



Oracle Application Express: Developing Database Web Applications

Hands-On-Labs Guide

Unit 9: Creating Application Page Controls

This exercise includes four hands-on-labs. The labs cover creating and updating page items, adjusting button properties, and making the form pages visually appealing. You also create and use Dynamic and Static List of Values.

HOL 9-1 Updating the Team Members Pages: In this hands-on lab, you update the page items on the form, and create a new collapsible sub-region to include the audit details.

HOL 9-2 Updating the Projects Pages: In this hands-on lab, you update the page items on the form, and create a new collapsible sub-region by copying it from another page in the application. You also create and use dynamic list of values.

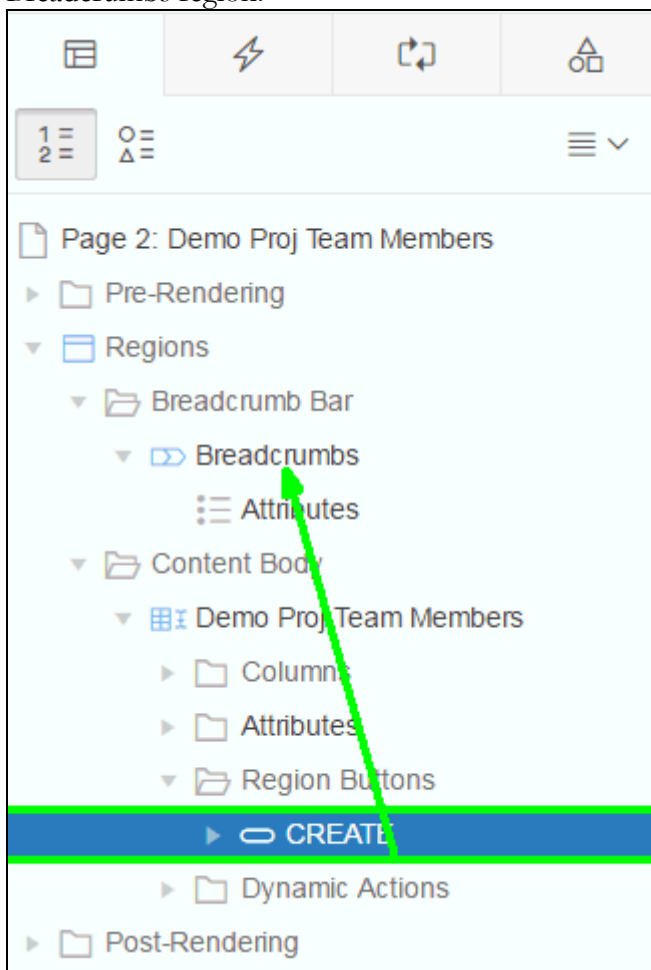
HOL 9-3 Updating the Milestones Pages: This hands-on lab covers updating item properties, creating and using dynamic and static list of values.

HOL 9-4 Updating the Tasks Pages: In this hands-on lab, you create a new page item, update existing items on the form, and create a collapsible sub-region. You also use the list of values created as shared components.

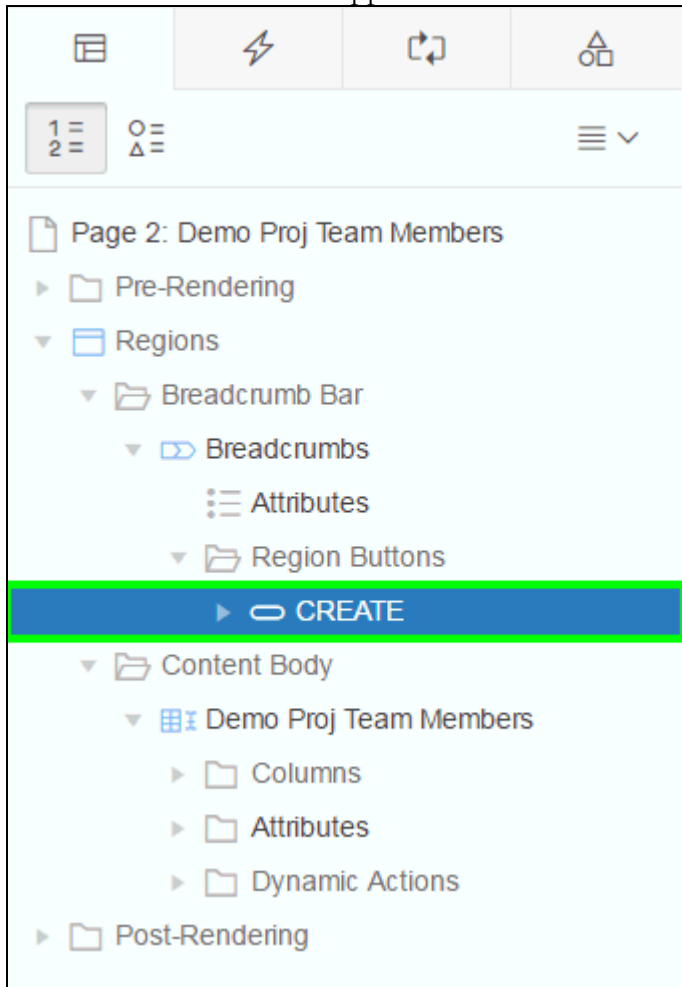
HOL 9-1 Updating the Team Members Pages

In this lab, you update the page items on the form page. You create an Audit Details collapsible sub-region on the form page. You make the form page visually appealing. This lab also covers updating the button properties and adjusting the button display on the interactive grid.

1. Navigate to **App Builder** and run the **Demo Projects** application.
In the navigation menu, click **Demo Proj Team Members**.
In the Developer Toolbar, click **Edit Page 2**.
2. By default, buttons are positioned in the region they are associated with. Move the Create button at the top of the page to the Breadcrumbs region. In the Rendering tree, locate the CREATE button under Content Body. Click and hold the **CREATE** button and drag it up into the Breadcrumbs region.



3. The CREATE button will appear as a child within its own Region Buttons folder.

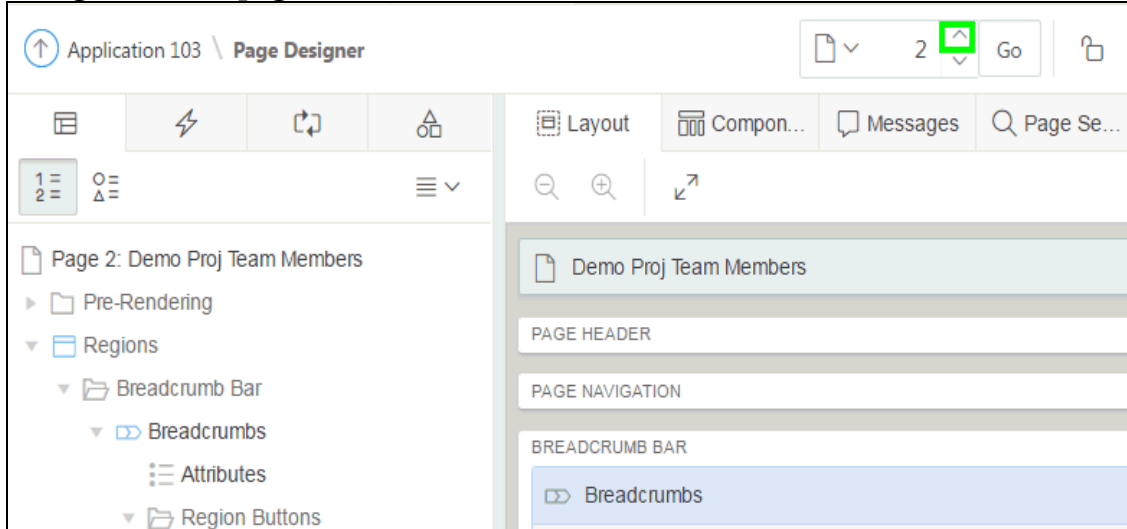


4. In the Property Editor:
- Identification: Label - enter **Add Team Member**
 - Layout: Button Position - select **Create**
 - Appearance: Hot - select **Yes**
- Click **Save**. Then, click **Save and Run Page**.

The image shows the configuration interface for a button in Oracle APEX. At the top, there are several icons and two buttons: 'Save' and a blue button with a play icon, both highlighted with green boxes. Below the icons, the title 'Button' is displayed. The configuration is organized into sections: Identification, Layout, and Appearance. In the Identification section, the Button Name is 'CREATE' and the Label is 'Add Team Member', which is highlighted with a green box. In the Layout section, the Region is 'Breadcrumbs' and the Button Position is 'Create', both highlighted with green boxes. In the Appearance section, the Button Template is 'Text' and the Hot property is set to 'Yes', which is also highlighted with a green box. Other options include 'Template Options' (Use Template Defaults) and 'CSS Classes'.

Section	Property	Value
Identification	Button Name	CREATE
	Label	Add Team Member
Layout	Sequence	10
	Region	Breadcrumbs
	Button Position	Create
Appearance	Button Template	Text
	Hot	Yes
	Template Options	Use Template Defaults
CSS Classes		

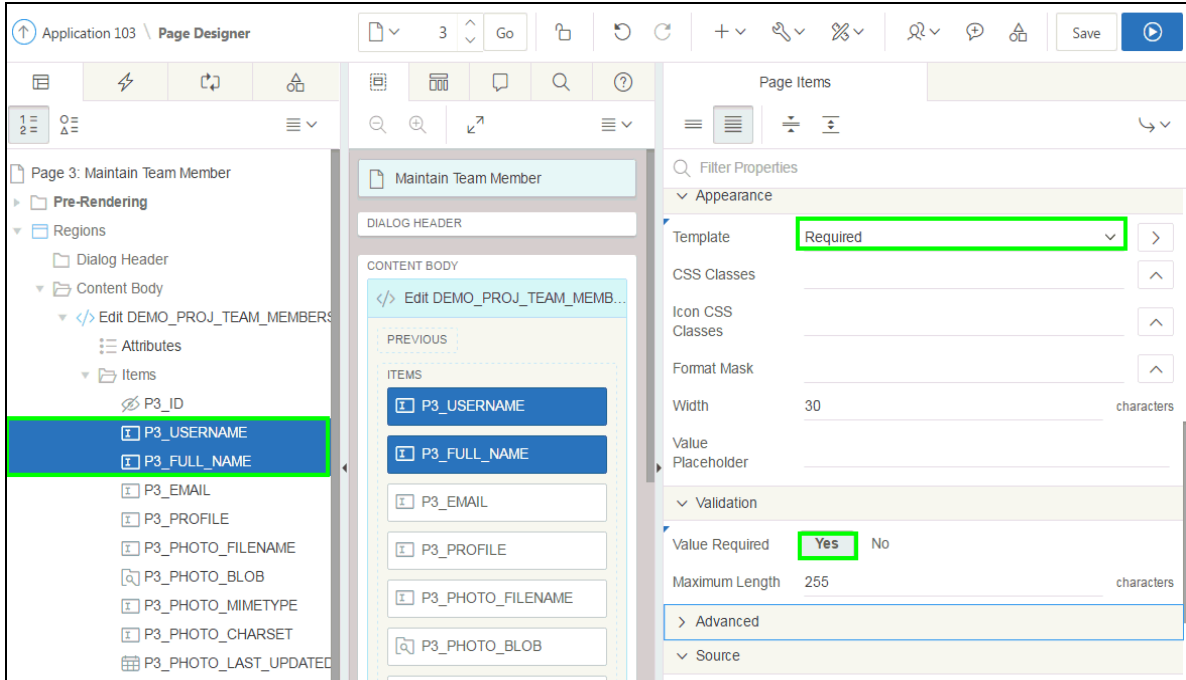
5. Navigate back to page designer. You want to view Page 3 now. In the toolbar, click the **Navigate to next page** arrow.



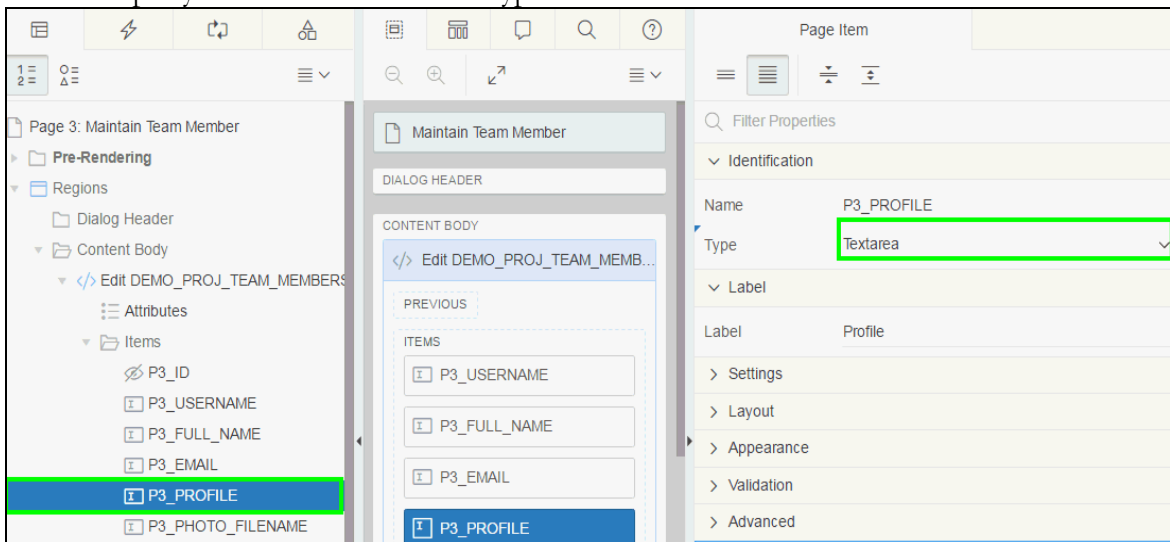
6. The generated page includes a page item for every column in the Demo_Proj_Team_Members tables. You need to make the following changes:
- Make the Username and Full Name fields mandatory. If either of these fields are left blank when the record is saved, then an error message should display
 - You expect users to enter multiple lines of information into the Profile field. Therefore, you need to convert the Profile item type to Textarea
 - Alter the Photo Blob field to support file upload to a table
 - Since the other photo fields are populated when a file is uploaded, these items must be hidden from users

Perform the following steps:

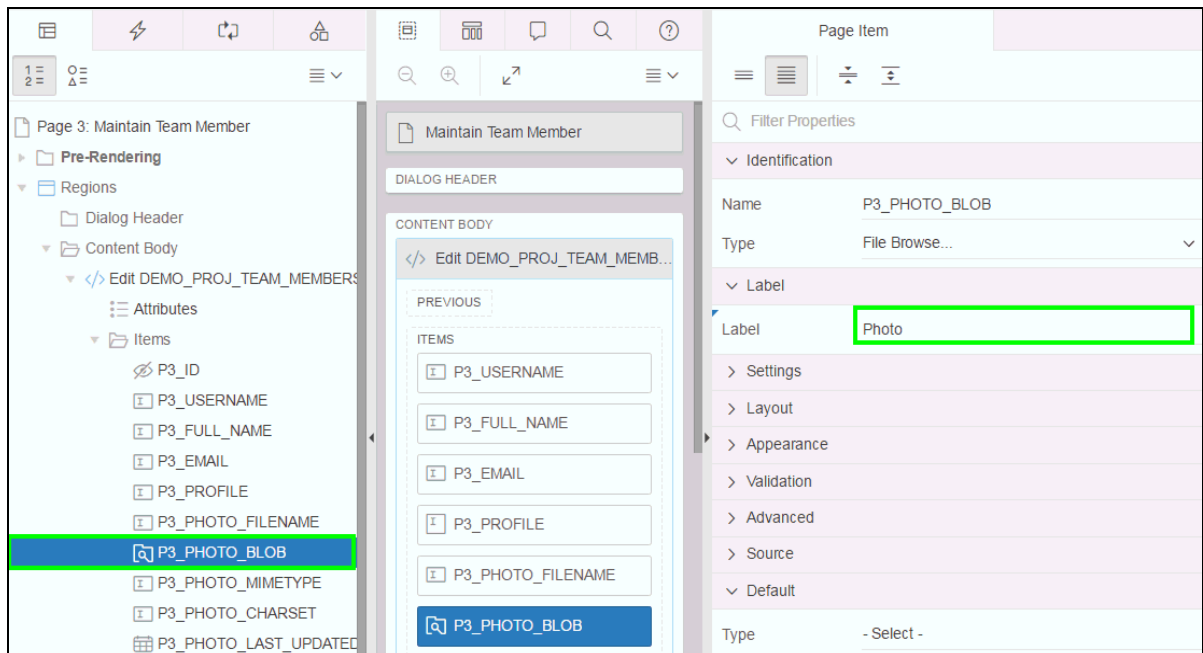
- In the Rendering tree, under Content Body, expand the **Items** node. Press and hold the Ctrl key to select more than one item. Select **P3_USERNAME** and **P3_FULL_NAME**.
- In the Property Editor, for Appearance > Template, select **Required**. For Validation > Value Required, select **Yes**.



