Search Bar** for Position and click **Next >**.




- 5) For **Action**, select the **Redirect to Page in this Application** and click the icon to the right of the Page field.

Page: **3 - Customers**  
Region: **Customer Report**  
Button Name: **CUSTOMER\_FEEDBACK**  
Action: **Redirect to Page in this Application**  
\* Page:   **Popup List of Values: Page**  
 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)

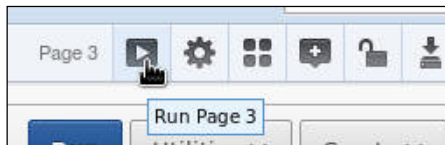
- 6) Select the **Customer Feedback** page from the list.

Search  Search Close

- [0 Global Page - jQuery Mobile Smartphone](#)
- [1 Home](#)
- [2 Home](#)
- [3 Customers](#)
- [4 Employee Commission](#)
- [5 Top Tier Salary](#)
- [6 Customer Address List](#)
- [8 Customer Details](#)
- [9 List of Orders](#)
- [10 Master Detail](#)
- [13 Update Employee Information](#)
- [16 Products](#)
- [17 Global Page - Desktop](#)
- [18 Customer Feedback](#) 
- [101 Login](#)
- [205 Employee List](#)
- [206 Employee Detail](#)
- [1001 Login](#)

7) Click **Create Button**.

8) To run the page, click **Run**.



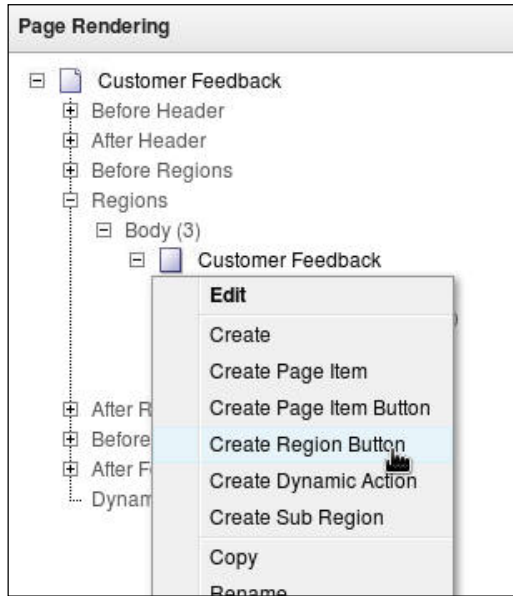
9) Click the **Customer Feedback** button.



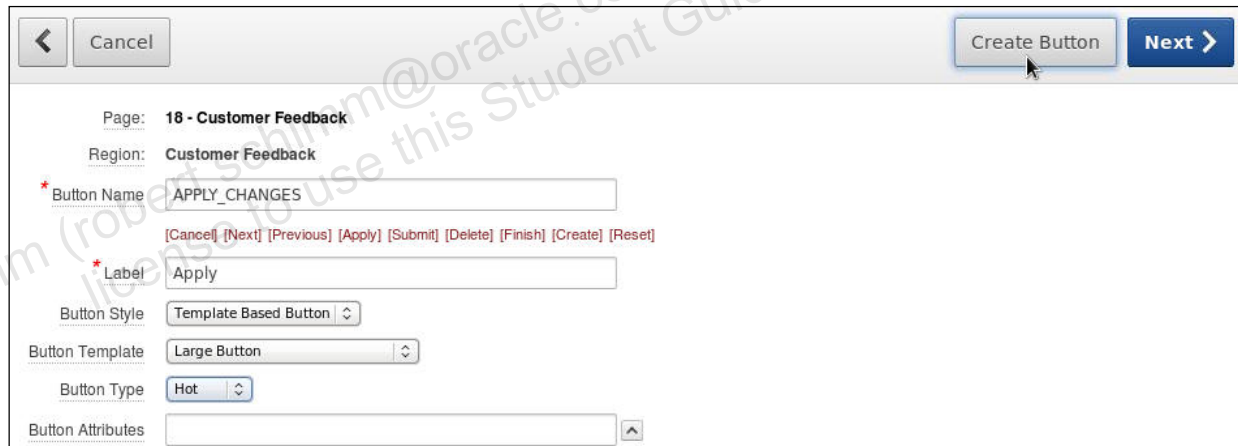
d. Add an Apply button on the Customer Feedback page.

1) You are redirected to the **Customer Feedback** page that you created earlier. You want to create an **Apply** button on this page. Click the **Edit Page** link on the Developer toolbar.

- 2) Right-click the **Customer Feedback** region and select **Create Region Button**.

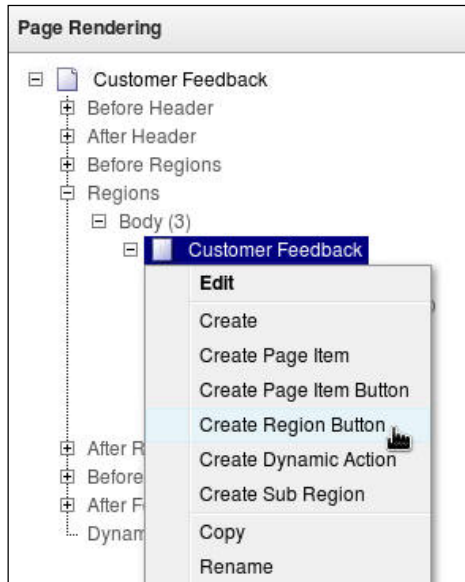


- 3) Click the **[Apply]** quick pick for Button Name as **APPLY\_CHANGES** and for Button Style select **Template Based Button**. For Button Template, select **Large Button** and Button Type as **Hot**. Click **Create Button**.

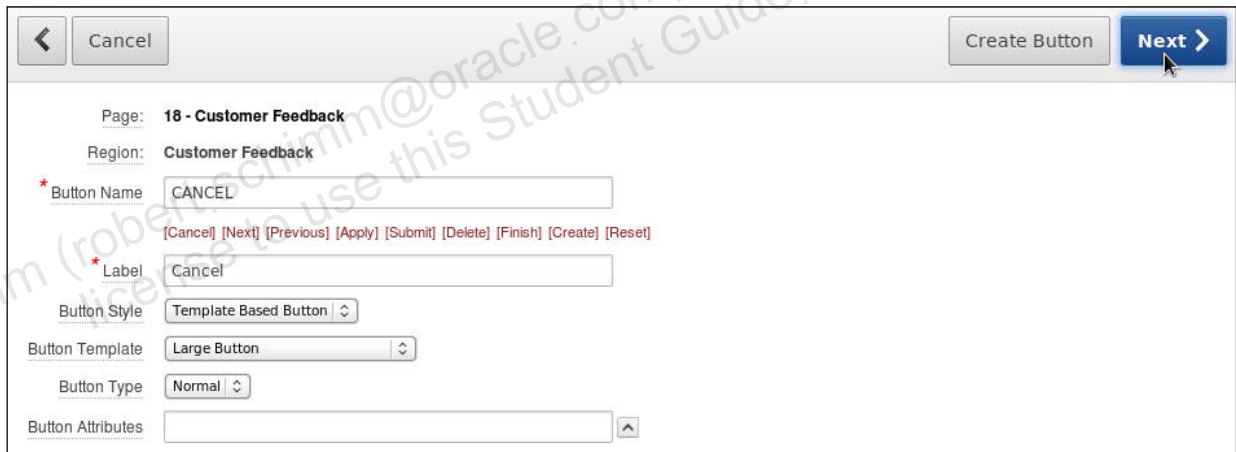


- e. Add a Cancel button on the Customer Feedback page to redirect to the Customers page.

- 1) You also want to create a Cancel button. Right-click the **Customer Feedback** region and select **Create Region Button**.



- 2) Click the **[Cancel]** quick pick and for Button Style, select **Template Based Button**. For Button Template, select **Large Button**, and then click **Next >**.



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



- 4) Select **Redirect to Page in this Application** for **Action**, and enter the page number for the **Customers** page (in this case, 3) in the Page field. Click **Create Button**.

Page: 18 - Customer Feedback  
Region: Customer Feedback  
Button Name: CANCEL  
Action: Redirect to Page in this Application  
\* Page: 3  
 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)

- 5) Run the page. Click **Run**.

18 Go < > [List Icon] [Run]

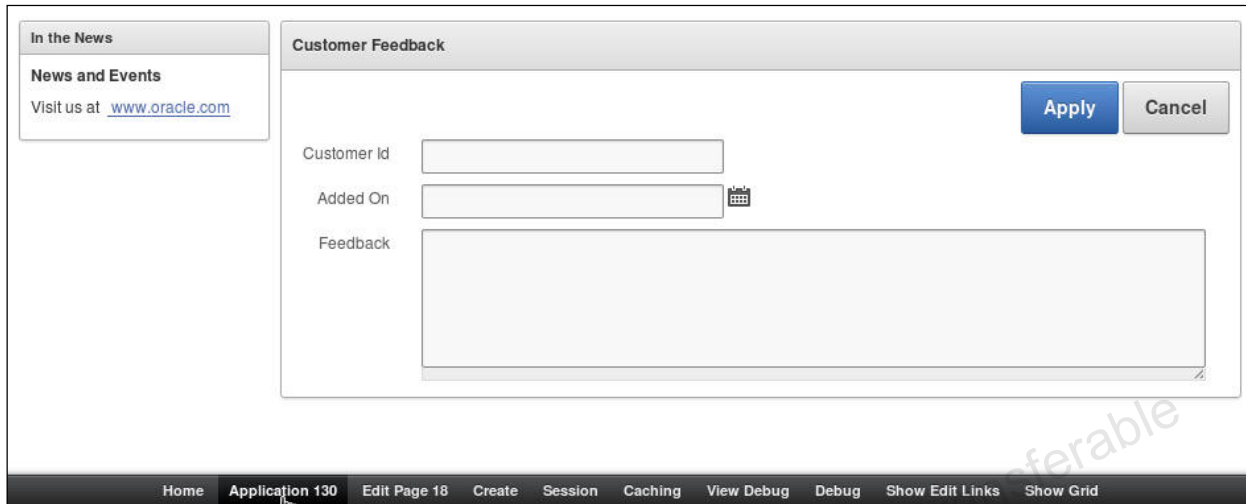
**Page Rendering**

- Customer Feedback
  - Before Header
  - After Header
  - Before Regions
  - Regions
    - Body (3)
      - Customer Feedback
        - Items
          - P18\_CUSTOMER\_ID
          - P18\_ADDED\_ON
          - P18\_FEEDBACK
        - Region Buttons
          - APPLY\_CHANGES
          - CANCEL
    - After Regions
    - Before Footer

**Page Processing**

- After Submit
- Validating
- Processing
- After Processing
  - AJAX Callbacks

- 6) The **Apply** and **Cancel** buttons are created successfully. Click the **Application** **<n>** link on the Developer toolbar.



## Solution 8-2: Manipulating Items

### Overview

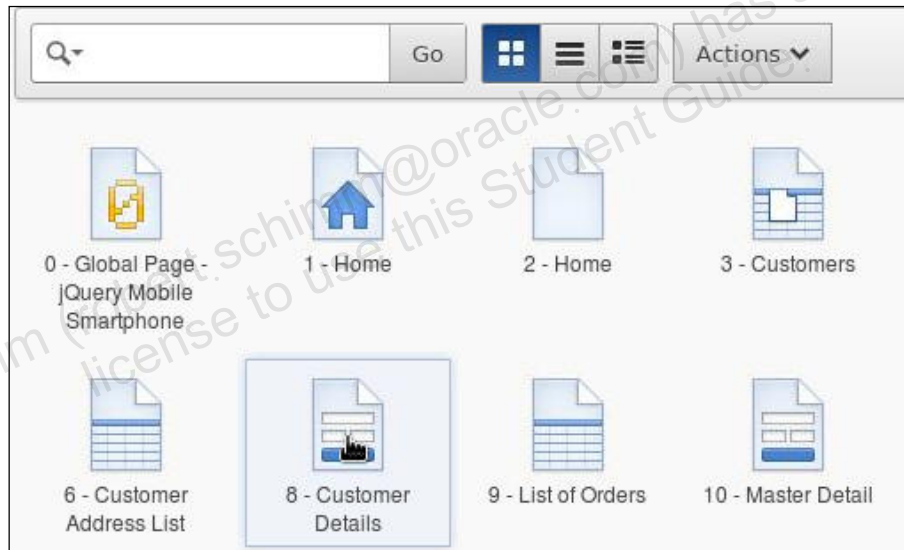
In this practice, you add some additional items and modify the way the fields in the Customer Details form are displayed.

### Tasks

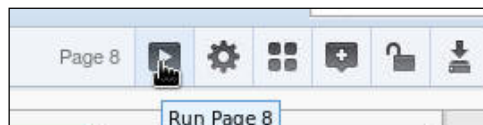
- a. Modify the Account Manager item to be a select list with the following query (located in /home/oracle/labs/files/lab8\_2\_1.txt):

```
select LAST_NAME||', '||FIRST_NAME display_value, EMPLOYEE_ID
return_value
from OEHR_EMPLOYEES
where DEPARTMENT_ID=80
order by 1
```

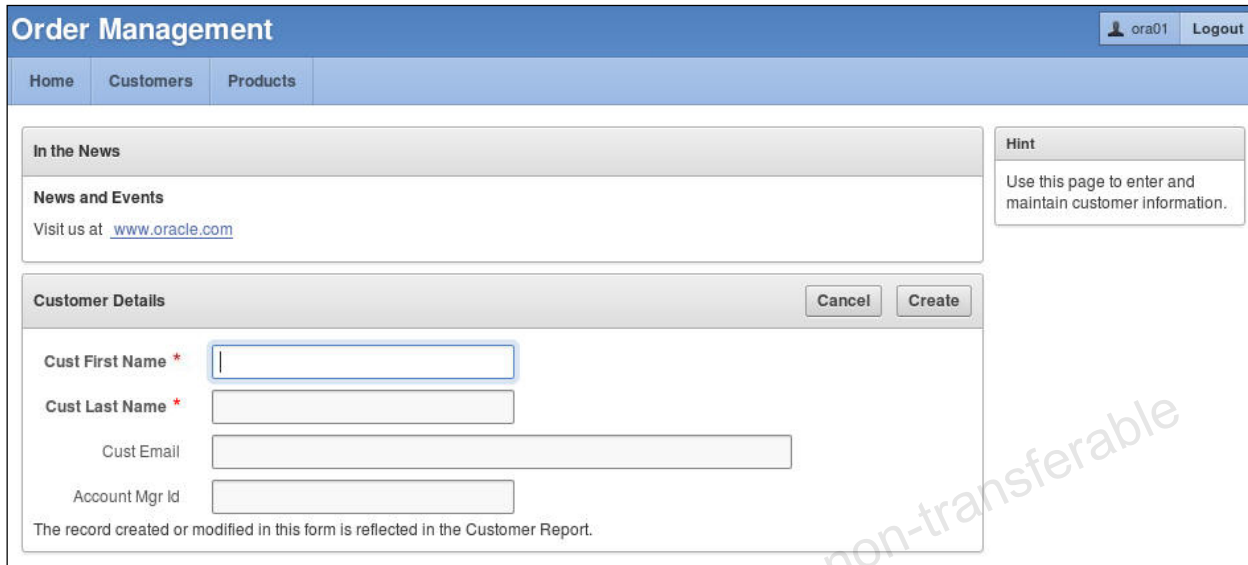
- 1) Navigate to the Order Management application home page and select the **Customer Details** page.



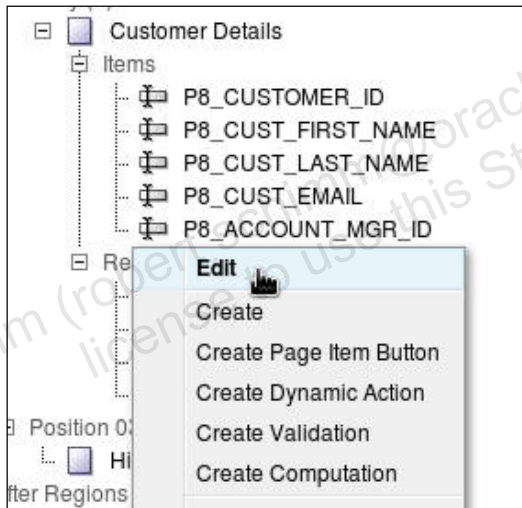
- 2) **Run** the page.



- 3) You will change the **Account Manager** item to a select list and also add a quick pick list. Click the **Edit Page** link on the Developer toolbar.



- 4) Right-click the **P<n>\_ACCOUNT\_MGR\_ID** item and select **Edit**.



- 5) Click the **Select List** quick pick, change the label to **Account Manager**, and click the **List of Values** tab.

Page Item: P8\_ACCOUNT\_MGR\_ID
Cancel Delete **Apply Chan**

Show All | Identification | User Interface | Grid Layout | Label | Settings | List of Values | Element | Source | D

### Identification

Page: **8 Customer Details**

\* Name:

Display As:  ▼

Text , Number , Date , Textarea , Select List , Radio , Popup List of Values , Checkbox , Display Only ,

### User Interface

\* Sequence:

\* Region:  ▼

Template:  ▼

### Grid Layout

Start New Grid:  ▼

Start New Row:  ▼

Column:  ▼

Column Span:  ▼      Row Span:

Column Attributes:  ▲

### Label

Label:

- 6) You want to build a dynamic list of the names of managers in the Sales department. Enter the following query (located in /home/oracle/labs/files/lab8\_2\_1.txt) to display the last name and first name, and return **EMPLOYEE\_ID**. Select **Yes** for **Display Null Value** and enter - **Select Manager** - in the **Null Display Value** field.

```
select LAST_NAME||', '||FIRST_NAME display_value, EMPLOYEE_ID
return_value
from OEHR_EMPLOYEES
where DEPARTMENT_ID=80
order by 1
```

### List of Values

Named LOV

Display Extra Values

Display Null Value

Null Display Value 
 Null Return Value

Cascading LOV Parent Item(s)

List of values definition

```

select LAST_NAME||', '||FIRST_NAME display_value, EMPLOYEE_ID
return_value
from OEHR_EMPLOYEES
where DEPARTMENT_ID=80
order by 1
    
```

b. Add a quick pick list to the Account Manager item with the following labels and values:

Label	Value
Bates, Elizabeth	172
Russell, John	145
Cambrault, Gerald	148

1) Click the **Quick Picks** tab.

Page Item: P8\_ACCOUNT\_MGR\_ID

### List of Values

Named LOV

Display Extra Values

Display Null Value

Null Display Value 
 Null Return Value

Cascading LOV Parent Item(s)

List of values definition

```

select LAST_NAME||', '||FIRST_NAME display_value, EMPLOYEE_ID
return_value
from OEHR_EMPLOYEES
where DEPARTMENT_ID=80
order by 1
    
```

- 2) Select **Yes** for **Show Quick Picks**. Enter the following labels and values and click **Apply Changes**.

Label	Value
Bates, Elizabeth	172
Russell, John	145
Cambrault, Gerald	148

Page Item: P8\_ACCOUNT\_MGR\_ID

Buttons: Cancel, Delete, **Apply Changes**

Navigation: Show All, Identification, User Interface, Grid Layout, Label, Settings, List of Values, Element, Source, Default, **Quick Picks**, Condition

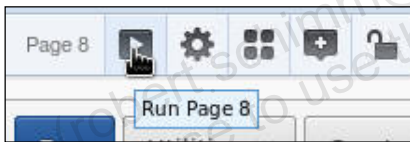
**Quick Picks**

Show Quick Picks: Yes

Link Attributes: [Empty]

Label	Value
Label 1: Bates, Elizabeth	Value 1: 172
2: Russell, John	2: 145
3: Cambrault, Gerald	3: 148
4: [Empty]	4: [Empty]

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



- 4) Click the **Account Manager** drop-down list to see the list of Account Managers.

**Customer Details**

Cust First Name \* [Empty]

Cust Last Name \* [Empty]

Cust Email [Empty]

Account Manager: - Select Manager -

- Select Manager -
- John, Cambrault, Gerald
- Abel, Ellen
- Ande, Sundar
- Banda, Amit
- Bates, Elizabeth
- Bernstein, David
- Bloom, Harrison
- Cambrault, Gerald
- Cambrault, Nanette
- Doran, Louise

The record created or modified in the Customer Report.

- 5) Click the **Russell, John** quick pick.

**Customer Details**

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager - Select Manager -

[Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

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

- 6) Notice how the name is selected for **Account Manager**. You want to add some additional items. Click the **Edit Page** link on the Developer toolbar.

**Customer Details** Cancel Create

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager Russell, John

[Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

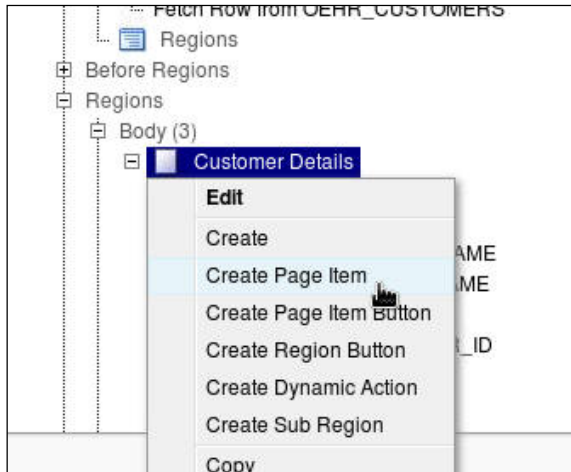
The record created or modified in this form is reflected in the Customer Report.

Home Application 130 Edit Page 8 Create Session Caching View Debug Debug Show Edit Links Show

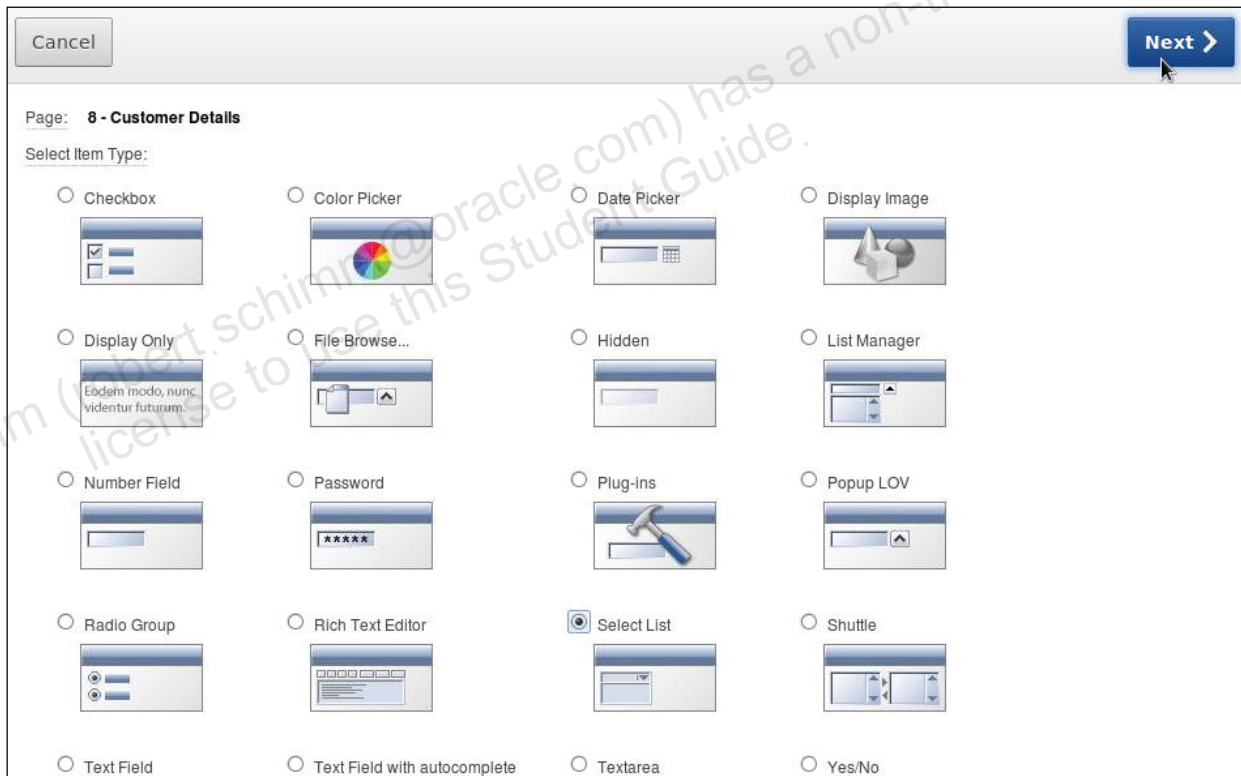
- c. Add a select list item called **Country** that contains the following query (located in /home/oracle/labs/files/lab8\_2\_2.txt). This item should allow nulls.

```
select COUNTRY_NAME display_value, COUNTRY_ID return_value
from OEHR_COUNTRIES
order by 1
```

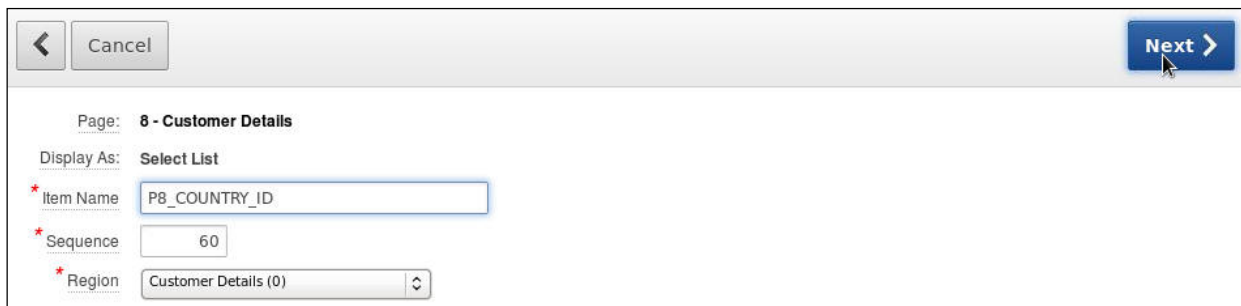
- 1) In the Customer Details region, right-click **Customer Details** and select **Create Page Item**.



- 2) Select the **Select List** item type and click **Next >**.



- 3) Enter **P<n>\_COUNTRY\_ID** for Item Name and click **Next >**.



- 4) Change the Label to **Country** and click **Next >**.

Page: 8 - Customer Details  
 Item Name: P8\_COUNTRY\_ID  
 Display As: Select List  
 Label: Country [Clear]  
 Height: 1  
 Template: Optional

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

Page: 8 - Customer Details  
 Item Name: P8\_COUNTRY\_ID  
 Display As: Select List  
 Value Required: No  
 Page Action when Value Changed: None (Default)  
 Allow Multi Selection: No

- 6) Enter the following SQL in the **List of Values Query** area (located in /home/oracle/labs/files/lab8\_2\_2.txt). Enter **- Select Country -** for Null Display Value and click **Next >**.

```
select COUNTRY_NAME display_value, COUNTRY_ID return_value
from OEHR_COUNTRIES
order by 1
```

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: 130/8  
 Item Name: P8\_COUNTRY\_ID  
 Display As: Select List  
 Named LOV: [ ]  
 Display Null Value: Yes  
 Null Display Value: - Select Country -  
 Null Return Value: [ ]  
 Cascading LOV Parent Item(s): [ ]

\* List of Values Query

```
select COUNTRY_NAME display_value, COUNTRY_ID return_value
from OEHR_COUNTRIES
order by 1
```

- 7) Select **Database Column** for Source Type. Notice that the **COUNTRY\_ID** column is automatically inserted. 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\_COUNTRY\_ID**

Display As: **Select List**

Source Used: Always, replacing any existing value in session state

\* Source Type: Database Column

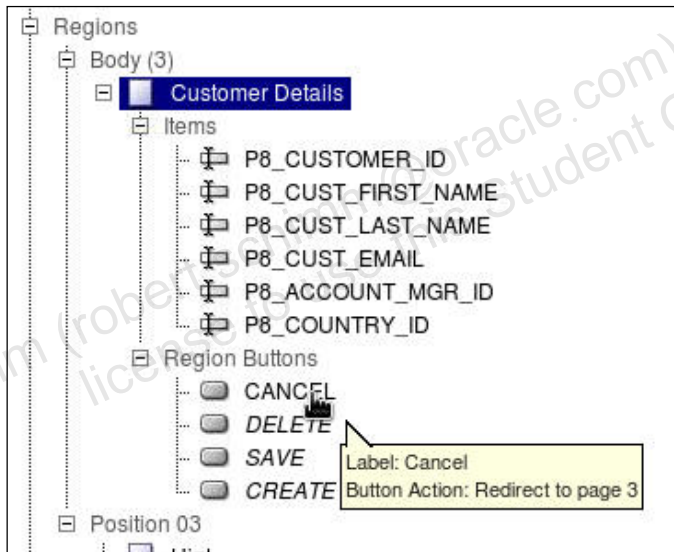
Database Column Name: COUNTRY\_ID

Format Mask:

Default:

Buttons: Cancel, Create Item

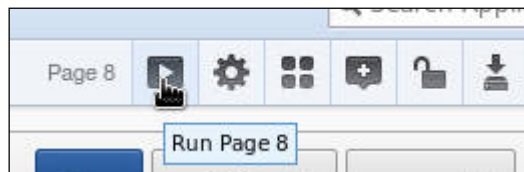
- 8) You want to change the size of the Cancel button. Under Region Button, double-click **CANCEL**.



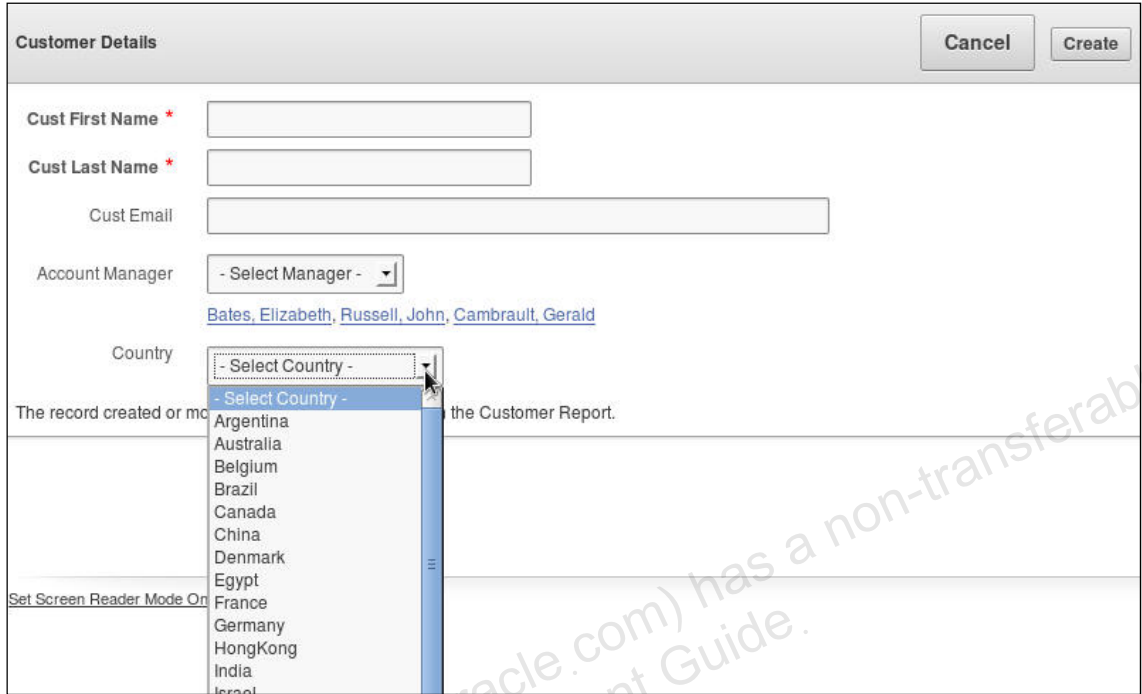
- 9) Under Attributes, change the Button Template to **Large Button** and click **Apply Changes**.

The screenshot shows the configuration page for a button named 'CANCEL' on page 1 of 4. The page title is 'Page Button: 1 of 4 Name: CANCEL'. At the top right, there are buttons for 'Cancel', 'Delete', and 'Apply Changes'. Below the title bar is a tabbed interface with tabs for 'Show All', 'Name', 'Displayed', 'Attributes', 'Action When Button Clicked', 'Conditions', 'Security', 'Configuration', and 'Comments'. The 'Name' tab is active, showing 'Page: 8 Customer Details', 'Button Name: CANCEL', and 'Text Label / Alt: Cancel'. The 'Displayed' tab is active, showing 'Sequence: 10', 'Display in Region: Customer Details (0)', 'Button Position: Region Template Position #CLOSE#', and 'Button Alignment: Right'. The 'Attributes' tab is active, showing 'Static ID', 'Button Style: Template Based Button', 'Button Template: Large Button', and 'Button Type: Normal'. A watermark 'Robert Schimm (robert.schimm@oracle.com) has a non-transferable license to use this Student Guide.' is visible across the page.

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



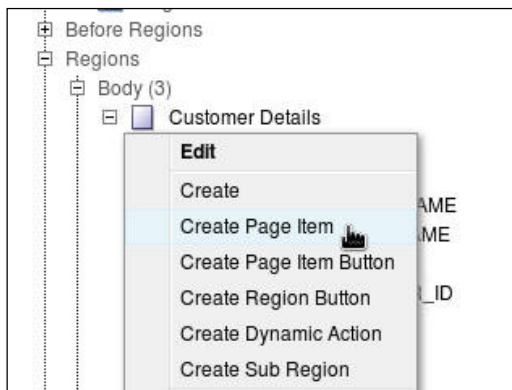
- 11) Notice that the **Country Id** item shows a select list of country names. You want to create an item that is based on the country selected (cascading LOV). Click the **Edit Page** link on the Developer toolbar.