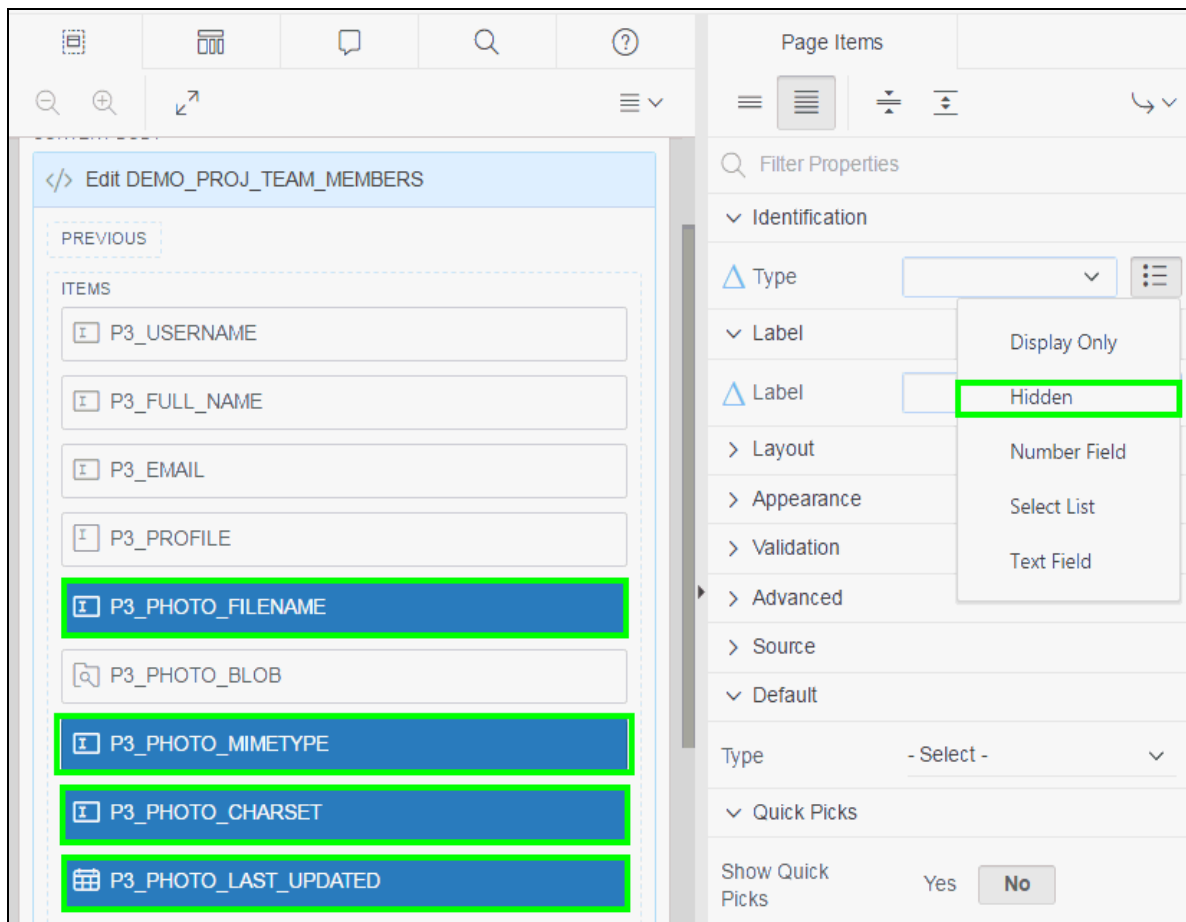
- c) In the Rendering tree, click the **P3_PROFILE** item.
 In the Property Editor: Identification: Type - select **Textarea**



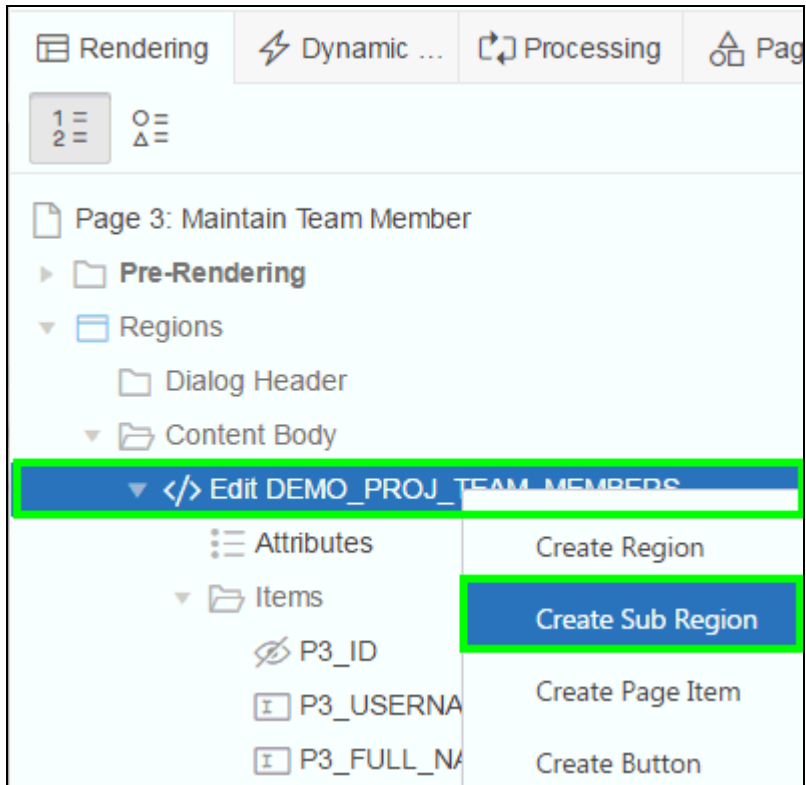
- d) In the Rendering tree, click the P3_PHOTO_BLOB item. For Label, enter **Photo**.



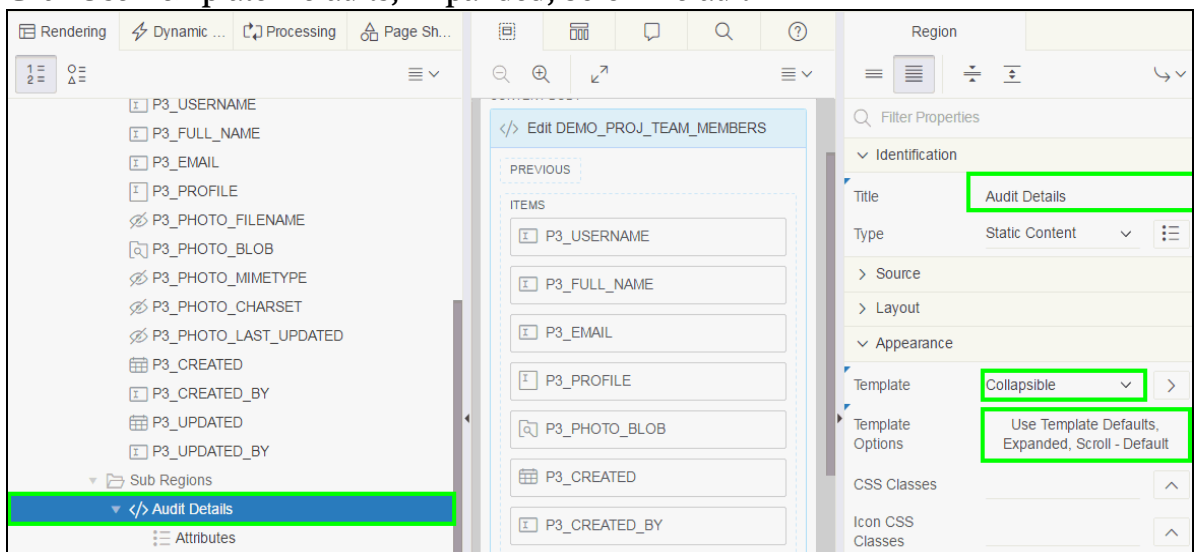
- e) In the Layout, hold the Ctrl key and click these items to select more than one: **P3_PHOTO_FILENAME**, **P3_PHOTO_MIMETYPE**, **P3_PHOTO_CHARSET**, and **P3_PHOTO_LAST_UPDATED**.
In the Property Editor under Identification, click the Type Quick Pick button and select **Hidden**.



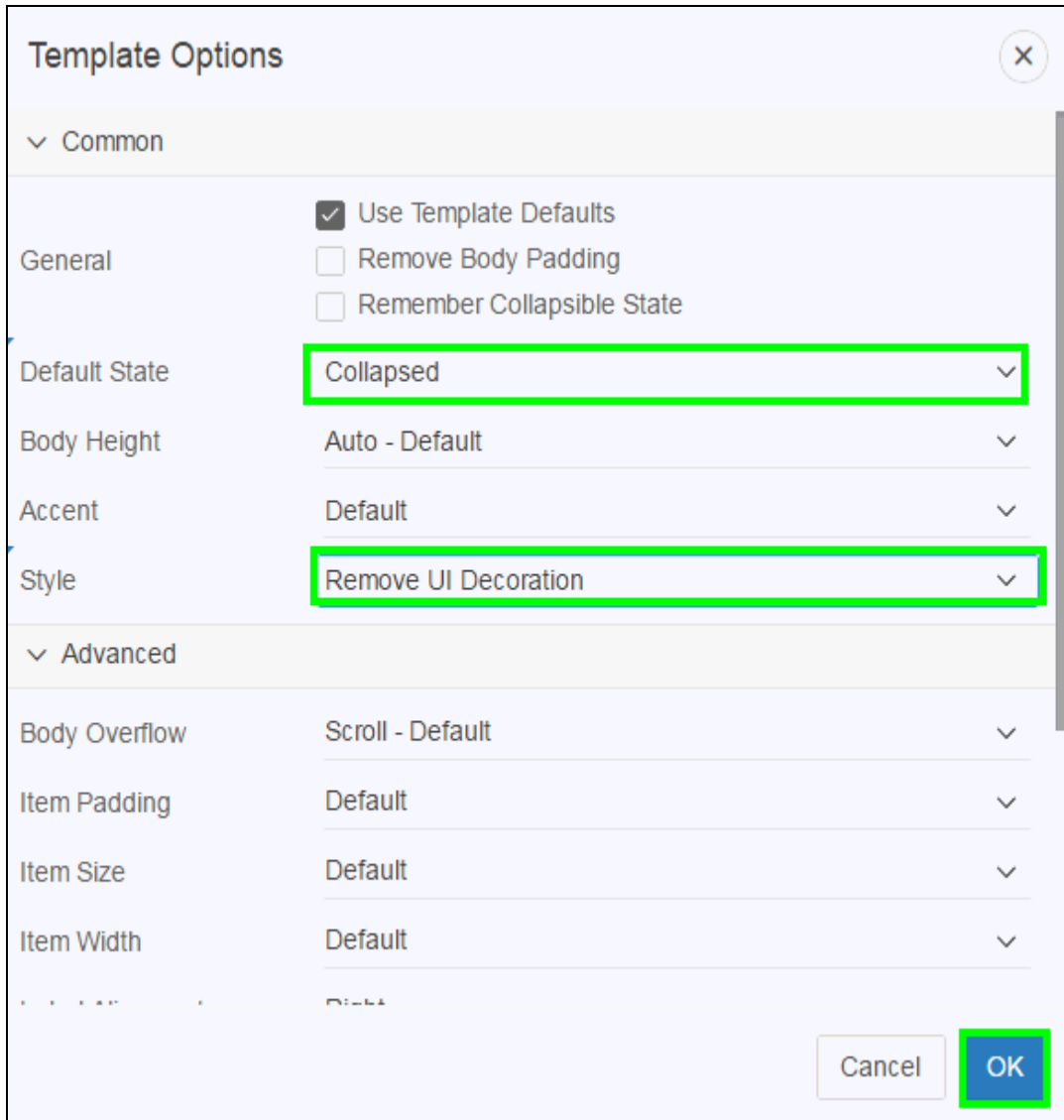
7. The tables you created earlier include audit columns for storing when and who created and last updated each record. End users should never be allowed to enter data into these columns. Furthermore, these columns should not display when the user creates a new record. Given that audit information is only reviewed occasionally, it is preferable to add these columns into a separate, collapsible region, so they can be reviewed when necessary, but do not take up excessive screen real estate the majority of time. Reconfigure the audit columns to be *Display Only* and place them in a conditional sub-region. In the Rendering tree, right-click **Edit DEMO_PROJ_TEAM_MEMBERS** and select **Create Sub Region**.



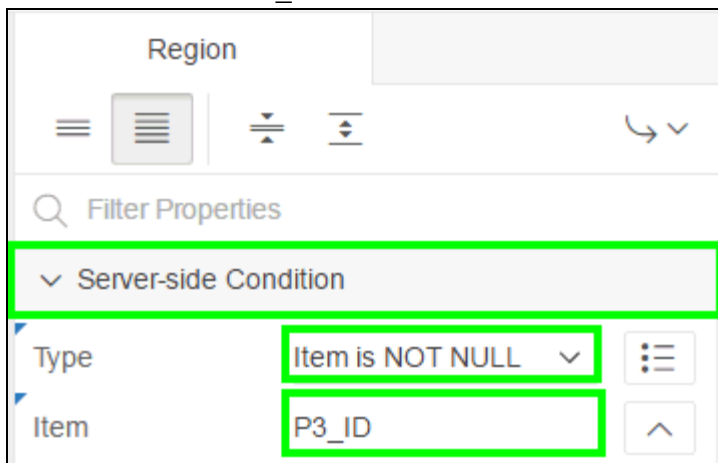
- In the Property Editor, for the New region: Identification: Title - enter **Audit Details**.
For Appearance>Template, select **Collapsible**.
Click **Use Template Defaults, Expanded, Scroll-Default**.



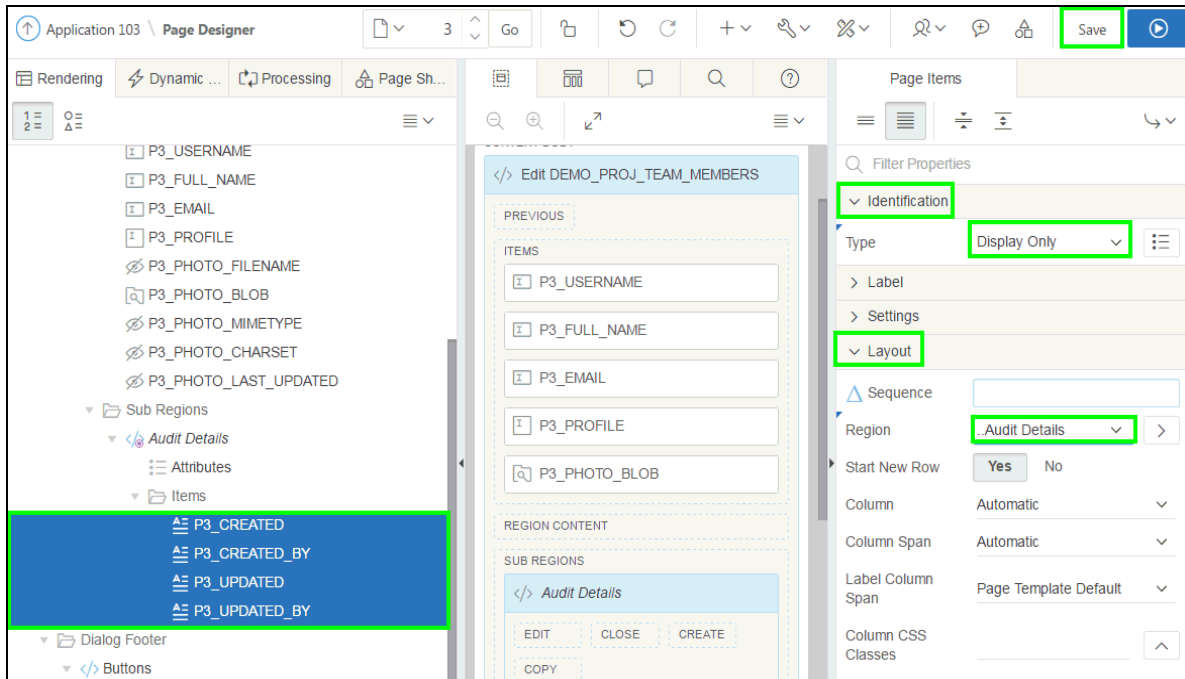
- In the Template Options dialog, select **Collapsed** for Default State.
Select **Remove UI Decoration** for Style, and click **OK**.



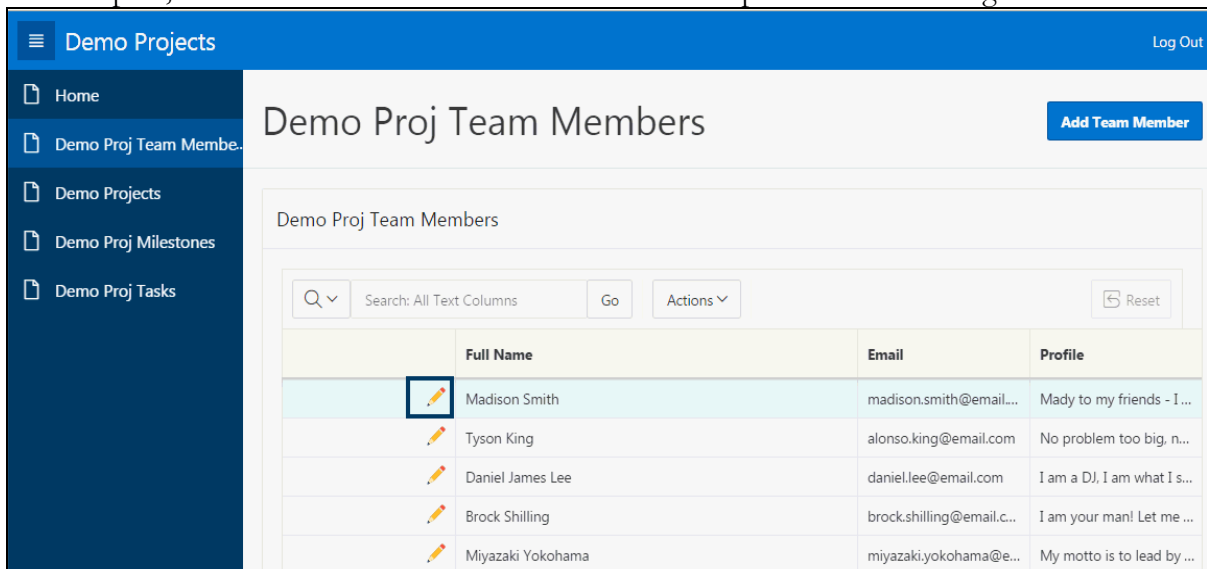
10. In the property editor, navigate to Server-side Condition. For Type, select **Item is NOT NULL**. Select **P3_ID** from the Item list.



11. Move the audit columns into the new region. From the Rendering tree or Grid Layout, hold the Ctrl key and click these items to select them: **P3_CREATED**, **P3_CREATED_BY**, **P3_UPDATED**, and **P3_UPDATED_BY**. In the property editor, for Identification > Type, select **Display Only**. For Layout > Region, select **..Audit Details**. Click **Save**.



12. Page 3 is a dialog and so you cannot run it directly. Navigate to the application runtime environment. In the navigation menu, click **Demo Proj Team Members**. Notice the **Add Team Member** button. In the report, select a team member's record to view the improved modal dialog.



Maintain Team Member ✕

* Username

* Full Name

Email

Profile

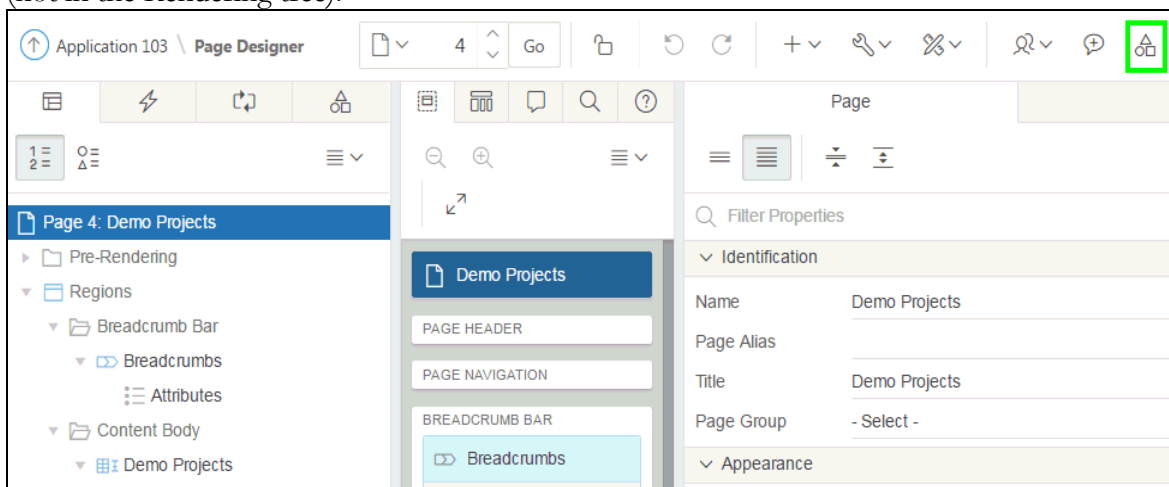
Photo No file chosen [Download](#)

▶ Audit Details

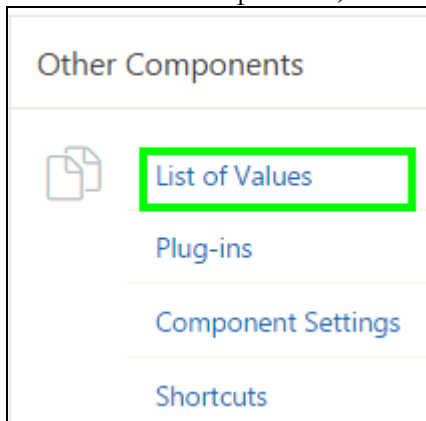
HOL 9-2 Updating the Projects Pages

In this lab, you update the page items on the form page. This lab covers creating and using List of Values. You create both static and dynamic list of values. You create an Audit Details collapsible sub-region on the form page.

1. In the application runtime environment, click **Demo Projects**.
Then, in the Developer toolbar, click **Edit Page 4**.
2. The Project Lead column is currently displaying an identifier instead of the team member's name. Defining a List of Values within Shared Components enables the same control to be used on this page and also the form page for projects.
In Page Designer, click the **Shared Components** button, found on the right side of the toolbar (not in the Rendering tree).



3. Under Other Components, click **List of Values**.



4. Then, click **Create**.
5. For Create List of Values, select **From Scratch** and click **Next**.

6. Enter **Team Members** for Name, select **Dynamic** for Type, and click **Next**.

Name and Type

Static lists are based on predefined pairs of display and return values. Dynamic lists are based on a SQL query you write that selects values from a table.

* Name: ?

Type: Static ? **Dynamic**

< Cancel Next >

7. For Query, replace the existing SQL with the following and click **Create List of Values**.

```
select full_name as display,
id as return
from demo_proj_team_members
order by 1
```

Enter a SQL query that returns two columns. The first column is the display value. The display value is the value you see in a list of values. This column should be aliased and a different name than the return column. The second column is the return value. The return value is the value returned when the display value is selected. The return column should be aliased if it includes any operations. Use bind variable syntax within your SQL query to reference the session state of the application or page items.

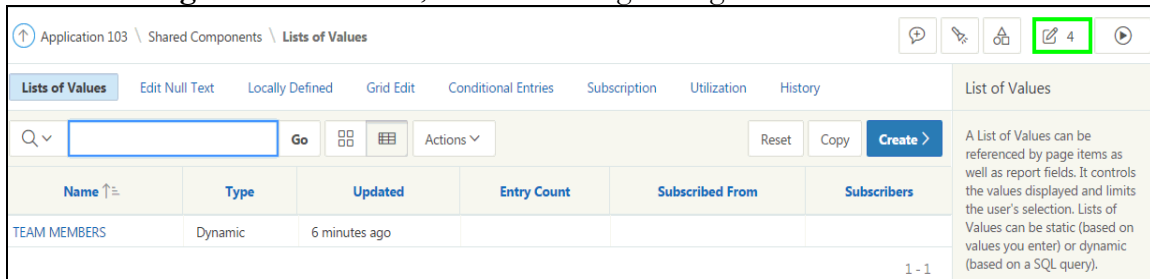
List of Values Name: **TEAM MEMBERS** ?

* Query (SELECT DISPLAY_VALUE, RETURN_VALUE FROM...):

```
select full_name as display
, id as return
from demo_proj_team_members
order by 1
```

< Cancel Create List of Values

8. Click **Edit Page 4** on the toolbar, to return to Page Designer.

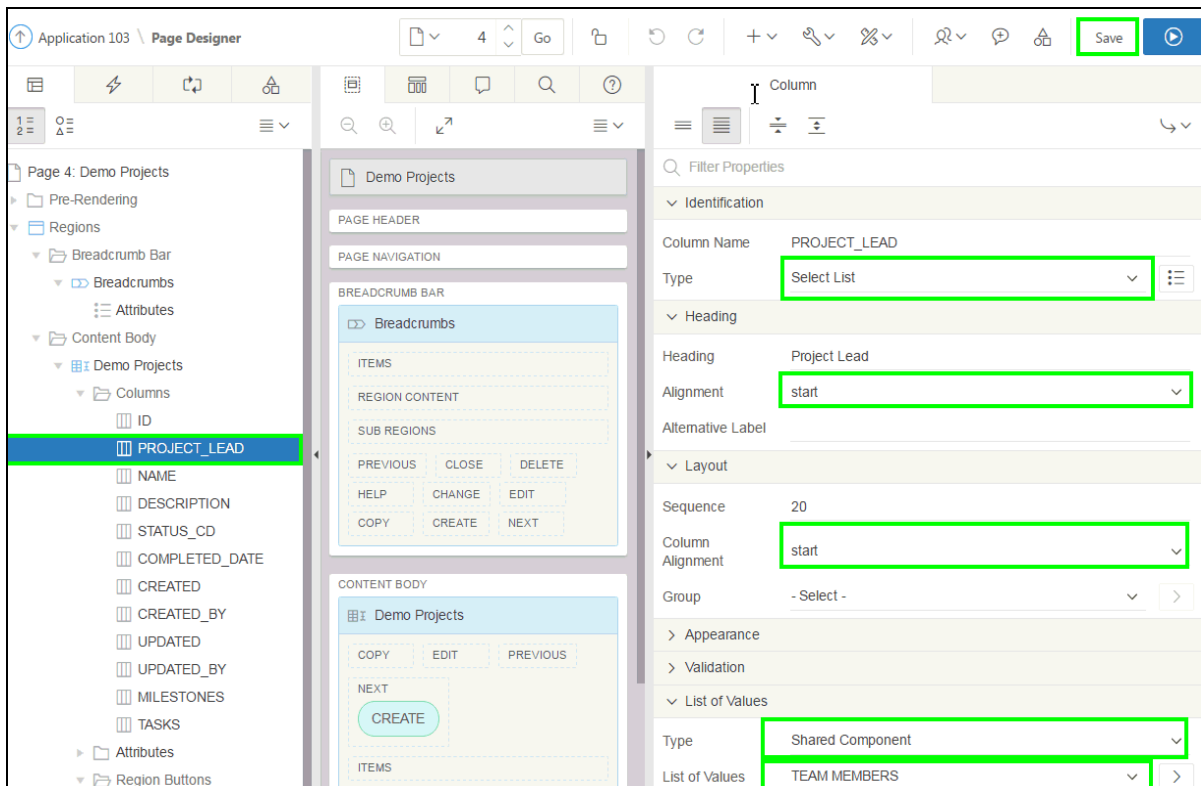


9. In the Rendering tree, expand the **Columns** node under the DEMO_PROJECTS region. Click the **PROJECT_LEAD** column.

10. In the property editor:

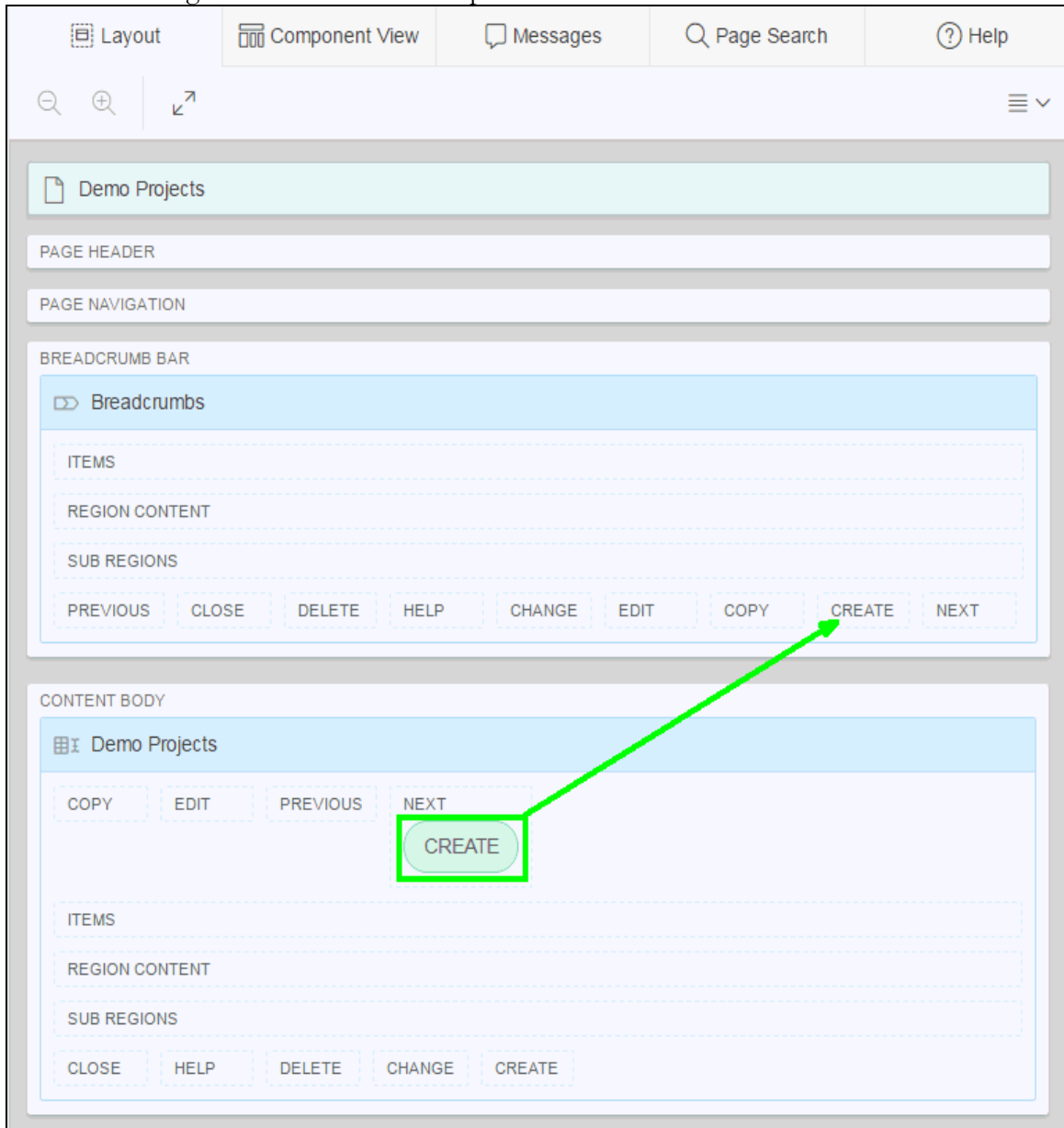
- Identification > Type: select **Select List**
- Heading > Alignment: select **Start**
- Layout > Column Alignment: select **Start**
- List of Values > Type: select **Shared Component**
- List of Values: select **Team Members**

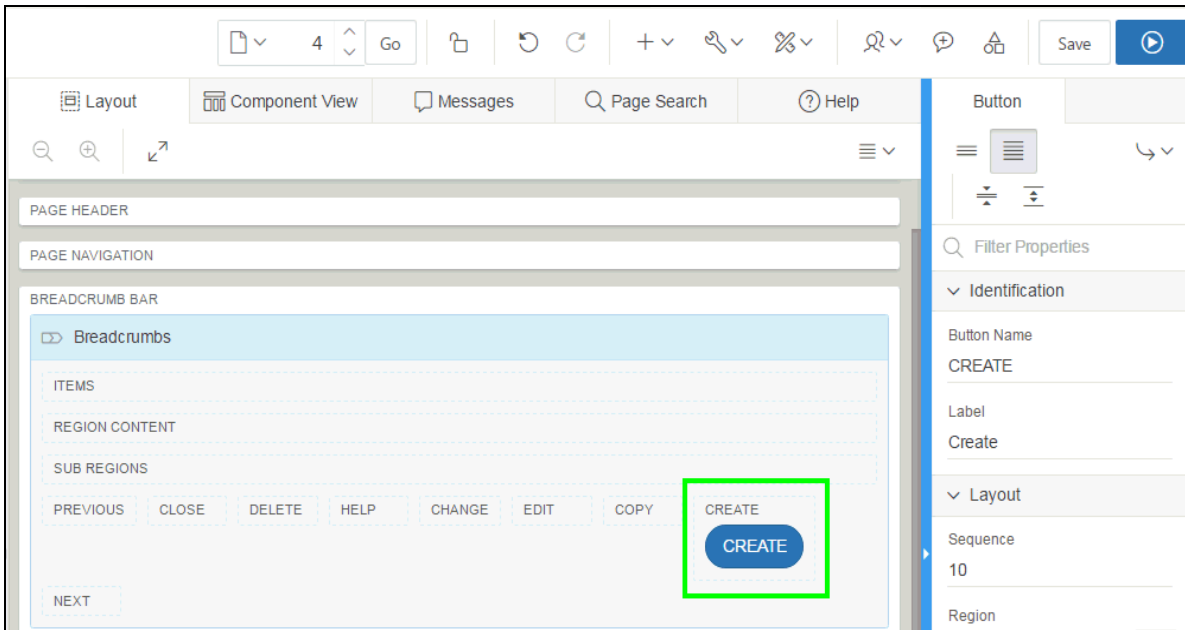
Click **Save**.