- d. Add another item, City, based on the Country item that you just created with the following query (located in /home/oracle/labs/files/lab8\_2\_3.txt). Select the Country item as the cascading LOV. **Note:** You may need to change the query so that you do not have multiple rows.

```
select CITY display_value, CITY return_value
from OEHR_LOCATIONS
where country_id = :P<n>_COUNTRY_ID
order by 1
```

- 1) Right-click **Customer Details** under Regions and select **Create Page Item**.



2) Select the **Popup LOV** item type and click **Next >**.

Cancel Next >

Page: **8 - Customer Details**

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 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 checked="" type="radio"/> Popup LOV
<input type="radio"/> Radio Group	<input type="radio"/> Rich Text Editor	<input type="radio"/> Select List	<input type="radio"/> Shuttle

3) Enter **P8\_CITY** for Item Name and click **Next >**.

< Cancel Next >

Page: **8 - Customer Details**

Display As: **Popup LOV**

\* Item Name:

\* Sequence:

\* Region:

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

< Cancel Next >

Page: **8 - Customer Details**

Item Name: **P8\_CITY**

Display As: **Popup LOV**

Label:  [Clear]

Field Width:

Template:

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

6) Enter the following SQL in the **List of Values** Query (located in /home/oracle/labs/files/lab8\_2\_3.txt). Enter – **Select City** – in **Null Display Value** and select P<n>\_COUNTRY\_ID for the **Cascading LOV Parent Item(s)** and **Page Items to Submit** fields. Note that this item will be refreshed when the value of P<n>\_COUNTRY\_ID is changed. Click **Next**. Be sure to change **P<n>** to your page number.

```
select CITY display_value, CITY return_value
from OEHR_LOCATIONS
where country_id = :P<n>_COUNTRY_ID
order by 1
```

- 7) Select **Database Column** for Source Type 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: **PB\_CITY**

Display As: **Popup LOV**

Source Used: Always, replacing any existing value in session state

\* Source Type: Database Column

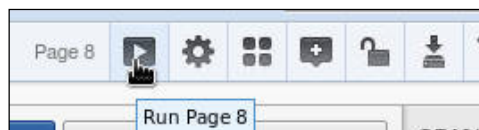
Database Column Name: CITY

Format Mask:

Default:

**Create Item**

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



- 9) Select **Japan** from the list of countries. Click the **Popup List of Values** icon for City.

Customer Details

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager: - Select Manager -

Bates, Elizabeth, Russell, John, Cambrault, Gerald

Country: Japan

City

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

Cancel Create

Popup List of Values: City

- 10) A pop-up window with only the cities from Japan are shown. Click one of the cities.

Search Close

- Select City -

Hiroshima

Tokyo

- e. Change the Account Manager of an existing customer record.  
**Note:** You must navigate to the customer report and edit one of the records.

- 1) You want to modify an existing record. Click the **Customers** tab.

### Order Management

Home
**Customers**
Products

**In the News**

**News and Events**  
Visit us at [www.oracle.com](http://www.oracle.com)

**Customer Details** Cancel Create

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager - Select Manager -  
[Bates, Elizabeth](#), [Russell, John](#), [Cambraut, Gerald](#)

Country Japan

City Hiroshima

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

- 2) Click the **Edit** icon for one of the rows.

	Customer Id	Cust 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
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US

- 3) You want to make one more change on the Customer Details page so that the Apply Changes button is highlighted and appears larger. Click **Edit Page <n>**.

Customer Details

Cancel Delete Apply Changes

Cust First Name \* Manisha

Cust Last Name \* Taylor

Cust Email Manisha.Taylor@AUKLET.COM

Account Manager Russell, John

Bates, Elizabeth, Russell, John, Cambrauit, Gerald

Country United States of America

City Bloomington

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

Home Application 130 Edit Page 8 Create Session Caching View Debug Debug Show Edit Links

- 4) Under Region Buttons, double-click the **SAVE** button.

Regions

Body (3)

Customer Details

Items

- P8\_CUSTOMER\_ID
- P8\_CUST\_FIRST\_NAME
- P8\_CUST\_LAST\_NAME
- P8\_CUST\_EMAIL
- P8\_ACCOUNT\_MGR\_ID
- P8\_COUNTRY\_ID
- P8\_CITY

Region Buttons

- CANCEL
- DELETE
- SAVE
- CREATE

Position 03

Hint

After Regions

After Submit

Validating

Processing

- Branches
- Process
- Process
- reset page

After Processing

- Branches
- Go To Page
- AJAX Call

Label: Apply Changes

Button Action: Submit as "SAVE"

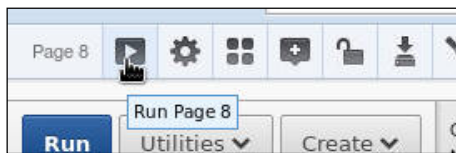
Execute Validations: Yes

Condition Type: Value of Item / Column in Expression 1 Is NOT NULL

- 5) Under Attributes, change the Button Template to **Large Button** and change Button Type to **Hot**. Click **Apply Changes**.

The screenshot shows a configuration window titled "Page Button: 3 of 4 Name: SAVE". At the top right are buttons for "Cancel", "Delete", and "Apply Changes". Below is a tabbed interface with tabs for "Show All", "Name", "Displayed", "Attributes", "Action When Button Clicked", "Conditions", "Security", "Configuration", and "Comments". The "Name" tab is active, showing fields for "Button Name" (SAVE) and "Text Label / Alt" (Apply Changes). The "Displayed" tab is active, showing fields for "Sequence" (30), "Display in Region" (Customer Details (0)), "Button Position" (Region Template Position #CHANGE#), and "Button Alignment" (Right). The "Attributes" tab is active, showing fields for "Static ID", "Button Style" (Template Based Button), "Button Template" (Large Button), "Button Type" (Hot), and "Button CSS Classes".

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



7) Click one of the quick picks for **Account Manager**.

The screenshot shows a web form titled "Customer Details" with three buttons at the top right: "Cancel", "Delete", and "Apply Changes". The form contains the following fields:

- Cust First Name \***: Text input with "Manisha".
- Cust Last Name \***: Text input with "Taylor".
- Cust Email**: Text input with "Manisha.Taylor@AUKLET.COM".
- Account Manager**: A dropdown menu with "Russell, John" selected. Below it, a list of quick pick options is visible: "Bates, Elizabeth", "Russell, John", and "Cambrault, Gerald".
- Country**: A dropdown menu with "United States of America" selected.
- City**: A dropdown menu with "Bloomington" selected.

At the bottom of the form, a note reads: "The record created or modified in this form is reflected in the Customer Report."

8) Click **Apply Changes**.

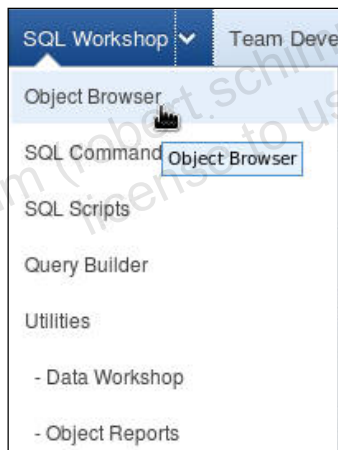
This screenshot is identical to the one above, but the "Apply Changes" button is now highlighted with a mouse cursor, indicating it is the next step in the process.

9) The action is processed. Click the **Edit Page** link on the Developer toolbar.

	Customer Id	Cust 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
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US
	106	Matthias	Hannah	1608 Portage Ave	46616	South Bend	IN	US
	107	Matthias	Cruise	23043 Us Highway	46517	Elkhart	IN	US

Home Application 130 **Edit Page 3** Create Session Caching View Debug Debug Show Edit Links Show Grid

- f. Modify the Employee Detail mobile form page to take advantage of some of the new HTML5 item types.
- 1) You want to add a new column to the OEHR\_EMPLOYEES table to store whether an employee is active or not. Select **SQL Workshop > Object Browser**.



- 2) Select **OEHR\_EMPLOYEES** from the Tables list.

Tables
EBA_CUST_TAGS_TYPE_SUM
EBA_CUST_TZ_PREF
EBA_CUST_USERS
EBA_CUST_VIEWS_LOG
EMP
OEHR_AUDITS
OEHR_COUNTRIES
OEHR_CUSTOMERS
OEHR_DEPARTMENTS
<b>OEHR_EMPLOYEES</b>
OEHR_INVENTORIES
OEHR_JOBS
OEHR_JOB_HISTORY

- 3) Click **Add Column**.

OEHR_EMPLOYEES																																																																	
Table	Data	Indexes	Model	Constraints	Grants	Statistics	UI Defaults	Triggers	Dependencies	SQL																																																							
<div style="display: flex; justify-content: space-between;"> <span>Add Column</span> <span>Modify Column</span> <span>Rename Column</span> <span>Drop Column</span> <span>Rename</span> <span>Copy</span> <span>Drop</span> <span>Truncate</span> <span>Create Lookup Table</span> </div> <table border="1"> <thead> <tr> <th>Column Name</th> <th>Data Type</th> <th>Nullable</th> <th>Default</th> <th>Primary Key</th> </tr> </thead> <tbody> <tr><td>EMPLOYEE_ID</td><td>NUMBER(6,0)</td><td>No</td><td>-</td><td>1</td></tr> <tr><td>FIRST_NAME</td><td>VARCHAR2(20)</td><td>Yes</td><td>-</td><td>-</td></tr> <tr><td>LAST_NAME</td><td>VARCHAR2(25)</td><td>No</td><td>-</td><td>-</td></tr> <tr><td>EMAIL</td><td>VARCHAR2(25)</td><td>No</td><td>-</td><td>-</td></tr> <tr><td>PHONE_NUMBER</td><td>VARCHAR2(20)</td><td>Yes</td><td>-</td><td>-</td></tr> <tr><td>HIRE_DATE</td><td>DATE</td><td>No</td><td>-</td><td>-</td></tr> <tr><td>JOB_ID</td><td>VARCHAR2(10)</td><td>No</td><td>-</td><td>-</td></tr> <tr><td>SALARY</td><td>NUMBER(8,2)</td><td>Yes</td><td>-</td><td>-</td></tr> <tr><td>COMMISSION_PCT</td><td>NUMBER(2,2)</td><td>Yes</td><td>-</td><td>-</td></tr> <tr><td>MANAGER_ID</td><td>NUMBER(6,0)</td><td>Yes</td><td>-</td><td>-</td></tr> </tbody> </table>											Column Name	Data Type	Nullable	Default	Primary Key	EMPLOYEE_ID	NUMBER(6,0)	No	-	1	FIRST_NAME	VARCHAR2(20)	Yes	-	-	LAST_NAME	VARCHAR2(25)	No	-	-	EMAIL	VARCHAR2(25)	No	-	-	PHONE_NUMBER	VARCHAR2(20)	Yes	-	-	HIRE_DATE	DATE	No	-	-	JOB_ID	VARCHAR2(10)	No	-	-	SALARY	NUMBER(8,2)	Yes	-	-	COMMISSION_PCT	NUMBER(2,2)	Yes	-	-	MANAGER_ID	NUMBER(6,0)	Yes	-	-
Column Name	Data Type	Nullable	Default	Primary Key																																																													
EMPLOYEE_ID	NUMBER(6,0)	No	-	1																																																													
FIRST_NAME	VARCHAR2(20)	Yes	-	-																																																													
LAST_NAME	VARCHAR2(25)	No	-	-																																																													
EMAIL	VARCHAR2(25)	No	-	-																																																													
PHONE_NUMBER	VARCHAR2(20)	Yes	-	-																																																													
HIRE_DATE	DATE	No	-	-																																																													
JOB_ID	VARCHAR2(10)	No	-	-																																																													
SALARY	NUMBER(8,2)	Yes	-	-																																																													
COMMISSION_PCT	NUMBER(2,2)	Yes	-	-																																																													
MANAGER_ID	NUMBER(6,0)	Yes	-	-																																																													

- 4) Enter **ACTIVE\_YN** for Add Column, select **VARCHAR2** for Type, enter **1** for Length, and click **Next >**.

**Add Column**

Schema: **ORA01**

Table: **OEHR\_EMPLOYEES**

\* Add Column:   Preserve Case

Type:

Length:


Precision:

Scale:

Nullable:

- 5) Click **Finish**.

**Confirm your request**

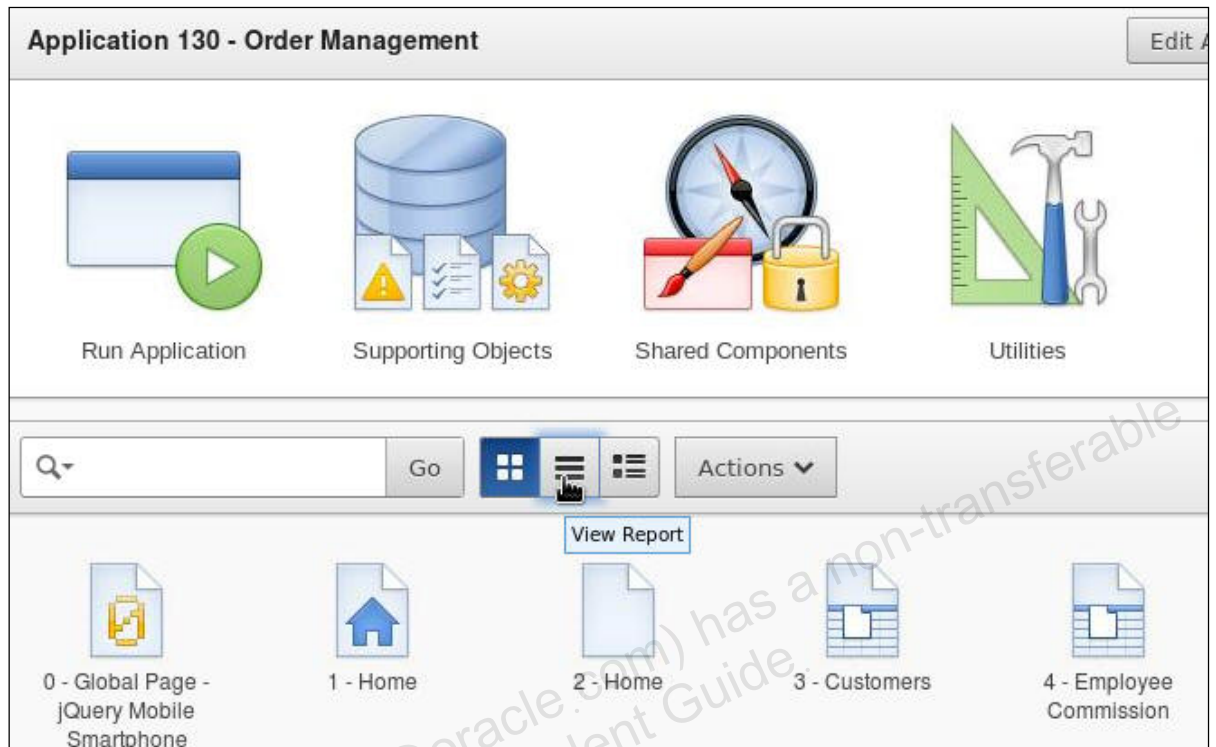


Schema: **ORA01**

Object: **OEHR\_EMPLOYEES**

Action: **Add Column ACTIVE\_YN**

- 6) Now you can modify the Employee Detail mobile form page. Navigate to the Order Management application page. Click the **View Report** icon.



- 7) In the report, select the **User Interface** heading, and then select **jQuery Mobile Smartphone**.

Page	Name	Updated	Updated By	Page Type	User Interface	Group
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	7 days ago	ora01	Global Page	<div style="border: 1px solid gray; padding: 5px;"> <span>▲</span> <span>▼</span> <span>✖</span> <span>⋮</span>   <input type="text"/>                       Desktop                       <b>jQuery Mobile Smartphone</b>                       Smartphone                 </div>	
1	<a href="#">Home</a>	7 days ago	-	Home		
2	<a href="#">Home</a>	2 days ago	ora01	Static HTML		
		18 hours		Interactive		

8) Select **Employee Detail**.

Page	Name	Updated	Updated By	Page Type	User Interface
0	<a href="#">Global Page - jQuery Mobile Smartphone</a>	7 days ago	ora01	Global Page	jQuery Mobile Smartphone
2	<a href="#">Home</a>	2 days ago	ora01	Static HTML	jQuery Mobile Smartphone
205	<a href="#">Employee List</a>	5 days ago	ora01	Static HTML	jQuery Mobile Smartphone
206	<a href="#">Employee Detail</a>	5 days ago	ora01	DML Form	jQuery Mobile Smartphone
1001	<a href="#">Login</a>	7 days ago	ora01	Login	jQuery Mobile

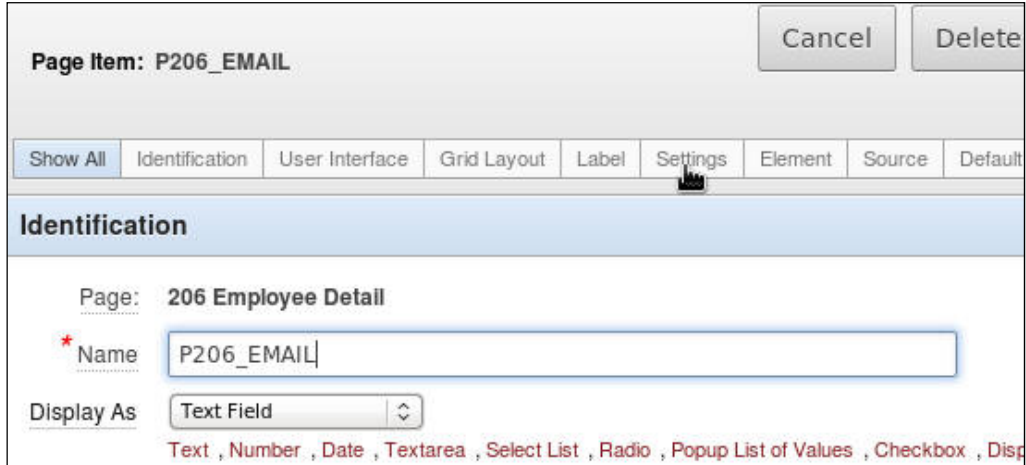
9) You want to change the setting for email so that it uses the appropriate keyboard for email on a mobile device. Double-click **P<n>\_EMAIL**.

Body (3)

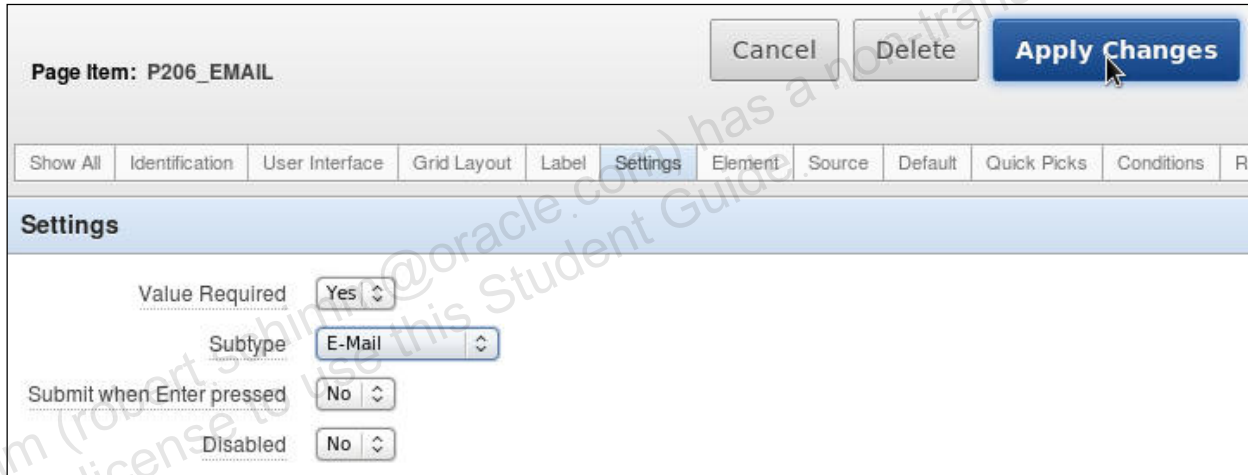
- Employee Detail
  - Items
    - P206\_EMPLOYEE\_ID
    - P206\_FIRST\_NAME
    - P206\_LAST\_NAME
    - P206\_EMAIL
    - P206\_PHONE\_NUMBER
    - P206\_HIRE\_DATE
    - P206\_JOB
 

Label: Email  
 Display as: Text Field  
 Start New Grid Row: Yes
    - P206\_SAL
    - P206\_COMMISSION\_PCT
    - P206\_MANAGER\_ID
    - P206\_DEPARTMENT\_ID
  - Region Buttons
    - CANCEL
    - DELETE

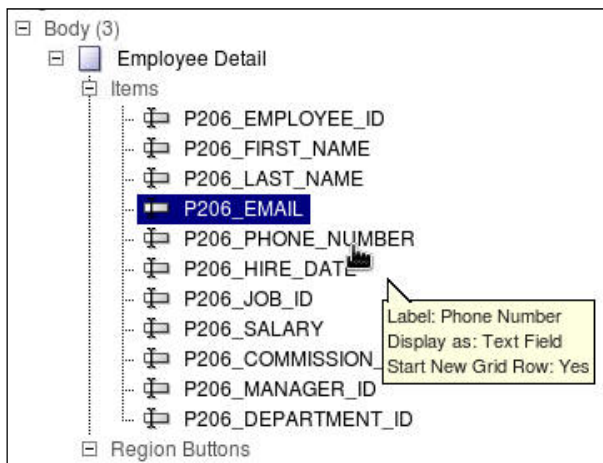
10) Click the **Settings** subtab.



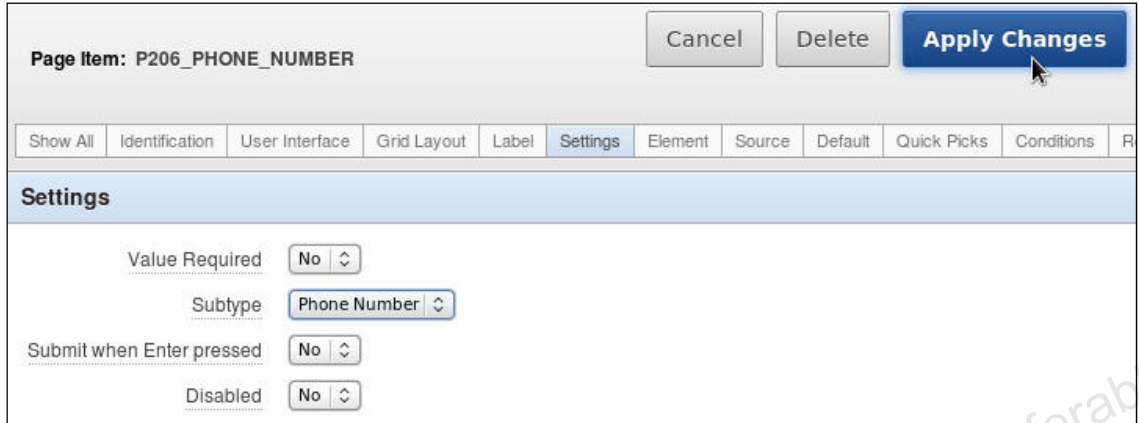
11) Select **E-Mail** for Subtype and click **Apply Changes**.



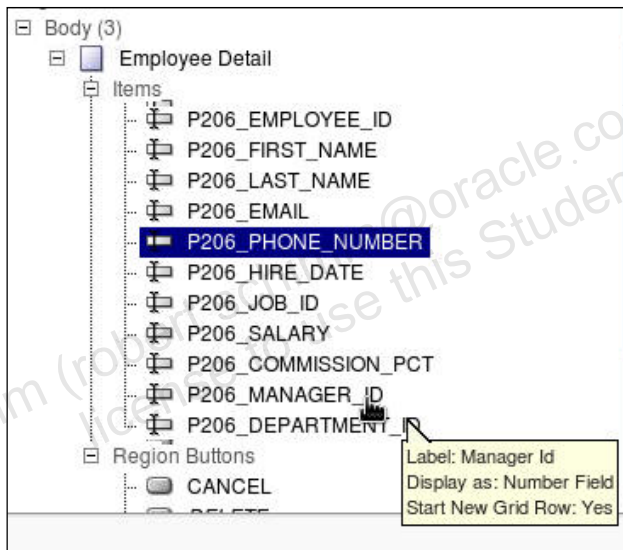
12) You want to change the subtype for Phone Number. Double-click **P<n>\_PHONE\_NUMBER**.



- 13) Notice that the Settings tab is already selected. Select Phone Number for Subtype and click **Apply Changes**. Note that to see how subtypes work, you need to run the page on a mobile device. Ask your instructor to show you an example.



- 14) You want to change Manager to show a select list. Double-click **P<n>\_MANAGER\_ID**.



15) Click the **Show All** subtab.

Page Item: P206\_MANAGER\_ID

Cancel Delete

Show All Identification User Interface Grid Layout Label Settings Element Source Default

**Settings**

Value Required No

Format Mask

Minimum Value

Maximum Value

Number Alignment Right

16) Click the **Select List** quick pick or select **Select List** from Display As. Then click the **List of Values** subtab.

Page Item: P206\_MANAGER\_ID

Cancel Delete Apply Changes

Show All Identification User Interface Grid Layout Label Settings List of Values Element Source Default Qu

**Identification**

Page: 206 Employee Detail

Name P206\_MANAGER\_ID

Display As Select List

Text , Number , Date , Textarea , Select List , Radio , Popup List of Values , Checkbox , Display Only , Hidden

**User Interface**

Sequence 100

Region Employee Detail (10)

17) Enter the following code (located in the `/home/oracle/labs/files/lab8_2_4.txt` directory) in the **List of values definition area** and click **Apply Changes**:

```
select first_name||' '||last_name d, employee_id r
from oehr_employees
```

Page Item: P206\_MANAGER\_ID

Cancel Delete **Apply Changes**

Show All Identification User Interface Grid Layout Label Settings **List of Values** Element Source Default Quick Picks

### List of Values

Named LOV

Display Extra Values

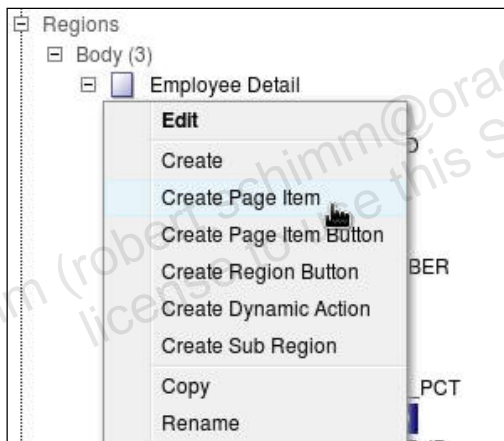
Display Null Value

Cascading LOV Parent Item(s)

List of values definition

```
select first_name||' '||last_name d, employee_id r  
from oehr_employees
```

- 18) You want to create a new page item for the ACTIVE\_YN column you added to the OEHR\_EMPLOYEES table previously. Right-click **Employee Detail** and select **Create Page Item**.



19) Select the **Yes/No** item type and click **Next >**.

Cancel Next >

Page: **206 - Employee Detail**

Select Item Type:

<input type="radio"/> Checkbox	<input type="radio"/> Color Picker	<input type="radio"/> Date Picker (HTML5)	<input type="radio"/> Display Image
<input type="radio"/> Display Only	<input type="radio"/> File Browse...	<input type="radio"/> Hidden	<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"/> Select List	<input type="radio"/> Slider	<input type="radio"/> Text Field	<input type="radio"/> Textarea
<input checked="" type="radio"/> Yes/No			

20) Change the Item Name to **P206\_ACTIVE** and click **Next >**.

< Cancel Next >

Page: **206 - Employee Detail**

Display As: **Yes/No**

\* Item Name:

\* Sequence:

\* Region:

21) Accept the defaults and click **Next >**.

< Cancel Next >

Page: **206 - Employee Detail**

Item Name: **P206\_ACTIVE**

Display As: **Yes/No**

Label:  [Clear]

Template:

22) Accept the defaults and click **Next >**.

The screenshot shows a dialog box for creating an item. At the top left are 'Cancel' and 'Next >' buttons. The page is '206 - Employee Detail'. The item name is 'P206\_ACTIVE'. The display is set to 'Yes/No'. The 'Value Required' is set to 'No'. The 'Settings' are set to 'Use Component Settings'.

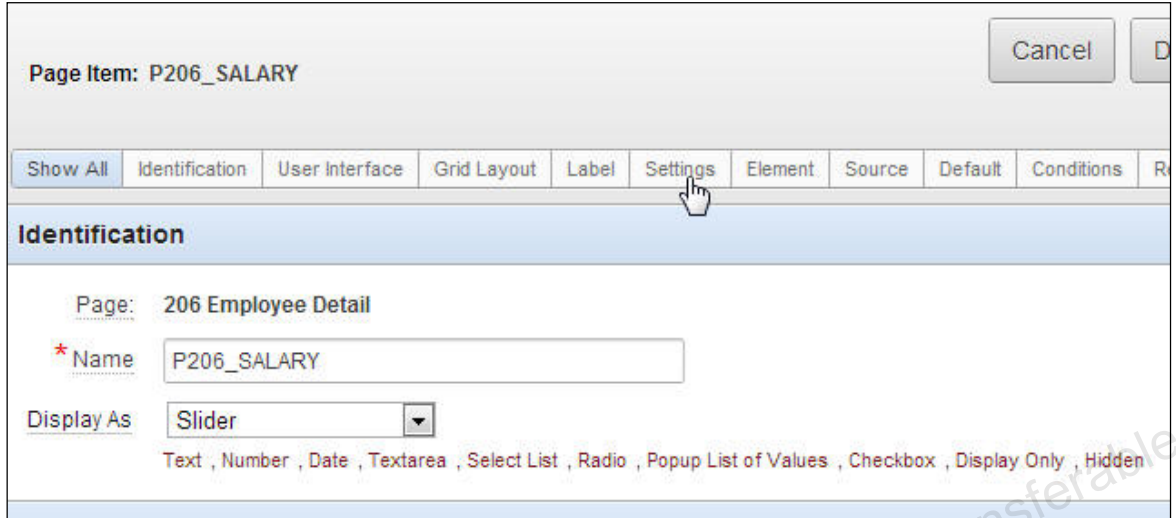
23) Select **Database Column** for Source Type and change the Database Column Name to **ACTIVE\_YN** and click **Create Item**.

This screenshot shows the 'Create Item' dialog box with the 'Source Type' set to 'Database Column'. The 'Database Column Name' is 'ACTIVE\_YN'. The 'Source Used' is 'Always, replacing any existing value in session state'. The 'Format Mask' is empty. The 'Default' field is also empty. The 'Create Item' button is highlighted.

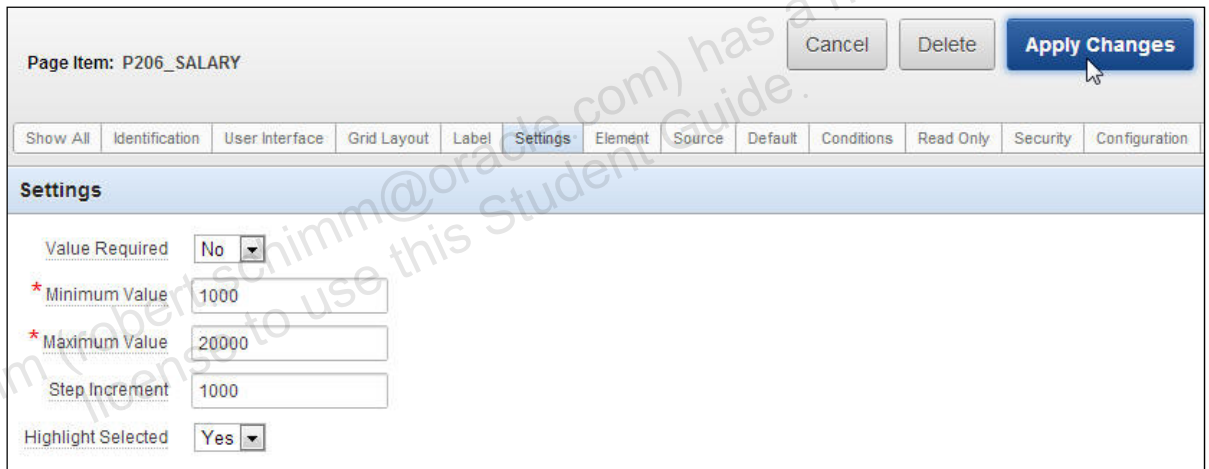
24) You want to change the Salary so that it appears as a slider. Double-click **P<n>\_SALARY**.

The screenshot shows a tree view of the 'Employee Detail' page. The 'Items' folder is expanded, showing a list of items: P206\_EMPLOYEE\_ID, P206\_FIRST\_NAME, P206\_LAST\_NAME, P206\_EMAIL, P206\_PHONE\_NUMBER, P206\_HIRE\_DATE, P206\_JOB\_ID, P206\_SALARY, P206\_COMMISSION\_PCT, P206\_MANAGER, P206\_DEPARTMENT, and P206\_ACTIVE. A tooltip is visible over the 'P206\_SALARY' item, showing 'Label: Salary', 'Display as: Number Field', and 'Start New Grid Row: Yes'.