11. It would look more aesthetically pleasing to place the Create button at the top of the page. In the Layout, locate the Breadcrumbs region. Note that there are several elements surrounded by dotted lines. These are placeholders for buttons. Locate the DEMO_PROJECTS region. Click and hold the **Create** button and drag it up to the

Breadcrumbs region and into the Create placeholder.





12. In the property editor, enter **Create Project** for label.
Under Appearance, select **Yes** for Hot.

13. Click **Save**. Then, click **Save and Run Page**.

14. Your screen might look like:

Demo Projects [Create Project](#)

Demo Projects

Search: All Text Columns

Sum (Milestones)

 Sum (Tasks)

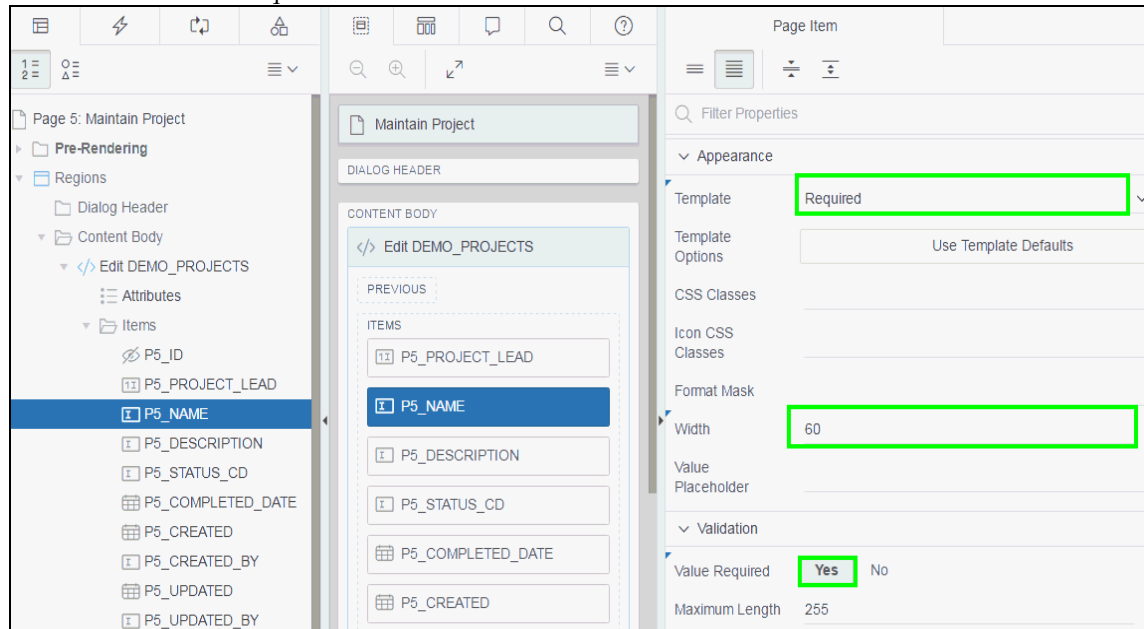
	Name	Project Lead	Status Cd	Completed Date	Milestones
	Develop Partner Portal P...	Chaitanya	IN-PROGRESS	-	2
	Develop Production Par...	Lucille Beatie	ASSIGNED	-	5
	Configure Web Develop...	Chaitanya	COMPLETED	12-JAN-17	0
	Train Developers on We...	Lucille Beatie	COMPLETED	27-JAN-17	2
	Migrate Legacy Applicat...	Miyazaki Yokohama	IN-PROGRESS	-	3
Over...					12

1 rows selected Total 5

15. You need to update page items on the Maintain Project form page. Click a project name and then in the Developer Toolbar, click **Edit Page 5**.

16. In the Layout, under Content Body, click the **P5_NAME** item. In the Property Editor:

- Appearance: Template – select **Required**
- Appearance: Width – enter **60**
- Validation: Value Required – select **Yes**



17. In the Layout, under Content Body, click the **P5_DESCRIPTION** item. In the Property Editor:

- Identification: Type – select **Text Area**
- Appearance: Width – enter **70**

Page Item

Filter Properties

Identification

Name P5_DESCRIPTION

Type Textarea

Label

Settings

Layout

Appearance

Template Optional

Template Options Use Template Defaults

CSS Classes

Format Mask

Width 70 characters

Height 5 lines

Value Placeholder

18. In the Layout, under Content Body, click the **P5_PROJECT_LEAD** item. In the Property Editor:

- Identification: Type– select **Select List**
- List of Values: Type – select **Shared Component**
- List of Values: List of Values – select **Team Members**
- List of Values: Display Extra Values – select **No**
- List of Values: Null Display Value – enter **-Select Team Member-**

Page Item

Filter Properties

Identification

Name P5_PROJECT_LEAD

Type **Select List**

Label

Settings

Layout

Appearance

Validation

List of Values

Type **Shared Component**

List of Values **TEAM MEMBERS**

Display Extra Values Yes **No**

Display Null Value **Yes** No

Null Display Value **- Select Team Member -**

19. Next define a static list of statuses. You can not define a dynamic list, as you did for TEAM_MEMBERS, as there is no separate table which stores the statuses. In the Layout, locate the **P5_STATUS** item.

In the Property Editor:

- Identification: Type– select **Select List**
- List of Values: Type – select **Static Values**
- List of Values: Static Values – enter **STATIC2:Assigned, In-Progress, Completed**
- List of Values: Display Extra Values – select **No**
- List of Values: Display Null Value – select **No**

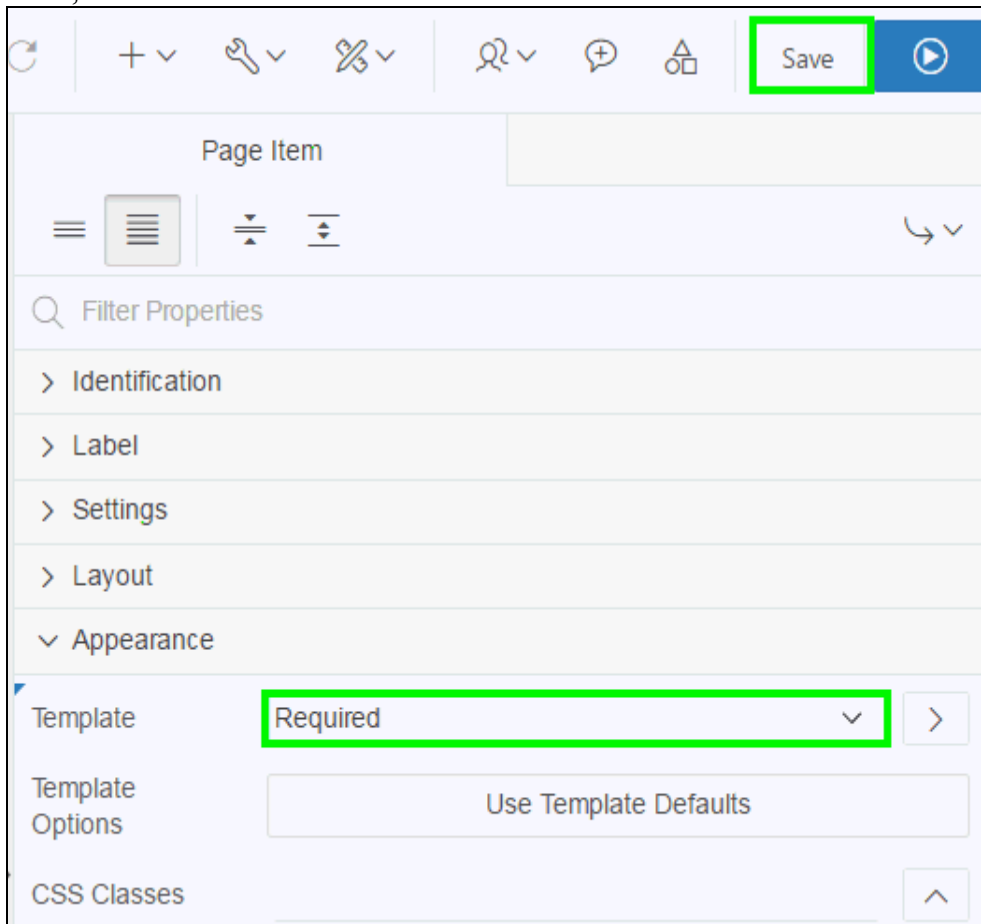
Note: By specifying STATIC2 the records will be displayed in the order entered, rather than in alphabetic order.

The screenshot shows the 'Page Item' property editor for 'P5 STATUS CD'. The 'Type' is set to 'Select List'. Under the 'List of Values' section, the 'Type' is 'Static Values' and the values are 'STATIC2:Assigned,In-Progress,Completed'. The 'Display Extra Values' and 'Display Null Value' options are both set to 'No'.

Page Item	
Filter Properties	
Identification	
Name	P5 STATUS CD
Type	Select List
Label	
Settings	
Layout	
Appearance	
Validation	
List of Values	
Type	Static Values
Static Values	
STATIC2:Assigned,In-Progress,Completed	
Display Extra Values	Yes <input checked="" type="radio"/> No <input type="radio"/>
Display Null Value	Yes <input checked="" type="radio"/> No <input type="radio"/>

20. Click the **P5_COMPLETED_DATE** item.
In the property editor, under Appearance, select **Required** for Template.

Then, click **Save**.

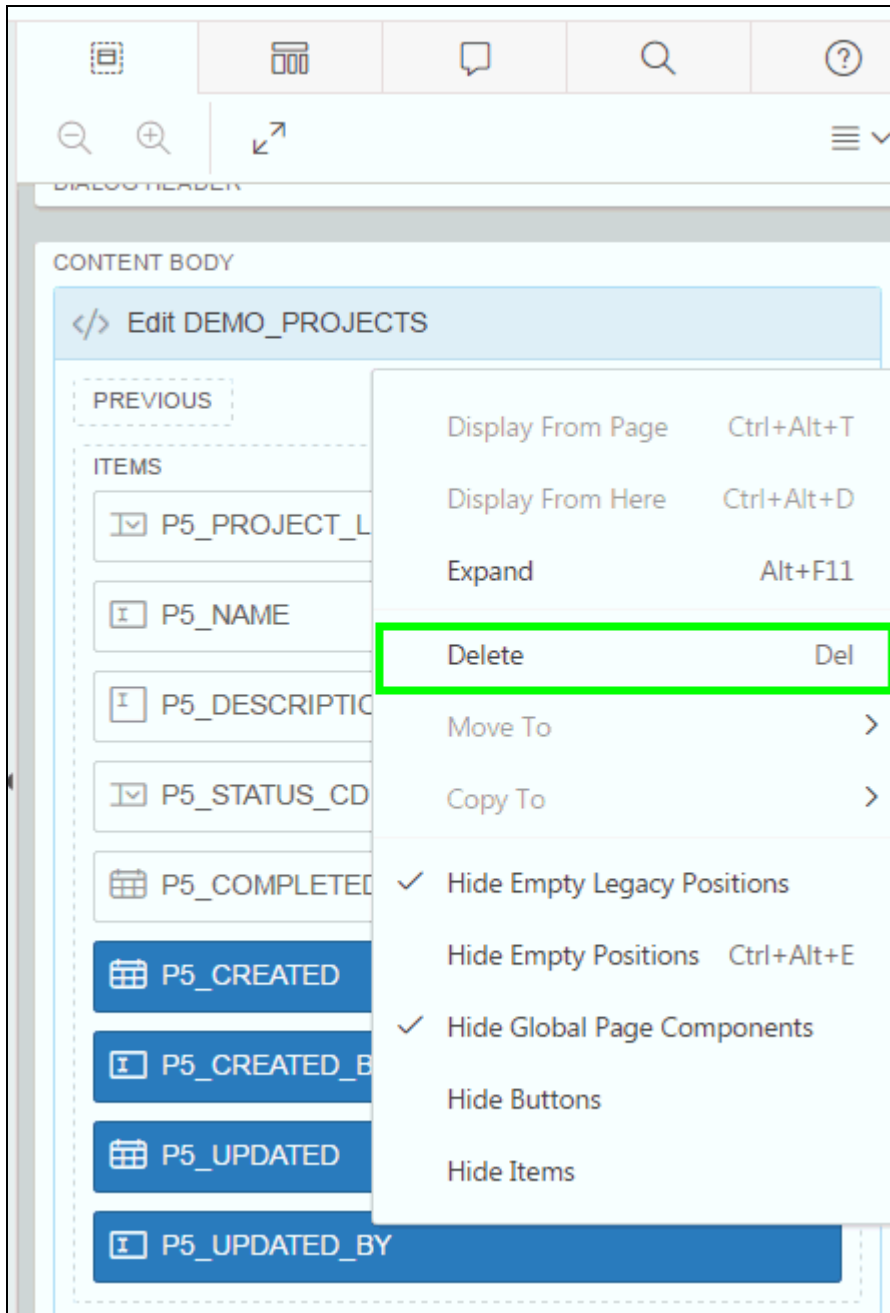


21. In the lab HOL 9-1, you created a sub-region called Audit Details for the Maintain Team Member page (Page 3). Since the four items included in that region are the same as those on the Maintain Project page and are associated with the exact same database columns, you can copy them to the Maintain Project page. This approach is easier than creating a new region and updating the items. Copying the region will also copy the previously defined template and template options.

Delete the four audit items before copying the Audit Details region to this page. If you do not delete them, the item names in the copied Audit Details region will be renamed with a unique name (for example, P5_CREATED will be renamed to P5_CREATED_1) to ensure all page items have unique names. Although this renaming will not break the page processing, Oracle does not recommend this approach.

In the Layout, hold the Ctrl key and select the items: **P5_CREATED**, **P5_CREATED_BY**, **P5_UPDATED**, and **P5_UPDATED_BY**.

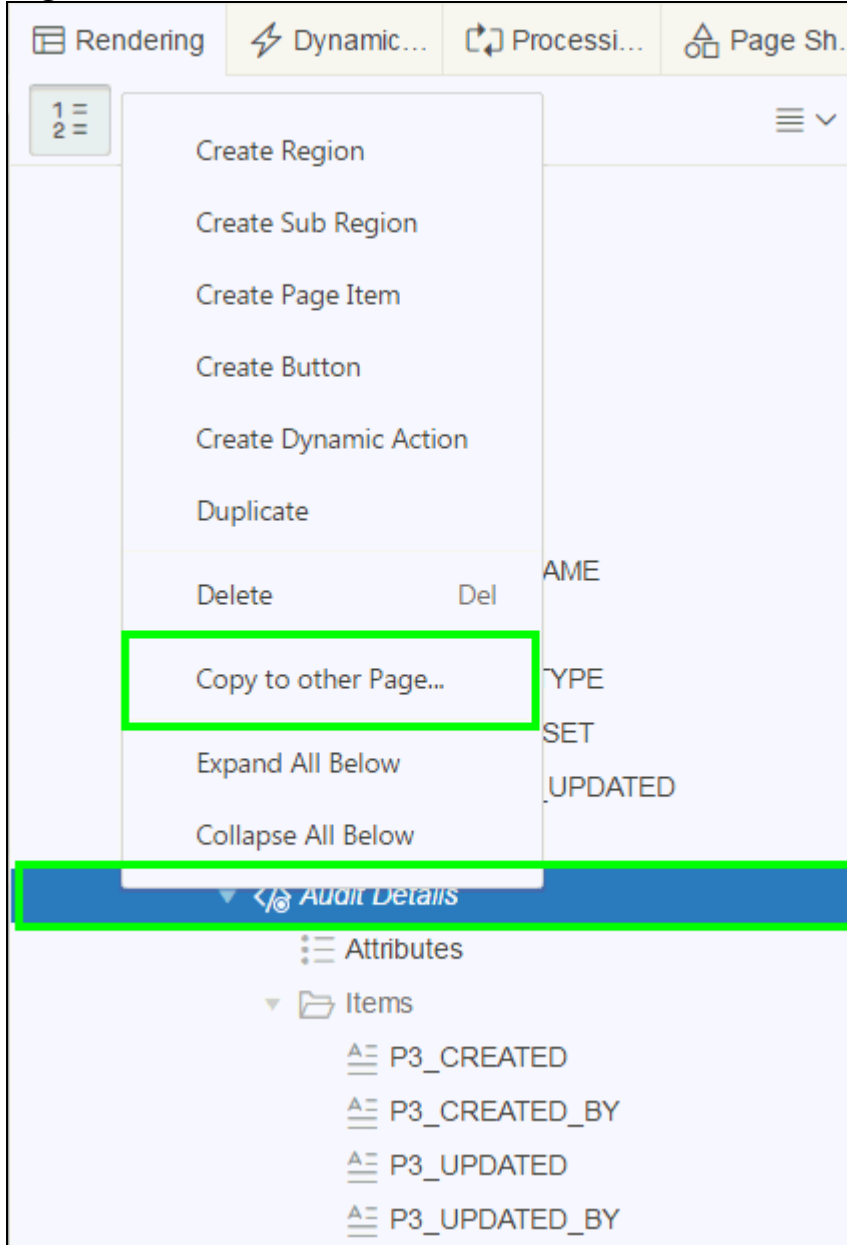
Then, right-click and select **Delete**.



Click **Save**.

22. In page designer, navigate to **Page 3**.

23. In the Rendering tree, right-click the **Audit Details** sub region and select **Copy to other Page....**



24. Enter **5** for To Page and select **Yes** for Copy Region Items. Click **Next**.

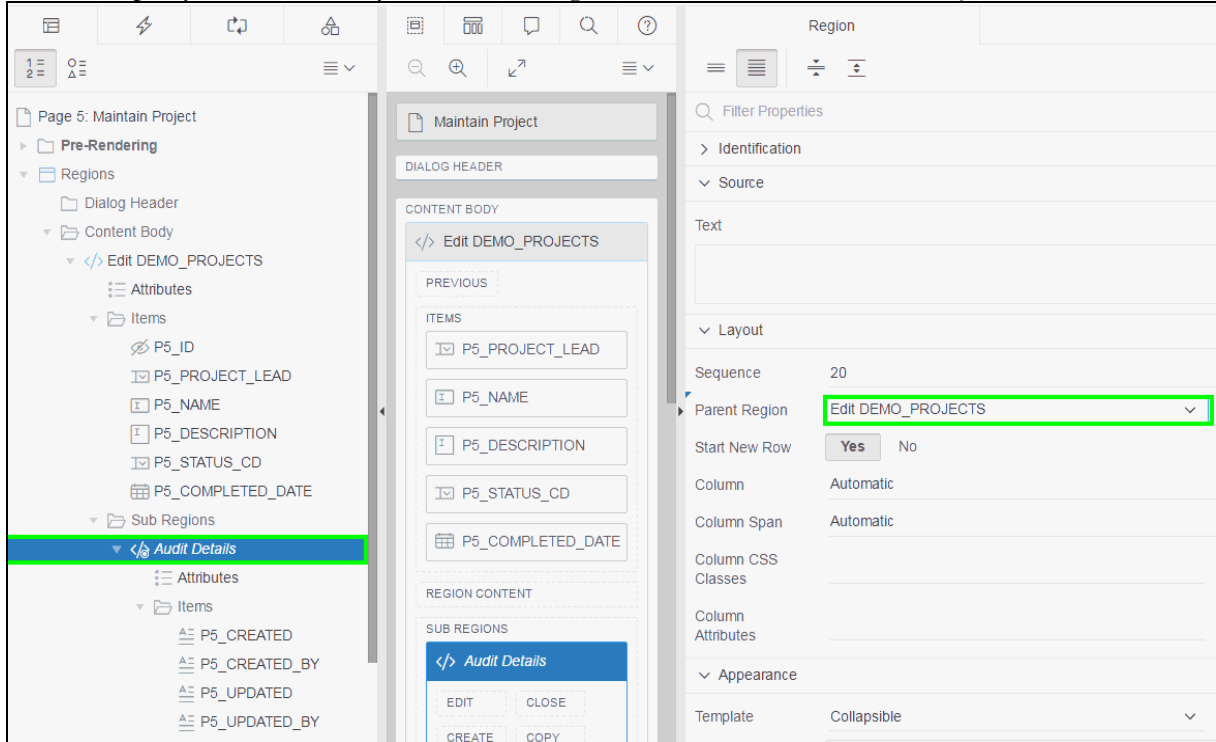
The screenshot shows the 'Copy Region' dialog box. At the top, there are three progress indicators: a green checkmark, a blue circle labeled 'To Page', and a grey circle. Below the indicators, the text 'Identify page for new region.' is displayed. The 'To Page' field is a text input containing the number '5', with a red asterisk to its left and a help icon to its right. Below this, the 'Copy Region Items' section has two radio buttons: 'Yes' (which is selected and highlighted with a green box) and 'No'. At the bottom of the dialog, there are three expandable sections: 'Copy From Region', 'Copy From Region Items', and 'Recently Edited Pages'. The bottom navigation bar contains a 'Cancel' button on the left and a 'Next >' button on the right, which is highlighted with a green box.

25. Click **Copy**.

The screenshot shows the 'Copy Region' dialog box. At the top, there are three progress indicators: a green checkmark, another green checkmark, and a blue circle labeled 'New Region'. Below the indicators, the text 'Copy Region' is displayed. The 'Copy Validations' field is set to 'No', 'Copy Processes' is set to 'No', and 'Copy Sub Regions' is set to 'No'. The 'Region Name' field is a text input containing 'Audit Details', with a red asterisk to its left and a help icon to its right. Below this, the 'Sequence' field is a text input containing '20', with a red asterisk to its left and a help icon to its right. At the bottom of the dialog, there are two expandable sections: 'Advanced' and 'Copy From Region'. The bottom navigation bar contains a 'Cancel' button on the left and a 'Copy' button on the right, which is highlighted with a green box.

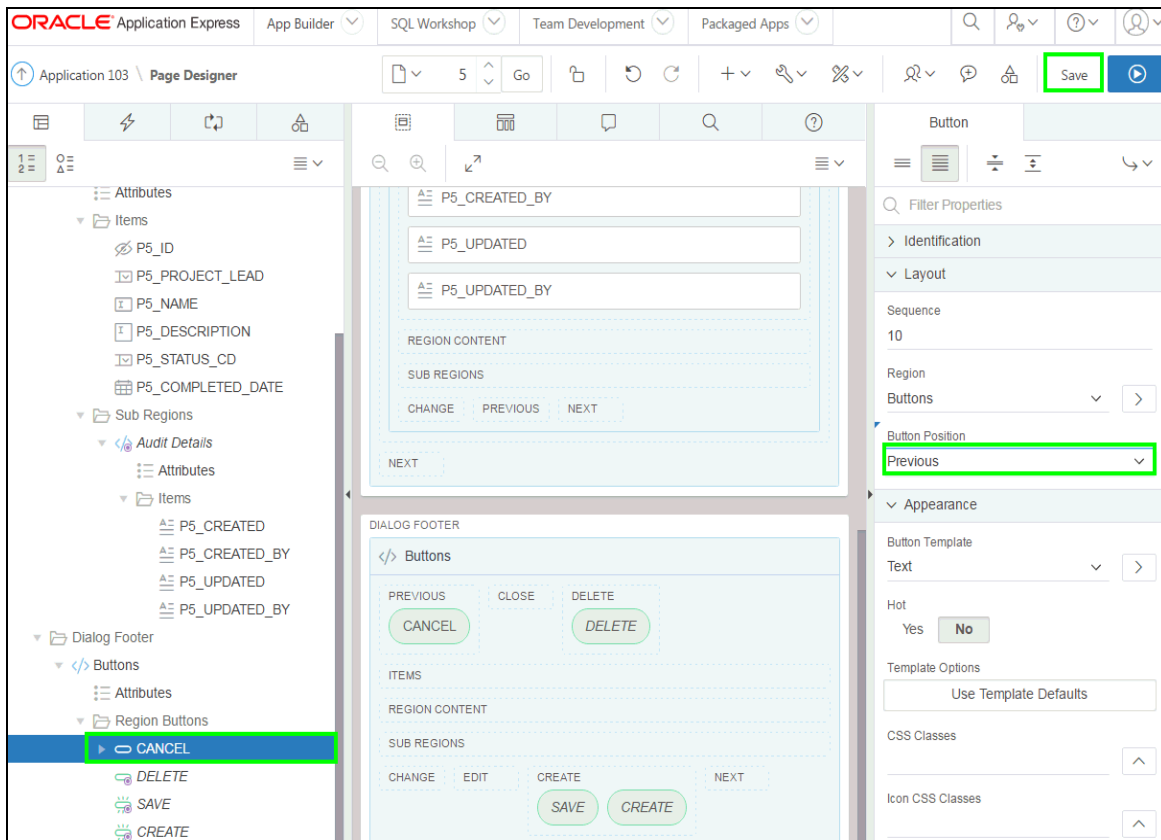
26. In Page Designer, navigate back to **Page 5**.

27. In the Rendering tree, select the **Audit Details** sub region.
In the Property Editor, for Layout: Parent Region select **Edit DEMO_PROJECTS**.



28. Now, reposition the buttons. Under Rendering > Buttons > Region Buttons, select **CANCEL**.
In the property editor, for Layout: Button Position select **Previous**.

Click **Save**.



29. Navigate to the Demo Projects application runtime environment. In the navigation menu, click **Demo Projects**. Click a project name. Notice the modified dialog. Expand the Audit Details node.

The screenshot shows the Oracle APEX 'Demo Projects' interface. On the left, a navigation menu includes 'Home', 'Demo Proj Team Membe...', 'Demo Projects' (highlighted with a green box), 'Demo Proj Milestones', and 'Demo Proj Tasks'. The main content area is titled 'Demo Projects' and features a 'Create Project' button. A 'Maintain Project' modal is open, displaying the following details:

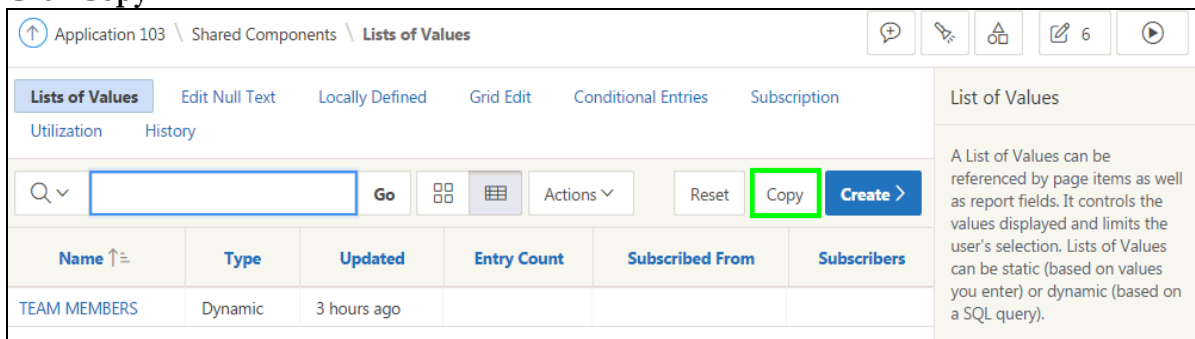
- Project Lead: Chaitanya
- Name: Develop Partner Portal POC
- Description: Develop a proof of concept that partners can use to work more collaboratively with us.
- Status Cd: Assigned
- Completed Date: (calendar icon)
- Audit Details:
 - Created: 08-FEB-17 09.48.11.034000 PM
 - Created By: CHAITANYA
 - Updated: 08-FEB-17 09.48.11.034000 PM
 - Updated By: CHAITANYA

At the bottom of the modal are 'Cancel', 'Delete', and 'Save' buttons. In the background, a table with one row is visible, with the 'Develop P' entry highlighted in green.

HOL 9-3 Updating the Milestones Pages

In this lab, you update the page items on the form page. You create the Audit Details collapsible sub-region by copying it from another page in the application. You make the form page visually appealing. This lab also covers creating and using list of values.

1. In the Demo Projects application runtime environment, click **Demo Proj Milestones** in the navigation menu.
In the Developer Toolbar, click **Edit Page 6**.
2. The Project Id column is currently displaying an identifier instead of the project name. Defining a List of Values within Shared Components enables the same control to be used on this page, the form page for milestones, and the task pages.
In Page Designer, click **Shared Components** found on the right on the toolbar.
3. Under Other Components, click **List of Values**.
4. Click **Copy**.

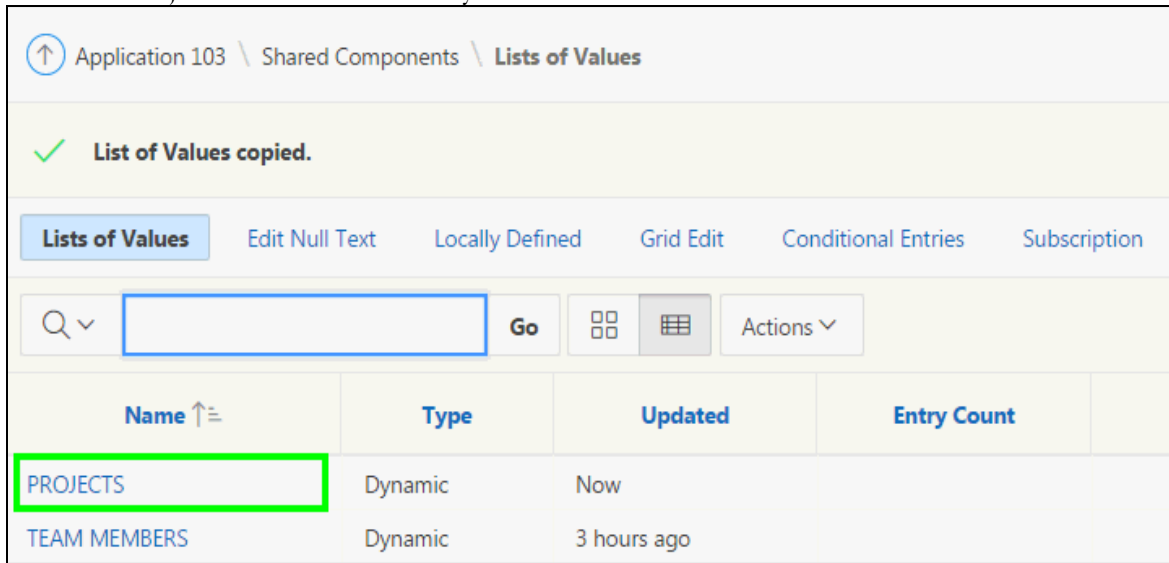


The screenshot shows the 'Lists of Values' page in Oracle APEX. The breadcrumb path is 'Application 103 \ Shared Components \ Lists of Values'. The page has tabs for 'Lists of Values', 'Edit Null Text', 'Locally Defined', 'Grid Edit', 'Conditional Entries', and 'Subscription'. Below the tabs are 'Utilization' and 'History' links. A search bar with a 'Go' button and a 'Copy' button (highlighted with a green box) is visible. A table lists existing List of Values, with the first entry 'TEAM MEMBERS' having a 'Dynamic' type and updated '3 hours ago'. A 'Create >' button is also present.

Name	Type	Updated	Entry Count	Subscribed From	Subscribers
TEAM MEMBERS	Dynamic	3 hours ago			

5. Select **Team Members-Dynamic** from Copy List of Values.
Enter **Projects** for New List of Values Name.
Click **Copy**.

- Click the Projects List of Values entry.

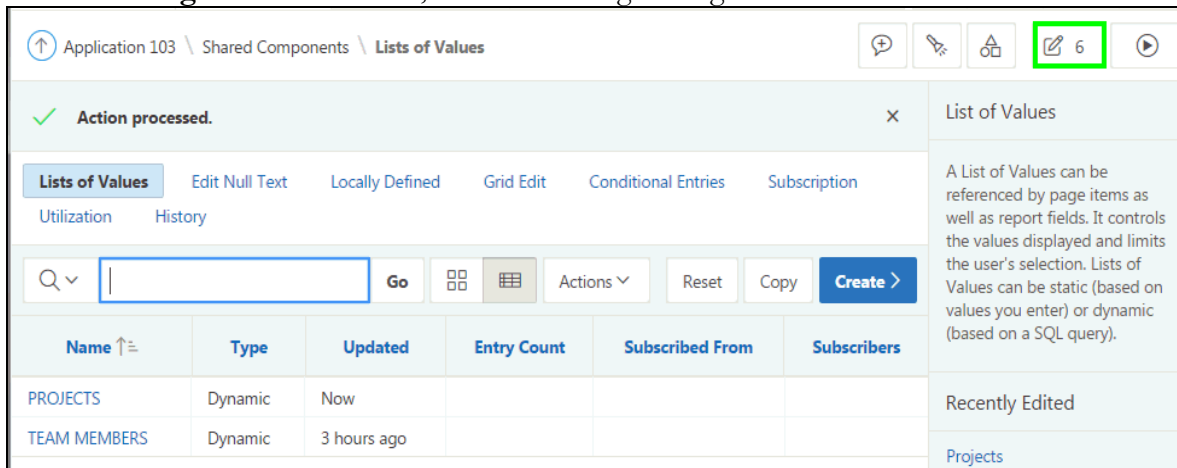


- For Query, replace the existing SQL with the following.

```
select name as display
, id as return
from demo_projects
order by 1
```

Click **Apply Changes**.

- Click **Edit Page 6** on the toolbar, to return to Page Designer.



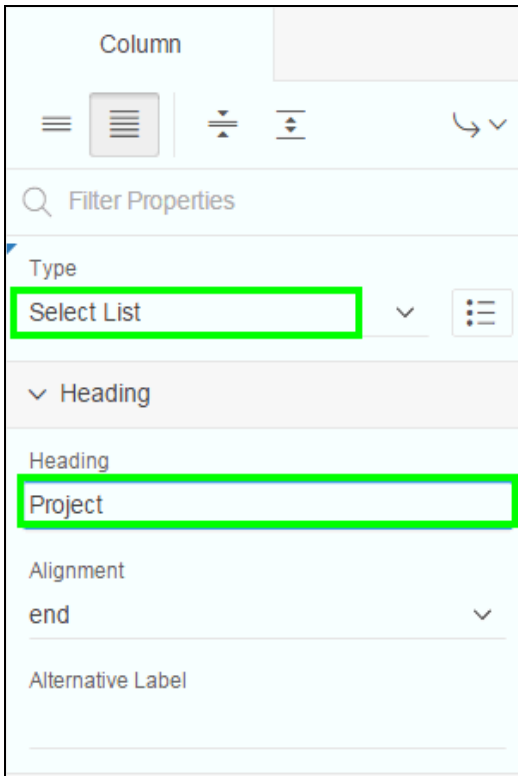
- In the Rendering tree, expand the Columns node under the DEMO_PROJ_MILESTONES region.