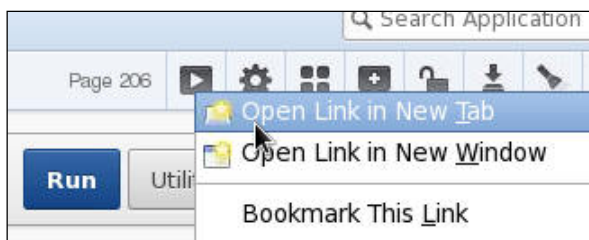
25) Select **Slider** from the Display As drop-down list and click the **Settings** subtab.



26) Enter **1000** for Minimum Value, **20000** for Maximum Value, and **1000** for Step Increment. Select **Yes** for Highlight Selected and click **Apply Changes**.



27) With mobile applications, the Developer toolbar is not displayed. Therefore, it is recommended that you run the application in a different window. Right-click the **Run Page** icon and select **Open Link in New Tab**.

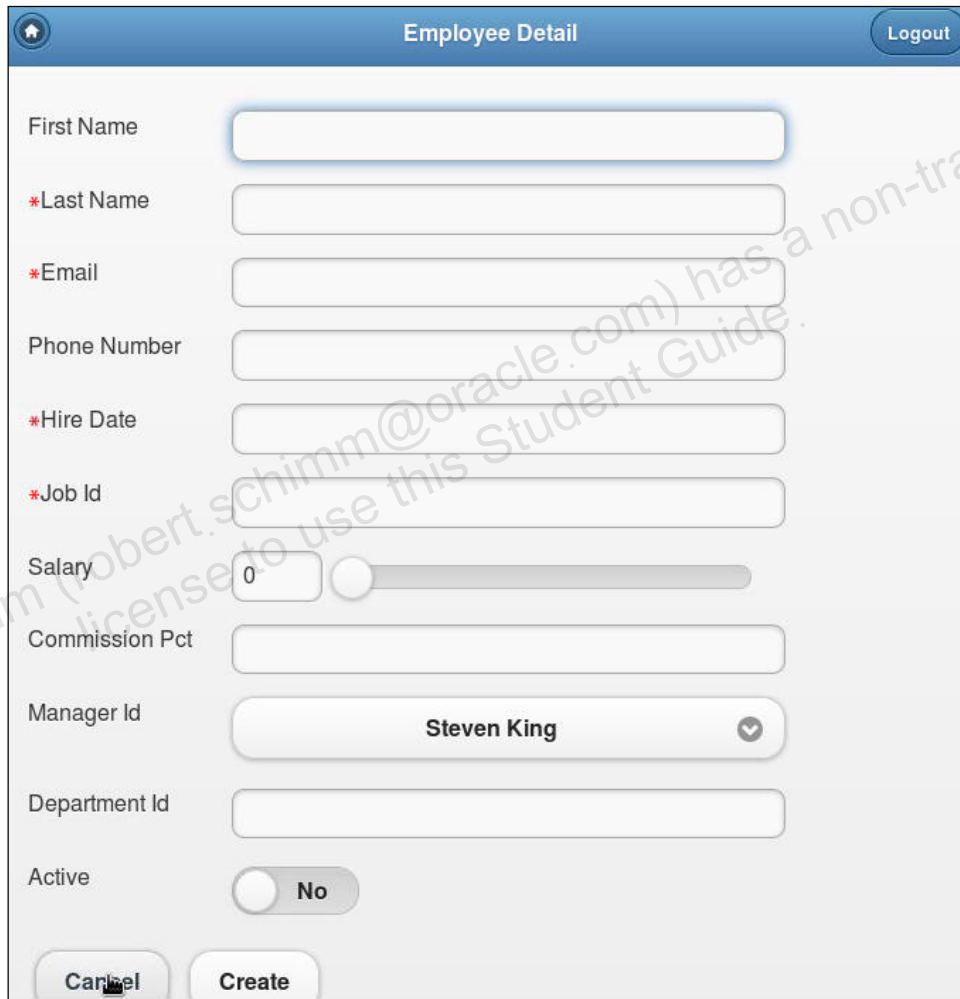


28) If prompted, enter your login information and click **Login**.



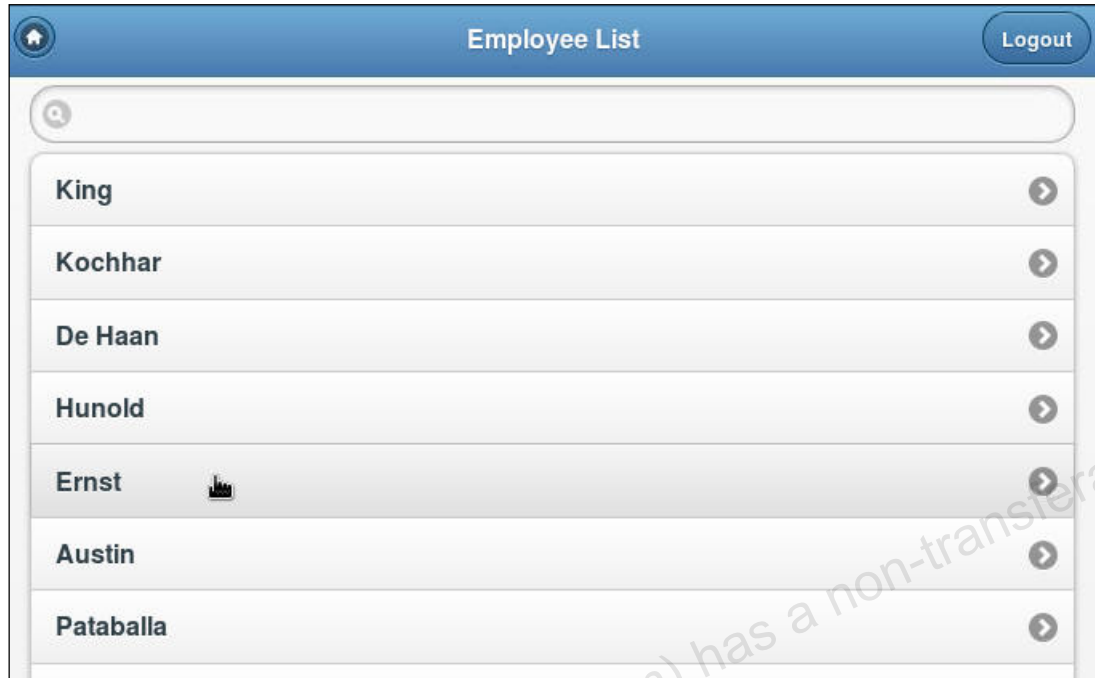
A login form with two input fields: 'Username' containing 'ora01' and 'Password' with five dots. Below the fields is a blue 'Login' button with a mouse cursor over it.

29) If the form is empty, click **Cancel** to return to the report.



An 'Employee Detail' form with a blue header bar containing a home icon, the title 'Employee Detail', and a 'Logout' button. The form contains several fields: 'First Name', '\*Last Name', '\*Email', 'Phone Number', '\*Hire Date', '\*Job Id', 'Salary' (with a slider set to 0), 'Commission Pct', 'Manager Id' (a dropdown menu showing 'Steven King'), 'Department Id', and 'Active' (a toggle switch set to 'No'). At the bottom are 'Cancel' and 'Create' buttons. A watermark 'Robert Schimm (robert.schimm@oracle.com) has a non-transferable license to use this Student Guide.' is overlaid on the form.

30) Select a record from the list.



31) The form is populated with the employee information. Move the Salary slider so that the salary is 10000.

The image shows a web form titled "Employee Detail" with a "Logout" button in the top right corner. The form contains several input fields and a slider. The fields are: First Name (Bruce), Last Name (Ernst), Email (BERNST), Phone Number (590.423.4568), Hire Date (1991-05-21), Job Id (IT\_PROG), Salary (6000), Commission Pct (empty), Manager Id (Alexander Hunold), and Department Id (60). The "Active" checkbox is currently unchecked. At the bottom, there are three buttons: "Cancel", "Delete", and "Apply Changes". A watermark "Robert Schimm (robert.schimm@oracle.com) has a non-transferable license to use this Student Guide." is visible across the form.

First Name	Bruce
*Last Name	Ernst
*Email	BERNST
Phone Number	590.423.4568
*Hire Date	1991-05-21
*Job Id	IT_PROG
Salary	6000
Commission Pct	
Manager Id	Alexander Hunold
Department Id	60
Active	<input type="checkbox"/> No

Buttons: Cancel, Delete, Apply Changes

32) Change the Active item so that the value is **Yes** and click **Apply Changes**.

The screenshot shows the 'Employee Detail' form with the following data:

Field	Value
First Name	Bruce
*Last Name	Ernst
*Email	BERNST
Phone Number	590.423.4568
*Hire Date	1991-05-21
*Job Id	IT_PROG
Salary	10000
Commission Pct	
Manager Id	Alexander Hunold
Department Id	60
Active	Yes

Buttons at the bottom: Cancel, Delete, Apply Changes.

33) Your changes are saved.

The screenshot shows the 'Employee List' table with the following data:

Employee Name	Action
King	➤
Kochhar	➤
De Haan	➤
Hunold	➤
Ernst	➤
Austin	➤

A message 'Action Processed.' is displayed at the top of the table.

# Practices for Lesson 9: Understanding Session State

## Chapter 9

## Practices for Lesson 9: Overview

---

### Practices Overview

There is one practice for this lesson. In this practice, you examine how session state works in an Application Express application.

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## Practice 9-1: Understanding Session State

---

### Overview

In this practice, you add a Create button to the Customers page. When the button is clicked, it redirects to the Customer Details page. You clear the cache so that when the button is clicked, the Customer Details form is empty. You review what is in session state and also add the current value for first name and last name to the Customer Details region header.

### Assumptions

You have performed the previous practices or imported the `LAB082_SOLN.sql` application.

### Tasks

- a. On the Customers page in the Order Management application, add a Create Region button that navigates to the Customer Details page when it is clicked.
- b. Run the page and view an existing record. Click Cancel, and then click the Create button. What do you observe?
- c. Edit the button and clear the cache for the Customer Details page.
- d. Edit an existing record and view the session state. Why do the values for all the items on the Customer Details page not appear?
- e. Change the Link Column on the Customer Report to include the value for the `P<n>_CUST_FIRST_NAME` item.
- f. On the Customer Details page, change the title of the Customer Details region to use the following (located in `/home/oracle/labs/files/lab9_1.txt`). Ensure that you change `P<n>` to your page number.

```
&P<n>_CUST_FIRST_NAME. &P<n>_CUST_LAST_NAME. Customer Details
```

- g. Run the page. What do you observe?

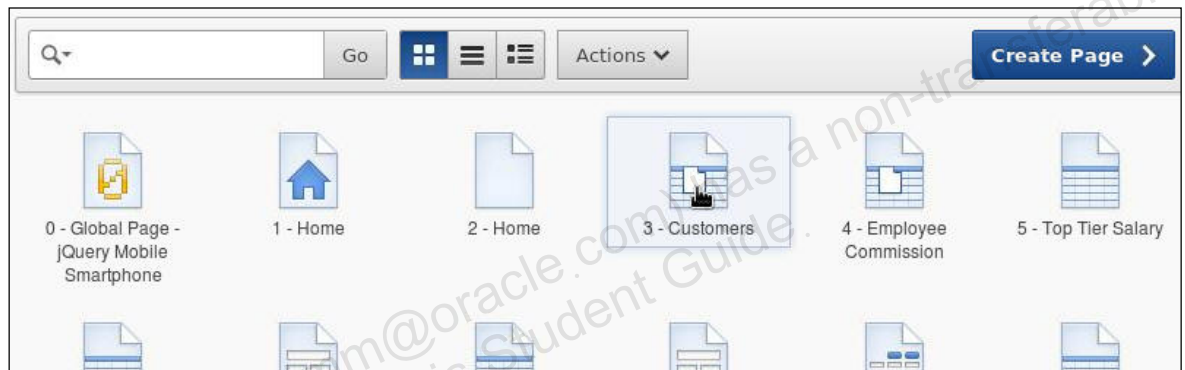
## Solution 9-1: Understanding Session State

### Overview

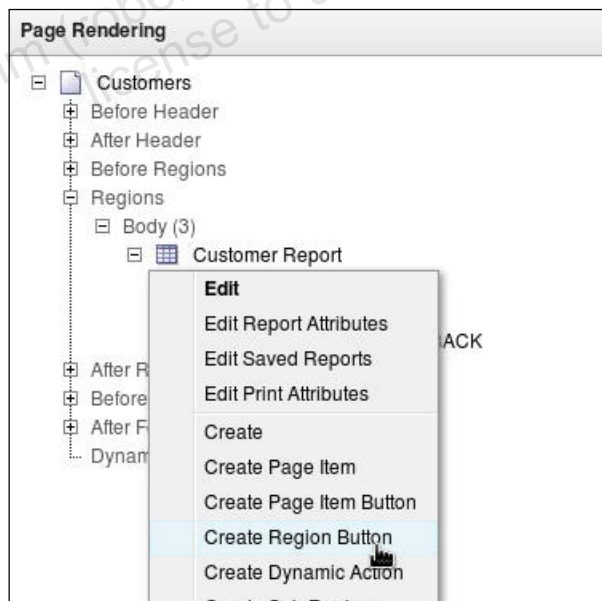
In this practice, you add a Create button to the Customers page. When the button is clicked, it redirects to the Customer Details page. You clear the cache so that when the button is clicked, the Customer Details form is empty. You review what is in session state and also add the current value for first name and last name to the Customer Details region header.

### Tasks

- a. On the Customers page in the Order Management application, add a Create Region button that navigates to the Customer Details page when it is clicked.
  - 1) Navigate to the **Order Management** application home page and select the **Customers** page.



- 2) You want to create a region button for the Create function. Right-click the **Customer Report** region and select **Create Region Button**.



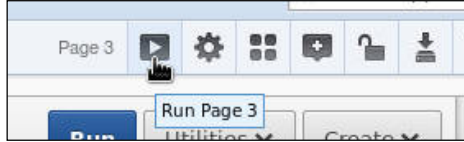
- 3) Select the **[Create]** quick pick for Button Name, **Template Based Button** for Button Style, **Large Button** for Button Template, and **Hot** for Button Type, and then click **Next >**.

- 4) Select **Right of Interactive Report Search Bar** for Position and click **Next >**.

- 5) Select **Redirect to Page in this Application** for Action, select your **Customer Details** page number, and click **Create Button**.

- b. Run the page and view an existing record. Click Cancel, and then click the Create button. What do you observe?

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



- 2) If you are prompted to enter your login credentials, enter the details.

A screenshot of a login page. The page has a header 'In the News' and a sub-header 'News and Events' with a link to 'www.oracle.com'. Below this is a 'Login' section with a 'Username' field containing 'ora01' and a 'Password' field with masked characters. A 'Login' button is positioned to the right of the password field, with a mouse cursor clicking it.

- 3) The report is displayed. Click the **Edit** icon for one of the rows.

A screenshot of a report table. The table has a header row and six data rows. Each row has an 'Edit' icon (a pencil) in the first column. The table is titled 'In the News' and 'News and Events' with a link to 'www.oracle.com'. Above the table is a search bar with a 'Go' button, a 'Reports' dropdown menu set to '1. Primary Report', an 'Actions' dropdown menu, a 'Customer Feedback' button, and a 'Create' button.

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Nu
	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 123
	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 123
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 123
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US	+1 317 123
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US	+1 812 123
	106	Matthias	Hannah	1608 Portage Ave	46616	South Bend	IN	US	+1 219 123

- 4) Note that the Customer Details form reflects the data for the customer that you chose. Click **Cancel**.

Cancel
Delete
Apply Changes

**Cust First Name \***

**Cust Last Name \***

Cust Email

Account Manager    
[Bates, Elizabeth, Russell, John, Cambrault, Gerald](#)

Country

City

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

- 5) Click the **Create** button.

Go
Reports 
Actions
Customer Feedback
Create

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Num
<input type="checkbox"/>	101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 1234
<input type="checkbox"/>	102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 1234
<input type="checkbox"/>	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 1234
<input type="checkbox"/>	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US	+1 317 1234

- 6) Note that the values are still cached on the page. You want to change this so that you receive an empty page where the cache is cleared. Click the **Cancel** button.

Cancel
Delete
Apply Changes

**Cust First Name \***

**Cust Last Name \***

Cust Email

Account Manager    
[Bates, Elizabeth, Russell, John, Cambrault, Gerald](#)

Country

City

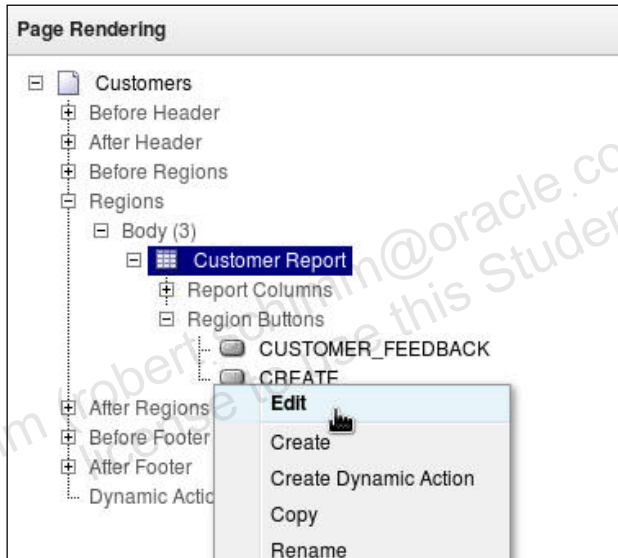
The record created or modified in this form is reflected in the Customer Report.

7) On the **Customers** page, click the **Edit Page** link on the Developer toolbar.

Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Number
101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 123
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 123
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 123
104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US	+1 317 123
105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US	+1 812 123

c. Edit the button and clear the cache for the Customer Details page.

1) Right-click the **CREATE** button and select **Edit**.



- 2) Click the **Action When Button Clicked** tab.

Page Button: 2 of 2 Name: CREATE

Cancel Delete

Show All Name Displayed Attributes Action When Button Clicked Conditions Security C

**Name**

Page: 3 Customers

\* Button Name CREATE

\* Text Label / Alt Create

**Displayed**

\* Sequence 20

\* Display in Region Customer Report (10)

\* Button Position Right of Interactive Report Search Bar

- 3) For Clear Cache, enter the page number of the Customer Details page. This is the same page number that is displayed in the Page field. Click **Apply Changes**.

Page Button: 2 of 2 Name: CREATE

Cancel Delete **Apply Changes** < >

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

**Action When Button Clicked**

Action Redirect to Page in this Application

\* Page 8

reset pagination for this page

Request

Clear Cache 8 (comma separated page numbers)

Set These Items (comma separated name list)

With These Values (comma separated value list)

Database Action - No Database Action

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

Page 3

Run Page 3

Run Utilities Create

5) Click **Create** again.

Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Num
101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 123
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 123
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 123

6) Note that the values are no longer cached and the form is now empty. Also note that the application does not display the Delete or Apply Changes button; it displays the Create button instead. Click **Cancel**.

**Customer Details** Cancel Create

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager - Select Manager -  
[Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

Country - Select Country -

City

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

d. Edit an existing record and view the session state. Why do the values for all the items on the Customer Details page not appear?

- 1) You may want to start a new session to clear the session state. To do this, log out of the application and log back in. Then click the **Customers** tab.
- 2) Click the **Edit** icon for one of the rows.

Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Num
101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 123 4
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 123 4
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 123 4

- 3) The values for the record are displayed. Click the **Session** link on the Developer toolbar.

Customer Details

Cust First Name \* Harrison

Cust Last Name \* Pacino

Cust Email Harrison.Pacino@ANI.COM

Account Manager Russell, John

Country United States of America

City Indianapolis

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

Home Application 130 Edit Page 8 Create Session Caching View Debug

- 4) Notice that the only value in session state is `P<n>_CUSTOMER_ID`. This value is hidden on this page but the remaining values are displayed based on this value. The reason why the other values are not in session state is because they have not been submitted to the page. The current values are stored in `&P<n>_<item_name>`. You examine how this works later in this practice.

Items Pages Queries Tables PL/SQL Images Debug **Session** Errors

Page 8 Find Rows 50 View Page Items Set

Application: 130 Order Management

Session 2766699625432

User ORA01

Workspace 2713224211993072

Browser Language en

**Page Items**

Application ▼	Page	Item Name	Display	Item Value	Status	Encrypted
130	8	P8_CUSTOMER_ID	Hidden	102	Inserted	No

1 - 1

- 5) Switch back to your Customer Details page and click **Cancel**.

Customer Details

Cancel
Delete
Apply Changes

**Cust First Name \***

**Cust Last Name \***

Cust Email

Account Manager Russell, John ▼

[Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

Country United States of America ▼

City  ▲

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

- 6) Click the **Edit Page** link on the Developer toolbar.

Q

Go

Reports 1. Primary Report ▼

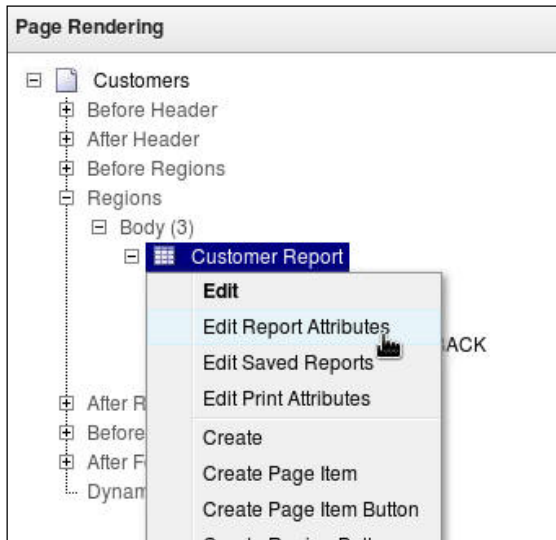
Actions ▼

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	Sta
	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	MacGraw	4019 W 3Rd St	47404	Bloomington	IN

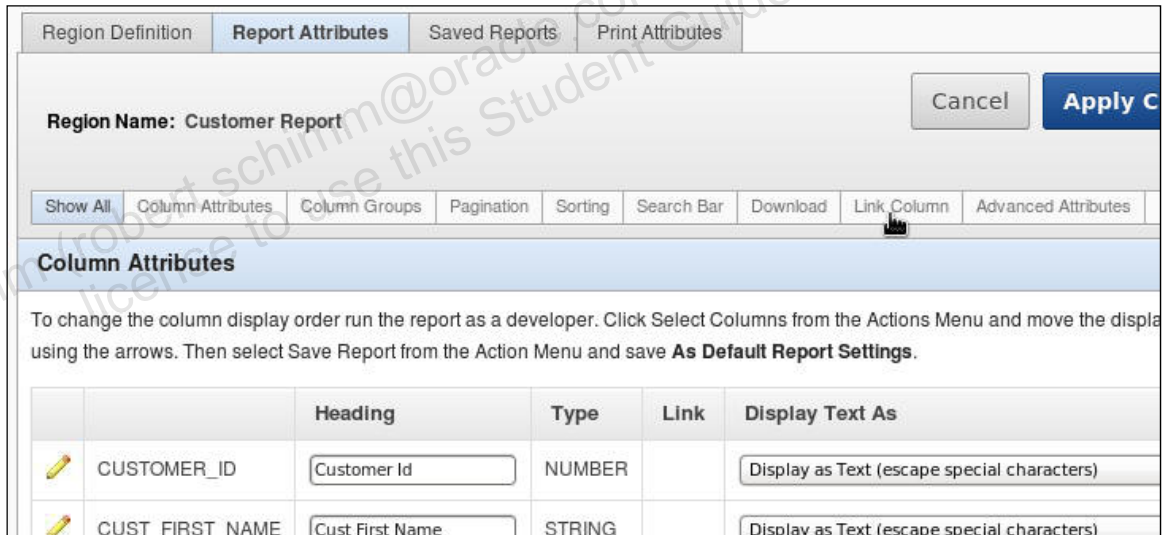
Home
Application 130
Edit Page 3
Create
Session
Caching
View Debug
Debug
Show Edit

e. Change the Link Column on the Customer Report to include the value for the P<n>\_CUST\_FIRST\_NAME item.

1) You want to review how the value for P<n>\_CUSTOMER\_ID is populated in session state. Right-click **Customer Report** and select **Edit Report Attributes**.



2) Click the **Link Column** tab if it is not already displayed.



- 3) Note that the name for **Item 1** is **P<n>\_CUSTOMER\_ID** and the value is **CUSTOMER\_ID**. This is how the value is passed when the Edit icon is clicked. You want to add another item/value. Click the Find Item icon for Item 2.

**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 Pa

Request:  Clear Cache:

Name	Value
Item 1: <input type="text" value="P8_CUSTOMER_ID"/>	<input type="text" value="#CUSTOMER_ID#"/>
Item 2: <input type="text"/>	<input type="text"/>
Item 3: <input type="text"/>	<input type="text"/>

Find Item

- 4) Select **P<n>\_CUST\_FIRST\_NAME**.

Search:  Page: 8

Name	Type	Page
<a href="#">P8_ACCOUNT_MGR_ID</a>	Page Item	8
<a href="#">P8_CITY</a>	Page Item	8
<a href="#">P8_COUNTRY_ID</a>	Page Item	8
<a href="#">P8_CUSTOMER_ID</a>	Page Item	8
<a href="#">P8_CUST_EMAIL</a>	Page Item	8
<a href="#">P8_CUST_FIRST_NAME</a>	Page Item	8
<a href="#">P8_CUST_LAST_NAME</a>	Page Item	8

1 - 7

- 5) Click the **Find Item** icon for Value 2.

### 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

Request  Clear Cache

	Name	Value
Item 1	<input style="width: 150px;" type="text" value="P8_CUSTOMER_ID"/>	<input style="width: 150px;" type="text" value="#CUSTOMER_ID#"/>
Item 2	<input style="width: 150px;" type="text" value="P8_CUST_FIRST_NAME"/>	<input style="width: 150px;" type="text" value="#CUST_FIRST_NAME#"/>
Item 3	<input style="width: 150px;" type="text"/>	<input style="width: 150px;" type="text"/>

- 6) Select the current value **#CUST\_FIRST\_NAME#**.

### Pick Column

Pick column name substitution string to assign a session state or link text.

- [#CUSTOMER\\_ID#](#)
- [#CUST\\_FIRST\\_NAME#](#)
- [#CUST\\_LAST\\_NAME#](#)
- [#STREET\\_ADDRESS#](#)
- [#POSTAL\\_CODE#](#)
- [#CITY#](#)
- [#STATE\\_PROVINCE#](#)
- [#COUNTRY\\_ID#](#)
- [#PHONE\\_NUMBER#](#)
- [#NLS\\_LANGUAGE#](#)
- [#NLS\\_TERRITORY#](#)
- [#CREDIT\\_LIMIT#](#)
- [#CUST\\_EMAIL#](#)

- 7) The Customer First Name, as well as the Customer ID, is passed into session state now. 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 | De

**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: [Empty]

\* Link Icon: 

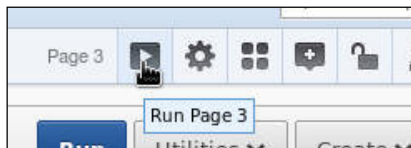
Link Attributes: [Empty]

Target: Page in this Application | Page: 8 |  Reset Pagination

Request: [Empty] | Clear Cache: [Empty]

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

- 8) Click **Run Page**.



- 9) Move your cursor over the Edit button for a row in your report. Notice on the status bar that **CUSTOMER\_ID** and **CUST\_FIRST\_NAME** are being passed in the URL. Click the **Edit** icon.

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

Home Application 130 Edit Page 3 Create Session Caching View Debug Debug

http://localhost:8080/apex/f?p=130:8:2766699625432::NO::P8\_CUSTOMER\_ID,P8\_CUST\_FIRST\_NAME:102,Harrison

- 10) Click the **Session** link on the Developer toolbar.

Customer Details

Cancel Del

Cust First Name \* Harrison

Cust Last Name \* Pacino

Cust Email Harrison.Pacino@ANI.COM

Account Manager Russell, John

[Bates, Elizabeth](#), [Russell, John](#), [Cambraut, Gerald](#)

Country United States of America

Home Application 130 Edit Page 8 Create **Session** Caching View Debug

11) Notice that this time, the `P<n>_CUST_FIRST_NAME` value is also passed.

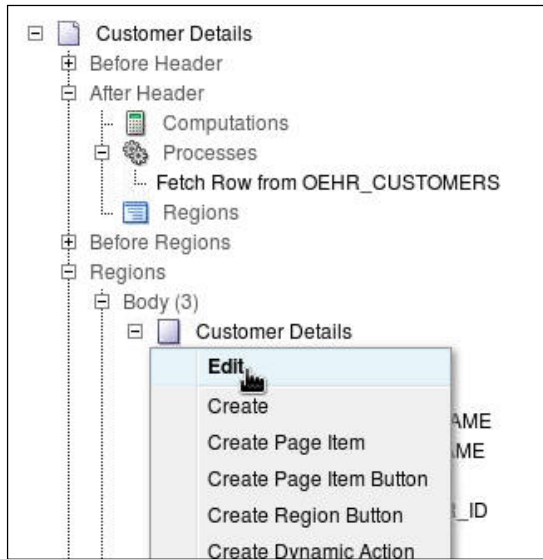
Application	Page	Item Name	Display	Item Value	Status	Encrypted
130	8	P8_CUSTOMER_ID	Hidden	102	Inserted	No
130	8	P8_CUST_FIRST_NAME	Text Field	Harrison	Inserted	No

12) Switch back to the **Customer Details** page. Click the **Edit Page** link on the Developer toolbar.

f. On the Customer Details page, change the title of the Customer Details region to use the following (located in `/home/oracle/labs/files/lab9_1.txt`). Ensure that you change `P<n>` to your page number.

```
&P<n>_CUST_FIRST_NAME. &P<n>_CUST_LAST_NAME. Customer Details
```

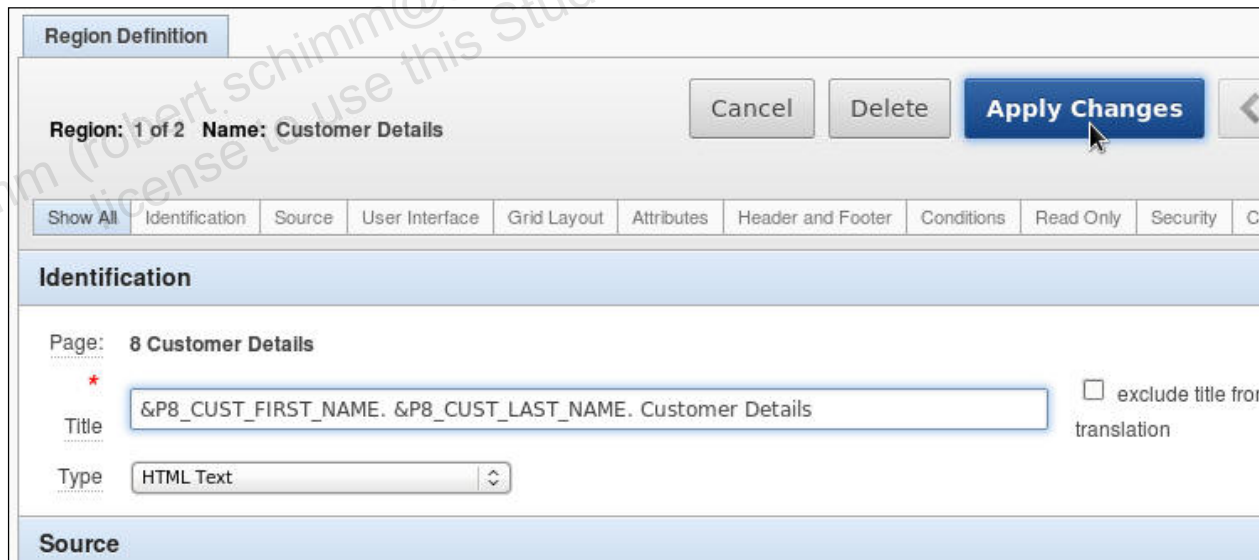
- 1) You want to populate the Title with the current values for First Name and Last Name. Right-click the **Customer Details** Region and select **Edit**.



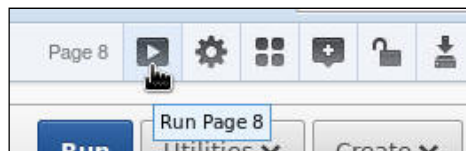
- 2) Change the title from "Customer Details" to the following (located in /home/oracle/labs/files/lab9\_1.txt), replacing <n> with the Customer Details page number. Click **Apply Changes**.

```
&P<n>_CUST_FIRST_NAME. &P<n>_CUST_LAST_NAME. Customer Details
```

**Note:** In the preceding text, the period (.) at the end of the item name is required.



- g. Run the page. What do you observe?
  - 1) Click the **Run Page** icon.



- 2) Note that the Customer Name for the record being displayed is contained in the title. Click the **Application <n>** link on the Developer toolbar.

The screenshot shows a web form titled "Harrison Pacino Customer Details". The form contains the following fields:

- Cust First Name \***: Harrison
- Cust Last Name \***: Pacino
- Cust Email**: Harrison.Pacino@ANI.COM
- Account Manager**: Russell, John (with a dropdown arrow and a link below: [Bates, Elizabeth, Russell, John, Cambrault, Gerald](#))
- Country**: United States of America (with a dropdown arrow)
- City**: Indianapolis (with an up arrow icon)

Below the form, a message states: "The record created or modified in this form is reflected in the Customer Report."

At the bottom, a developer toolbar is visible with the following items: Home, Application 130 (highlighted with a mouse cursor), Edit Page 8, Create, Session, Caching, View Debug, Debug, Show Ed.

# Practices for Lesson 10: Adding Page Processing

## Chapter 10

## Practices for Lesson 10: Overview

---

### Practices Overview

There is one practice for this lesson. In this practice, you examine how computations, processes, and validations work.

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## Practice 10-1: Creating and Manipulating Computations, Processes, and Validations

---

### Overview

In this practice, you make the following changes to the Customer Details page in the Order Management application:

- Create a computation that changes the email address to uppercase after the page is submitted.
- Add a Phone Number item and create a process that populates the item's value when the page is rendered.
- Add a process to insert a record into a table called `oehr_audits` every time a customer is added.
- Create an Item String Comparison validation to make sure that there are no spaces in the Email value.
- Examine the implied validation for required items.
- Create a Tabular Form Level validation. If the `JOB_ID` is `'SA_REP'`, then a commission needs to be entered. If the commission is not entered for the `JOB_ID` `'SA_REP'`, then display an error message.

### Assumptions

You have performed the previous practices or imported the `LAB091_SOLN.sql` packaged application.

### Tasks

- a. Create an **After Submit PL/SQL Expression** computation on the `P<n>_CUST_EMAIL` item. The PL/SQL expression should be: `upper (:P<n>_CUST_EMAIL)`. Test the page to see that the email address is stored as uppercase.
- b. Add a **Display Only** item called `P<n>_PHONE_NUMBER`. Create a Before Region process to load the phone number into the item that you just created. The code that you want to specify in the process is as follows (located in `/home/oracle/labs/files/lab10_1.txt`):

```
for c1 in (
select phone_number from oehr_customers where customer_id =
:P<N>_CUSTOMER_ID
)
loop
:P<N>_PHONE_NUMBER := c1.phone_number;
end loop;
```

- c. Change the Process Row of `OEHR_CUSTOMERS` process to add the `P<n>_CUSTOMER_ID` item in the **Return Key into Item** field.

- d. Create an **OEHR\_AUDITS** table by using the SQL Workshop's Object Browser and add the following details:

Column Name	Data Type	Other Details
CUSTOMER_ID (PK)	NUMBER	Not Populated
CREATED_BY	VARCHAR2	SCALE 40
CREATED_ON	DATE	N/A

Add an After Submit PL/SQL process called audit insert which has the following PL/SQL code (located in `/home/oracle/labs/files/lab10_2.txt`). Set the success message to "You have been audited."

```
INSERT INTO oeher_audits VALUES (:P<n>_CUSTOMER_ID, :APP_USER,
sysdate);
```

- e. Create an Item String Comparison validation on the **P<n>\_CUST\_EMAIL** item to ensure that there are no spaces in the Email value. Test the page to make sure that it works.
- f. Remove the First Name value from the page and click Apply Changes. Note the implied validation. Why is the error message shown if there is no validation on the page?
- g. Create a Tabular Form Level validation. If the **JOB\_ID** is `'SA_REP'`, then a commission needs to be entered. If the commission is not entered for the **JOB\_ID** `'SA_REP'`, then display an error message. Use the following PL/SQL code (located in `/home/oracle/labs/files/lab10_3.txt`):

```
Declare
begin
  If :JOB_ID = 'SA_REP' and :COMMISSION_PCT is not null then
    Return true;
  Else
    Return false;
  End if;
End;
```

## Solution 10-1: Creating and Manipulating Computations, Processes, and Validations

---

### Overview

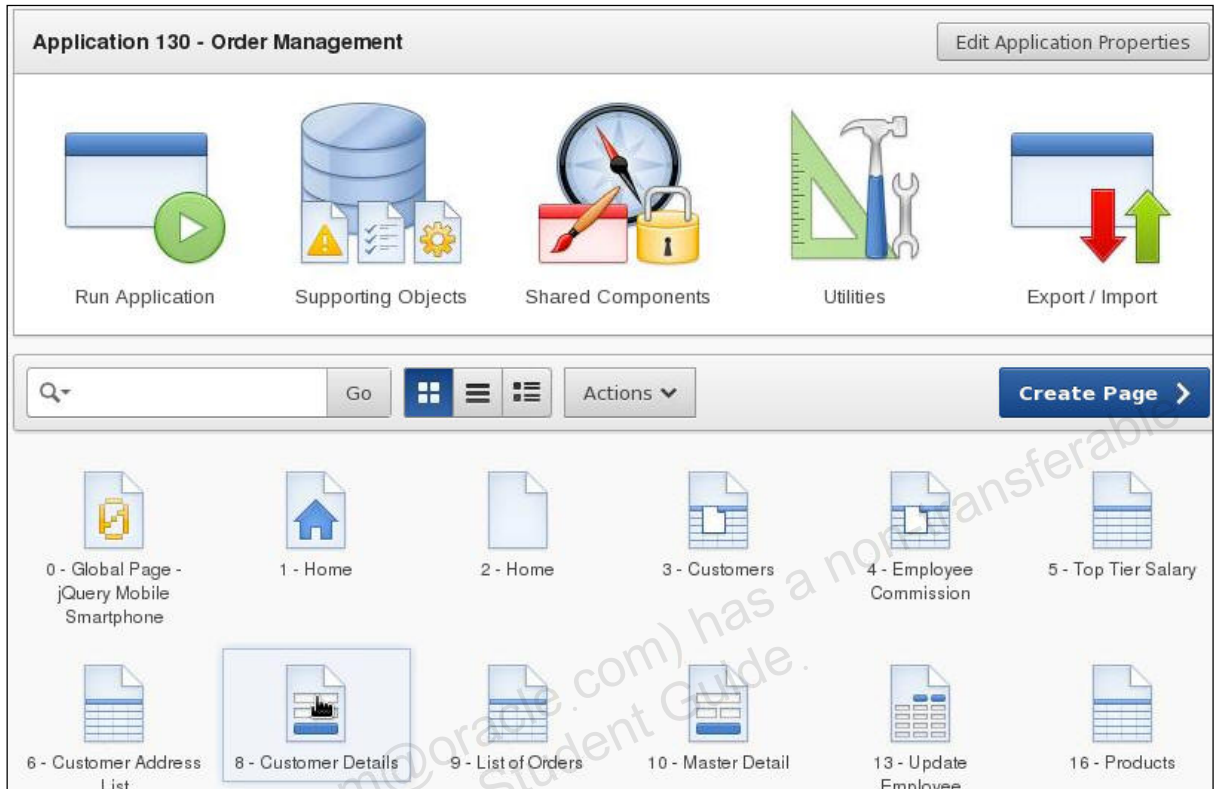
In this practice, you make the following changes to the Customer Details page in the Order Management application:

- Create a computation that changes the email address to uppercase after the page is submitted.
- Add a Phone Number item and create a process that populates the item's value when the page is rendered.
- Add a process to insert a record into a table called `oehr_audits` every time a customer is added.
- Create an Item String Comparison validation to make sure that there are no spaces in the Email value.
- Examine the implied validation for required items.
- Create a Tabular Form Level validation. If the `JOB_ID` is `'SA_REP'`, then a commission needs to be entered. If the commission is not entered for the `JOB_ID` `'SA_REP'`, then display an error message.

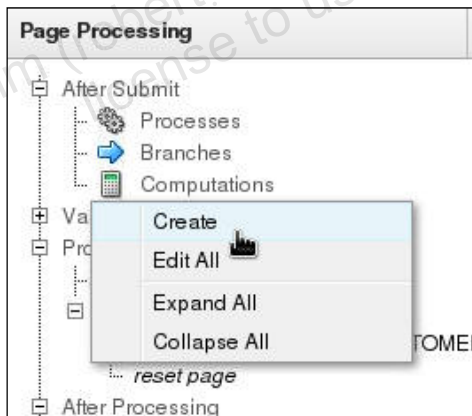
### Tasks

- a. Create an **After Submit PL/SQL Expression** computation on the `P<n>_CUST_EMAIL` item. The PL/SQL expression should be: `upper (:P<n>_CUST_EMAIL)`. Test the page to see that the email address is stored as uppercase.

- 1) Navigate to the **Order Management** application home page and select the **Customer Details** page.



- 2) Under Page Processing, expand **After Submit**, right-click **Computations**, and select **Create**.



- 3) Ensure that the **Item on This Page** option is selected. Click **Next >**.

Computations set the value of an application or page item. For example, a computation could set the value of MY\_ITEM to static text or a dynamic value.

Page: **8 - Customer Details**

Location:

Item on This Page     Item on Another Page     Application Level Item

- 4) For Compute Item, select **P<n>\_CUST\_EMAIL** and for Computation Type, select **PLSQL Expression**. Then click **Next >**.

Select the item and point at which you would like to perform the computation. You can perform computations at different points. Computations that execute at the same point are performed in order of the sequence number provided.

Page: **8 - Customer Details**

\* Compute Item: 40. P8\_CUST\_EMAIL (&P8\_CUST\_FIRST\_NAME. &P8\_CUST\_LAST\_NAME. Customer Details)

\* Sequence: 10

\* Computation Point: After Submit

\* Computation Type: PLSQL Expression

- 5) For Computation, enter **upper (:P<n>\_CUST\_EMAIL)**. Ensure that you change **<n>** to the Customer Details page number. Click **Create Computation**.

Enter the text of your computation. The identified item's value will be set to the result of your computation when the computation executes.

Page: **8 - Customer Details**

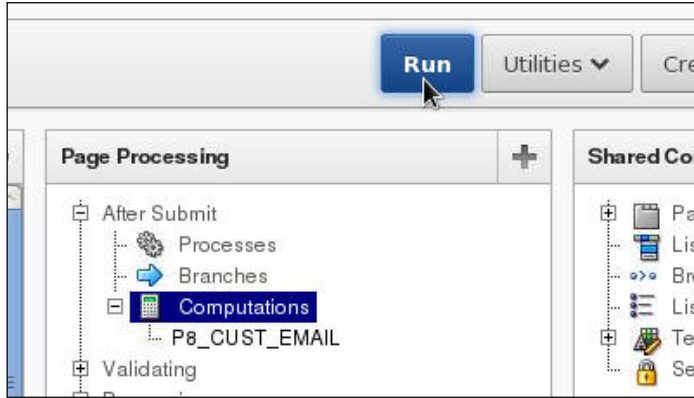
Compute Item: **P8\_CUST\_EMAIL**

Computation Type: **PLSQL Expression**

\* Computation:

upper (:P8\_CUST\_EMAIL)

6) Run the page. Click **Run**.



7) You need to edit a record. Click **Cancel** to return to the Customer Report.

**Customer Details** Cancel Create

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager - Select Manager -  
[Bates, Elizabeth, Russell, John, Cambrault, Gerald](#)

Country - Select Country -

City

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

8) Click the **Edit** icon for one of the rows.

	Customer Id	Cust 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
	103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US
	104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US
	105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US
	106	Matthias	Hannah	1608 Portage Ave	46616	South Bend	IN	US

- 9) Notice that the email is currently in uppercase and lowercase letters. Click **Apply Changes** to invoke the computation.

Cancel
Delete
Apply Changes

**Matthias MacGraw Customer Details**

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager 
  
[Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

Country

City

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

- 10) The Customer Report is displayed. Scroll to the right to see the Email column. Notice that the email for the record (highlighted in red as follows) that you just applied is now in uppercase letters.

vince	Country Id	Phone Number	Nls Language	La Nls Territory	Nls T	Credit Limit	Credit Limit	Credit	Cust Email	Cust Email	Cust Account Mgr Id
	US	+1 317 123 4104	us	AMERICA		100			Constantin.Welles@ANHINGA.COM		14
	US	+1 317 123 4111	us	AMERICA		100			Harrison.Pacino@ANI.COM		14
	US	+1 812 123 4115	us	AMERICA		100			Manisha.Taylor@AUKLET.COM		17
	US	+1 317 123 4126	us	AMERICA		100			Harrison.Sutherland@GODWIT.COM		14
	US	+1 812 123 4129	us	AMERICA		100			MATTHIAS.MACGRAW@GOLDENEYE.COM		14
	US	+1 219 123 4136	us	AMERICA		100			Matthias.Hannah@GREBE.COM		14
	US	+1 219 123 4138	us	AMERICA		100			Matthias.Cruise@GROSBEAK.COM		14

- b. Add a **Display Only** item called **P<n>\_PHONE\_NUMBER**. Create a Before Region process to load the phone number into the item that you just created. The code that you want to specify in the process is as follows (located in `/home/oracle/labs/files/lab10_1.txt`):

```

for c1 in (
select phone_number from oehr_customers where customer_id =
:P<N>_CUSTOMER_ID
)
loop
:P<N>_PHONE_NUMBER := c1.phone_number;
end loop;

```

- 1) You want to make some more modifications to the Customer Details page. Click the **Edit** icon for one of the customer records.

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Pro
	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

- 2) Click the **Edit Page** link on the Developer toolbar.

**Matthias MacGraw Customer Details** Cancel Delete **Apply Change**

Cust First Name \*

Cust Last Name \*

Cust Email

Account Manager    
[Bates, Elizabeth](#), [Russell, John](#), [Cambraut, Gerald](#)

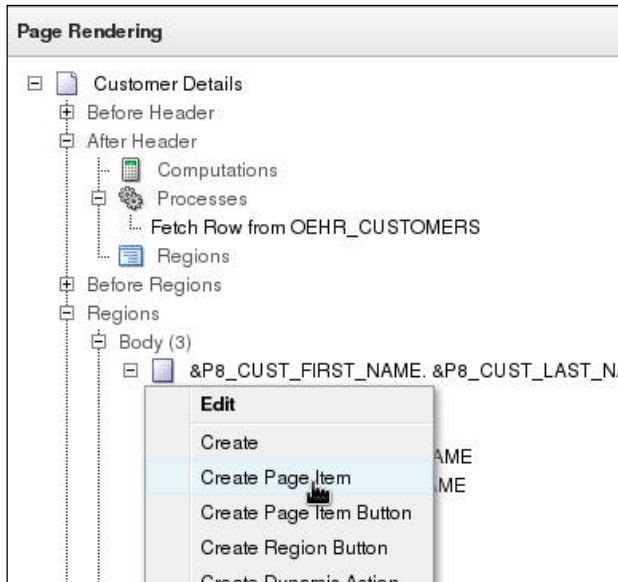
Country

City

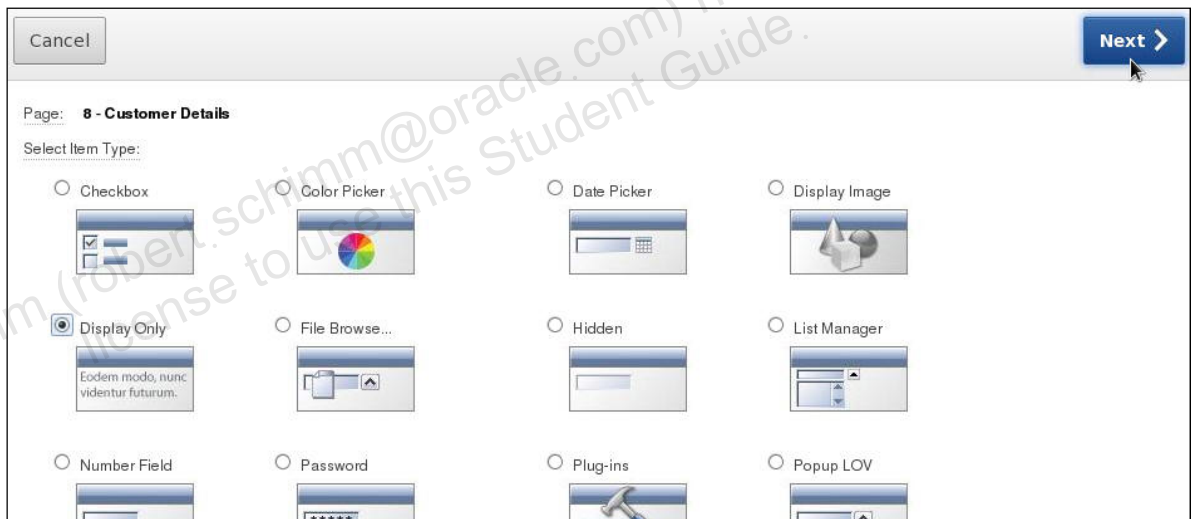
The record created or modified in this form is reflected in the Customer Report.

Home Application 130 **Edit Page 8** Create Session Caching View Debug Debug Show Edit Links

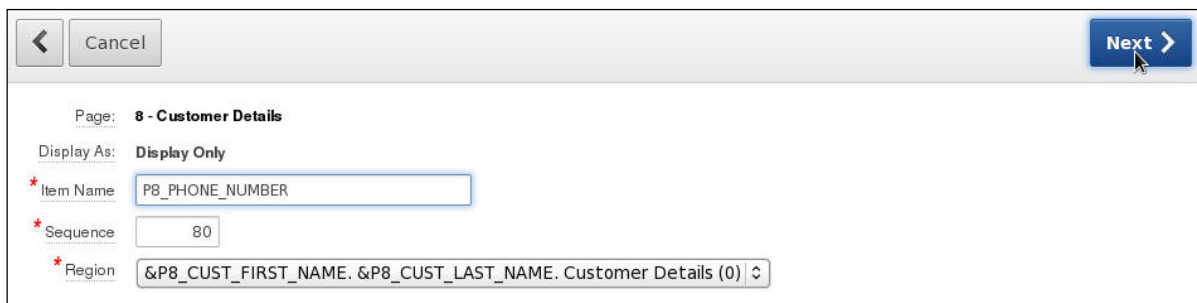
- 3) You want to create a page item for Phone Number. Right-click your **Region** and select **Create Page Item**.



- 4) Select **Display Only** for the item type and click **Next >**.



- 5) Enter **P<n>\_PHONE\_NUMBER** for Item Name and click **Next >**.



6) Accept the defaults and click **Next >**.

Page: **8 - Customer Details**  
Item Name: **P8\_PHONE\_NUMBER**  
Display As: **Display Only**  
Label: Phone Number [Clear]  
Template: Optional

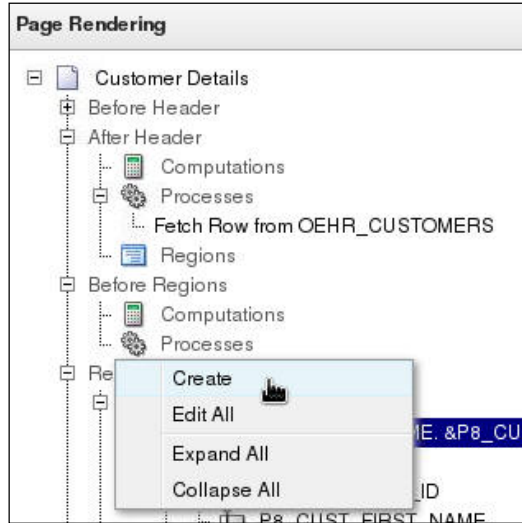
7) Accept the defaults and click **Next >**.

Page: **8 - Customer Details**  
Item Name: **P8\_PHONE\_NUMBER**  
Display As: **Display Only**  
Save Session State: No  
Based On: Page Item Value  
Show Line Breaks: Yes

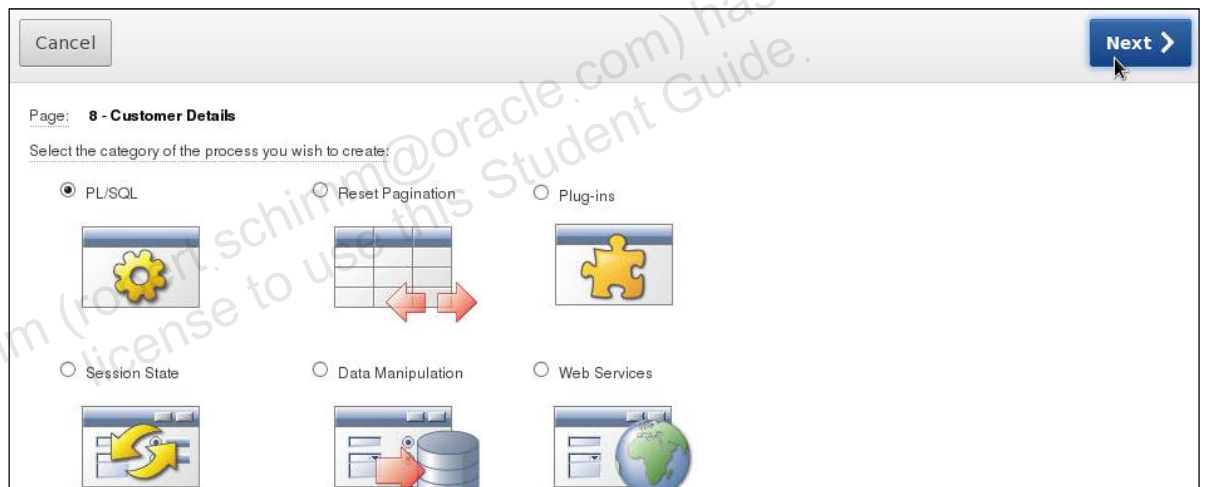
8) Select **Database Column** for Source Type. Notice that **PHONE\_NUMBER** appears automatically in the Database Column Name field. Click **Create Item**.

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\_PHONE\_NUMBER**  
Display As: **Display Only**  
Source Used: Always, replacing any existing value in session state  
\* Source Type: Database Column  
Database Column Name: PHONE\_NUMBER  
Format Mask:  
Default:

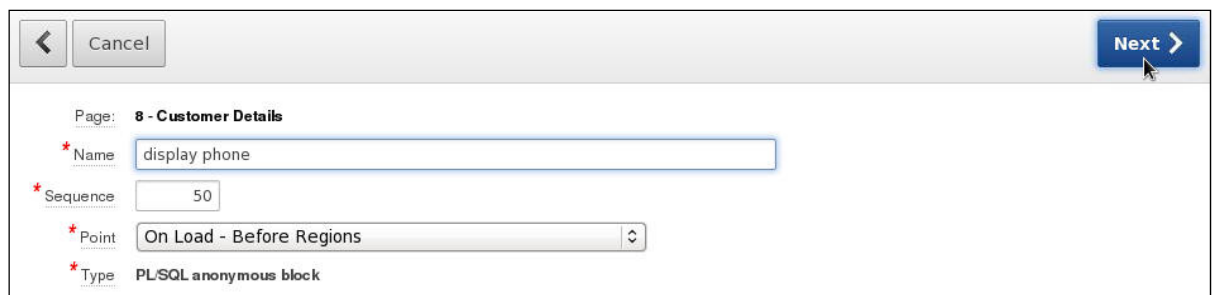
- 9) You want to create an On Load process that is executed Before Regions. This process retrieves PHONE\_NUMBER for display only. Under Page Rendering, expand Before Regions, right-click Processes, and select **Create**.



- 10) Make sure that **PL/SQL** is selected and click **Next >**.

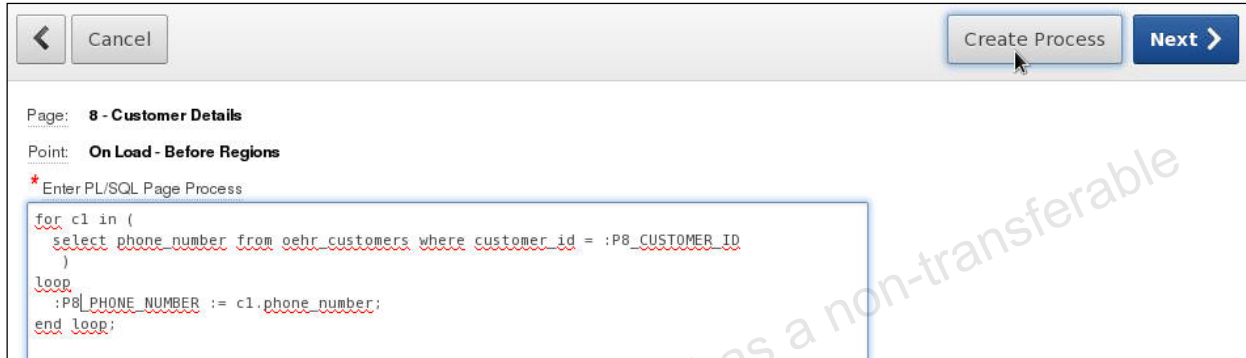


- 11) For Name, enter `display phone` and click **Next >**. Note that On Load – Before Regions should be selected for Point.

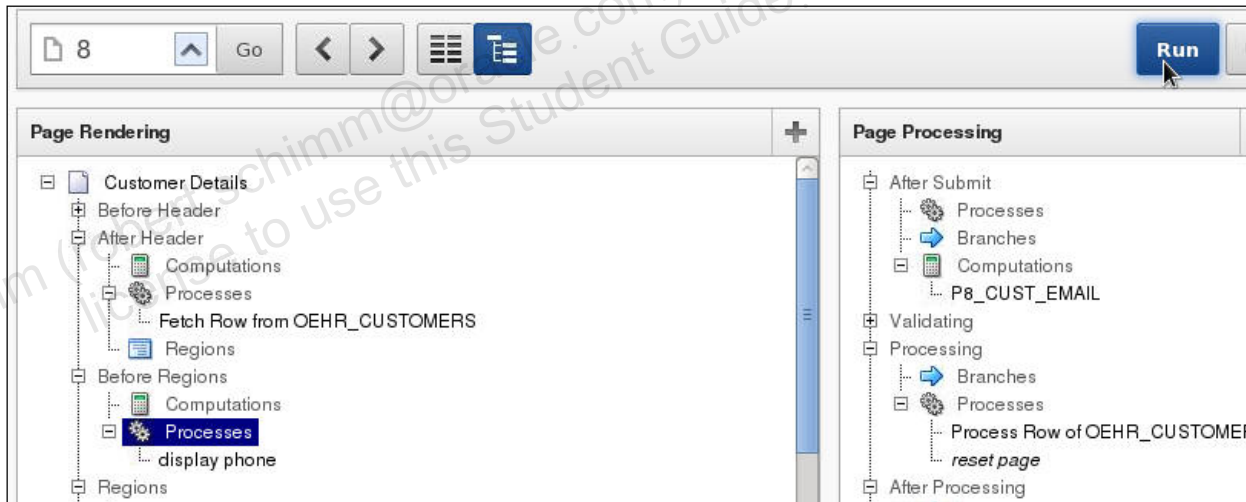


- 12) Enter the following code in the Enter PL/SQL Page Process text box (located in /home/oracle/labs/files/lab10\_1.txt) and click **Create Process**.

```
for c1 in (  
select phone_number from oeher_customers where customer_id =  
:P<N>_CUSTOMER_ID  
)  
loop  
:P<N>_PHONE_NUMBER := c1.phone_number;  
end loop;
```



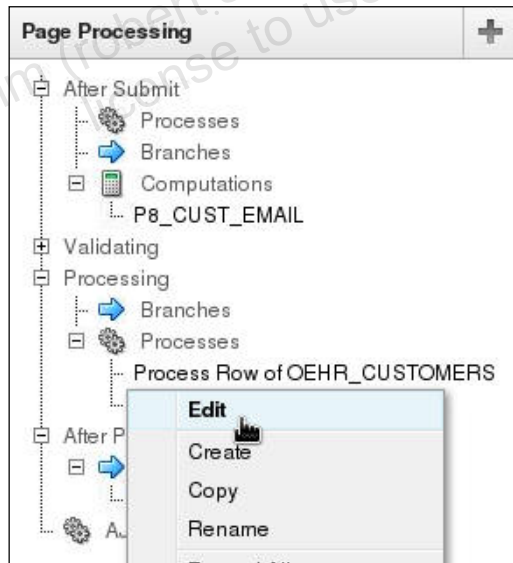
- 13) Click **Run** to run the page.



- 14) Notice that the phone number is displayed for the customer that you selected. Click the **Edit Page** link on the Developer toolbar.

- c. Change the Process Row of **OEHR\_CUSTOMERS** process to add the **P<n>\_CUSTOMER\_ID** item in the **Return Key into Item** field.

- 1) You want to create an After Submit process on the Customer Details page. Whenever a new customer is added to the **OEHR\_CUSTOMERS** table by using the form, the details of the user who created the new customer are stored in the Audit table. Under Page Processing, in the Processes region, right-click **Process Row of OEHR\_CUSTOMERS** and select **Edit**.



- 2) From the list of tabs that is displayed at the top of the page, click **Source: Automatic Row Processing (DML)**.

**Process: 2 of 4 Name: Process Row of OEHR\_CUSTOMERS** [Cancel] [De]

Show All | Name | Process Point | **Source: Automatic Row Processing (DML)** | Where Clause | M

**Name**

Page: **8 Customer Details**

\* Name: Process Row of OEHR\_CUSTOMERS

Type: **Automatic Row Processing (DML)**

- 3) Because you want to use the value of `CUSTOMER_ID` in another process, you want to put the value into the `P<n>_CUSTOMER_ID` item on your page. Click the icon to the right of the **Return Key Into Item** field.

**Source: Automatic Row Processing (DML)**

\* Table Owner: ORA01

\* Table Name: OEHR\_CUSTOMERS

\* Item Containing Primary Key Column Value: P8\_CUSTOMER\_ID


\* Primary Key Column: CUSTOMER\_ID

Item Containing Secondary Key Column Value:

Secondary Key Column:

Row Version Column:

Allowed Operations:  Insert,  Update,  Delete

Return Key Into Item: [ ]  **Popup List of Values: Return Key Into Item**

Return Second Key Into Item:

Valid Update Request Values: SAVE, APPLY CHANGES, UPDATE, UPDATE ROW, CHANGE, APPLY, APPLY%CHANGES%, GET\_NEXT%, GET\_PREV%

Valid Insert Request Values: INSERT, CREATE, CREATE\_AGAIN, CREATEAGAIN

Valid Delete Request Values: DELETE, REMOVE, DELETE ROW, DROP

Tasks: Undo Process Sour

Page Items: P8\_CUSTOMER\_ID, P8\_CUST\_FIRST\_N, P8\_CUST\_LAST\_N, P8\_CUST\_EMAIL, P8\_ACCOUNT\_MG, P8\_CITY, P8\_PHONE\_NUMB

- 4) In the list that is displayed, click the link corresponding to the `P<n>_CUSTOMER_ID` item on your Customer Details page.

- [Page: 5: P5 ROWS](#)
- [Page: 8: P8 ACCOUNT MGR ID](#)
- [Page: 8: P8 CITY](#)
- [Page: 8: P8 COUNTRY ID](#)
- [Page: 8: P8 CUSTOMER ID](#)
- [Page: 8: P8 CUST EMAIL](#)
- [Page: 8: P8 CUST FIRST NAME](#)
- [Page: 8: P8 CUST LAST NAME](#)
- [Page: 8: P8 PHONE NUMBER](#)

- 5) To change the message that is displayed when a new customer is successfully added to the table, click the **Messages** tab.

Source: Automatic Row Processing (DML)

Table Owner: ORA01

Table Name: OEHR\_CUSTOMERS

Item Containing Primary Key Column Value: P8\_CUSTOMER\_ID

Primary Key Column: CUSTOMER\_ID

Item Containing Secondary Key Column Value:

Secondary Key Column:

Row Version Column:

Allowed Operations:  Insert,  Update,  Delete

Return Key Into Item: P8\_CUSTOMER\_ID

Return Second Key Into Item:

Valid Update Request Values: SAVE, APPLY CHANGES, UPDATE, UPDATE ROW, CHANGE, APPLY, APPLY%CHANGES%, GET\_NEXT%, GET\_PREV%

- 6) Replace the process success message with **Customer Added** and click **Apply Changes**.

Process: 2 of 4 Name: Process Row of OEHR\_CUSTOMERS

Buttons: Cancel, Delete, **Apply Changes**

Messages

Process Success Message: Customer Added.

Process Error Message:

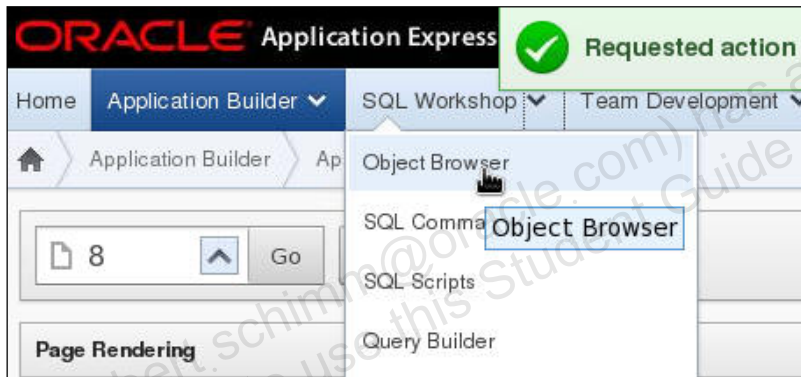
- d. Create an **OEHR\_AUDITS** table by using the SQL Workshop's Object Browser and add the following details:

Column Name	Data Type	Other Details
CUSTOMER_ID (PK)	NUMBER	Not Populated
CREATED_BY	VARCHAR2	SCALE 40
CREATED_ON	DATE	N/A

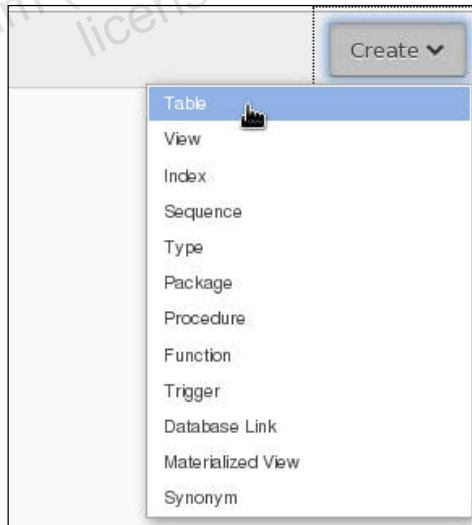
Add an After Submit PL/SQL process called audit insert, which has the following PL/SQL code (located in `/home/oracle/labs/files/lab10_2.txt`). Set the success message to "You have been audited."

```
INSERT INTO oehr_audits VALUES (:P<n>_CUSTOMER_ID, :APP_USER, sysdate);
```

- 1) To create the **OEHR\_AUDITS** table, navigate to the Object Browser page by selecting **Object Browser** from the SQL Workshop tab menu.