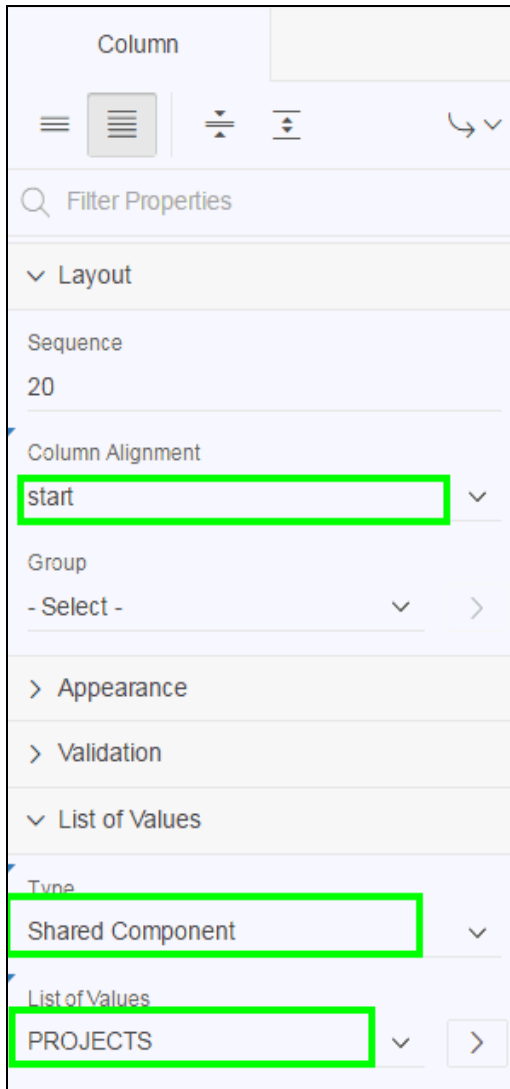
Select the **PROJECT_ID** column.

In the Property Editor:

- Identification: Type - select **Select List**
- List of Values: Type - select **Shared Component**
- List of Values: List of Values - select **PROJECTS**

- Heading: Heading - enter **Project**
- Layout: Column Alignment - select **start**





10. The Name column is ambiguous and should be relabeled.
In the Rendering tree, click the Name column.
In the Property Editor, for Heading enter **Milestone**.
11. Reposition the CREATE button to the top of the page.
Locate the DEMO_PROJ_MILESTONES region and select the **Create** button.
12. In the Property Editor:
 - Identification: Label - enter **Create Milestone**
 - Layout: Region - select **Breadcrumbs**
 - Layout: Button Position - select **Create**
 - Appearance: Hot - select **Yes**

Button

Filter Properties

Identification

Button Name
CREATE

Label
Create Milestone

Layout

Sequence
10

Region
Breadcrumbs

Button Position
Create

Appearance

Button Template
Text

Hot
Yes No

13. Click **Save**. Then, click **Save and Run Page**.

	Project	Milestone	Due Date ↑	Tasks
	Train Developers on Web developme...	Train the Trainers	18-JAN-17	5
	Train Developers on Web developme...	All Developers Trained	22-JAN-17	2
	Migrate Legacy Applications	Move Data Structures	27-JAN-17	3
	Migrate Legacy Applications	Redevelop HR Applications	04-FEB-17	3
	Migrate Legacy Applications	Redevelop Project Tracking Applicati...	10-FEB-17	3
	Develop Partner Portal POC	Define Requirements	13-FEB-17	3
	Develop Partner Portal POC	Build Proof-of-Concept	20-FEB-17	4
	Develop Production Partner Portal	Define Production App Scope	21-FEB-17	3
	Develop Production Partner Portal	Build Phase 1 of Production Partner ...	28-FEB-17	3
	Develop Production Partner Portal	Perform Beta testing with select Part...	08-MAR-17	3
	Develop Production Partner Portal	Complete Phase 1 Development of P...	04-APR-17	3
	Develop Production Partner Portal	Roll out Phase 1 of Partner Portal app	08-APR-17	4
Over...				39

14. Click a project name. In the Developer Toolbar, click **Edit Page 7**.

15. Update the page items. Under Rendering, expand Items, select the **P7_PROJECT_ID** item. In the Property Editor:

- Identification: Type - select **Select List**
- Label: Label - enter **Project**
- Appearance: Template - select **Required**
- Validation: Value Required - select **Yes**
- List of Values: Type - select **Shared Component**
- List of Values: List of Values - select **PROJECTS**
- List of Values: Display Extra Values - select **No**
- List of Values: Null Display Value - enter - **Select Project –**

<div style="background-color: #f2f2f2; padding: 2px;"> ▼ Appearance </div>	
Template	<input type="text" value="Required"/>
Template Options	<input type="button" value="Use Template Defaults"/>
CSS Classes	<input type="text"/>
Icon CSS Classes	<input type="text"/>
Format Mask	<input type="text"/>
Height	<input type="text" value="1"/>
<div style="background-color: #f2f2f2; padding: 2px;"> ▼ Validation </div>	
Value Required	<input checked="" type="radio"/> Yes <input type="radio"/> No
<div style="background-color: #f2f2f2; padding: 2px;"> ▼ List of Values </div>	
Type	<input type="text" value="Shared Component"/>
List of Values	<input type="text" value="PROJECTS"/>
Display Extra Values	Yes <input checked="" type="radio"/> No
Display Null Value	<input type="radio"/> Yes <input type="radio"/> No
Null Display Value	<input type="text" value="- Select Project -"/>

16. In the Rendering tree, select the **P7_NAME** item. In the Property Editor:

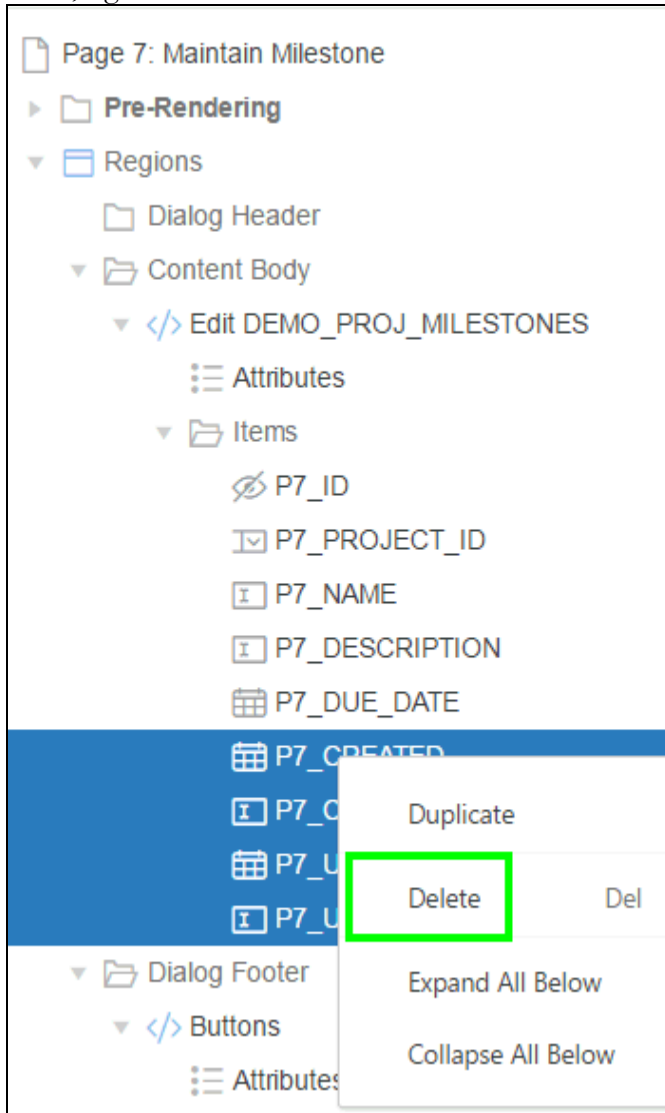
- Label: Label - enter **Milestone**
- Appearance: Template - select **Required**
- Appearance: Width - enter **60**
- Validation: Value Required - select **Yes**

17. In the Layout, select the **P7_DESCRIPTION** item. In the Property Editor:

- Identification: Type - select **Textarea**
- Appearance: Width - enter **70**

18. Delete the four audit items from the Maintain Milestone page. Under Rendering, hold the Ctrl key and select the items: **P7_CREATED**, **P7_CREATED_BY**, **P7_UPDATED**, and **P7_UPDATED_BY**.

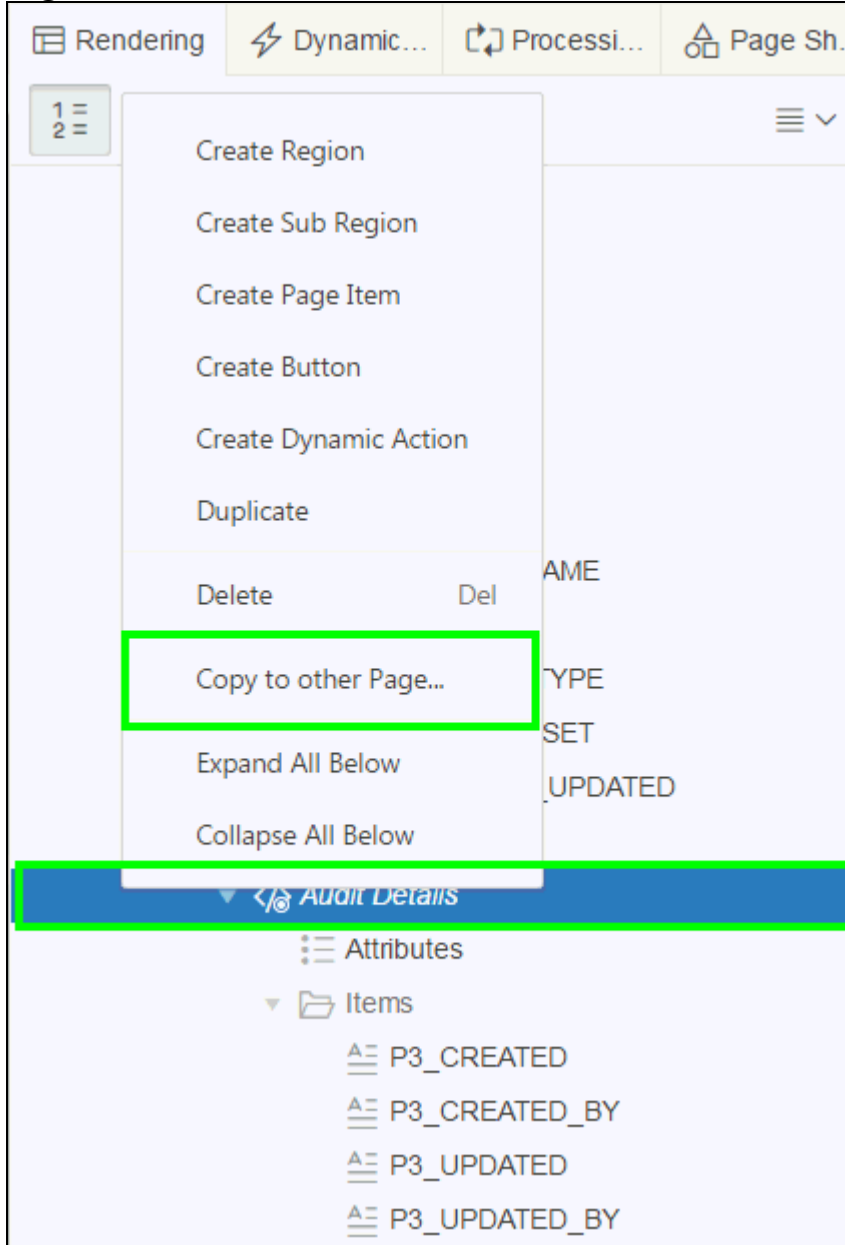
Then, right-click and select **Delete**.



Click **Save**.

19. Copy the Audit Details region from Page 3 to Page 7. In page designer, navigate to **Page 3**.

20. In the Rendering tree, right-click the **Audit Details** sub region and select **Copy to other Page....**



21. Enter **7** for To Page and select **Yes** for Copy Region Items. Click **Next**.
22. Click **Copy**.
23. In Page Designer, navigate back to **Page 7**.

24. In the Rendering tree, select the **Audit Details** sub region. In the Property Editor, for Layout: Parent Region select **Edit DEMO_PROJ_MILESTONES**.

The screenshot shows the Oracle APEX Property Editor for a Region. The 'Layout' section is expanded, and the 'Parent Region' dropdown is highlighted with a green box, showing 'Edit DEMO_PROJ_MILESTONES' selected. Other visible properties include:

- Identification:** Title: Audit Details; Type: Static Content
- Source:** Text: (empty text area)
- Layout:** Sequence: 20; Parent Region: Edit DEMO_PROJ_MILESTONES; Start New Row: Yes

25. Now, reposition the buttons. Under Rendering > Buttons > Region Buttons, select **CANCEL**. In the property editor, for Layout: Button Position select **Previous**.
26. Click **Save**.
Navigate to the application runtime environment and click **Demo_Proj_Milestones**.
Click any milestone to see the modified dialog.

The screenshot shows the Oracle APEX interface for 'Demo Proj Milestones'. A 'Maintain Milestone' dialog box is open, displaying the following information:

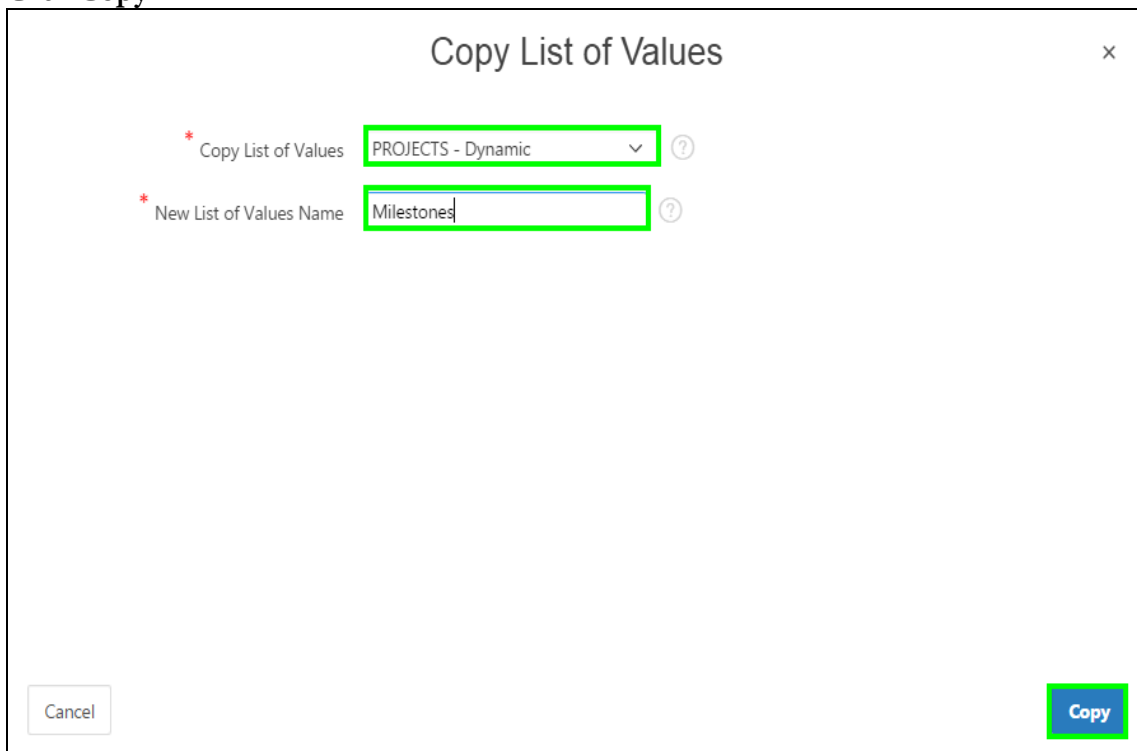
- Project:** Train Developers on Web development tool
- Milestone:** Train the Trainers
- Description:** Rather than all developers being trained centrally, a select group will be trained. These people will then be responsible for training other developers in their group.
- Due Date:** 18-JAN-17
- Audit Details:**
 - Created: 08-FEB-17 09.48.11.024000 PM
 - Created By: CHAITANYA
 - Updated: 08-FEB-17 09.48.11.024000 PM
 - Updated By: CHAITANYA

The dialog box includes 'Cancel', 'Delete', and 'Save' buttons. The background shows a table of milestones with a search bar and a 'Create Milestone' button.

HOL 9-4 Updating the Tasks Pages

In this lab, you update the page items on the form page. You use list of values created as shared components. This lab also covers creating a new page item on the form page. You make the form page visually appealing.