- 2) Click the down arrow in the **Create** button and select **Table**.



- 3) The Create Table Wizard opens. Enter **OEHR\_AUDITS** for Table Name, and then fill out the columns by using the following details. Then click **Next >**.

Column Name	Data Type	Other Details
CUSTOMER_ID (PK)	NUMBER	Not Populated
CREATED_BY	VARCHAR2	SCALE 40
CREATED_ON	DATE	N/A

\* Table Name: OEHR\_AUDITS  Preserve Case

Column Name	Type	Precision	Scale	Not Null	Move
CUSTOMER_ID	NUMBER			<input type="checkbox"/>	▼▲
CREATED_BY	VARCHAR2		40	<input type="checkbox"/>	▼▲
CREATED_ON	DATE			<input type="checkbox"/>	▼▲

- 4) Select **Not populated** for Primary Key. Select **CUSTOMER\_ID (NUMBER)** from the Primary Key drop-down list and click **Next >**.

Table name: OEHR\_AUDITS

Primary Key:  No Primary Key  
 Populated from a new sequence  
 Populated from an existing sequence  
 Not populated

\* Primary Key Constraint Name: OEHR\_AUDITS\_PK

\* Primary Key: CUSTOMER\_ID(NUMBER)

Composite Primary Key: - Select Composite Primary Key -

5) You do not want to create a foreign key. Click **Next >**.

6) You do not want to create constraints. Click **Next >**.


7) Click **Create Table** to create the table.


- 8) The OEHR\_AUDITS table is created and displayed on the Object Browser page.


OEHR_AUDITS										
Table	Data	Indexes	Model	Constraints	Grants	Statistics	UI Defaults	Triggers	Dependencies	SQL
<a href="#">Add Column</a>   <a href="#">Modify Column</a>   <a href="#">Rename Column</a>   <a href="#">Drop Column</a>   <a href="#">Rename</a>   <a href="#">Copy</a>   <a href="#">Drop</a>   <a href="#">Truncate</a>   <a href="#">Create Lookup Table</a>										
Column Name	Data Type	Nullable	Default	Primary Key						
CUSTOMER_ID	NUMBER	No	-	1						
CREATED_BY	VARCHAR2(40)	Yes	-	-						
CREATED_ON	DATE	Yes	-	-						
				1 - 3						
<a href="#">Download</a>   <a href="#">Print</a>										


- 9) You want to create a new page process on the Customer Details page. Click Application Builder and select Database Applications. Navigate to the **Order Management** application home page and select the **Customer Details** page.


**Application 130 - Order Management** [Edit Application Properties](#)

  
Run Application

  
Supporting Objects


  
Shared Components


  
Utilities


  
Export / Import


---


---


  
0 - Global Page -  
jQuery Mobile  
Smartphone


  
1 - Home


  
2 - Home


  
3 - Customers


  
4 - Employee  
Commission


  
5 - Top Tier Salary


  
6 - Customer Address  
List

  
8 - Customer Details

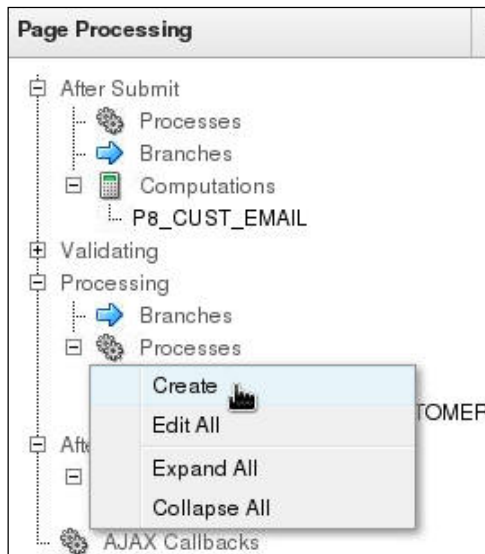
  
9 - List of Orders

  
10 - Master Detail

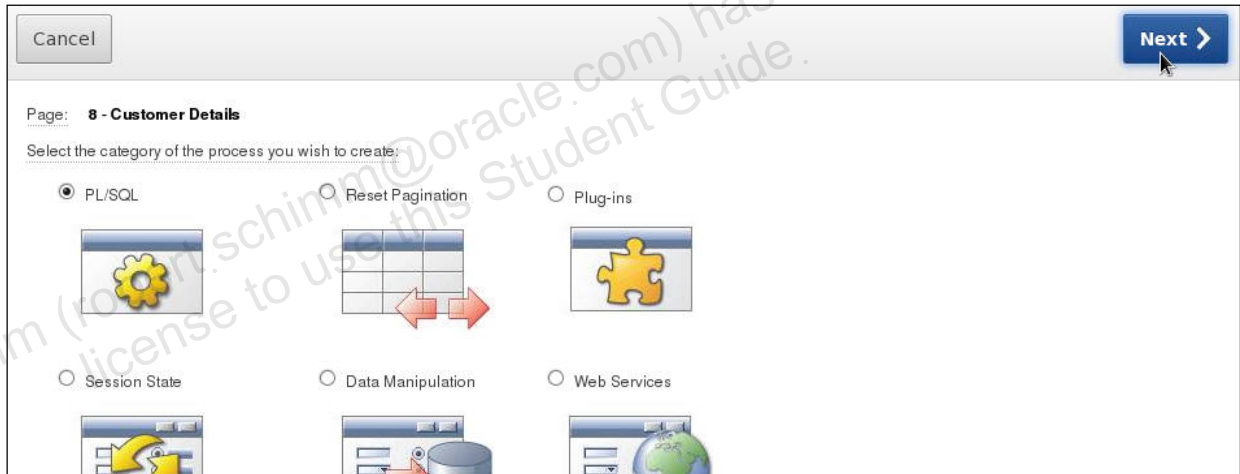
  
13 - Update  
Employee

  
16 - Products

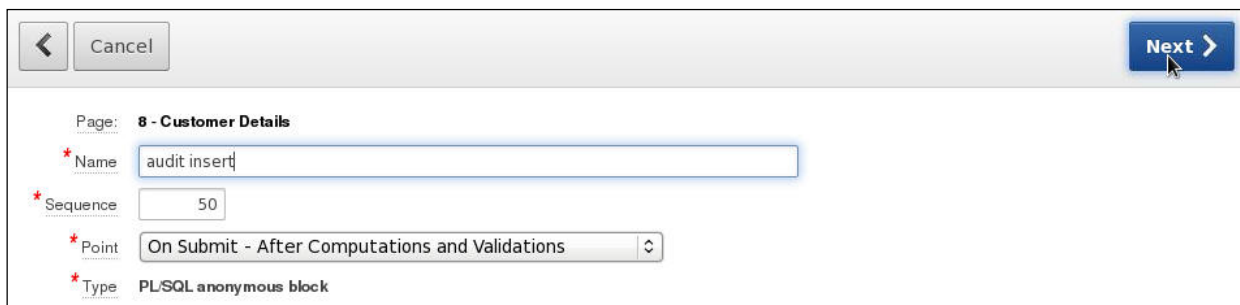
- 10) Under Page Processing, in the Processes region, right-click **Processes** and select **Create**.



- 11) Select the **PL/SQL** option and click **Next >**.



- 12) For Name, enter **audit insert** and click **Next**.



- 13) In the **Enter PL/SQL Page Process** text area, enter the following code (located in /home/oracle/labs/files/lab10\_2.txt) and click **Next >**. Ensure that you change **P<n>** to your Customer Details page number.

```
INSERT INTO oehr_audits VALUES (:P<n>_CUSTOMER_ID,
:APP_USER, sysdate);
```

Page: **8 - Customer Details**  
 Point: **On Submit - After Computations and Validations**  
 \* Enter PL/SQL Page Process  

```
INSERT INTO oehr_audits VALUES( :P8_CUSTOMER_ID,
:APP_USER, sysdate);
```

- 14) For Success Message, enter **You have been audited**. For Error Message, enter **Error**. Click **Next >**.

If this process runs without generating an error the "Success Message" displays. If the page process runs and an error is raised the "Failure Message" displays. The placement and HTML template for success is controlled by the page templates, specifically the #SUCCESS\_MESSAGE# substitution string. If you include this string in the page template and an error message is generated for the process, the standard error page (using the error page template) displays when the process fails. Note that processing stops when an error is encountered and the transaction is rolled back.

Page: **8 - Customer Details**  
 Point: **On Submit - After Computations and Validations**  
 Success Message  
 You have been audited.  
 Error Message  
 Error

- 15) For When Button Pressed, select **CREATE** from the drop-down list and click **Create Process**.

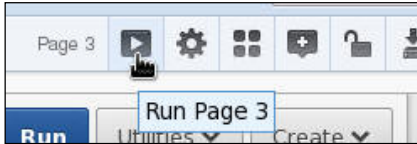
This process executes in sequence and only if the conditions identified in this step are met. You can specify a condition by making a selection from the When Button Pressed list. Any condition specified must be met before the page process executes. When Button Pressed conditions are only relevant for processes of type After Submit.

Page: **8 - Customer Details**  
 Point: **On Submit - After Computations and Validations**  
 When Button Pressed: CREATE (Create)  
 Condition Type: - Process Not Conditional -  
[PL/SQL] [item / column=value] [item / column not null] [item / column null] [request=e1] [page in] [page not in] [exists] [never] [none]

- 16) To verify that the processes are working, navigate to the Customers page by entering **3** for Page and clicking **Go**.

3 | Go

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



18) Click the **Create** button.

Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State Province	Country Id	Phone Num
101	Constantin	Welles	514 W Superior St	46901	Kokomo	IN	US	+1 317 123 4
102	Harrison	Pacino	2515 Bloyd Ave	46218	Indianapolis	IN	US	+1 317 123 4
103	Manisha	Taylor	8768 N State Rd 37	47404	Bloomington	IN	US	+1 812 123 4
104	Harrison	Sutherland	6445 Bay Harbor Ln	46254	Indianapolis	IN	US	+1 317 123 4
105	Matthias	MacGraw	4019 W 3Rd St	47404	Bloomington	IN	US	+1 812 123 4

19) Enter the following information and click **Create**.

Item	Value
First Name	Amit
Last Name	Paul
Email	Amit.paul@oracle.com
Account Manager	John Russell
Country	United States of America
State	South San Francisco

Cancel
Create

**Customer Details**

**Cust First Name \***

**Cust Last Name \***

Cust Email

Account Manager    
[Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

Country

City

Phone Number

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

- 20) Notice the success messages for the audit and processing of the new customer. Enter **Amit** in the search area and click **Go**.

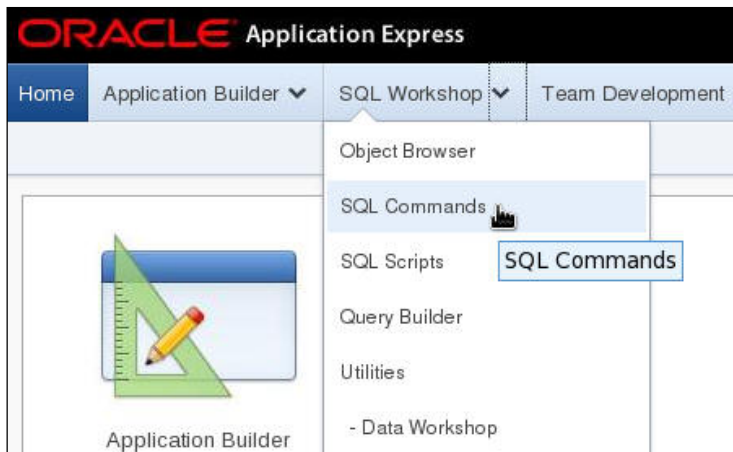
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code
	101	Constantin	Welles	514 W Superior St	46901
	102	Harrison	Pacino	2515 Bloyd Ave	46218
	103	Manisha	Taylor	8768 N State Rd 37	47404

- 21) You want to review what is in the OEHR\_AUDITS table. Click the **Home** link on the Developer toolbar.

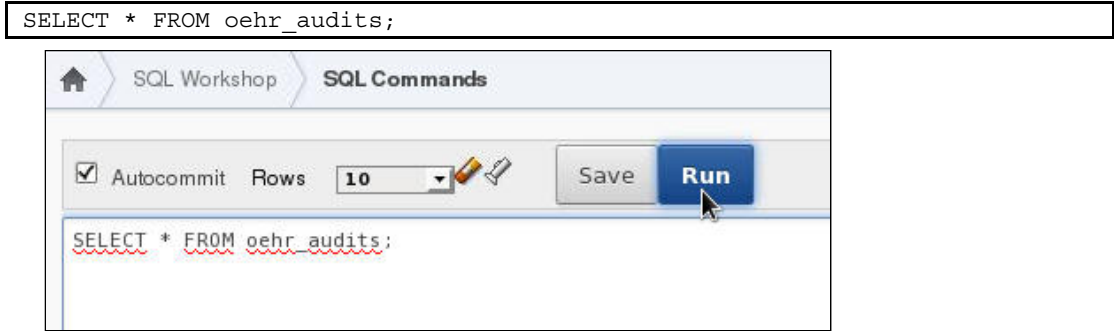
	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City
	1315	Amit	Paul	-	-	South San Francisco

Home Application 130 Edit Page 3 Create Session Caching View Debug Debug Sh

- 22) Click **SQL Workshop > SQL Commands**.



23) In the text area, enter the following and click **Run**.



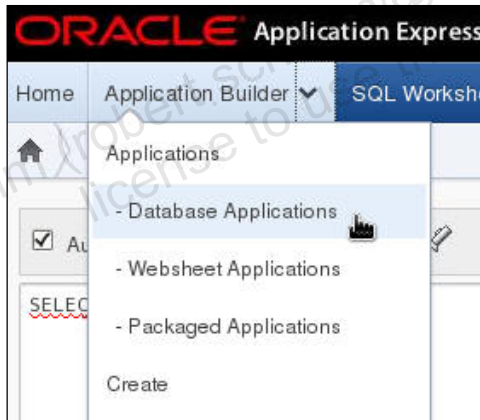
24) Note that the details have been added to the OEHR\_AUDITS table.

CUSTOMER_ID	CREATED_BY	CREATED_ON
1315	ORA01	01/02/2013

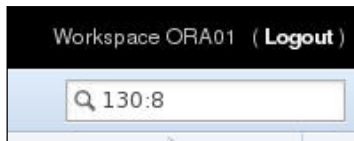
1 rows returned in 0.01 seconds [Download](#)

e. Create an Item String Comparison validation on the P<n> CUST\_EMAIL item to ensure that there are no spaces in the Email value. Test the page to make sure that it works.

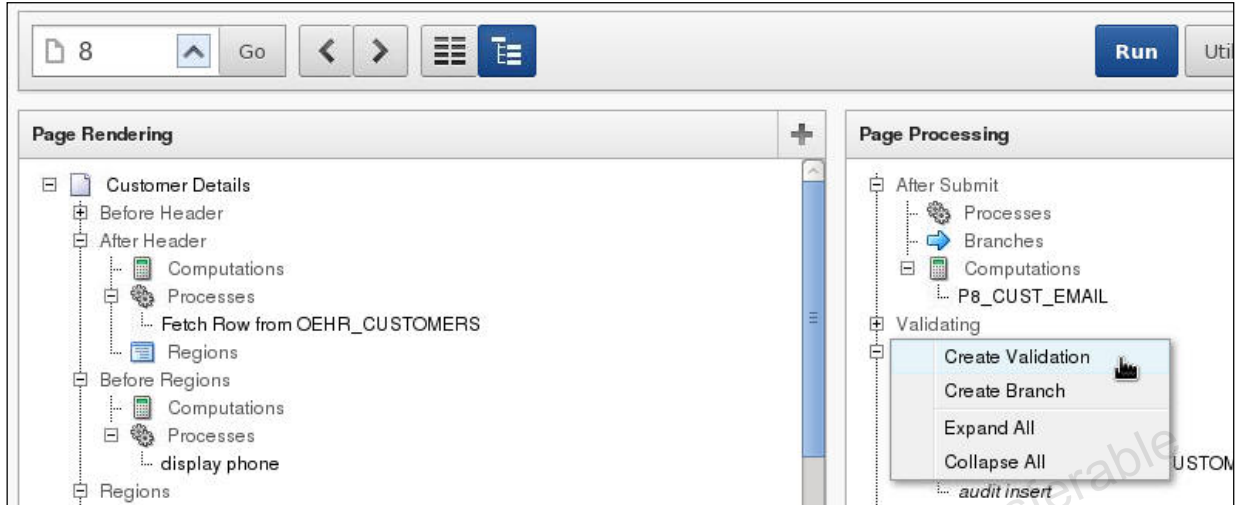
1) You want to add a validation to the Customer Details page in your application. Click **Application Builder > Database Applications**.



2) You can navigate to your Customer Details page in the Order Management application. Alternatively, you can enter the <application id>:<page number> in the search field and press Enter.



3) Under Page Processing, right-click **Validating** and select **Create Validation**.



4) Make sure that **Page Item** is selected and click **Next >**.



5) Select the item for **P<n>\_CUST\_EMAIL** and click **Next >**.



6) Accept the default and click **Next >**.

Specify the sequence in which your validation executes. Identify a name for the validation to make it easy to locate in the future. Also specify the location where an error message display if the validation fails.

Page: 8  
Item: P8\_CUST\_EMAIL  
\* Sequence: 10  
\* Validation Name: P8\_CUST\_EMAIL  
Error Display Location: Inline with Field and in Notification

7) Select **String Comparison** for validation method and click **Next >**.

Page: 8 - Customer Details  
Item: P8\_CUST\_EMAIL  
Select a validation type:

Not Null  
 String Comparison  
 Regular Expression  
 SQL  
 PL/SQL

8) Select **Item / Column specified contains no spaces** for type and click **Next >**.

Page: 8 - Customer Details  
Item: P8\_CUST\_EMAIL  
Pick the type of validation you wish to create:

- Item / Column in Expression 1 contains at least one of the characters in Expression 2
- Item / Column in Expression 1 contains only characters in Expression 2
- Item / Column in Expression 1 does NOT equal string literal in Expression 2
- Item / Column in Expression 1 does not contain any of the characters in Expression 2
- Item / Column in Expression 1 equals string literal in Expression 2
- Item / Column in Expression 1 is NOT contained in Expression 2
- Item / Column in Expression 1 is contained in Expression 2
- Item / Column specified is NOT zero
- Item / Column specified contains no spaces
- Item / Column specified is NOT NULL or zero
- Item / Column specified is alphanumeric
- Item / Column specified is numeric
- Item / Column specified is a valid date
- Item / Column specified is a valid timestamp

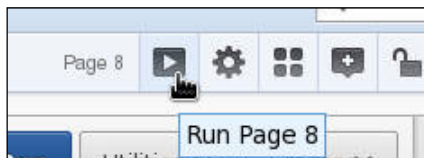
- 9) Enter **Email must not contain any spaces** for Error Message and click **Next >**.

Page: 8  
 Item: P8\_CUST\_EMAIL  
 Validation Type: Item / Column specified contains no spaces  
 \* Error Message  
 Email must not contain any spaces  
 [Error] [#LABEL# must have some value.]  
 Always Execute: No

- 10) You want this validation to fire only when the item is not null. Select **Value of Item / Column in Expression 1 is NOT NULL** for Condition Type and enter **P<n>\_CUST\_EMAIL** for Expression 1. Click **Create Validation**. Make sure that you replace the **<n>** in P<n>\_CUST\_EMAIL with the current page number.

Page: 8  
 Item: P8\_CUST\_EMAIL  
 Validation Type: Item / Column specified contains no spaces  
 When Button Pressed: - Select Button -  
 Condition Type: Value of Item / Column in Expression 1 is NOT NULL  
 [PL/SQL] [item / column=value] [item / column not null] [item / column null] [request=1] [page in] [page not in] [exists] [never] [none]  
 Expression 1: P8\_CUST\_EMAIL

- 11) To see how the validation works, run the page. Click the **Run** icon.



12) You want to edit a record. Click **Cancel** to return to the Customer Report so that you can edit a record. This step is not required if the form is already filled.

**Customer Details**

Cancel
Create

**Cust First Name \***

**Cust Last Name \***

Cust Email

Account Manager - Select Manager -

[Bates, Elizabeth, Russell, John, Cambault, Gerald](#)

Country - Select Country -

City

Phone Number

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

13) Click the **Edit** icon for one of the rows.

Go
Reports 1. Primary Report
Actions ▾

	Customer Id	Cust First Name	Cust Last Name	Street Address	Postal Code	City	State
	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

14) Add a space to the email and click **Apply Changes**.

**Manisha Taylor Customer Details** Cancel Delete Apply Changes

**Cust First Name \***

**Cust Last Name \***

**Cust Email**

**Account Manager**  [Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

**Country**

**City**

**Phone Number** +1 812 123 4115

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

15) Notice that you receive an error message inline and also at the top of the page.

**Order Management** Home Customers Products

**1 error has occurred**  
• Email must not contain any spaces ([Go to error](#))

**In the News**

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**Manisha Taylor Customer Details** Cancel Delete Apply Changes

**Cust First Name \***

**Cust Last Name \***

**Cust Email**   
**Email must not contain any spaces**

**Account Manager**  [Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

**Country**

**City**

**Phone Number**

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

f. Remove the First Name value from the page and click Apply Changes. Note the implied validation. Why is the error message shown if there is no validation on the page?

- 1) Notice that items such as First Name and Last Name have an asterisk (\*) next to their labels. This means that the items must have a value. Remove the space in the email, delete what is contained in the First Name field, and click **Apply Changes**.

**Manisha Taylor Customer Details** Cancel Delete Apply Changes

**Cust First Name \***

**Cust Last Name \***

Cust Email   
Email must not contain any spaces

Account Manager  [Bates, Elizabeth](#), [Russell, John](#), [Cambrault, Gerald](#)

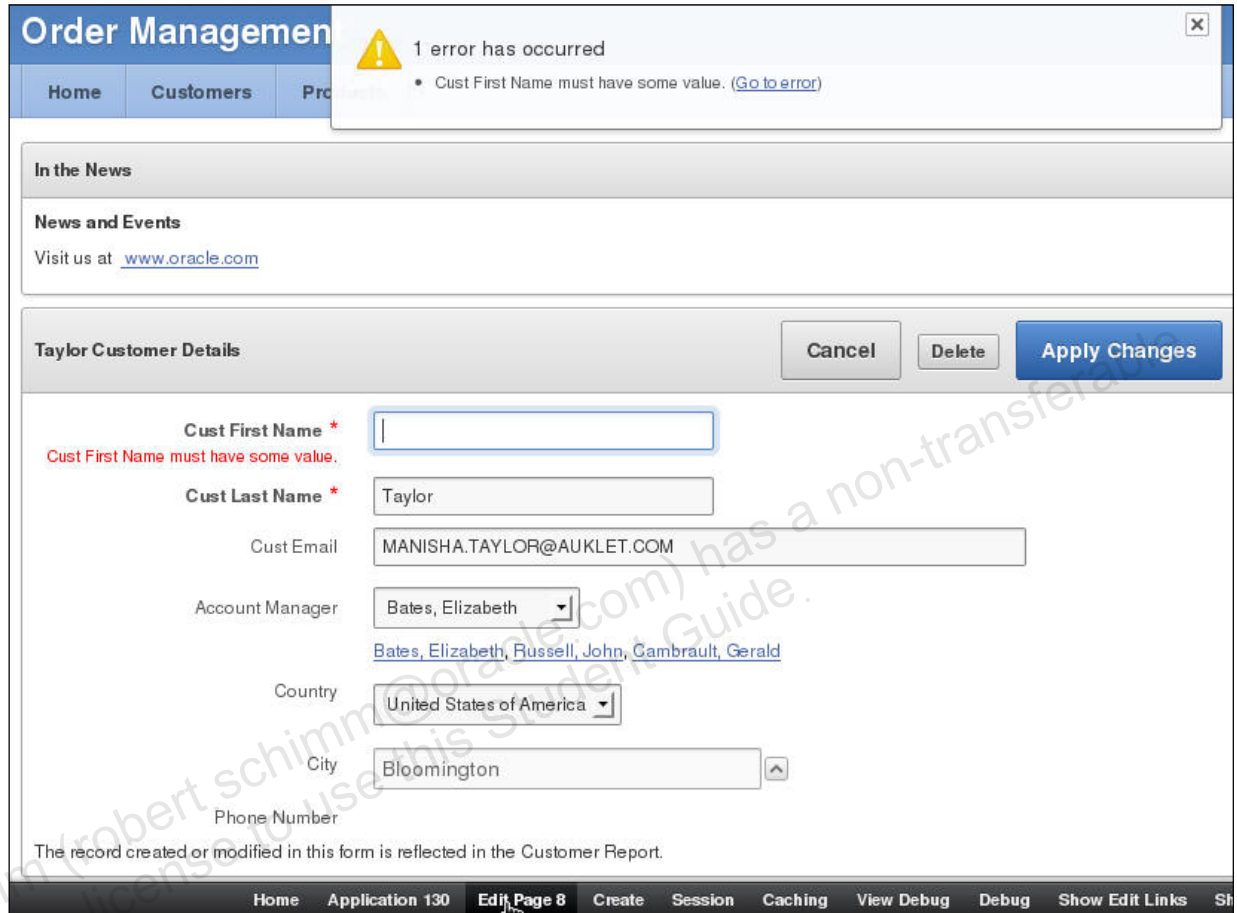
Country

City

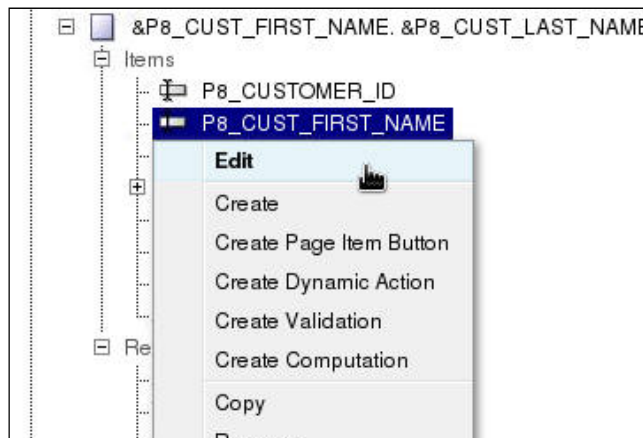
Phone Number

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

- 2) Notice that you receive an error stating that you must enter a value. This is an implied validation, which means that you do not have to explicitly define a Not Null validation on fields that are not-null columns. You want to look at the definition for this item. Click the **Edit Page** link on the Developer toolbar.



- 3) Right-click `P<n>_CUST_FIRST_NAME` and select **Edit**.



- 4) Click the **Settings** tab.

The screenshot shows the 'Identification' tab for the page item 'P8\_CUST\_FIRST\_NAME'. The page is '8 Customer Details'. The name is 'P8\_CUST\_FIRST\_NAME' and the display type is 'Text Field'. A list of other display types is shown below: Text, Number, Date, Textarea, Select List, Radio, Popup List of Values, Checkbox, Display Only, and Hidden.

- 5) Notice that the Value Required item is set to Yes. You can, alternatively, set this item to No and create a Not Null validation on this item. Doing it this way will allow you to specify the error message to be displayed. Click the **Application <n>** breadcrumb.

The screenshot shows the 'Settings' tab for the page item 'P8\_CUST\_FIRST\_NAME'. The breadcrumb 'Application 130' is highlighted. The 'Value Required' dropdown is set to 'Yes'. Other settings include 'Subtype' set to 'Text', 'Submit when Enter pressed' set to 'No', and 'Disabled' set to 'No'.

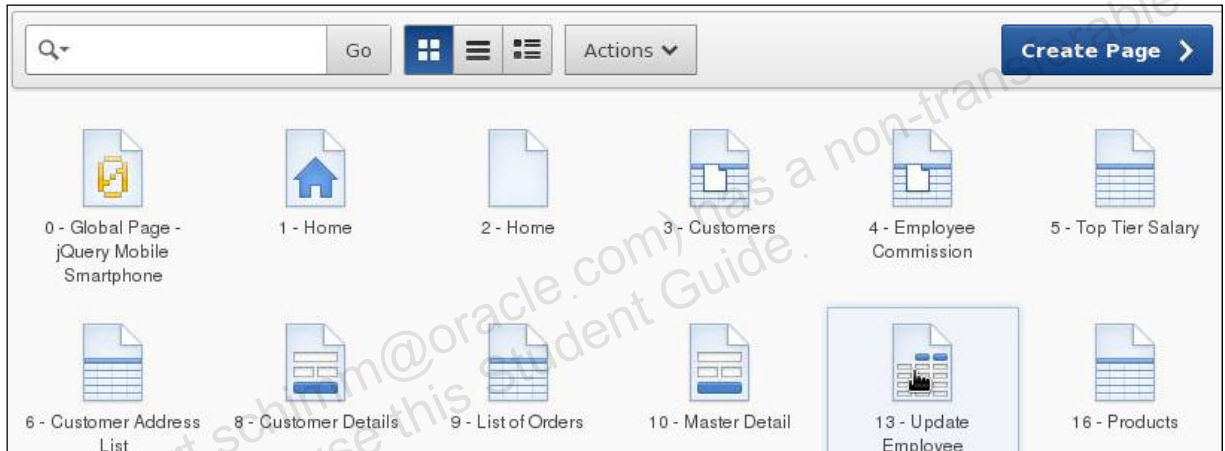
- g. Create a Tabular Form validation. If the `JOB_ID` is `'SA_REP'`, then a commission needs to be entered. If the commission is not entered for the `JOB_ID` `'SA_REP'`, then display an error message. Use the following PL/SQL code (located in `/home/oracle/labs/files/lab10_3.txt`):

```

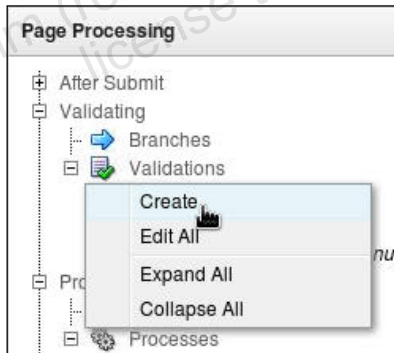
Declare
begin
  If :JOB_ID = 'SA_REP' and :COMMISSION_PCT is not null then
    Return true;
  Else
    Return false;
  End if;
End;

```

- 1) Select the **Update Employee Information** page.



- 2) Under **Page Processing**, right-click **Validations** and select **Create**.



- 3) For Tabular Form, select **Update Employee Information** from the drop-down list and select **Tabular Form Row** for “Identify the validation level.” Click **Next >**.

- 4) Enter **Job Commission** for Validation Name and click **Next >**.

- 5) Select **PL/SQL** for validation type and click **Next >**.

- 6) Select **Function Returning Boolean** for type of validation and click **Next >**.

- 7) In the Validation Code box, enter the following code (located in `/home/oracle/labs/files/lab10_3.txt`):

```

declare
begin
  if :JOB_ID = 'SA_REP' and :COMMISSION_PCT is not null then
    return true;
  else
    return false;
  end if;
end;

```

In the Error Message field, enter “Please enter the commission percentage.” and click

**Next >**.

Page: 13  
 Tabular Form: Update Employee Information  
 Validation Type: Function Returning Boolean  
 \* Validation Code  
 Declare  
 begin  
 if :JOB\_ID = 'SA\_REP' and :COMMISSION\_PCT is not null then  
 Return true;  
 Else  
 Return false;  
 End if;  
 End;  
 \* Error Message  
 Please enter the commission percentage.

- 8) Select **Submit** for When Button Pressed and click **Create Validation**.

Page: 13  
 Tabular Form: Update Employee Information  
 Validation Type: Function Returning Boolean  
 When Button Pressed: SUBMIT (Submit)  
 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]

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



- 10) Edit one of the Employee's information. Change the Job\_Id to **SA\_REP** and click **Submit**.

**Update Employee Information**
Cancel Delete **Submit**

<input type="checkbox"/>	First Name	Last Name	Email	Job Id	Commission Pct
<input type="checkbox"/>	Steven	King	SKING	AD_PRES	
<input type="checkbox"/>	Neena	Kochhar	NKOCHHAR	AD_VP	
<input type="checkbox"/>	Lex	De Haan	LDEHAAN	AD_VP	
<input type="checkbox"/>	Alexander	Hunold	AHUNOLD	IT_PROG	
<input type="checkbox"/>	Bruce	Ernst	BERNST	IT_PROG	
<input type="checkbox"/>	David	Austin	DAUSTIN	IT_PROG	
<input type="checkbox"/>	Valli	Pataballa	VPATABAL	SA_REP	
<input type="checkbox"/>	Diana	Lorentz	DLORENTZ	IT_PROG	
<input type="checkbox"/>	Nancy	Greenberg	NGREENBE	FI_MGR	
<input type="checkbox"/>	Daniel	Faviet	DFAVIET	FI_ACCOUNT	

row(s) 1 - 10 of 107 | Next >

Add Row

- 11) An error message is displayed because the commission percentage has not been entered.

**Order Management**
1 error has occurred
✕

Home Customers

- Please enter the commission percentage. (Row 7)

**Update Employee Information**
Cancel

<input type="checkbox"/>	First Name	Last Name	Email	Job Id	Commission Pct
<input type="checkbox"/>	Steven	King	SKING	AD_PRES	
<input type="checkbox"/>	Neena	Kochhar	NKOCHHAR	AD_VP	
<input type="checkbox"/>	Lex	De Haan	LDEHAAN	AD_VP	
<input type="checkbox"/>	Alexander	Hunold	AHUNOLD	IT_PROG	
<input type="checkbox"/>	Bruce	Ernst	BERNST	IT_PROG	
<input type="checkbox"/>	David	Austin	DAUSTIN	IT_PROG	
<input type="checkbox"/>	Valli	Pataballa	VPATABAL	SA_REP	
<input type="checkbox"/>	Diana	Lorentz	DLORENTZ	IT_PROG	
<input type="checkbox"/>	Nancy	Greenberg	NGREENBE	FI_MGR	

12) Enter the commission percentage for the employee and click **Submit**.

Update Employee Information						Cancel	Delete	Submit
<input type="checkbox"/>	First Name	Last Name	Email	Job Id	Commission Pct			
<input type="checkbox"/>	Steven	King	SKING	AD_PRES				
<input type="checkbox"/>	Neena	Kochhar	NKOCHHAR	AD_VP				
<input type="checkbox"/>	Lex	De Haan	LDEHAAN	AD_VP				
<input type="checkbox"/>	Alexander	Hunold	AHUNOLD	IT_PROG				
<input type="checkbox"/>	Bruce	Ernst	BERNST	IT_PROG				
<input type="checkbox"/>	David	Austin	DAUSTIN	IT_PROG				
<input type="checkbox"/>	Valli	Pataballa	VPATABAL	SA_REP	.3			
<input type="checkbox"/>	Diana	Lorentz	DLORENTZ	IT_PROG				
<input type="checkbox"/>	Nancy	Greenberg	NGREENBE	FI_MGR				

The employee information is successfully updated.

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# Practices for Lesson 11: Validating and Debugging Your Application

## Chapter 11

## Practices for Lesson 11: Overview

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### Practices Overview

In these practices, you use the Advisor to validate your application, update the Attribute Dictionary based on items and report columns on your page, and examine how to use debug and resolve some common issues during application development.

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## Practice 11-1: Using the Advisor

---

### Overview

In this practice, you use the Advisor to validate your application.

### Assumptions

You have performed the previous practices or imported the `LAB101_SOLN.sql` packaged application.

### Tasks

- a. Run the Advisor and correct the warning on the Customer Address page by specifying a sort order.
- b. Run the Advisor for the Customer Address List page only.
- c. Run the Advisor and correct the warning on the `P<n>_CUST_EMAIL` item by defining help text.
- d. Change the settings in the Advisor so that you do not get any more errors or warnings.

## Practice 11-2: Managing Your Attribute Dictionary

---

### Overview

In this practice, you update the Attribute Dictionary based on the items and report columns on your page.

### Assumptions

You have performed the previous practices in this lesson.

### Tasks

- a. Change the widths of items on the Customer Details page of the Order Management application to the following.

Item	Attribute	Value
P<n>_CUST_FIRST_NAME	Width	18
P<n>_CUST_LAST_NAME	Width	18
P<n>_CUST_EMAIL	Width	18

- b. Add the items on the Customer Details page to the Attribute Dictionary.
- c. Review the UI defaults in SQL Workshop. Change the help text for `CUST_FIRST_NAME` to `Customer First Name` and add a Synonym called `FIRST_NAME`.
- d. Make sure that `OEHR_CUSTOMERS` is not in the Table Dictionary.
- e. Update the Attribute Dictionary for the items on the Customer Detail page.
- f. Update the Customers page to use the Attribute Dictionary defaults. Verify by showing the help text for the First Name column in the report.
- g. Create a new forms page based on the `OEHR_CUSTOMERS` table. Make sure that UI Defaults is enabled. Run the page to see that the Attribute Dictionary is used.

## Practice 11-3: Debugging and Troubleshooting Common Issues in Your Application

---

### Overview

In this practice, you debug your application and resolve some common issues that may occur while developing your application.

### Assumptions

You have performed the previous practices in this lesson.

### Tasks

- a. Import an application with some issues to resolve.
- b. Run and debug the application.
- c. Review and make changes to the SQL Query in the Interactive Report.
- d. Why does the Create button not do anything when you click it?
- e. Optional: When you edit an employee on page 3 (the Employee Report), why is the employee record not displayed on page 4? See if you can figure this out on your own without looking at the solution.

## Solution 11-1: Using the Advisor

### Overview

In this practice, you run the Advisor and correct some of the warnings that appear.

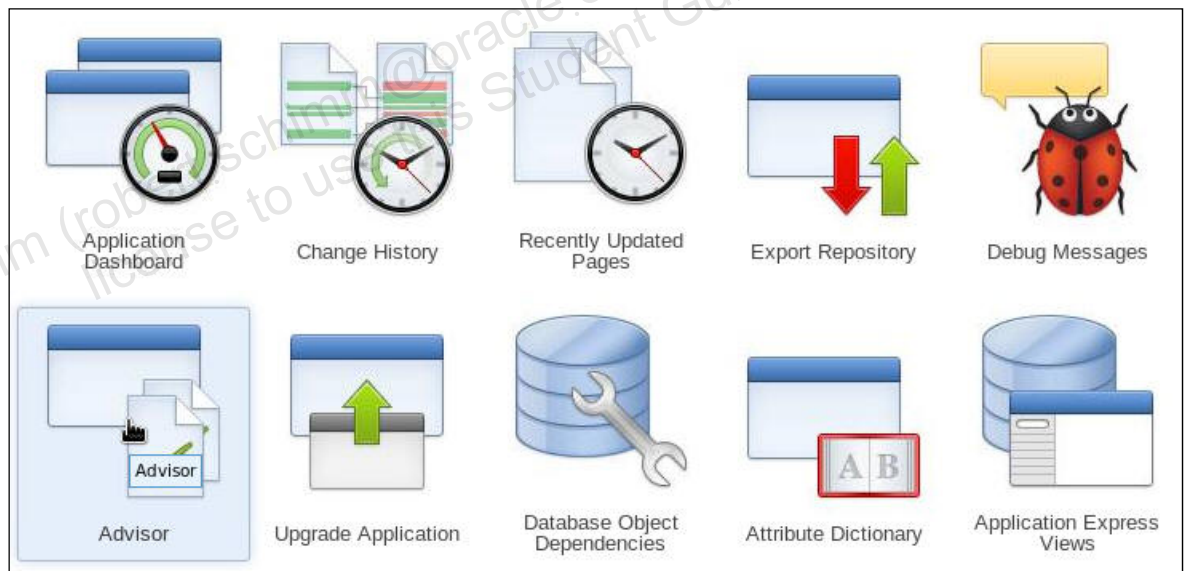
### Tasks

- a. Run the Advisor and correct the warning on the Customer Address List page by specifying a sort order.

- 1) Navigate to the **Order Management** application home page and select **Utilities**.



- 2) Click **Advisor**.



3) Click **Perform Check**.

Perform Check

Show All | Checks to Perform | Check Page(s)

**Checks to Perform**

**Errors:**

- References with Substitution Syntax
- References with Column Syntax
- References with Bind Variable Syntax
- Declarative References of Application Items, Page Items, Columns or Interactive Report Filters
- Referenced Page Number Exists
- Is Valid SQL or PL/SQL Code
- Fetch, DML, MR\* Processes are Valid
- Unconditional Branch before other Branches
- Referenced Button in When Button Pressed exists
- Button is not compatible with Dynamic Actions

**Security:**

- Target Page Authorization equals current Component Authorization
- Inappropriate use of Substitution Syntax

**Warnings:**

- Referenced Item is on Current Page
- Referenced Item is Page Item of Target Page
- References of Page Item in a String
- Clear Cache Page Number equals Target or Current Page
- Length of Item or Tabular Form Column Name
- Inconsistent references between Dynamic Actions and Buttons
- Protected items in AJAX calls

**Performance:**

- V Function used in SQL Statements

**Usability:**

- Target Page Authorization is also set for Current Component
- Associated Item or Column of Validations

**Quality Assurance:**

- Hardcoded Application ID
- Report has Default Order
- Page Item has Help Text

Select All | Deselect All

4) The list of violations appears. In the Filter Result area, you see the number of violations by category. You want to fix the warning on the **Customer Address List** page. Scroll down and locate the warning.

**Filter Result**

- Error (1)**
- References with Substitution Syntax (1)
- Quality Assurance (8)**
- Report has Default Order (6)
- Page Item has Help Text (2)

5) Click the **View** link.

Applications > 130 - Order Management > Pages > 6 - Customer Address List > Regions > Customer Address List	
Attribute	Region Source (Identifies the source of the region, reference Region Source Type)
Check	Report has Default Order
Category	Quality Assurance
Message	Report does not have a default order.
Value	<pre> SELECT   "OEHR_CUSTOMERS"."CUST_FIRST_NAME" "CUST_FIRST_NAME",   "OEHR_CUSTOMERS"."CUST_LAST_NAME" "CUST_LAST_NAME",   "OEHR_CUSTOMERS"."STREET_ADDRESS" "STREET_ADDRESS",   "OEHR_CUSTOMERS"."CITY" "CITY",   "OEHR_CUSTOMERS"."STATE_PROVINCE" "STATE_PROVINCE",   "OEHR_COUNTRIES"."COUNTRY_NAME" "COUNTRY_NAME" FROM   "OEHR_CUSTOMERS",   "OEHR_COUNTRIES" WHERE "OEHR_CUSTOMERS"."COUNTRY_ID" = "OEHR_COUNTRIES"."COUNTRY_ID"           </pre>
	<a href="#">View</a>

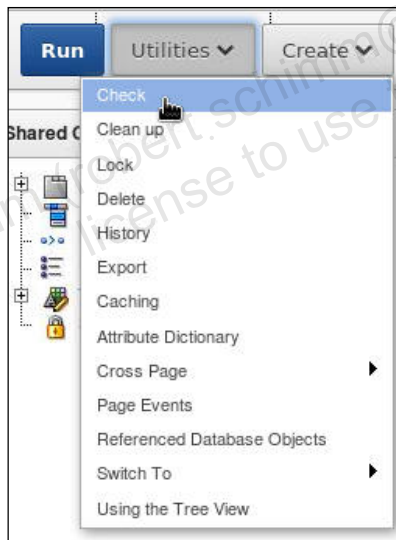
6) Click the **Report Attributes** tab.

Region Definition	Report Attributes	Query Definition	Print Attributes
<input type="button" value="Report Attributes"/> <input type="button" value="Cancel"/>			
Region: 1 of 1 Name: Customer Address List			
<input type="button" value="Show All"/>	<input type="button" value="Identification"/>	<input 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"/>	<input type="button" value="Conditions"/>
Identification			
Page:	6 Customer Address List		
* Title	<input type="text" value="Customer Address List"/>		
Type	SQL Query (Structured Query)		

- 7) You want to sort by Country Name. Select the Sort check box and select **1** for Sort Sequence for COUNTRY\_NAME, and click **Apply Changes**.

Alias	Link	Edit	Heading	Column Width	Column Alignment	Heading Alignment	Show	Sum	Sort	Sort Sequence
CUST_FIRST_NAME			First Name		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
CUST_LAST_NAME			Last Name		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
COUNTRY_NAME			Country Name		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
STREET_ADDRESS			Street Address		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
CITY			City		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
STATE_PROVINCE			State Province		left	center	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-

- b. Run the Advisor for the Customers Address List page only.
- 1) You can run the Advisor again just for the current page. Click **Utilities** and select **Check**.



- 2) Notice that you do not receive any more violations for this page. To run the Advisor again for the entire application, click the **Application Utilities** icon in the upper-right corner of the window.

Application Builder > Application 130 > Utilities > Advisor > Results

Selected Page(s): 6

**Check Result**

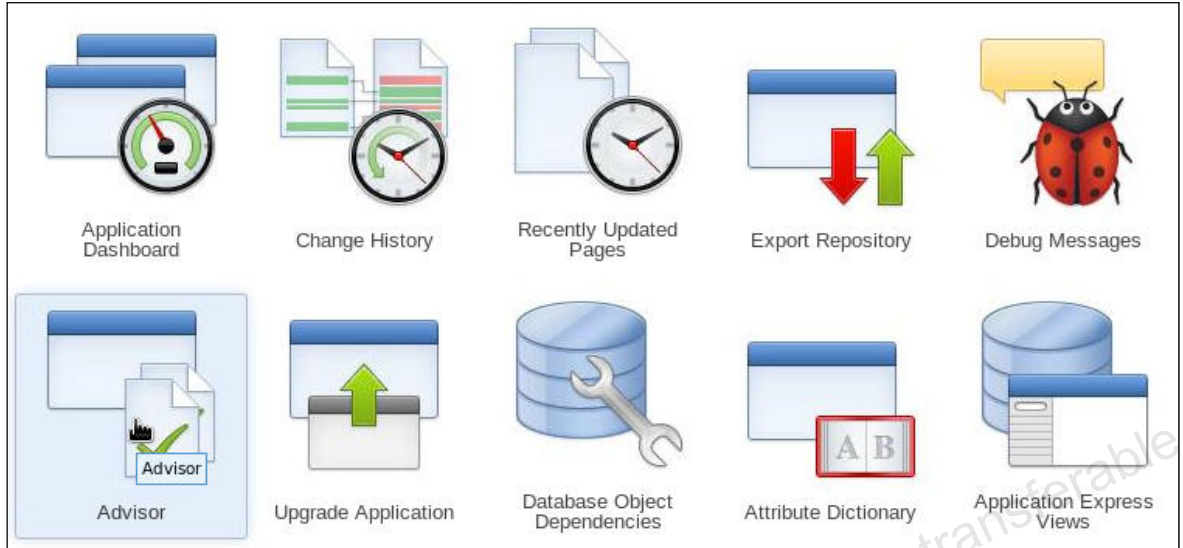
No errors/warnings found for the specified checks.

Application Utilities

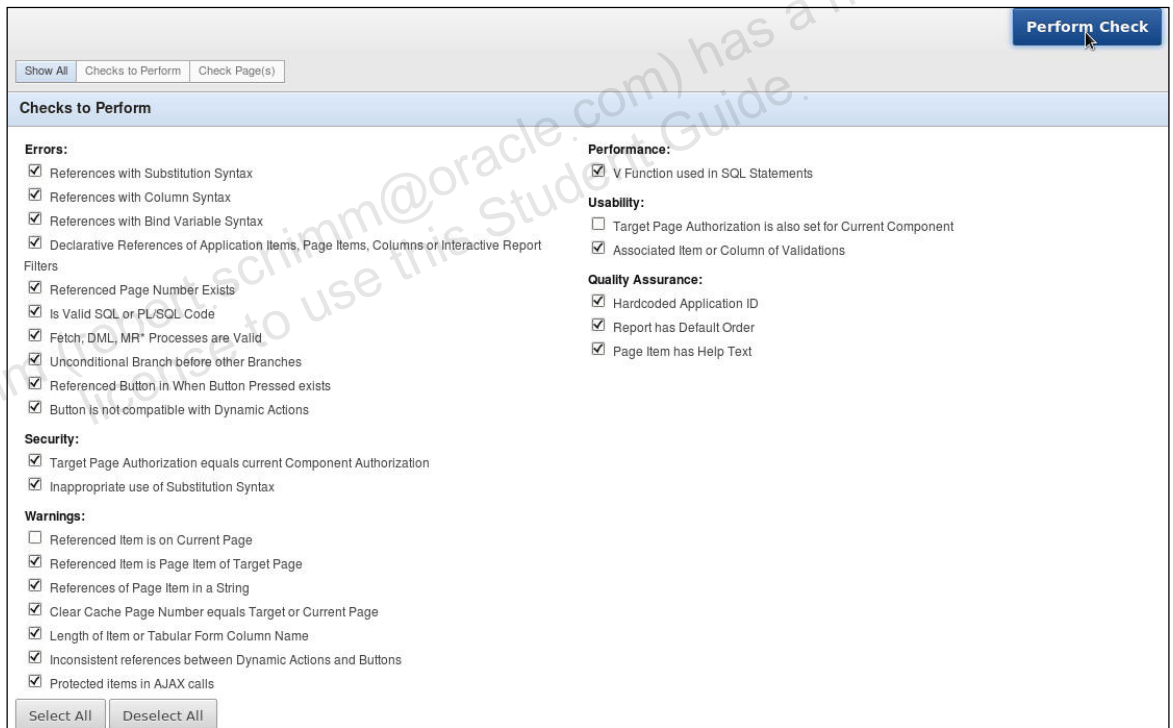
About

The results are displayed for the checks that you performed. You can filter the result set by unchecking any category or specific checks under Filter Results and clicking the Apply Filter button.

3) Click **Advisor**.



4) Click **Perform Check**.



- c. Run the Advisor and correct the warning on the P<n>\_CUST\_EMAIL item by defining help text.

- 1) Scroll to the result that pertains to P<n>\_CUST\_EMAIL. Click the **View** link to go directly to the page item definition.

Applications > 130 - Order Management > Pages > 8 - Customer Details > Regions > &P8_CUST_FIRST_NAME.&P8_CUST_LAST_NAME. Customer Details > Page Items > P8_CUST_EMAIL	
Attribute	Item Help Text
Check	Page Item has Help Text
Category	Quality Assurance
Message	No help text defined.
Value	
	<a href="#">View</a>

- 2) Click the **Help Text** tab.

Page Item: P8\_CUST\_EMAIL Cancel Delete **Apply Changes**

Show All Identification User Interface Grid Layout Label Settings Element Source Default Quick Picks Conditions Read Only Security Configuration **Help Text** Com

**Identification**

Page: 8 Customer Details

\* Name:

Display As:

Text , Number , Date , Textarea , Select List , Radio , Popup List of Values , Checkbox , Display Only , Hidden

- 3) Enter **Customer Email** for Help Text and click **Apply Changes**.

Page Item: P8\_CUST\_EMAIL Cancel Delete **Apply Changes**

Show All Identification User Interface Grid Layout Label Settings Element Source Default Quick Picks Conditions Read Only Security

**Help Text**

Help Text

- d. Change the settings in the Advisor so that you do not get any more errors or warnings.

- 1) Click the **Application Utilities** icon.



- 2) Click **Advisor**.



- 3) You can change the checks that the Advisor performs. Deselect **References with Substitution Syntax**, **Report has Default Order**, and **Page Item has Help Text**, and click **Perform Check**.

The screenshot shows the 'Checks to Perform' dialog box. At the top right is a 'Perform Check' button. Below it are tabs for 'Show All', 'Checks to Perform', and 'Check Page(s)'. The main area is titled 'Checks to Perform' and contains several sections of checks:

- Errors:**
  - References with Substitution Syntax
  - References with Column Syntax
  - References with Bind Variable Syntax
  - Declarative References of Application Items, Page Items, Columns or Interactive Report
- Filters:**
  - Referenced Page Number Exists
  - Is Valid SQL or PL/SQL Code
  - Fetch, DML, MR\* Processes are Valid
  - Unconditional Branch before other Branches
  - Referenced Button in When Button Pressed exists
  - Button is not compatible with Dynamic Actions
- Security:**
  - Target Page Authorization equals current Component Authorization
  - Inappropriate use of Substitution Syntax
- Warnings:**
  - Referenced Item is on Current Page
  - Referenced Item is Page Item of Target Page
  - References of Page Item in a String
  - Clear Cache Page Number equals Target or Current Page
  - Length of Item or Tabular Form Column Name
  - Inconsistent references between Dynamic Actions and Buttons
  - Protected Items in AJAX calls
- Performance:**
  - V Function used in SQL Statements
- Usability:**
  - Target Page Authorization is also set for Current Component
  - Associated Item or Column of Validations
- Quality Assurance:**
  - Hardcoded Application ID
  - Report has Default Order
  - Page Item has Help Text

At the bottom of the dialog are 'Select All' and 'Deselect All' buttons.

- 4) Note that you do not receive any errors or warnings on any of the checks that were still selected.

The screenshot shows the 'Results' page of the Oracle APEX Advisor. The breadcrumb trail is 'Application Builder > Application 130 > Utilities > Advisor > Results'. The page title is 'Application 130' and there is a 'Change Settings' button. The main content area is titled 'Check Result' and displays a green checkmark icon followed by the text 'No errors/warnings found for the specified checks.'

## Solution 11-2: Managing Your Attribute Dictionary

### Overview

In this solution, you manage attributes in your Attribute Dictionary.

### Tasks

- a. Change the widths of items on the Customer Details page of the Order Management application to the following.

Item	Attribute	Value
P<n>_CUST_FIRST_NAME	Width	18
P<n>_CUST_LAST_NAME	Width	18
P<n>_CUST_EMAIL	Width	18

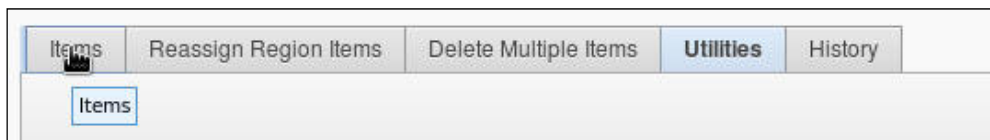
- 1) Navigate to the **Order Management** application home page and click the **Application Utilities** icon.



- 2) Under Page Specific Utilities, select **Item Utilities**.



- 3) Click the **Items** tab.



- 4) Make sure that the Customer Details page number is entered for Page and select the Customer Details region from the Region select list. Click **Go**.



- 5) Change the Width for P<n>\_CUST\_FIRST\_NAME, P<n>\_CUST\_LAST\_NAME and P<n>\_CUST\_EMAIL to **18** and click **Apply Changes**.

Sequence	Name	Prompt	Field Template	Region	New Line	New Field	Width	Height	Column Span
10	P8_CUSTOMER_ID	Customer Id	26. Optional	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details (0)	Yes	Yes			
20	P8_CUST_FIRST_NAME	Cust First Name	26. Required with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details (0)	Yes	Yes	18	1	
30	P8_CUST_LAST_NAME	Cust Last Name	26. Required with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details (0)	Yes	Yes	18	1	
40	P8_CUST_EMAIL	Cust Email	26. Optional with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details (0)	Yes	Yes	18	1	
50	P8_ACCOUNT_MGR_ID	Account Manager	26. Optional with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details (0)	Yes	Yes	30	1	

- 6) The three rows are updated. You want to add help text for P<n>\_ACCOUNT\_MGR\_ID. Click the Edit icon for that row.

ORACLE Application Express 3 row(s) updated.

Home Application Builder SQL Workshop Team Development Administration

Application Builder Application 130 Page 8 Page Items

Sequence	Name	Prompt	Field Template	Region
10	P8_CUSTOMER_ID	Customer Id	26. Optional	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Custome
20	P8_CUST_FIRST_NAME	Cust First Name	26. Required with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Custome
30	P8_CUST_LAST_NAME	Cust Last Name	26. Required with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Custome
40	P8_CUST_EMAIL	Cust Email	26. Optional with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Custome
50	P8_ACCOUNT_MGR_ID	Account Manager	26. Optional with help	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Custome

Edit

7) Click the **Help Text** subtab.

The screenshot shows the configuration interface for the page item 'P8\_ACCOUNT\_MGR\_ID'. The 'Identification' subtab is active. The 'Page' is set to '8 Customer Details'. The 'Name' field contains 'P8\_ACCOUNT\_MGR\_ID'. The 'Display As' dropdown is set to 'Select List'. A list of available display types is shown below: Text, Number, Date, Textarea, Select List, Radio, Popup List of Values, Checkbox, Display Only, Hidden.

8) Enter **Person assigned to account.** for Help Text and click **Apply Changes**.

The screenshot shows the configuration interface for 'P8\_ACCOUNT\_MGR\_ID' with the 'Help Text' subtab selected. The 'Help Text' field contains the text 'Person assigned to account.'. The 'Apply Changes' button is highlighted with a mouse cursor.

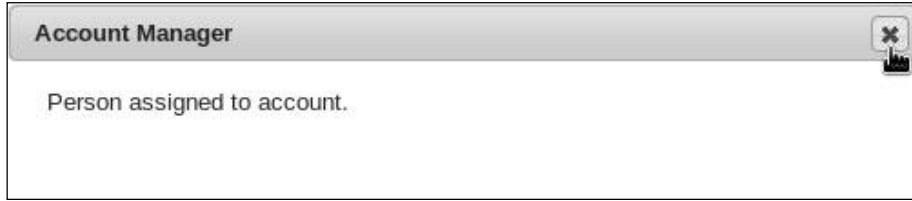
9) Click the **Run Page** icon.



10) Note that the three items for which you changed the width are displayed correctly. Select the **Account Manager** label.

The screenshot shows the 'Customer Details' form. The 'Account Manager' label is selected with a mouse cursor. The form contains several input fields: 'Cust First Name \*', 'Cust Last Name \*', 'Cust Email', 'Account Manager' (a dropdown menu with '- Select Manager -' and a list of names: Bates, Elizabeth, Russell, John, Cambrault, Gerald), 'Country' (a dropdown menu with '- Select Country -'), 'City', and 'Phone Number'. A footer note states: 'The record created or modified in this form is reflected in the Customer Report.'

11) The Help Text window is displayed. Click the Close icon.



12) Click the Edit Page link on the Developer toolbar.

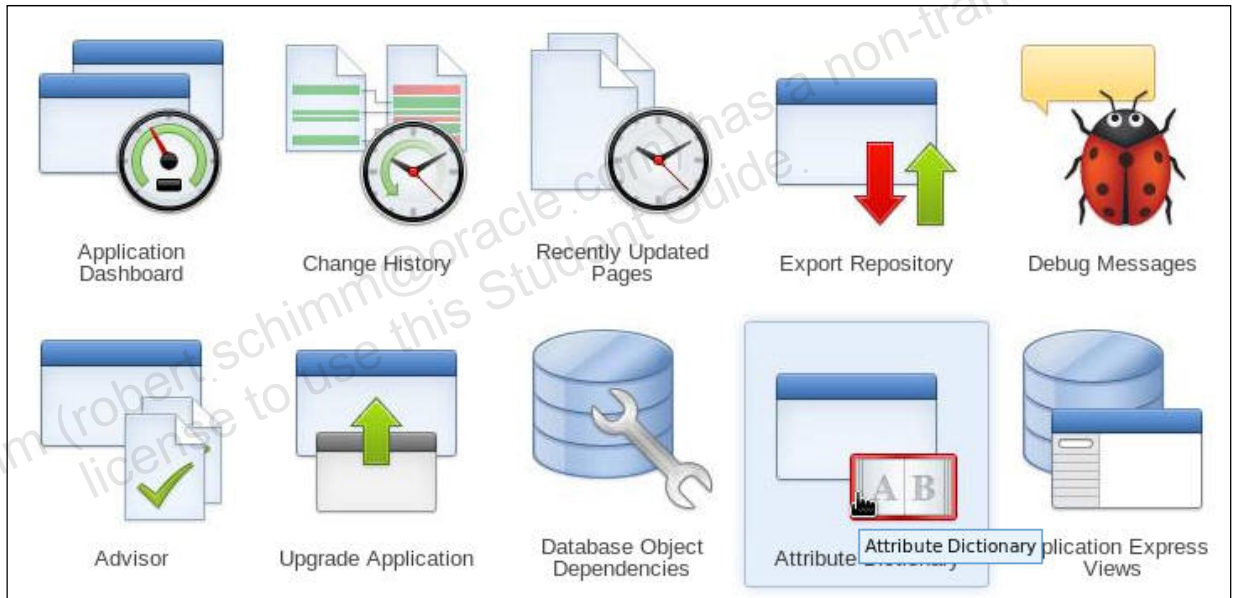


b. Add the items on the Customer Details page to the Attribute Dictionary.



1) Click the **Application Utilities** icon.



2) Click **Attribute Dictionary**.



3) Click the link for the Customer Details page.

Page 	Name	Page Type	Group Name	Displayed Items	Displayed Report Columns
<a href="#">0</a>	Global Page - jQuery Mobile Smartphone	Global Page	Unassigned	0	0
<a href="#">1</a>	Home	Home	Unassigned	0	0
<a href="#">2</a>	Home	Static HTML	Unassigned	0	0
<a href="#">3</a>	Customers	Interactive Report	Unassigned	0	14
<a href="#">4</a>	Employee Commission	Interactive Report	Unassigned	0	4
<a href="#">5</a>	Top Tier Salary	Report	Unassigned	2	3
<a href="#">6</a>	Customer Address List	Report	Unassigned	0	6
<a href="#">8</a> 	Customer Details	DML Form	Unassigned	7	0
<a href="#">9</a>	List of Orders	Report	Unassigned	0	7
<a href="#">10</a>	Master Detail	DML Form	Unassigned	8	4
<a href="#">13</a>	Update Employee Information	Tabular Form	Unassigned	0	5
<a href="#">16</a>	Products	Report	Unassigned	0	5

- 4) You need to review the items that you want to add to the Attribute Dictionary. Click the **Review <n> items for insert into the Attribute Dictionary** link.

Page Items	Report Columns																				
<p><b>Update Page</b></p>  <ul style="list-style-type: none"> <li>• 0 Items for update</li> </ul>	<p><b>Update Page</b></p>  <ul style="list-style-type: none"> <li>• 0 Report Columns for update</li> </ul>																				
<p><b>Update Attribute Dictionary</b></p>  <ul style="list-style-type: none"> <li>• <a href="#">Review 7 Items for insert into the Attribute Dictionary</a></li> <li>• 0 Items for update of the Attribute Dictionary</li> </ul>	<p><b>Update Attribute Dictionary</b></p>  <ul style="list-style-type: none"> <li>• 0 Items for insert into the Attribute Dictionary</li> <li>• 0 Report Columns for update of the Attribute Dictionary</li> </ul>																				
<p><b>Summary</b></p> <table border="1"> <tr> <td>Total Page Items</td> <td>8</td> </tr> <tr> <td>Displayed Items</td> <td>7</td> </tr> <tr> <td>Potential New Entries</td> <td>7</td> </tr> <tr> <td>Potential Updates</td> <td>0</td> </tr> <tr> <td>Identical Attributes</td> <td>0</td> </tr> </table>	Total Page Items	8	Displayed Items	7	Potential New Entries	7	Potential Updates	0	Identical Attributes	0	<p><b>Summary</b></p> <table border="1"> <tr> <td>Total Report Columns</td> <td>0</td> </tr> <tr> <td>Displayed Report Columns</td> <td>0</td> </tr> <tr> <td>Potential New Entries</td> <td>0</td> </tr> <tr> <td>Potential Updates</td> <td>0</td> </tr> <tr> <td>Identical Attributes</td> <td>0</td> </tr> </table>	Total Report Columns	0	Displayed Report Columns	0	Potential New Entries	0	Potential Updates	0	Identical Attributes	0
Total Page Items	8																				
Displayed Items	7																				
Potential New Entries	7																				
Potential Updates	0																				
Identical Attributes	0																				
Total Report Columns	0																				
Displayed Report Columns	0																				
Potential New Entries	0																				
Potential Updates	0																				
Identical Attributes	0																				

- 5) Note the items that you have on the page and the changes that you made previously. Select the check box in the header to the left of the Region header to select all the entries in the list, and click **Update Attribute Dictionary**.

<input checked="" type="checkbox"/>	Region ▼	Item	Will Become	Label	Format Mask	Help Text	Default	Width	Height	Data Type
<input checked="" type="checkbox"/>	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_ACCOUNT_MGR_ID	ACCOUNT_MGR_ID	Account Manager	-	Person assigned to a_	-	30	1	VARCH
<input checked="" type="checkbox"/>	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_CITY	CITY	City	-	-	-	30	1	VARCH
<input checked="" type="checkbox"/>	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_COUNTRY_ID	COUNTRY_ID	Country	-	-	-	30	1	VARCH
<input checked="" type="checkbox"/>	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_CUST_EMAIL	CUST_EMAIL	Cust Email	-	Customer Email	-	18	1	VARCH
<input checked="" type="checkbox"/>	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_CUST_FIRST_NAME	CUST_FIRST_NAME	Cust First Name	-	NOT NULL constraint.	-	18	1	VARCH
<input checked="" type="checkbox"/>	&P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_CUST_LAST_NAME	CUST_LAST_NAME	Cust Last Name	-	NOT NULL constraint.	-	18	1	VARCH

- c. Review the UI defaults in SQL Workshop. Change the help text for CUST\_FIRST\_NAME to Customer First Name and add a synonym called FIRST\_NAME.

- 1) To view and make changes to the items in the Attribute Dictionary, select **SQL Workshop > User Interface Defaults**.

The screenshot shows the Oracle Application Express interface. At the top, a green notification banner reads "Attribute Dictionary Updated." Below the navigation bar, the "SQL Workshop" menu is open, and the "User Interface Defaults" option is selected. In the background, the Attribute Dictionary table is visible, showing the same data as in the previous image, with the "Update Attribute Dictionary" button highlighted.

- 2) Click **Manage Attribute Dictionary**.