1. In the Demo Projects application runtime environment, click Demo Proj Tasks in the navigation menu.
In the Developer Toolbar, click **Edit Page 8**.
2. The Project Id, Milestone Id, and Assignee columns are currently displaying identifiers instead of the names. You already created a List of Values for projects and assignees (Team Members). Therefore, you only need to create a List of Values for milestones.
In Page Designer, click **Shared Components** found on the right on the toolbar.
3. Under Other Components, click **List of Values**.
4. Click **Copy**.
5. Select **Projects-Dynamic** from Copy List of Values.
Enter **Milestones** for New List of Values Name.
Click **Copy**.



The screenshot shows a dialog box titled "Copy List of Values" with a close button (X) in the top right corner. The dialog contains two required fields, each marked with a red asterisk (*):

- The first field is labeled "Copy List of Values" and is a dropdown menu currently showing "PROJECTS - Dynamic".
- The second field is labeled "New List of Values Name" and is a text input field containing the text "Milestones".

At the bottom left of the dialog is a "Cancel" button, and at the bottom right is a "Copy" button.

6. Click the **Milestones** List of Values entry.
7. For Query, replace the existing SQL with the following.

```
select name as display
, id as return
from demo_proj_milestones
order by 1
```

List of Values: MILESTONES

Show All Name Subscription

Name

* List of Values Name MILESTONES

Subscription

Reference Master List of Values From Refresh

This is the "master" copy of this List of Values.

No Lists of Values subscribe to this List of Values.

Source: Lists of Values Query

Query

```
1 select name as display
2 , id as return
3 from demo_proj_milestones
4 order by 1
5
```

Click **Apply Changes**.

8. Click **Edit Page 8** on the toolbar, to return to Page Designer.
9. In the Rendering tree, locate the DEMO_PROJ_TASKS region. Expand the **Columns** node, and click the **ASSIGNEE** column. In the Property Editor:
 - Identification: Type - select **Select List**
 - List of Values: Type - select **Shared Component**
 - List of Values: List of Values - select **TEAM MEMBERS**
 - Layout: Column Alignment - select **start**

Column	
Filter Properties	
Identification	
Column Name	ASSIGNEE
Type	Select List
Heading	
Layout	
Sequence	40
Column Alignment	start
Group	- Select -
Appearance	
Validation	
List of Values	
Type	Shared Component
List of Values	TEAM MEMBERS

10. In the Rendering tree, click the **PROJECT_ID** column. In the Property Editor:

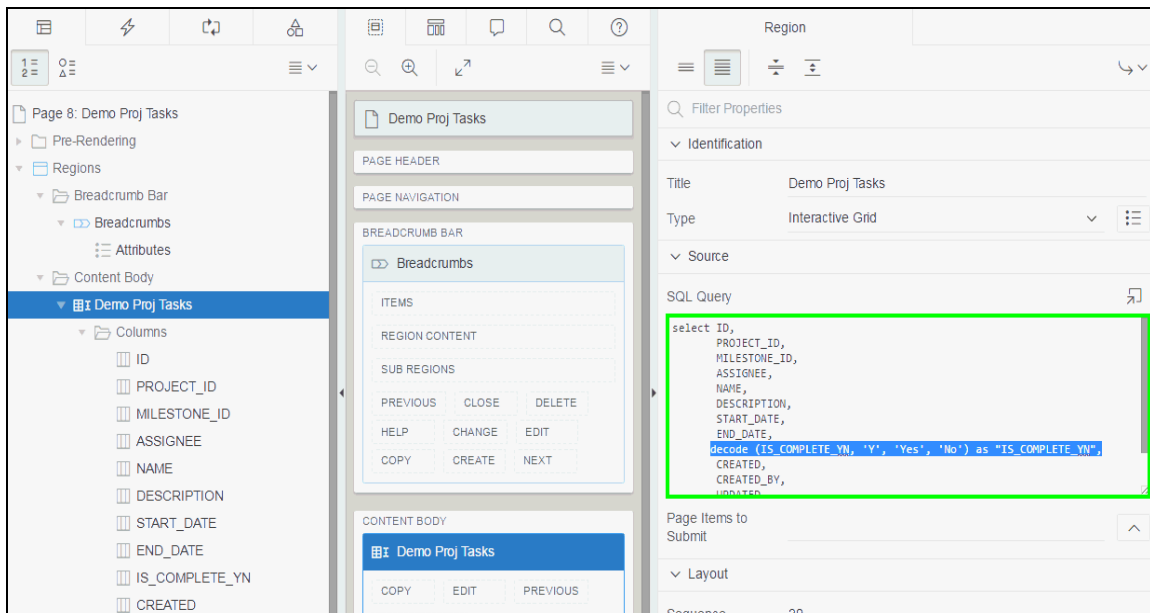
- Identification: Type - select **Select List**
- List of Values: Type - select **Shared Component**
- List of Values: List of Values - select **PROJECTS**
- Heading: Heading - enter **Project**
- Layout: Column Alignment - select **start**

11. In the Rendering tree, click the **MILESTONE_ID** column. In the Property Editor:

- Identification: Type - select **Select List**
- List of Values: Type - select **Shared Component**
- List of Values: List of Values - select **MILESTONES**
- Heading: Heading - enter **Milestone**

- Layout: Column Alignment - select **start**
- The Name column is ambiguous and should be relabeled. In the Rendering tree, click the **NAME** column.
In the Property Editor, for Heading enter **Task**.
 - The IS_COMPLETE_YN column should be relabeled and the values should be Yes / No, rather than Y / N. To change the displayed value, you can either modify the SQL Source for the report, or define a List of Values.
In the Rendering tree, select the **DEMO_PROJ_TASKS** region.
 - For the SQL Query, replace "IS_COMPLETE_YN", with the following:

```
decode (IS_COMPLETE_YN, 'Y', 'Yes', 'No') as "IS_COMPLETE_YN",
```



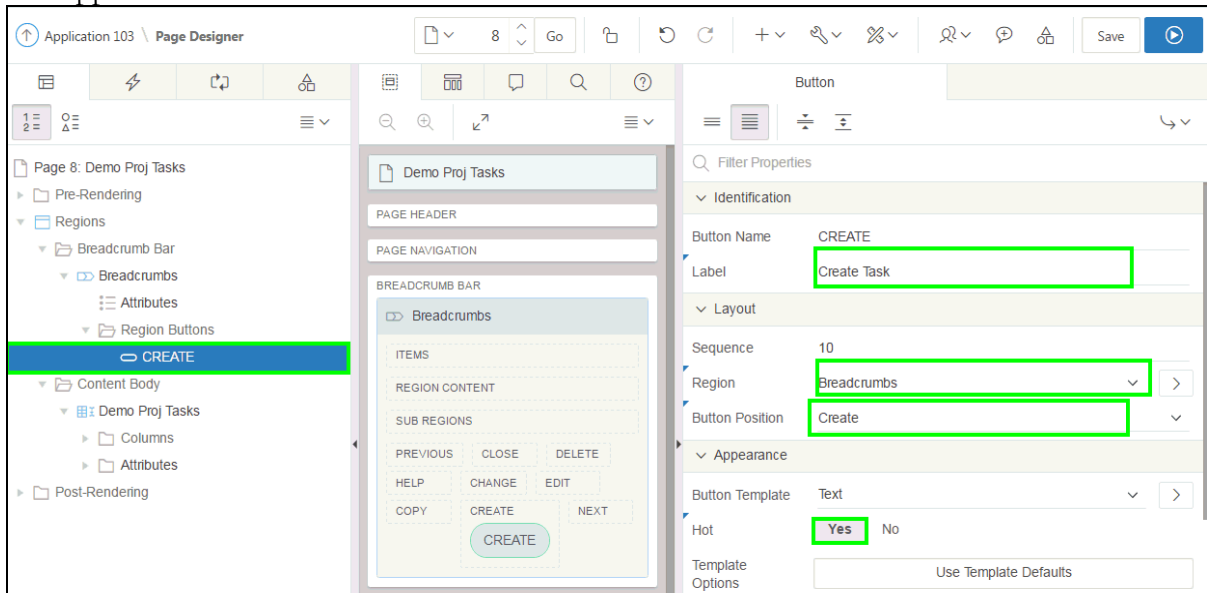
- In the Rendering tree, click the **IS_COMPLETE_YN** column.
In the Property Editor, for Heading enter **Completed?**

16. Reposition the CREATE button to the top of the page. Locate the **DEMO_PROJ_TASKS** region.

Select the **Create** button.

In the Property Editor:

- Identification: Label - enter **Create Task**
- Layout: Region - select **Breadcrumbs**
- Layout: Button Position - select **Create**
- Appearance: Hot - select **Yes**



17. Click **Save**. Then, click **Save and Run Page**.

18. In the interactive grid, rearrange the Task and Assignee columns so that Task is displayed first followed by Assignee.

Then, click **Actions > Report > Save**. The default report is saved for all users.

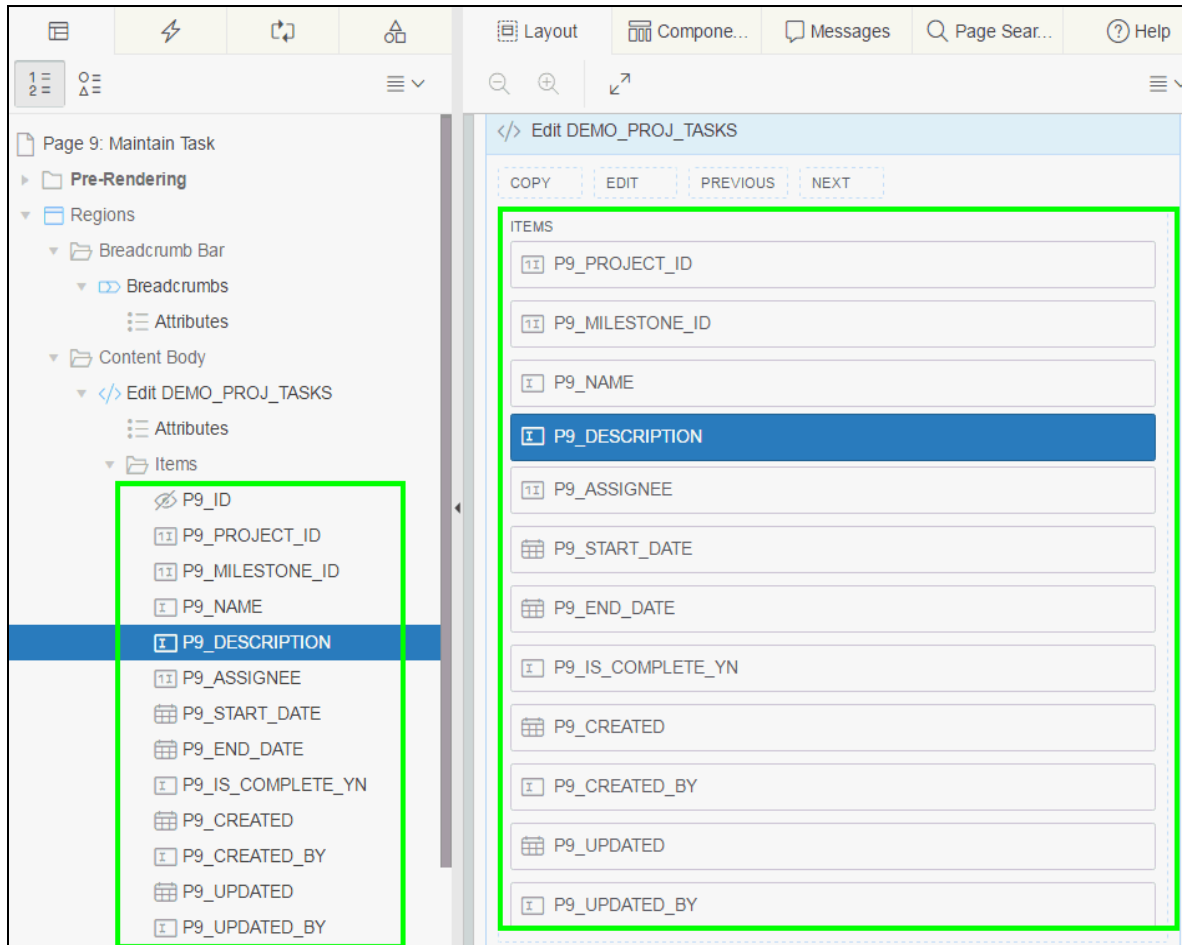
19. Your screen should look like:

	Task	Assignee	Start Date ↑	End Date	Completed?
▼ Project: Configure Web Development Tool Environment, Milestone: -					
	Identify Server Requir...	Chaitanya	08-JAN-17	09-JAN-17	Yes
	Install Web developm...	Mei Yu	10-JAN-17	10-JAN-17	Yes
	Configure Web Listen...	Harold Youngblood	10-JAN-17	10-JAN-17	Yes
	Configure Web devel...	Bernard Jackman	11-JAN-17	11-JAN-17	Yes
	Define Workspaces	Mei Yu	12-JAN-17	12-JAN-17	Yes
	Assign Workspace Ad...	Harold Youngblood	12-JAN-17	12-JAN-17	No
▼ Project: Develop Partner Portal POC, Milestone: Build Proof-of-Concept					
	Design first-cut of ma...	Madison Smith	14-FEB-17	18-FEB-17	No
	Populate Data Structu...	Harold Youngblood	15-FEB-17	16-FEB-17	No

20. In the interactive grid, click a task. Then, in the Developer Toolbar, click **Edit Page 9**.

21. Update the page items. The first requirement is to shuffle the page items, using drag and drop in either the Rendering tree or the Layout, such that the items are in the following order:

- P9_PROJECT_ID
- P9_MILESTONE_ID
- P9_NAME
- P9_DESCRIPTION
- P9_ASSIGNEE
- P9_START_DATE
- P9_END_DATE
- P9_IS_COMPLETE_YN



22. Under Rendering, select the **P9_PROJECT_ID** item. In the Property Editor:

- Identification: Type - select **Select List**
- Label: Label - enter **Project**
- Appearance: Template - select **Required**
- Validation: Value Required - select **Yes**
- List of Values: Type - select **Shared Component**
- List of Values: List of Values - select **PROJECTS**
- List of Values: Display Extra Values - select **No**
- List of Values: Null Display Value - enter - **Select Project –**

23. The Milestones item should be defined as a Cascading List of Values, whereby only the milestones for the currently selected Project item are displayed. In the Layout, under Content Body, click the **P9_MILESTONE_ID** item. In the Property Editor:

- Identification: Type - select **Select List**
- Label: Label - enter **Milestone**
- List of Values: Type - select **SQL Query**
- List of Values: SQL Query - cut and paste the following:

```
select name as display, id as return
from demo_proj_milestones
where project_id = :P9_PROJECT_ID
order by 1
```

- List of Values: Display Extra Values - select **No**
- List of Values: Null Display Value - enter - **Select Milestone -**
- List of Values: Cascading LOV Parent Item(s) - select **P9_PROJECT_ID**

Note: You cannot use the MILESTONES List of Values for this item, as this query needs to limit the milestone records returned to those for the selected project, using P9_PROJECT_ID.