Dashboard | Table Dictionary | Attribute Dictionary

Reset | Manage Table Dictionary | **Manage Attribute Dictionary**

Table Dictionary		Attribute Dictionary	
Count of tables with defaults	4	Count of attributes	7
Updated	6 days ago	Updated	44 seconds ago
Default schema	ORA01		

- 3) You see the attributes that you added to the dictionary. You can modify them here. Click the **Edit** icon for the `CUST_FIRST_NAME` column.

Dashboard | Table Dictionary | **Attribute Dictionary**

Grid Edit > | Reset | Create >

Q- | Go | Actions v

	Column Name	Synonym of	Label	Help Text	Format Mask	Default Value
	ACCOUNT_MGR_ID	-	Account Manager	Person assigned to account.	-	-
	CITY	-	City	-	-	-
	COUNTRY_ID	-	Country	-	-	-
	CUST_EMAIL	-	Cust Email	Customer Email	-	-
	<b>CUST_FIRST_NAME</b>	-	Cust First Name	NOT NULL constraint.	-	-
	CUST_LAST_NAME	-	Cust Last Name	NOT NULL constraint.	-	-
	PHONE_NUMBER	-	Phone Number	-	-	-

- 4) Change the Label to **First Name** and Help Text to **Customer First Name** and click **Apply Changes**.

Column: 5 of 7 | Cancel | Delete | **Apply Changes**

Show All | Details | Form Specific Attributes | Report Specific Attributes

**Details**

\* Column Name: CUST\_FIRST\_NAME

Label: First Name

Format Mask: [dropdown]

Default Value: [text box]

Help Text: Customer First Name

- 5) The changes are reflected in the list. You want to also change the CUST\_LAST\_NAME. Click the Edit icon for that row.

Dashboard   Table Dictionary   <b>Attribute Dictionary</b>					
<input type="text" value="Q-"/> <input type="button" value="Go"/> <input type="button" value="Actions v"/>					
	Column Name	Synonym of	Label	Help Text	Format Ma
	ACCOUNT_MGR_ID	-	Account Manager	Person assigned to account.	-
	CITY	-	City	-	-
	COUNTRY_ID	-	Country	-	-
	CUST_EMAIL	-	Cust Email	Customer Email	-
	CUST_FIRST_NAME	-	First Name	Customer First Name	-
	CUST_LAST_NAME	-	Cust Last Name	NOT NULL constraint.	-
	PHONE_NUMBER	-	Phone Number	-	-

- 6) Change Label to **Last Name** and Help Text to **Customer Last Name**, and click **Apply Changes**.

Column: 6 of 7

**Details**

\* Column Name

Label

Format Mask

Default Value

Help Text

The changes are reflected in the list.

- d. Make sure that OEHR\_CUSTOMERS is not in the Table Dictionary.  
 1) Click the **Table Dictionary** tab.

	Column Name	Synonym of	Label	Help Text	Format Mask	Default
	ACCOUNT_MGR_ID	-	Account Manager	Person assigned to account.	-	-
	CITY	-	City	-	-	-
	COUNTRY_ID	-	Country	-	-	-
	CUST_EMAIL	-	Cust Email	Customer Email	-	-
	CUST_FIRST_NAME	-	First Name	Customer First Name	-	-
	CUST_LAST_NAME	-	Last Name	Customer Last Name	-	-
	PHONE_NUMBER	-	Phone Number	-	-	-

- 2) Notice that OEHR\_CUSTOMERS is in the list. Select OEHR\_CUSTOMERS.

Object Name	Type	Defaults Exist
<a href="#">OEHR_COUNTRIES</a>	TABLE	Yes
<a href="#">OEHR_CUSTOMERS</a>	TABLE	Yes
<a href="#">OEHR_ORDERS</a>	TABLE	Yes
<a href="#">TASKS</a>	TABLE	Yes

- 3) The Table Dictionary will override the Attribute Dictionary. Because you have changed the attributes for some columns in the Attribute Dictionary, you want to remove the table from the Table Dictionary. Under Tasks, click the **Remove from Table Dictionary** link.

Schema: ORA01  
Object Name: OEHR\_CUSTOMERS  
Object: 2 of 4  
Form Region Title: Oehr Customers  
Report Region Title: Oehr Customers  
Object Exists: No

Column Name	Sequence	Label	Column Group	Alignment	Display In Report	Display In Form	Required	Help Length
CUSTOMER_ID	1	Customer Id	-	Right	✓	✓	✓	19
CUST_FIRST_NAME	2	Cust First Name	-	Left	✓	✓	✓	20
CUST_LAST_NAME	3	Cust Last Name	-	Left	✓	✓	✓	20
STREET_ADDRESS	4	Street Address	-	Left	✓	✓	-	52
		Postal						

Tasks:  
[Create Column Group](#)  
[Manage Column Groups](#)  
[Synchronize with Database](#)  
[Migrate to Attribute Dictionary](#)  
[Remove from Table Dictionary](#)

- 4) Click **Remove Defaults**.

Schema: ORA01  
Table Name: OEHR\_CUSTOMERS  
Columns: 14

Cancel Remove Defaults

- 5) The table is removed. Select **Application Builder > Database Applications**.

ORACLE Application Express

User interface default removed.

Home Application Builder SQL Workshop Team Development Administration

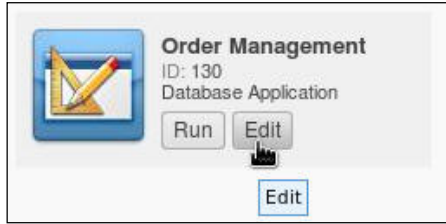
Applications Interface Defaults Table Dictionary

- Database Applications  
 - Worksheet Applications  
 - Packaged Applications

Create Import

Actions

6) Select the **Order Management** application.

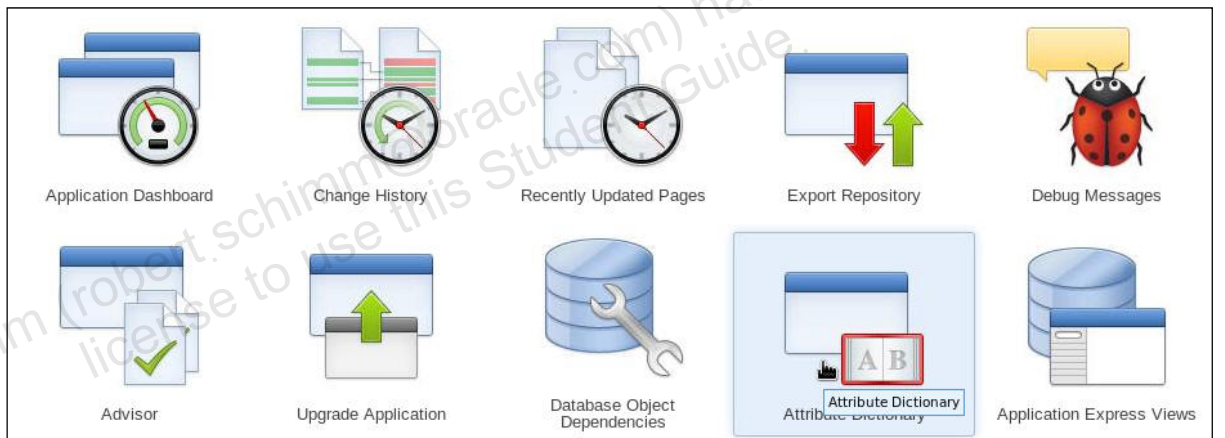


e. Update the Attribute Dictionary for the items on the Customer Detail page.

1) Click **Utilities**.



2) Click **Attribute Dictionary**.



3) Click the link for the Customer Details page.

Page	Name	Page Type	Group Name	Displayed Items	Displayed Report Columns
<a href="#">0</a>	Global Page - jQuery Mobile Smartphone	Global Page	Unassigned	0	0
<a href="#">1</a>	Home	Home	Unassigned	0	0
<a href="#">2</a>	Home	Static HTML	Unassigned	0	0
<a href="#">3</a>	Customers	Interactive Report	Unassigned	0	14
<a href="#">4</a>	Employee Commission	Interactive Report	Unassigned	0	4
<a href="#">5</a>	Top Tier Salary	Report	Unassigned	2	3
<a href="#">6</a>	Customer Address List	Report	Unassigned	0	6
<a href="#">8</a>	Customer Details	DML Form	Unassigned	7	0
<a href="#">9</a>	List of Orders	Report	Unassigned	0	7
<a href="#">10</a>	Master Detail	DML Form	Unassigned	8	4
<a href="#">13</a>	Update Employee Information	Tabular Form	Unassigned	0	5
<a href="#">16</a>	Products	Report	Unassigned	0	5
<a href="#">17</a>	Global Page - Desktop	Global Page	Unassigned	0	0
<a href="#">18</a>	Customer Feedback	Navigation Form	Unassigned	3	0

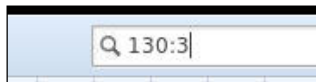
4) Notice that you have two items to review for update to the Attribute Dictionary. Click the **Review 2 Items for update of the Attribute Dictionary** link.

Page Items	Report Columns																				
<p><b>Update Page</b></p>  <ul style="list-style-type: none"> <li>Review 2 Items for update</li> </ul>	<p><b>Update Page</b></p>  <ul style="list-style-type: none"> <li>0 Report Columns for update</li> </ul>																				
<p><b>Update Attribute Dictionary</b></p>  <ul style="list-style-type: none"> <li>0 Items for insert into the Attribute Dictionary</li> <li>Review 2 Items for update of the Attribute Dictionary</li> </ul>	<p><b>Update Attribute Dictionary</b></p>  <ul style="list-style-type: none"> <li>0 Items for insert into the Attribute Dictionary</li> <li>0 Report Columns for update of the Attribute Dictionary</li> </ul>																				
<p><b>Summary</b></p> <table border="1"> <tr><td>Total Page Items</td><td>8</td></tr> <tr><td>Displayed Items</td><td>7</td></tr> <tr><td>Potential New Entries</td><td>0</td></tr> <tr><td>Potential Updates</td><td>2</td></tr> <tr><td>Identical Attributes</td><td>5</td></tr> </table>	Total Page Items	8	Displayed Items	7	Potential New Entries	0	Potential Updates	2	Identical Attributes	5	<p><b>Summary</b></p> <table border="1"> <tr><td>Total Report Columns</td><td>0</td></tr> <tr><td>Displayed Report Columns</td><td>0</td></tr> <tr><td>Potential New Entries</td><td>0</td></tr> <tr><td>Potential Updates</td><td>0</td></tr> <tr><td>Identical Attributes</td><td>0</td></tr> </table>	Total Report Columns	0	Displayed Report Columns	0	Potential New Entries	0	Potential Updates	0	Identical Attributes	0
Total Page Items	8																				
Displayed Items	7																				
Potential New Entries	0																				
Potential Updates	2																				
Identical Attributes	5																				
Total Report Columns	0																				
Displayed Report Columns	0																				
Potential New Entries	0																				
Potential Updates	0																				
Identical Attributes	0																				

- 5) Notice that the column in the Attribute Dictionary is the one that you want, rather than the help text for the item. You will leave it as is.

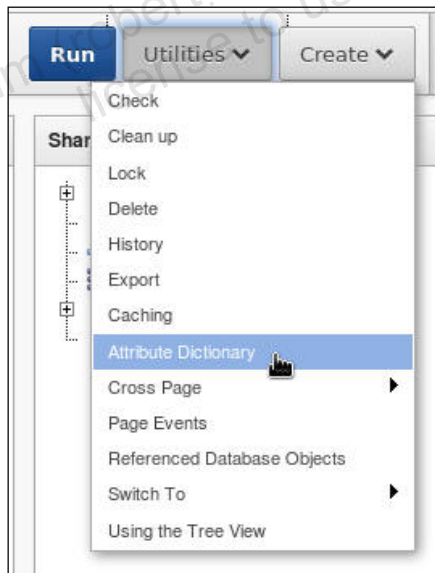
Page: 8 - Customer Details										
<input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Help Text <input checked="" type="checkbox"/> General Format Mask <input checked="" type="checkbox"/> Form Format Mask Include in Update: <input checked="" type="checkbox"/> Default <input checked="" type="checkbox"/> Width <input checked="" type="checkbox"/> Height <input checked="" type="checkbox"/> Data Type										
<input type="checkbox"/>	Source	Name	Label	Help Text	General Format Mask	Form Format Mask	Default	Width	Height	Data
<input type="checkbox"/>	Region: &P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_CUST_FIRST_NAME	Cust First Name	NOT NULL constraint.	-	-	-	18	1	VAR
	from Attribute Dictionary	CUST_FIRST_NAME	First Name	Customer First Name				18	1	VAR
<input type="checkbox"/>	Region: &P8_CUST_FIRST_NAME. &P8_CUST_LAST_NAME. Customer Details	P8_CUST_LAST_NAME	Cust Last Name	NOT NULL constraint.	-	-	-	18	1	VAR
	from Attribute Dictionary	CUST_LAST_NAME	Last Name	Customer Last Name				18	1	VAR

- 6) You also want to apply the attributes from the dictionary to your report page. In the search area, enter `<your Order Management application id>:3` (for the Customers page), and click the magnifying glasses.







- f. Update the Customers page to use the Attribute Dictionary defaults. Verify by showing the help text for the First Name column in the report.

- 1) Notice that page 3 in your application is displayed. Click **Utilities** and select **Attribute Dictionary**.



- 2) Because you want to update the page, you want to review the columns for update. Click the **Review <n> Report Columns for update** link.

Page Items	Report Columns																				
<b>Update Page</b>  • 0 Items for update	<b>Update Page</b>  • Review 7 Report Columns for update																				
<b>Update Attribute Dictionary</b>  • 0 Items for insert into the Attribute Dictionary • 0 Items for update of the Attribute Dictionary	<b>Update Attribute Dictionary</b>  • Review 7 Report Columns for insert into the Attribute Dictionary • Review 7 Report Columns for update of the Attribute Dictionary																				
<b>Summary</b> <table border="1"> <tr><td>Total Page Items</td><td>0</td></tr> <tr><td>Displayed Items</td><td>0</td></tr> <tr><td>Potential New Entries</td><td>0</td></tr> <tr><td>Potential Updates</td><td>0</td></tr> <tr><td>Identical Attributes</td><td>0</td></tr> </table>	Total Page Items	0	Displayed Items	0	Potential New Entries	0	Potential Updates	0	Identical Attributes	0	<b>Summary</b> <table border="1"> <tr><td>Total Report Columns</td><td>14</td></tr> <tr><td>Displayed Report Columns</td><td>14</td></tr> <tr><td>Potential New Entries</td><td>7</td></tr> <tr><td>Potential Updates</td><td>7</td></tr> <tr><td>Identical Attributes</td><td>0</td></tr> </table>	Total Report Columns	14	Displayed Report Columns	14	Potential New Entries	7	Potential Updates	7	Identical Attributes	0
Total Page Items	0																				
Displayed Items	0																				
Potential New Entries	0																				
Potential Updates	0																				
Identical Attributes	0																				
Total Report Columns	14																				
Displayed Report Columns	14																				
Potential New Entries	7																				
Potential Updates	7																				
Identical Attributes	0																				

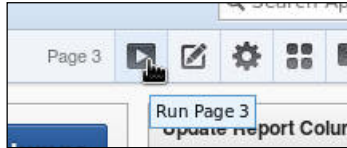
- 3) Review the list. Select the check box in front of the **CUST\_FIRST\_NAME** item and click **Update Report Columns**.

Page: **3 - Customers** Cancel **Update Report Columns**

Include in Update:  Label  Help Text  
 Format Mask  Report Column Alignment

<input type="checkbox"/>	Source	Name	Label	Help Text
<input type="checkbox"/>	Region: Customer Report	ACCOUNT_MGR_ID	Account Mgr Id	-
	from Attribute Dictionary		Account Manager	Person assigned to a<a href="javascript:popupURL(?!p=4000:908:2544137768592:::908:P908_DISPLAY,P908_ID:ADH,761022373472870 alt="View&quot; title=&quot;View">...</a>
<input type="checkbox"/>	Region: Customer Report	CITY	City	-
	from Attribute Dictionary		City	
<input type="checkbox"/>	Region: Customer Report	COUNTRY_ID	Country Id	-
	from Attribute Dictionary		Country	
<input type="checkbox"/>	Region: Customer Report	CUST_EMAIL	Cust Email	-
	from Attribute Dictionary		Cust Email	Customer Email
<input checked="" type="checkbox"/>	Region: Customer Report	CUST_FIRST_NAME	Cust First Name	-
	from Attribute		First	Customer First Name

- 4) You can run the page to see the results. Click the **Run Page** icon.



- 5) To see the help text, select the **First Name** header in the report and click the **Information** icon.

A screenshot of a report table. The table has columns: Customer Id, First Name, Cust Last Name, Street Address, and Postal. A 'Column Information' popup is open over the 'First Name' column header, displaying a list of names: Ajay, Alain, Alan, Albert, Alec, Alexander, Alfred, Ali, Alice, Ally, and Alonso. The table data includes rows for Customer Ids 101 through 107.

Customer Id	First Name	Cust Last Name	Street Address	Postal
101			514 W Superior St	46901
102			2515 Bloyd Ave	46218
103	Ajay		8768 N State Rd	47404
104	Alain		37	46254
105	Alan		6445 Bay Harbor Ln	47404
106	Albert		4019 W 3Rd St	46616
107	Alec	Cruise	1608 Portage Ave	46517

- 6) The help text from the Attribute Dictionary is displayed. You can also create a new page and use the UI defaults from the Attribute Dictionary. Click the **Application** link on the Developer toolbar.


	Customer Id	First Name	Cust Last Name	Street Address	Postal Code
	101	Customer First Name Constantin	Wernes	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
	107	Matthias	Cruise	23943 Us Highway 33	46517
	108	Meenakshi	Mason	136 E Market St # 800	46204

Home Application 130 Edit Page 3 Create Session Cache


- g. Create a new forms page based on the `OEHR_CUSTOMERS` table. Make sure that UI Defaults is enabled. Run the page to see that the Attribute Dictionary is used.

- 1) Click **Create Page** >.


Application 130 - Order Management Edit Application Properties




Run Application




Supporting Objects






Shared Components



Utilities



Export / Import

Q- Go    Actions ▾ Create Page >

2) Select **Form** and click **Next >**.

The screenshot shows the Oracle Forms wizard interface. At the top, there is a 'Cancel' button on the left and a 'Next >' button on the right. Below the buttons, the 'Application' is set to '130 - Order Management'. Under the 'User Interface' section, 'Desktop' is selected with a radio button, and 'jQuery Mobile Smartphone' is unselected. The 'Select a page type:' section contains eight options, each with a radio button and a small icon: 'Blank Page', 'Multiple Blank Pages', 'Report', 'Form' (which is selected), 'Plug-ins', 'Chart', 'Map', and 'Tree'.

3) Select **Form on a Table or View** and click **Next >**.

The screenshot shows the Oracle Forms wizard interface. At the top, there is a 'Cancel' button on the left and a 'Next >' button on the right. Below the buttons, there are six radio button options: 'Form on a Procedure', 'Form on a Table or View' (which is selected), 'Form on a Table with Report', 'Master Detail Form', 'Tabular Form', and 'Form on a SQL Query'. Each option is accompanied by a small icon representing the form type.

4) Select **OEHR\_CUSTOMERS** for the Table Name and click **Next >**.

The screenshot shows the Oracle Forms wizard interface. At the top, there is a 'Cancel' button on the left and a 'Next >' button on the right. Below the buttons, there is a text prompt: 'This wizard builds a form to update a single row in a database table or view. Identify the schema owner and name of the table or view on which you wish to build a form.' Below this prompt, there are two dropdown menus: 'Table / View Owner' with 'ORA01' selected, and 'Table / View Name' with 'OEHR\_CUSTOMERS (table)' selected.

- 5) Enter **Maintain Customers** for Page Name and Region Title. Notice that Use User Interface Defaults is set to Yes. Click **Next >**.

Specify page and region information. If the page you specify does not exist, the page will be created.

Owner: **ORA01**

Table / View Name: **OEHR\_CUSTOMERS**

\* Page Number:

Use User Interface Defaults:  No  Yes

\* Page Name:

\* Region Title:

\* Region Template:

Breadcrumb:

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

Page: **19**

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) Select **Select Primary Key Column(s)** for Primary Key Type and click **Next >**.

Forms perform insert, update and delete operations on table rows in the database. The rows are identified using either a Primary Key defined on the table, or the ROWID pseudo column, which uniquely identifies a row in a table. Select "Managed by Database" if you would like to use the ROWID. Otherwise select the Primary Key column(s) defined for your table. Forms support up to two columns in the Primary Key. For tables using Primary Keys with more than two columns, the ROWID option should be used.

Page: **19**

Owner: **ORA01**

Table / View Name: **OEHR\_CUSTOMERS**

\* Primary Key Type:  Managed by Database (ROWID)  Select Primary Key Column(s)

\* Primary Key Column 1:

\* Primary Key Column 2:

- 8) Select **Existing sequence**, select **OEHR\_CUSTOMERS\_SEQ** from the Sequence list, and click **Next >**.

Select the method by which the primary key is populated.

- Choose Existing Trigger if there is already a trigger to populate the primary key.
- Choose Custom PL/SQL Function to define custom PL/SQL logic to generate the primary key value.
- Choose Existing Sequence if an existing sequence will be used to generate the primary key.

Owner: **ORA01**  
 Table / View Name: **OEHR\_CUSTOMERS**  
 Primary Key Column 1: **CUSTOMER\_ID**

\* Source Type:

Existing trigger     Custom PL/SQL function     Existing sequence

\* Sequence: **OEHR\_CUSTOMERS\_SEQ**

- 9) Remove all the columns except **CUST\_FIRST\_NAME**, **CUST\_LAST\_NAME**, **CITY**, **STATE\_PROVINCE**, **PHONE\_NUMBER**, **CUST\_EMAIL**, and **ACCOUNT\_MGR\_ID**, and click the right arrow (>). Click **Next >**.

Select the columns to include on the form.

Page: **19**  
 Owner: **ORA01**  
 Table / View Name: **OEHR\_CUSTOMERS**

\* Select Column(s)

STREET_ADDRESS (Varchar2)	CUST_FIRST_NAME (Varchar2)
POSTAL_CODE (Varchar2)	CUST_LAST_NAME (Varchar2)
COUNTRY_ID (Char)	CITY (Varchar2)
NLS_LANGUAGE (Varchar2)	STATE_PROVINCE (Varchar2)
NLS_TERRITORY (Varchar2)	PHONE_NUMBER (Varchar2)
CREDIT_LIMIT (Number)	CUST_EMAIL (Varchar2)
	ACCOUNT_MGR_ID (Number)

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

Identify the process options and button display text for the form. For example, to prevent users from being able to delete from the form, choose **No** for the delete button option.

Page: **19**  
 Owner: **ORA01**  
 Table / View Name: **OEHR\_CUSTOMERS**

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**

11) Enter your new page number for both branches and click **Next >**.

Page: 19  
Owner: ORA01  
Table / View Name: OEHR\_CUSTOMERS  
\* After Page Submit and Processing Branch to Page 19  
\* When Cancel Button Pressed Branch to this Page 19

12) Click **Create**.

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

Application	130
Page	19
Page Name	Maintain Customers
Tab Set	TS1
Tab Label	
Region Title	Maintain Customers
Region Template	Form Region
Table / View Owner	ORA01
Table / View Name	OEHR_CUSTOMERS
Primary Key Column 1	CUSTOMER_ID
Primary Key Column 2	
Display Columns	CUST_FIRST_NAME CUST_LAST_NAME CITY STATE_PROVINCE PHONE_NUMBER CUST_EMAIL ACCOUNT_MGR_ID
Process Options	Insert, Update, Delete

13) Click **Run Page**.

The form on a table has been created successfully.

- 14) Notice that the labels are the same as from the Attribute Dictionary. Select the Account Manager label to see the help text.

The screenshot shows the Oracle Order Management application interface. At the top, there is a blue header bar with the text "Order Management" on the left and a user profile icon labeled "ora01" and a "Logout" button on the right. Below the header is a navigation bar with tabs for "Home", "Customers", and "Products".

The main content area is divided into several sections:

- In the News:** A section with the heading "News and Events" and a link "Visit us at [www.oracle.com](http://www.oracle.com)".
- Maintain Customers:** A form with several input fields: "First Name \*", "Last Name \*", "City", "State Province", "Phone Number", "Cust Email", and "Account Manager".
- Account Manager Modal:** A modal dialog box is open over the "Account Manager" field. The modal has a title bar "Account Manager" and a close button. The main content of the modal is the text "Person assigned to account." To the right of the modal, there are two buttons: "Cancel" and "Create".

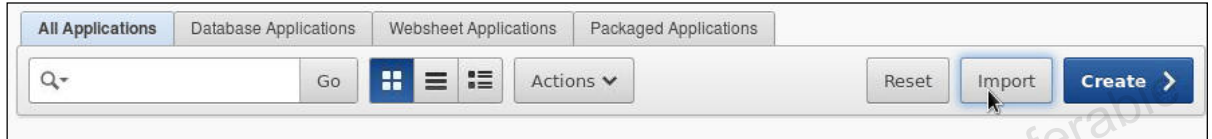
## Solution 11-3: Debugging and Troubleshooting Common Issues in Your Application

### Overview

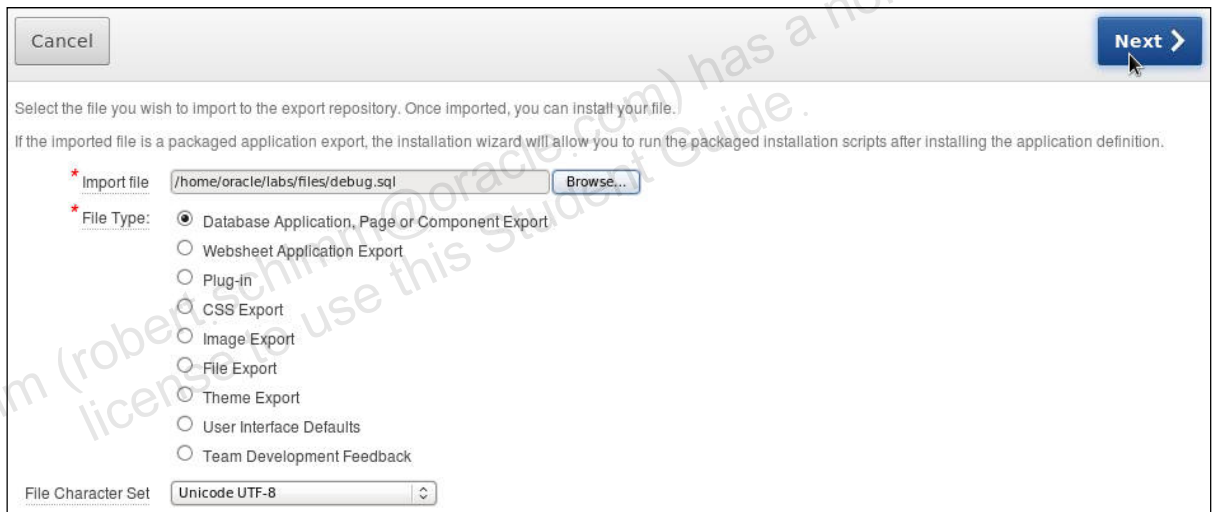
In this practice, you debug your application and resolve some common issues that may occur while developing your application.

### Steps

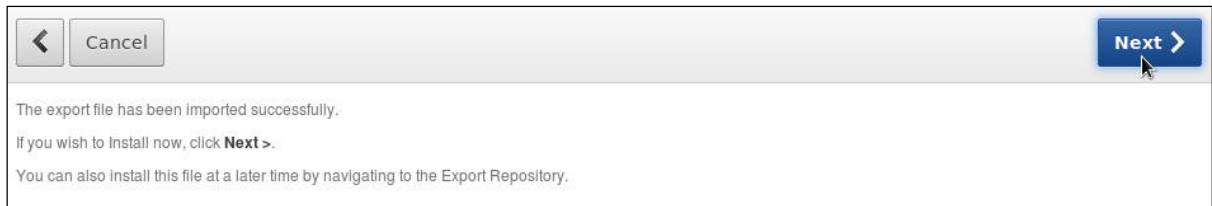
- a. Import an application with some issues to resolve.
  - 1) On the **Application Builder** page, click **Import**.



- 2) Click **Browse** and select the `debug.sql` file from the `/home/oracle/labs/files` directory, and click **Open**. Then click **Next >**.



- 3) Click **Next >**.



- 4) Select the `ora<n>` schema and click **Install Application**.

When you install an application having the same ID as an existing application in the current workspace, the existing application is deleted and then replaced by the new application. If you attempt to install an application having the same ID as an existing application in a different workspace, a benign error message displays. If you are importing a packaged Application Express application, the installation wizard will allow you to install supporting objects.

Current Workspace: **ORA01**

Export File Workspace ID: **441900211556854352**

Export File Application ID: **101101**

Export File Version: **2012.01.01**

Export File Parsing Schema: **APEX\_TRAIN**

Application Origin: **This application was exported from another workspace.**


\* Parsing Schema: **ORA01**

\* Build Status: **Run and Build Application**

\* Install As Application:  Auto Assign New Application ID  
 Reuse Application ID 101101 From Export File  
 Change Application ID

- 5) Click **Run Application**.

Upgrade Application Edit Application **Run Application**



**Application 129 installed.**

- b. Debug the application.

- 1) If necessary, enter your user information and click **Login**.

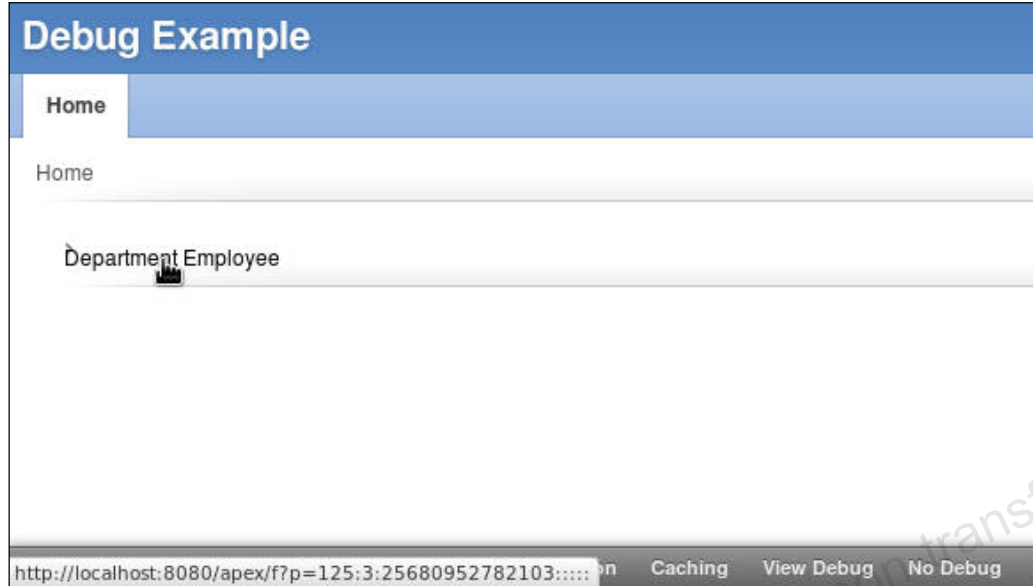
## Login

Username:

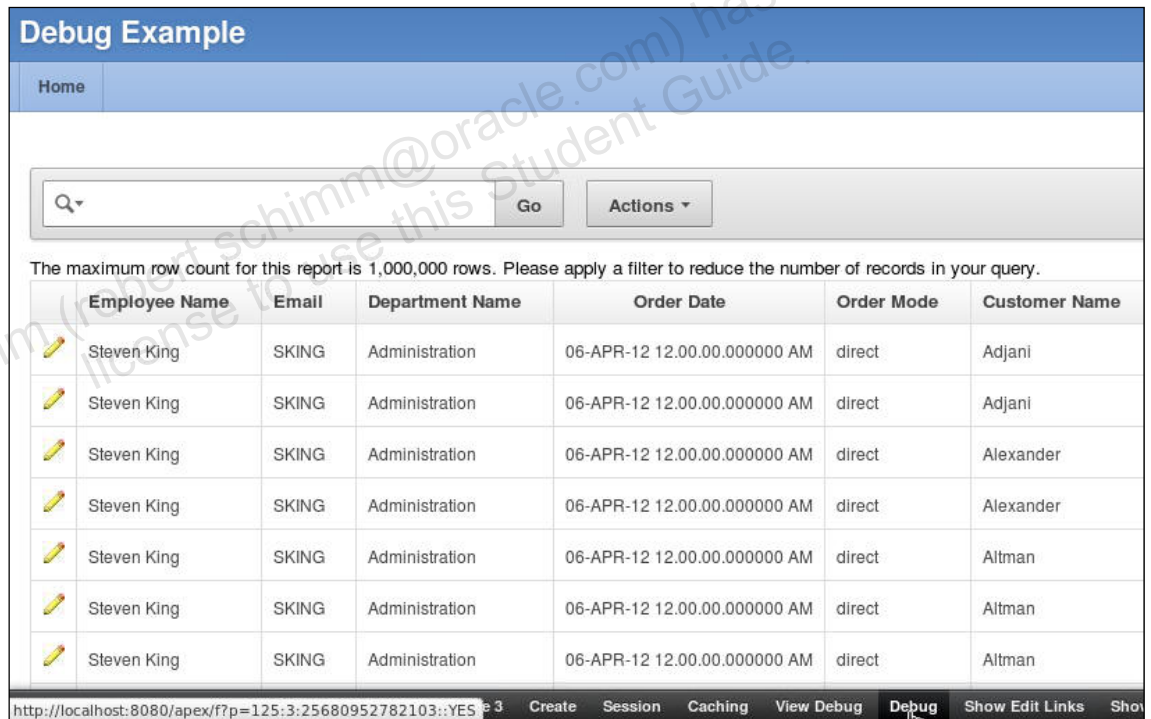
Password:

**Login**

- 2) On the Home page, click the **Department Employee** link.