Page Item

Filter Properties

Identification

Name P9_MILESTONE_ID

Type **Select List**

Label **Milestone**

Settings

Layout

Appearance

Validation

Value Required Yes **No**

Page Item

Filter Properties

List of Values

Type: SQL Query

SQL Query

```
select name as display, id as return
from demo_proj_milestones
where project_id = :P9_PROJECT_ID
order by 1
```

Display Extra Values: Yes No

Display Null Value: Yes No

Null Display Value: - Select Milestone -

Null Return Value:

Cascading LOV Parent Item(s): P9_PROJECT_ID

Items to Submit:

Optimize Refresh: Yes No

24. In the Rendering tree, click the **P9_NAME** item. In the Property Editor:

- Label: Label - enter **Task**
- Appearance: Template - select **Required**
- Appearance: Width - enter **60**
- Validation: Value Required - select **Yes**

25. In the Layout, click the **P9_DESCRIPTION** item. In the Property Editor:

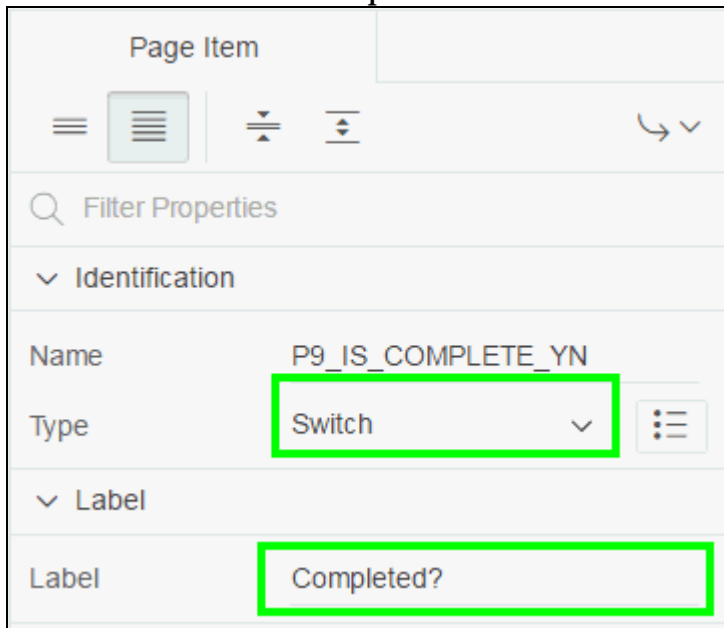
- Identification: Type - select **Textarea**
- Appearance: Width - enter **70**

26. In the Grid Layout, under Content Body, click the **P9_ASSIGNEE** item. In the Property Editor:

- Identification: Type - select **Select List**
- List of Values: Type - select **Shared Component**
- List of Values: List of Values - select **TEAM_MEMBERS**
- List of Values: Display Extra Values - select **No**
- List of Values: Null Display Value - enter - **Select Assignee –**

27. In the Rendering tree, click the **P9_IS_COMPLETE_YN** item. In the Property Editor:

- Identification: Type - select **Switch**
- Label: Label - enter **Completed?**



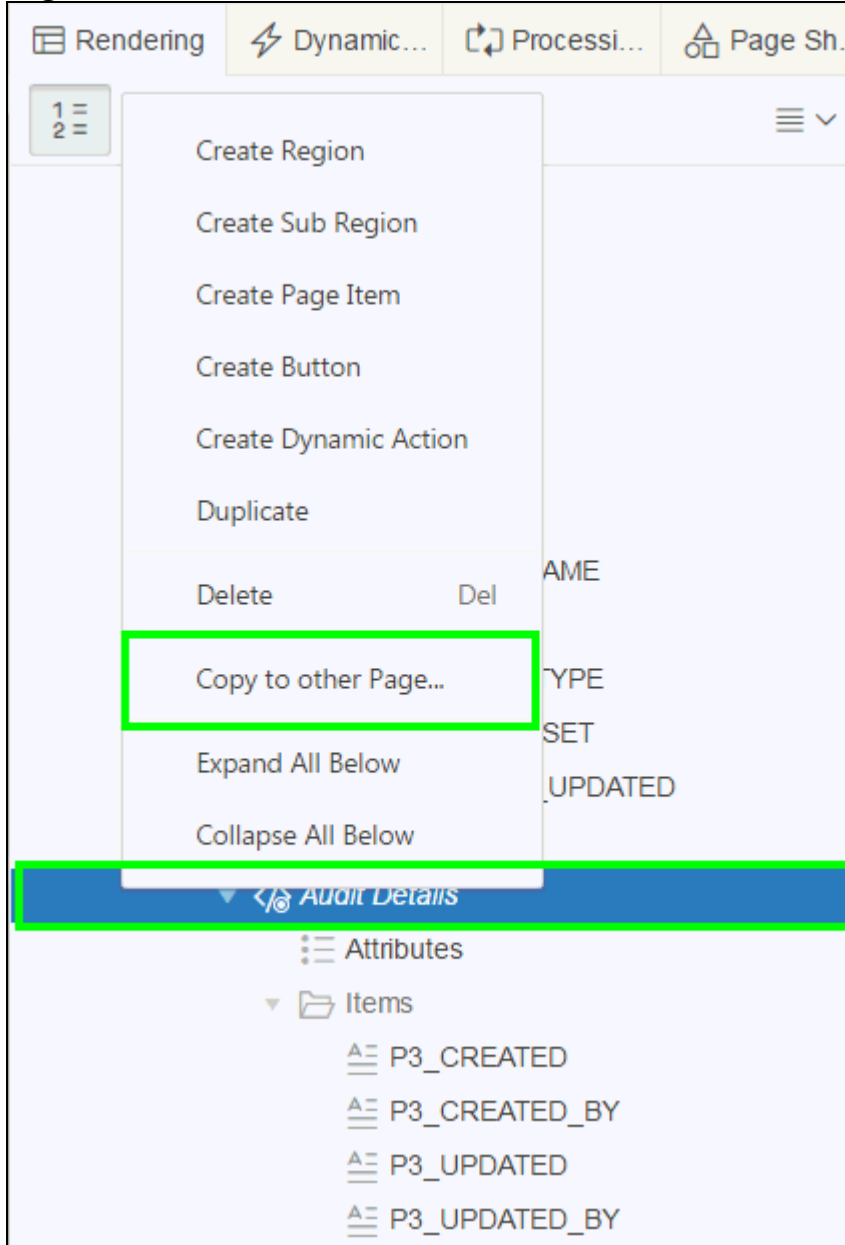
28. Delete the four audit items from the Maintain Milestone page. In the Rendering tree, hold the Ctrl key and click these to select them all: **P9_CREATED**, **P9_CREATED_BY**, **P9_UPDATED**, and **P9_UPDATED_BY**.

Then, right-click and select **Delete**.

29. Click **Save**.

27. Copy the Audit Details region from Page 3 to Page 9. In page designer, navigate to **Page 3**.

28. In the Rendering tree, right-click the **Audit Details** sub region and select **Copy to other Page....**



29. Enter **9** for To Page and select **Yes** for Copy Region Items. Click **Next**.
30. Click **Copy**.
31. In Page Designer, navigate back to **Page 9**.
32. In the Rendering tree, select the **Audit Details** sub region.
In the Property Editor, for Parent Region select **Edit DEMO_PROJ_TASKS**.
Click **Save**.

33. Given that the Maintain Task page is a normal page, rather than a modal page, you can simply click **Save and Run Page** to review the page.

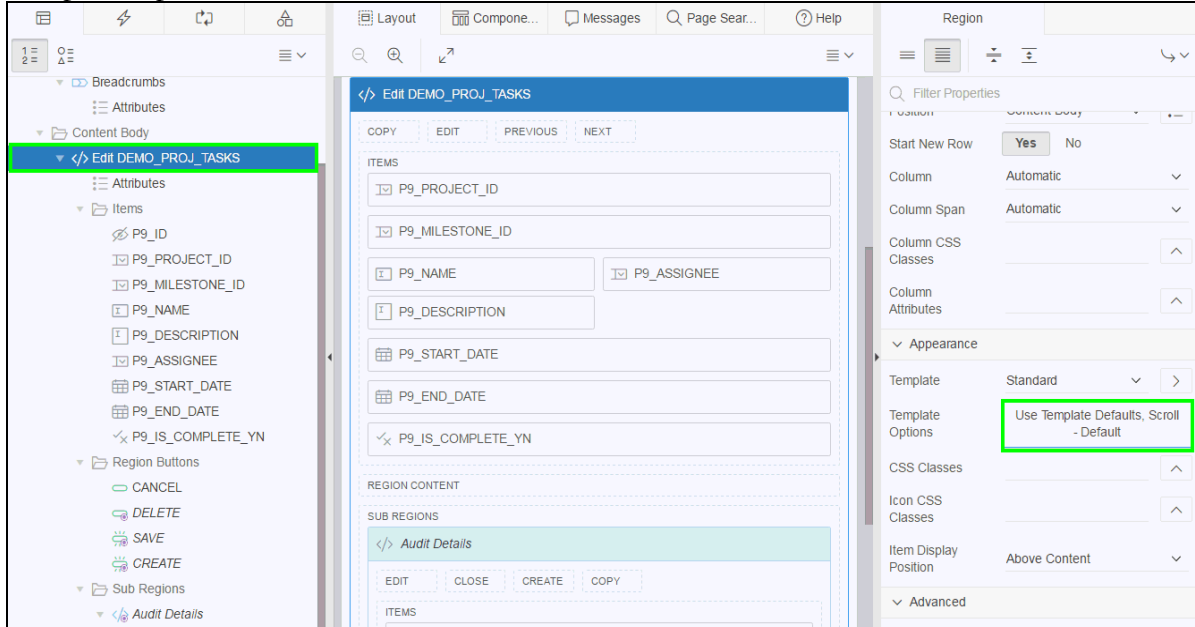
The screenshot displays the 'Edit DEMO_PROJ_TASKS' page in Oracle APEX. The page is titled 'Demo Proj Tasks' and contains a form with the following fields:

- Project Id: 1
- Milestone Id: (empty)
- Name: Identify Server Requirements
- Assignee: 13
- Description: Determine which databases will b
- Start Date: 08-JAN-17
- End Date: 09-JAN-17
- Is Complete Yn: Y
- Created: 08-FEB-17
- Created By: CHAITANYA
- Updated: 08-FEB-17
- Updated By: CHAITANYA

The page includes a 'Cancel' button and 'Delete' and 'Save' buttons. The footer contains a toolbar with icons for Home, Application 103, Edit Page 9, Session, View Debug, Debug, Show Layout Columns, Quick Edit, Theme Roller, and a settings icon.

34. The Maintain Task displays the region title Edit DEMO_TASKS and also has a border around the region. Click **Edit Page 9** in the Develop Toolbar, to return to Page Designer.

35. In the Rendering tree, click the **Edit DEMO_TASKS** region. In the Property Editor, click the **Template Options** button.



36. In the Template Options dialog, input the following:

- Header - select Hidden but accessible
- Style - select Remove UI Decoration

Click **OK**.

Template Options

Common

General

- Use Template Defaults
- Remove Body Padding
- Show Maximize Button

Body Height: Auto - Default

Header: Hidden but accessible

Accent: Default

Style: Remove UI Decoration

Advanced

Body Overflow: Scroll - Default

Item Padding: Default

Item Size: Default

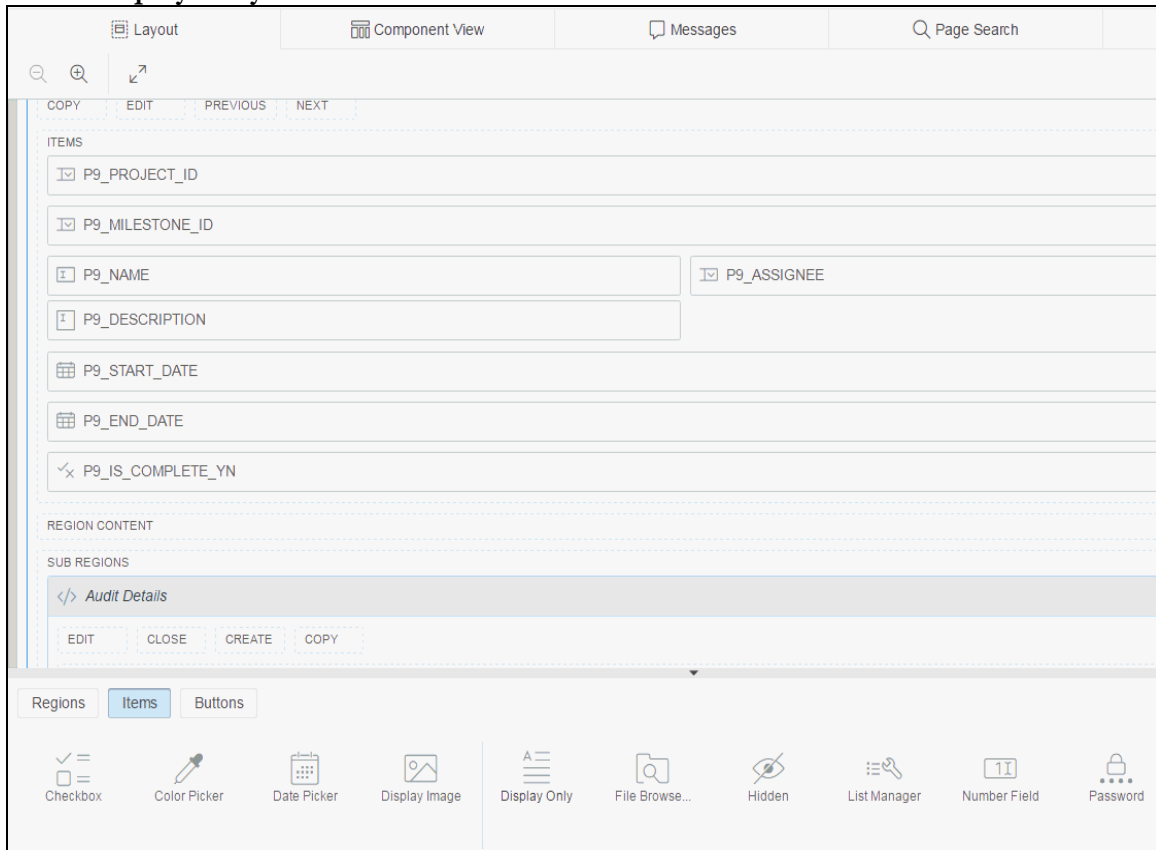
Item Width: Default

Cancel OK

37. It would also be beneficial to include the Milestone Due Date on the page so it can be compared to the Task End Date. To facilitate this add a display only item and then populate the item based on the selected Milestone.

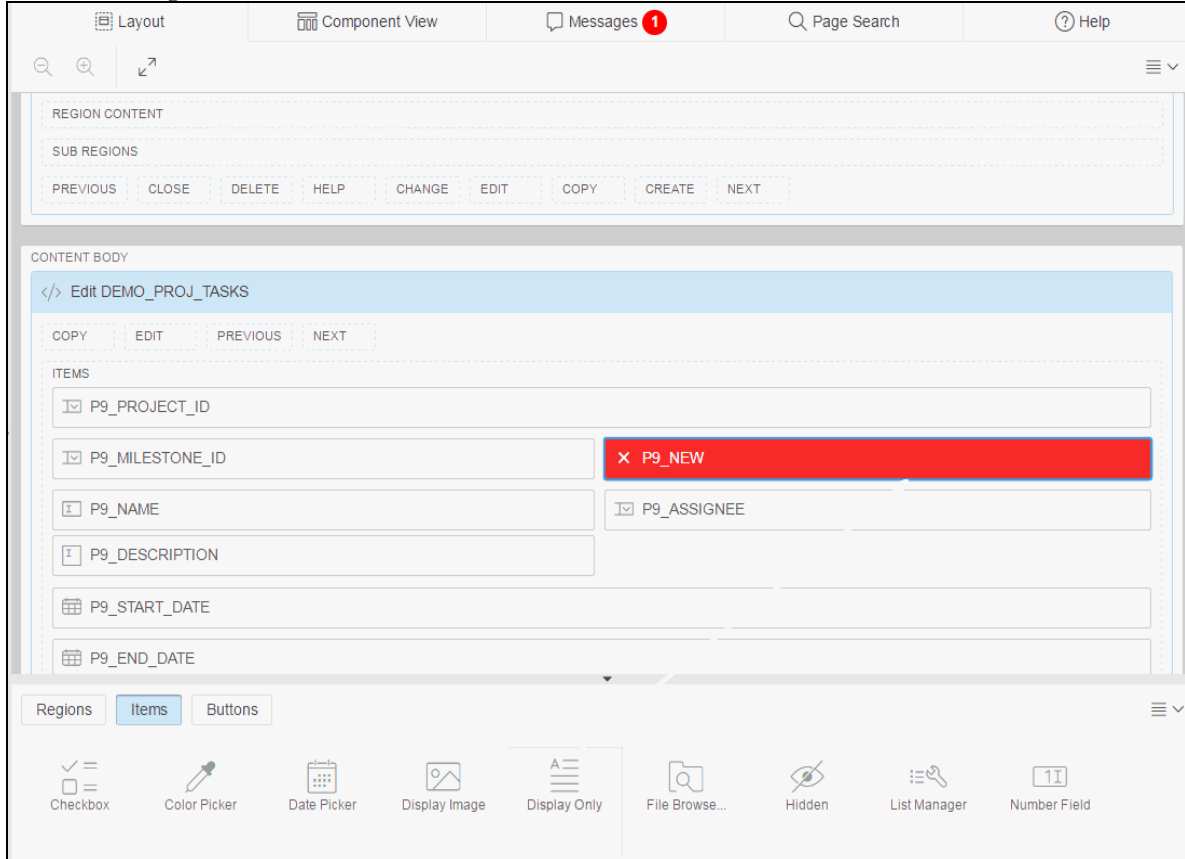
In the Layout, click the bottom divider to display the Gallery. In the Gallery, click **Items** and

locate **Display Only**.



38. Click and hold **Display Only** and drag it to the left of the **P9_MILESTONE_ID** in the Layout.

You will need to hover to the left of the existing item before the dark yellow box displays next to the existing item.



39. Set the attributes for the new item. In the Property Editor:

- Identification: Name - enter **P9_MILESTONE_DUE_DATE**
- Label: Label - enter **Due Date**
- Settings: Save Session State - select **No**
- Source: Type - select **Null**

Note: This item is display only and is not based on a Database Column. As such it is very important to not save session state for this item and to set the source type appropriately.

The screenshot shows the Oracle APEX Page Item Properties dialog box. The 'Name' field is set to 'P9_MILESTONE_DUE_DATE'. The 'Type' is set to 'Display Only'. The 'Label' is set to 'Due Date'. Under the 'Settings' section, 'Save Session State' is set to 'No', 'Based On' is set to 'Page Item Value', and 'Show Line Breaks' is set to 'Yes'. Under the 'Source' section, the 'Type' is set to 'Null' and the 'Used' property is set to 'Only when current value in session state is null'. The 'Save' button is highlighted in green.

Property	Value
Name	P9_MILESTONE_DUE_DATE
Type	Display Only
Label	Due Date
Save Session State	No
Based On	Page Item Value
Show Line Breaks	Yes
Source Type	Null
Used	Only when current value in session state is null



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Hardware and Software, Engineered to Work Together