- 3) The report is displayed. Click the **Debug** link on the Developer toolbar.



- 4) The page is refreshed in debug mode. To view the debug result, click **View Debug** on the Developer toolbar.

The maximum row count for this report is 1,000,000 rows. Please apply a filter to reduce the number of records in your query.

	Employee Name	Email	Department Name	Order Date	Order Mode	Customer Name
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Adjani
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Adjani
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Alexar
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Alexar
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Altmar
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Altmar
	Steven King	SKING	Administration	06-APR-12 12.00.00.0000000 AM	direct	Altmar

JavaScript:popupViewDebug();void(0); Application 125 Edit Page 3 Create Session Caching **View Debug** No Debug Show E

- 5) Select the **View Identifier** link number.

Items Pages Queries Tables PL/SQL Images **Debug** Session Errors

Reset

Q- Go Actions

Application = 125

Page = 3

View Identifier	Session Id	User	Application	Page	Path Info	Entries	Timestamp
<a href="#">67</a>	25680952782103	ORA01	125	3	show	107	36 seconds ago

- 6) Notice in the graph that there is one statement that is taking a very long time to run.

The screenshot shows the Oracle APEX debug window. At the top, there are tabs for Items, Pages, Queries, Tables, PL/SQL, Images, Debug, Session, and Errors. The 'Debug' tab is active. Below the tabs, there is a 'Page View Identifier' field with the value '67' and a 'Set' button. To the right, there is a 'Select Page View Identifier' button. Below this, there are fields for 'Application: 125', 'Page: 3', 'Elapsed Time: 7.38899', and 'Maximum Execution Time: 7.33087'. The main area contains a graph with a single bar representing a statement that took a long time to run. Below the graph, there is a search bar with a 'Go' button and an 'Actions' dropdown menu. At the bottom, there is a table with columns: Elapsed, Execution, Message, Level, and Graph.

Elapsed	Execution	Message	Level	Graph
0.00635	0.00016	S H O W: application="125" page="3" workspace="" request="" session="25680952782103"	4	
0.00649	0.00054	Reset NLS settings	4	
0.00704	0.00026	alter session set NLS_LANGUAGE="AMERICAN"	4	
0.00729	0.00020	alter session set NLS_TERRITORY="AMERICA"	4	

- 7) It appears that the query to produce the results is taking over 7 seconds to run. This is unacceptable.

0.04445	0.00477	g_worksheet_attributes.show_download: Y CSV:HTML:EMAIL	4	
0.04913	0.00056	l_select_list= "NAME", "EMAIL", "DEPARTMENT_NAME", "ORDER_DATE", "ORDER_MODE", "CUST_LAST_NAME"	4	
0.04969	0.00279	using existing report settings (different id)	4	
0.05249	0.00099	...Execute Statement: select null as apxws_row_pk, "NAME", "EMAIL", "DEPARTMENT_NAME", "ORDER_DATE", "ORDER_MODE", "CUST_LAST_NAME", count(*) over () as apxws_row_cnt from ( select * from ( select e.EMPLOYEE_ID, e.FIRST_NAME  '  e.LAST_NAME name, d.DEPARTMENT_NAME, e.EMAIL, o.ORDER_DATE, o.ORDER_MODE, c.CUST_LAST_NAME from OEHR_ORDERS o, OEHR_DEPARTMENTS d, OEHR_EMPLOYEES e, OEHR_CUSTOMERS c ) r ) r where rownum <= to_number('APXWS_MAX_ROW_CNT')	4	
0.05348	0.00019	...Execute Statement: select null as apxws_row_pk, "NAME", "EMAIL", "DEPARTMENT_NAME", "ORDER_DATE", "ORDER_MODE", "CUST_LAST_NAME", count(*) over () as apxws_row_cnt from ( select * from ( select e.EMPLOYEE_ID, e.FIRST_NAME  '  e.LAST_NAME name, d.DEPARTMENT_NAME, e.EMAIL, o.ORDER_DATE, o.ORDER_MODE, c.CUST_LAST_NAME from OEHR_ORDERS o, OEHR_DEPARTMENTS d, OEHR_EMPLOYEES e, OEHR_CUSTOMERS c ) r ) r where rownum <= to_number('APXWS_MAX_ROW_CNT')	4	
0.05366	7.33087	IR binding: "APXWS_MAX_ROW_CNT" value="1000000"	4	
7.38454	0.00116	Printing rows. Row window: 1-15. Rows found: 16	4	
7.38570	0.00005	Evaluate which sub regions should be rendered	4	
7.38574	0.00015	...No sub regions to render	4	
7.38590	0.00004	Evaluate which regions should be rendered for display point REGION_POSITION: 03	4	

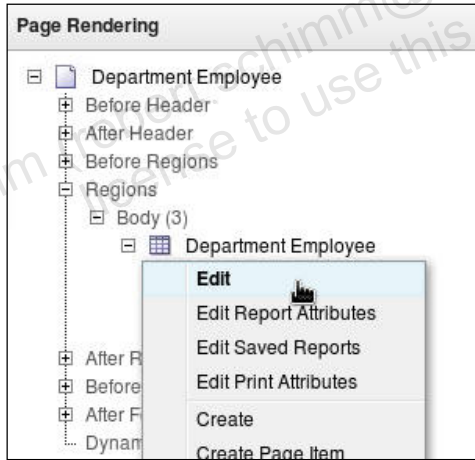
- c. Review and make changes to the SQL Query in the Interactive Report.
  - 1) Switch to the Report and click the **Edit Page** link on the Developer toolbar.

The maximum row count for this report is 1,000,000 rows. Please apply a filter to reduce the row count.

	Employee Name	Email	Department Name	Order Date
	Steven King	SKING	Administration	06-APR-12 12.00.00
	Steven King	SKING	Administration	06-APR-12 12.00.00
	Steven King	SKING	Administration	06-APR-12 12.00.00
	Steven King	SKING	Administration	06-APR-12 12.00.00
	Steven King	SKING	Administration	06-APR-12 12.00.00
	Steven King	SKING	Administration	06-APR-12 12.00.00
	Steven King	SKING	Administration	06-APR-12 12.00.00

Home Application 125 Edit Page 3 Create Session Cache

- 2) Right-click **Department Employee** and select **Edit**.



- 3) Note that the SQL is selecting from multiple tables without a where clause to join the tables.

```

Source

Region Source

select e.EMPLOYEE_ID,
       e.FIRST_NAME||' '||e.LAST_NAME name,
       d.DEPARTMENT_NAME,
       e.EMAIL,
       o.ORDER_DATE,
       o.ORDER_MODE,
       c.CUST_LAST_NAME
from OEHR_ORDERS o,
     OEHR_DEPARTMENTS d,
     OEHR_EMPLOYEES e,
     OEHR_CUSTOMERS c
  
```

- 4) Change the SQL query to the following and click **Apply Changes**.

```

select e.EMPLOYEE_ID,
       e.FIRST_NAME,
       e.LAST_NAME,
       d.DEPARTMENT_NAME,
       e.EMAIL,
       o.ORDER_DATE,
       o.ORDER_MODE,
       c.CUSTOMER_ID
from OEHR_ORDERS o,
     OEHR_DEPARTMENTS d,
     OEHR_EMPLOYEES e,
     OEHR_CUSTOMERS c
where d.department_id = e.department_id
      and o.customer_id = c.customer_id
      and o.sales_rep_id = e.employee_id
  
```

Region Definition   Report Attributes   Saved Reports   Print Attributes

Region: 1 of 1   Name: Department Employee        

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

### Identification

Page: 3 Department Employee

\*  
Title:     exclude from trans

Type: Interactive Report


### Source

Region Source

```
select e.EMPLOYEE_ID,
       e.FIRST_NAME||' '||e.LAST_NAME name,
       d.DEPARTMENT_NAME,
       e.EMAIL,
       o.ORDER_DATE,
       o.ORDER_MODE,
       c.CUST_LAST_NAME
from   OEHR_ORDERS o,
       OEHR_DEPARTMENTS d,
       OEHR_EMPLOYEES e,
       OEHR_CUSTOMERS c
where  d.department_id = e.department_id
and    o.customer_id = c.customer_id
and    o.sales_rep_id = e.employee_id
```

- 5) Click **Apply Changes** to confirm the interactive report changes.

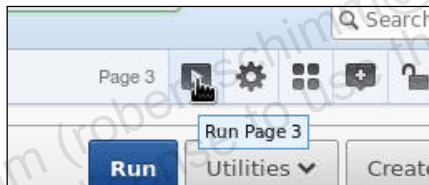
**Confirm Interactive Report Region Change**



You have requested to change the Interactive Report query. If you added columns to the query, they will not be displayed when the report is run. You will need to use the actions menu and either select the columns or click **Reset**. If you removed any columns from the query, it will disable existing filters, highlight rules, and other report settings referencing those columns. Please confirm your request.

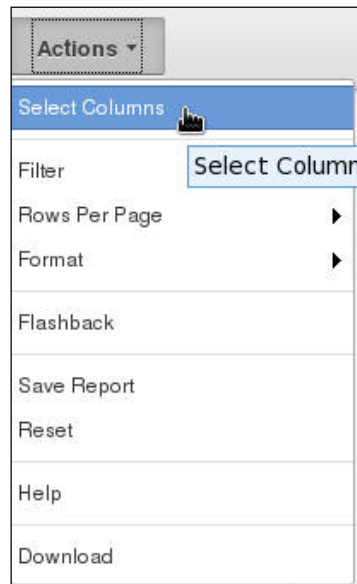
Removed Columns	<b>CUST_LAST_NAME (STRING)</b> <b>NAME (STRING)</b>
New Columns	<b>FIRST_NAME (STRING)</b> <b>LAST_NAME (STRING)</b> <b>CUSTOMER_ID (NUMBER)</b>

- 6) You want to run the page again. Click the **Run Page** icon.



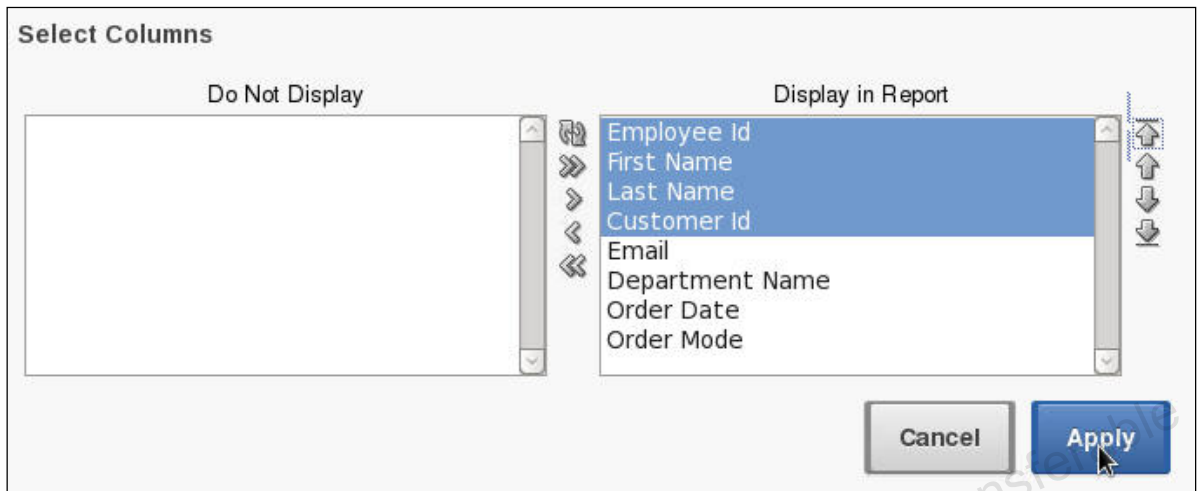
The screenshot shows the Oracle APEX page toolbar for Page 3. The 'Run Page 3' icon, which is a small factory icon, is highlighted with a blue tooltip that says 'Run Page 3'. Other icons visible include 'Run', 'Utilities', and 'Create'.

- 7) Add the columns you changed. Select **Actions > Select Columns**.



The screenshot shows the Oracle APEX Actions menu. The 'Actions' dropdown is open, and the 'Select Columns' option is highlighted in blue. A tooltip for 'Select Columns' is also visible. Other options in the menu include Filter, Rows Per Page, Format, Flashback, Save Report, Reset, Help, and Download.

- 8) Add all the columns using the double right arrow (>>), and then move them all to the top. Then click **Apply**.



- 9) Click **Debug** on the Developer toolbar again.

	Employee Name	Email	Department Name	Order Date	Order Mode	Customer Na
	Allan McEwen	AMCEWEN	Sales	16-FEB-12 07.59.31.000000 AM	direct	Alexander
	Sarath Sewall	SSEWALL	Sales	27-FEB-12 12.34.29.000000 AM	direct	Boyer
	Allan McEwen	AMCEWEN	Sales	29-SEP-12 10.22.35.000000 PM	direct	Cage
	Oliver Tuvault	OTUVAULT	Sales	15-MAR-12 01.22.27.000000 PM	direct	Cage
	Danielle Greene	DGREENE	Sales	08-JUL-12 10.22.53.000000 PM	direct	Capshaw
	Allan McEwen	AMCEWEN	Sales	18-FEB-12 03.49.13.000000 PM	direct	Chandar
	Louise Doran	LDORAN	Sales	07-NOV-11 06.03.32.000000 PM	direct	Cruise
	Janette King	JKING	Sales	19-APR-12 08.53.06.000000 PM	direct	Cruise
	Nanette Cambraut	NCAMBRAU	Sales	16-MAR-03 11.22.59.000000 AM	direct	Cruise
	Janette King	JKING	Sales	11-JAN-12 10.22.10.000000 AM	direct	Davis
	Danielle Greene	DGREENE	Sales	27-JUN-11 08.53.25.000000 PM	direct	Edwards
	Sarath Sewall	SSEWALL	Sales	15-MAR-12 06.03.08.000000 AM	direct	Edwards
	Nanette Cambraut	NCAMBRAU	Sales	29-JUN-12 04.49.25.000000 AM	direct	Edwards
	Sarath Sewall	SSEWALL	Sales	03-JAN-12 01.22.24.000000 AM	direct	Fawcett
	Oliver Tuvault	OTUVAULT	Sales	31-JAN-12 04.49.07.000000 PM	direct	Fawcett

http://localhost:8080/apex/f?p=125:3:25680952782103::YES 3 Create Session Caching View Debug **Debug** Show Edit Links SI

10) Click **View Debug** on the Developer toolbar again.

	Employee Name	Email	Department Name	Order Date	Order Mode
	Allan McEwen	AMCEWEN	Sales	16-FEB-12 07.59.31.000000 AM	direct
	Sarath Sewall	SSEWALL	Sales	27-FEB-12 12.34.29.000000 AM	direct
	Allan McEwen	AMCEWEN	Sales	29-SEP-12 10.22.35.000000 PM	direct
	Oliver Tuvault	OTUVAULT	Sales	15-MAR-12 01.22.27.000000 PM	direct
	Danielle Greene	DGREENE	Sales	08-JUL-12 10.22.53.000000 PM	direct
	Allan McEwen	AMCEWEN	Sales	18-FEB-12 03.49.13.000000 PM	direct
	Louise Doran	LDORAN	Sales	07-NOV-11 06.03.32.000000 PM	direct
	Janette King	JKING	Sales	19-APR-12 08.53.06.000000 PM	direct
	Nanette Cambraut	NCAMBRAU	Sales	16-MAR-03 11.22.59.000000 AM	direct
	Janette King	JKING	Sales	11-JAN-12 10.22.10.000000 AM	direct
	Danielle Greene	DGREENE	Sales	27-JUN-11 08.53.25.000000 PM	direct
	Sarath Sewall	SSEWALL	Sales	15-MAR-12 06.03.08.000000 AM	direct
	Nanette Cambraut	NCAMBRAU	Sales	29-JUN-12 04.49.25.000000 AM	direct
	Sarath Sewall	SSEWALL	Sales	03-JAN-12 01.22.24.000000 AM	direct
	Oliver Tuvault	OTUVAULT	Sales	31-JAN-12 04.49.07.000000 PM	<a href="#">View Debug</a>

Application 125   Edit Page 3   Create   Session   Caching   **View Debug**   No Debug

11) Select the most recent **View Identifier** link which should be the first one in the list.

View Identifier	Session Id	User	Application	Page	Path Info	Entries	Timestamp	Seconds
<a href="#">70</a>	25680952782103	ORA01	125	3	show	107	22 seconds ago	0.0598
<a href="#">67</a>	25680952782103	ORA01	125	3	show	107	8 minutes ago	7.3890

12) If you scroll down to the same statement as before, you see that the time taken to execute the query has been drastically reduced.

0.04139	0.00052	l_select_list= "NAME", "EMAIL", "DEPARTMENT_NAME", "ORDER_DATE", "ORDER_MODE", "CUST_LAST_NAME",	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.04191	0.00269	using existing report settings (different id)	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.04459	0.00264	...Execute Statement: select null as apxws_row_pk, "NAME", "EMAIL", "DEPARTMENT_NAME", "ORDER_DATE", "ORDER_MODE", "CUST_LAST_NAME", count(*) over () as apxws_row_cnt from ( select * from ( select e.EMPLOYEE_ID, e.FIRST_NAME  ' '  e.LAST_NAME name, d.DEPARTMENT_NAME, e.EMAIL, o.ORDER_DATE, o.ORDER_MODE, c.CUST_LAST_NAME from OEHR_ORDERS o, OEHR_DEPARTMENTS d, OEHR_EMPLOYEES e, OEHR_CUSTOMERS c where d.department_id = e.department_id and o.customer_id = c.customer_id and o.sales_rep_id = e.employee_id ) r ) r where rownum <= to_number(:APXWS_MAX_ROW_CNT)	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.04724	0.00022	...Execute Statement: select null as apxws_row_pk, "NAME", "EMAIL", "DEPARTMENT_NAME", "ORDER_DATE", "ORDER_MODE", "CUST_LAST_NAME", count(*) over () as apxws_row_cnt from ( select * from ( select e.EMPLOYEE_ID, e.FIRST_NAME  ' '  e.LAST_NAME name, d.DEPARTMENT_NAME, e.EMAIL, o.ORDER_DATE, o.ORDER_MODE, c.CUST_LAST_NAME from OEHR_ORDERS o, OEHR_DEPARTMENTS d, OEHR_EMPLOYEES e, OEHR_CUSTOMERS c where d.department_id = e.department_id and o.customer_id = c.customer_id and o.sales_rep_id = e.employee_id ) r ) r where rownum <= to_number(:APXWS_MAX_ROW_CNT)	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.04745	0.00786	IR binding: "APXWS_MAX_ROW_CNT" value="1000000"	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.05531	0.00117	Printing rows. Row window: 1-15. Rows found: 16	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.05649	0.00005	Evaluate which sub regions should be rendered	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.05653	0.00014	...No sub regions to render	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>
0.05667	0.00004	Evaluate which regions should be rendered for display: REGION_POSITION: 03	4	<div style="width: 100%; height: 10px; background-color: gray;"></div>

d. Why does the Create button not do anything when you click it?

1) Switch back to the report and click the **Create** button.

Order Date	Order Mode	Customer Name
16-FEB-12 07.59.31.000000 AM	direct	Alexander
27-FEB-12 12.34.29.000000 AM	direct	Boyer
29-SEP-12 10.22.35.000000 PM	direct	Cage

- 2) Click View Debug on the Developer toolbar again and select **View Identifier** for the accept Path Info row.

View Identifier	Session Id	User	Application	Page	Path Info	Entries	Timestamp	Seconds
<a href="#">90</a>	3030554245394	ORA01	125	3	accept	56	6 seconds ago	0.0293
<a href="#">87</a>	3030554245394	ORA01	125	3	show	106	12 seconds ago	0.0589
<a href="#">84</a>	16164721778211	ORA01	125	3	show	107	2 minutes ago	1.8949

- 3) Notice that Request=CREATE. Scroll down to the bottom of the page.

Elapsed	Execution	Message	Level	Graph
0.00198	0.00028	A C C E P T: Request="CREATE"	4	
0.00225	0.00263	Reset NLS settings	4	
0.00489	0.00030	alter session set NLS_LANGUAGE="AMERICAN"	4	

- 4) There is no branch so the button redirects to the current page.

0.02221	0.00013	Branch point: Before Validation	4	
0.02234	0.00029	Validations:	4	
0.02263	0.00021	Perform basic and predefined validations:	4	
0.02284	0.00032	Perform custom validations:	4	
0.02317	0.00008	Branch point: Before Processing	4	
0.02324	0.00006	Processes - point: AFTER_SUBMIT	4	
0.02331	0.00005	Branch point: After Processing	4	
0.02334	0.00036	...No branch specified, redirect to current page	4	
0.02370	0.00017	Stop APEX Engine detected	4	
0.02387	0.00009	Stop APEX Engine detected	4	
0.02395	-	Final commit	4	-

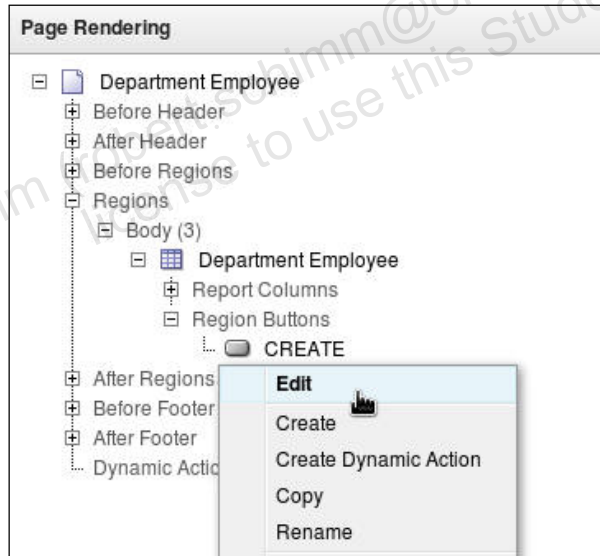
1 - 55

- 5) You want to review the definition for the button. Click **Edit Page** on the Developer toolbar.

	Employee Name	Email	Department Name	Order Date	Order Mode	Customer Name
	Allan McEwen	AMCEWEN	Sales	16-FEB-12 07.59.31.000000 AM	direct	Alexander
	Sarath Sewall	SSEWALL	Sales	27-FEB-12 12.34.29.000000 AM	direct	Boyer
	Allan McEwen	AMCEWEN	Sales	29-SEP-12 10.22.35.000000 PM	direct	Cage
	Oliver Tuvault	OTUVAULT	Sales	15-MAR-12 01.22.27.000000 PM	direct	Cage
	Danielle Greene	DGREENE	Sales	08-JUL-12 10.22.53.000000 PM	direct	Capshaw
	Allan McEwen	AMCEWEN	Sales	18-FEB-12 03.49.13.000000 PM	direct	Chandar
	Louise Doran	LDORAN	Sales	07-NOV-11 06.03.32.000000 PM	direct	Cruise
	Janette King	JKING	Sales	19-APR-12 08.53.06.000000 PM	direct	Cruise
	Nanette Cambraut	NCAMBRAU	Sales	16-MAR-03 11.22.59.000000 AM	direct	Cruise
	Janette King	JKING	Sales	11-JAN-12 10.22.10.000000 AM	direct	Davis
	Danielle Greene	DGREENE	Sales	27-JUN-11 08.53.25.000000 PM	direct	Edwards
	Sarath Sewall	SSEWALL	Sales	15-MAR-12 06.03.08.000000 AM	direct	Edwards

Home Application 125 **Edit Page 3** Create Session Cache http://localhost:8080/apex/f?p=4000:4150...0\_GOTO\_PAGE,F4000\_P1\_PAGE:125,3,125

- 6) Right-click **CREATE** and select **Edit**.



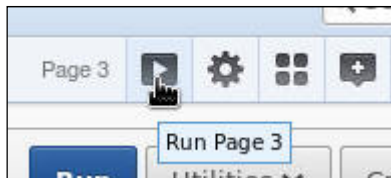
7) Click the **Action When Button Clicked** subtab.

The screenshot shows the configuration tool interface for a button. At the top, it says "Page Button: 1 of 1 Name: CREATE" with "Cancel", "Delete", and "Apply C" buttons. Below is a tabbed interface with "Name" selected. The "Name" subtab contains fields for "Page: 3 Department Employee", "\* Button Name: CREATE", and "\* Text Label / Alt: Create".

8) Change Action to **Redirect to Page in this Application**. Enter **4** for Page and Clear Cache and click **Apply Changes**.

The screenshot shows the configuration tool interface with the "Action When Button Clicked" subtab selected. It contains the following fields: "Action" set to "Redirect to Page in this Application", "\* Page" set to "4", a checkbox for "reset pagination for this page" which is unchecked, "Request" field, "Clear Cache" field with "4" entered and "(comma separated page numbers)" as a hint, "Set These Items" field with "(comma separated)" as a hint, and "With These Values" field with "(comma separated)" as a hint. The "Apply Changes" button is highlighted with a mouse cursor.

9) Click the Run Page icon.



10) Click the **Create** button again.

Employee Name	Email	Department Name	Order Date	Order Mode	Customer Name
Allan McEwen	AMCEWEN	Sales	16-FEB-12 07.59.31.000000 AM	direct	Alexander
Sarath Sewall	SSEWALL	Sales	27-FEB-12 12.34.29.000000 AM	direct	Boyer
Allan McEwen	AMCEWEN	Sales	29-SEP-12 10.22.35.000000 PM	direct	Cage
Oliver Tuvault	OTUVAULT	Sales	15-MAR-12 01.22.27.000000 PM	direct	Cage
Danielle Greene	DGREENE	Sales	08-JUL-12 10.22.53.000000 PM	direct	Capshaw
Allan McEwen	AMCEWEN	Sales	18-FEB-12 03.49.13.000000 PM	direct	Chandar
Louise Doran	LDORAN	Sales	07-NOV-11 06.03.32.000000 PM	direct	Cruise
Janette King	JKING	Sales	19-APR-12 08.53.06.000000 PM	direct	Cruise

11) Page 4 to create a new Employee is displayed.

Employee Detail	
Employee Id *	<input type="text"/>
First Name	<input type="text"/>
Last Name *	<input type="text"/>
Email *	<input type="text"/>
Phone Number	<input type="text"/>
Hire Date *	<input type="text"/>
Job Id *	<input type="text"/>
Salary	<input type="text"/>
Commission Pct	<input type="text"/>
Manager Id	<input type="text"/>
Department Id	<input type="text"/>
Rating	<input type="text"/>

e. Optional: When you edit an employee on page 3 (the Employee Report), why is the employee record not displayed on page 4? See if you can figure this out on your own without looking at the solution.

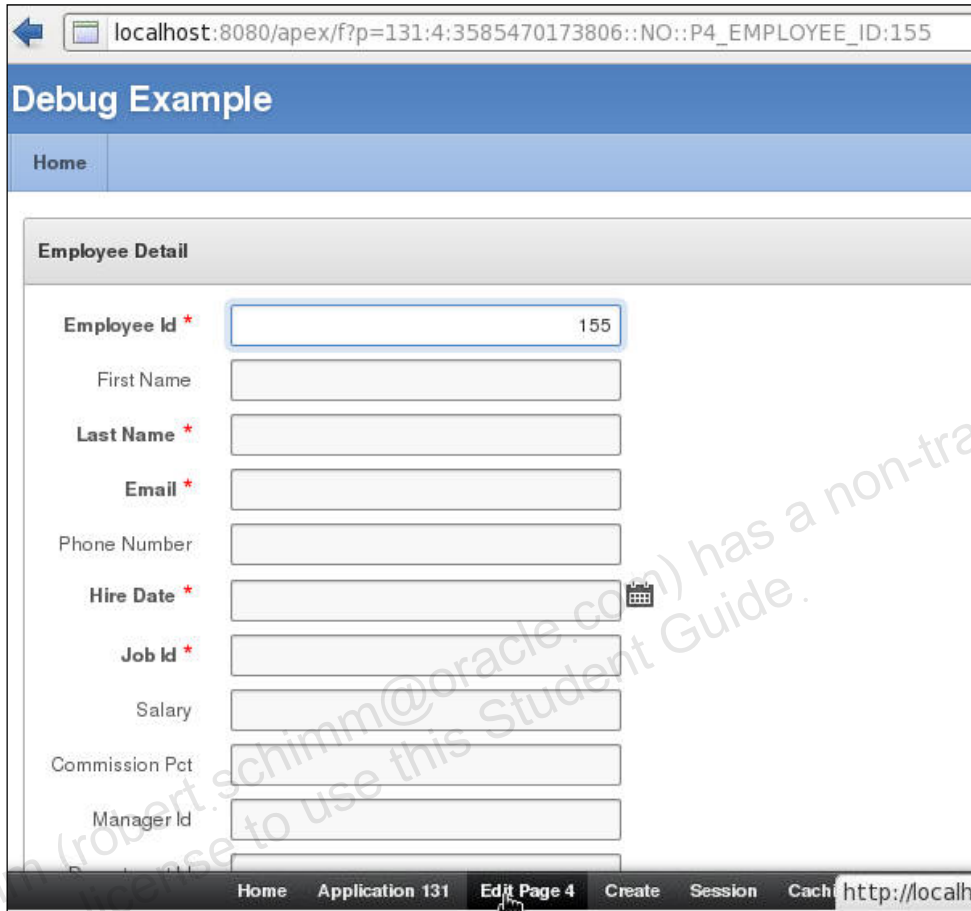
1) Enter **Oliver** in the search area and click **Go**.

	Employee Id	First Name	Last Name	Customer Id	Email
	153	Christopher	Olsen	101	COLSEN

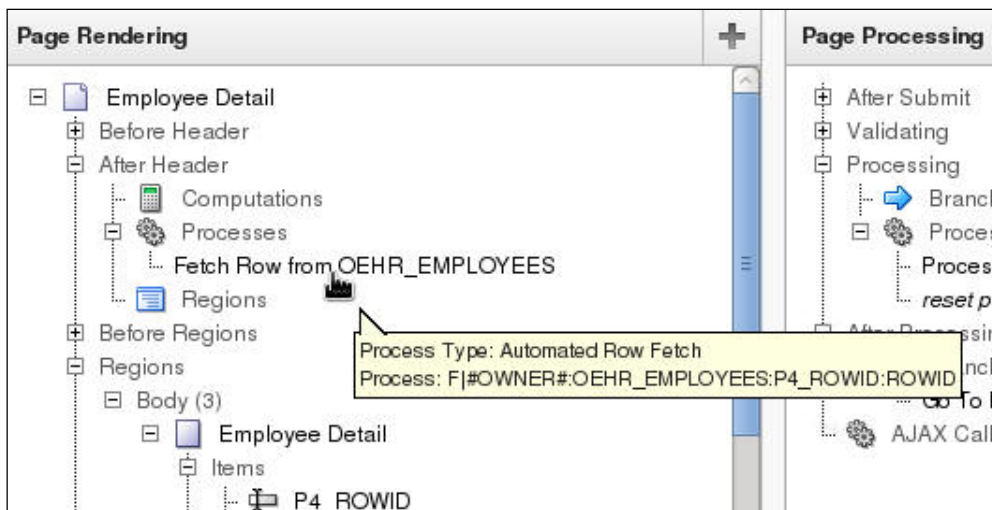
2) Click the Edit icon in the first row.

	Employee Id	First Name	Last Name	Customer Id	Email	Department
	155	Oliver	Tuvault	104	OTUVAULT	Sales
	155	Oliver	Tuvault	105	OTUVAULT	Sales

- 3) Notice that all the employee information is not retrieved and displayed. You will examine why this happened and how to correct it. Review the URL. Notice that the value being passed into the form is P4\_EMPLOYEE\_ID. Let us see what is being fetched. Click the **Edit Page** link on the Developer toolbar.



- 4) You can see that the Automated Row Fetch is using ROWID not EMPLOYEE\_ID. Double-click **Fetch Row from OEHR\_EMPLOYEES**.



- 5) Change the Item Containing Primary Key Column Value to **P4\_EMPLOYEE\_ID** and Primary Key Column to **EMPLOYEE\_ID**, and click Apply Changes.

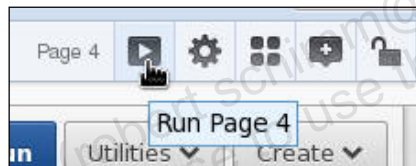
Process: 1 of 3 Name: Fetch Row from OEHR\_EMPLOYEES

Buttons: Cancel, Delete, **Apply Changes**

Source: Automatic Row Processing (DML)

- Table Owner: ORA01
- Table Name: OEHR\_EMPLOYEES
- Item Containing Primary Key Column Value: P4\_EMPLOYEE\_ID
- Primary Key Column: EMPLOYEE\_ID

- 6) Run the page.



- 7) Notice that the fetch retrieves the information correctly now.

**Employee Detail**

Employee Id *	155
First Name	Oliver
Last Name *	Tuvault
Email *	OTUVAULT
Phone Number	011.44.1344.486508
Hire Date *	23-NOV-99
Job Id *	SA_REP
Salary	7000
Commission Pct	.15
Manager Id	145

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