



## **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 will also create and use dynamic list of values.

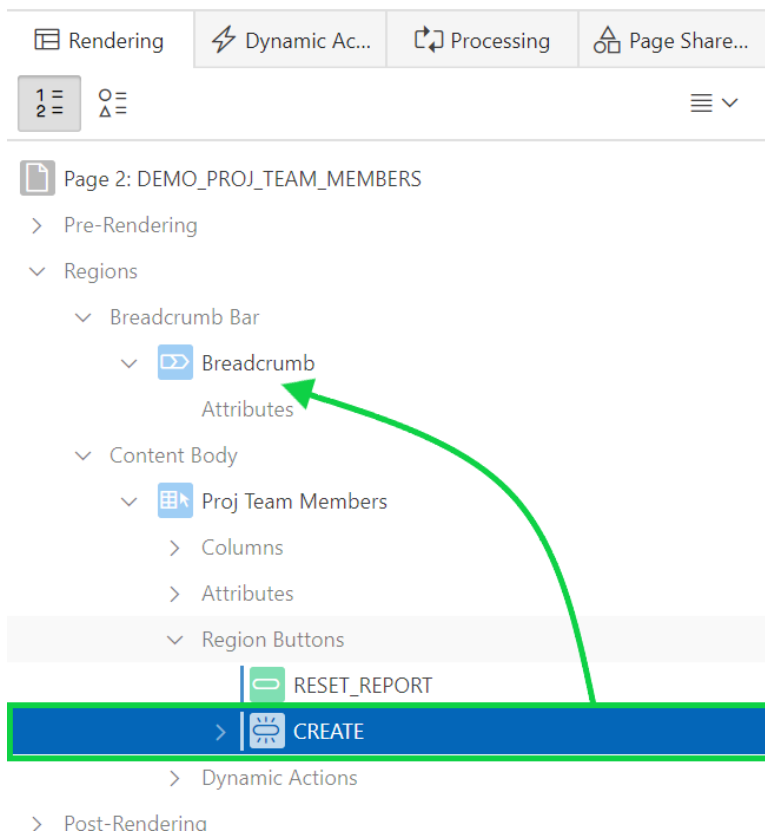
**HOL 9-3 Updating the Milestones Pages:** This hands-on lab covers updating item properties, creating and using dynamic and static list of values.

**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 will also use the list of values created as shared components.

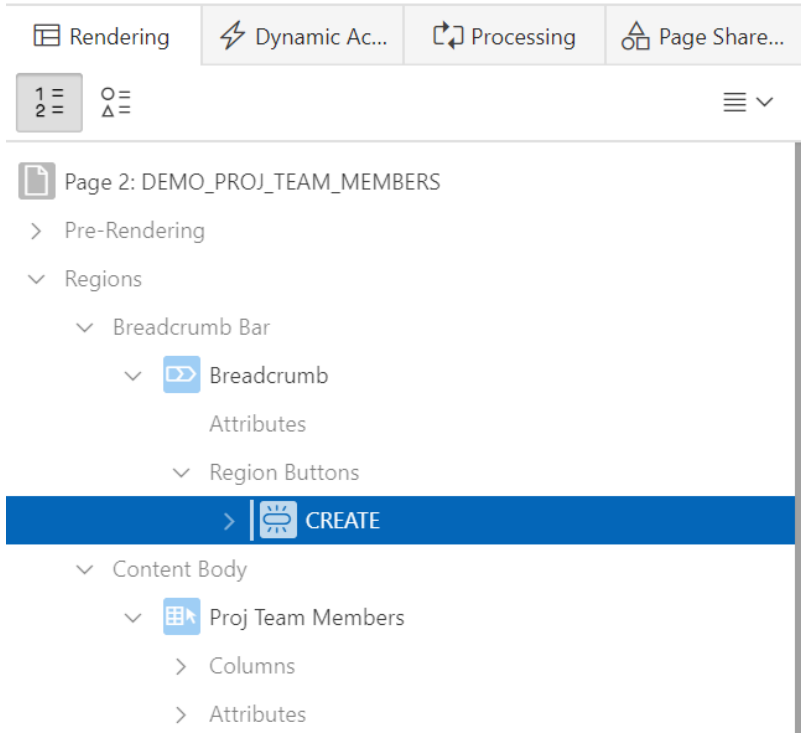
## HOL 9-1 Updating the Team Members Pages

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 report.

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: Make sure **Hot** is enabled.

Click **Save and Run Page**.

Button

Filter

Identification

Button Name CREATE

Label Add Team Member

Layout

Sequence 10

Region Breadcrumb

Button Position Create

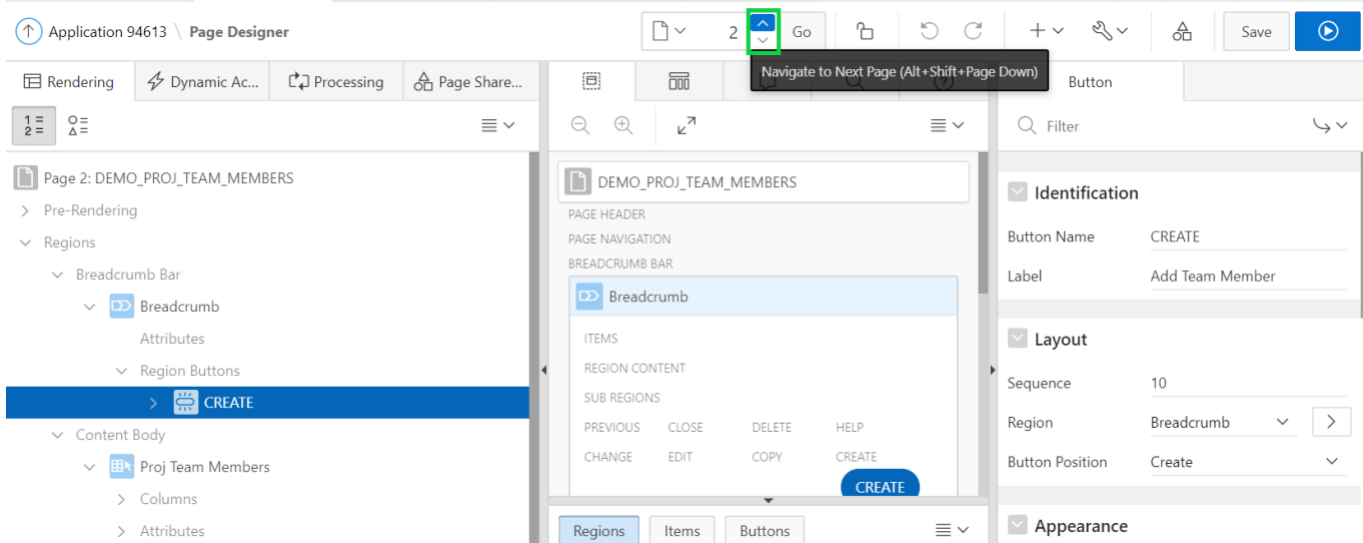
Appearance

Button Template Text

Hot ☒

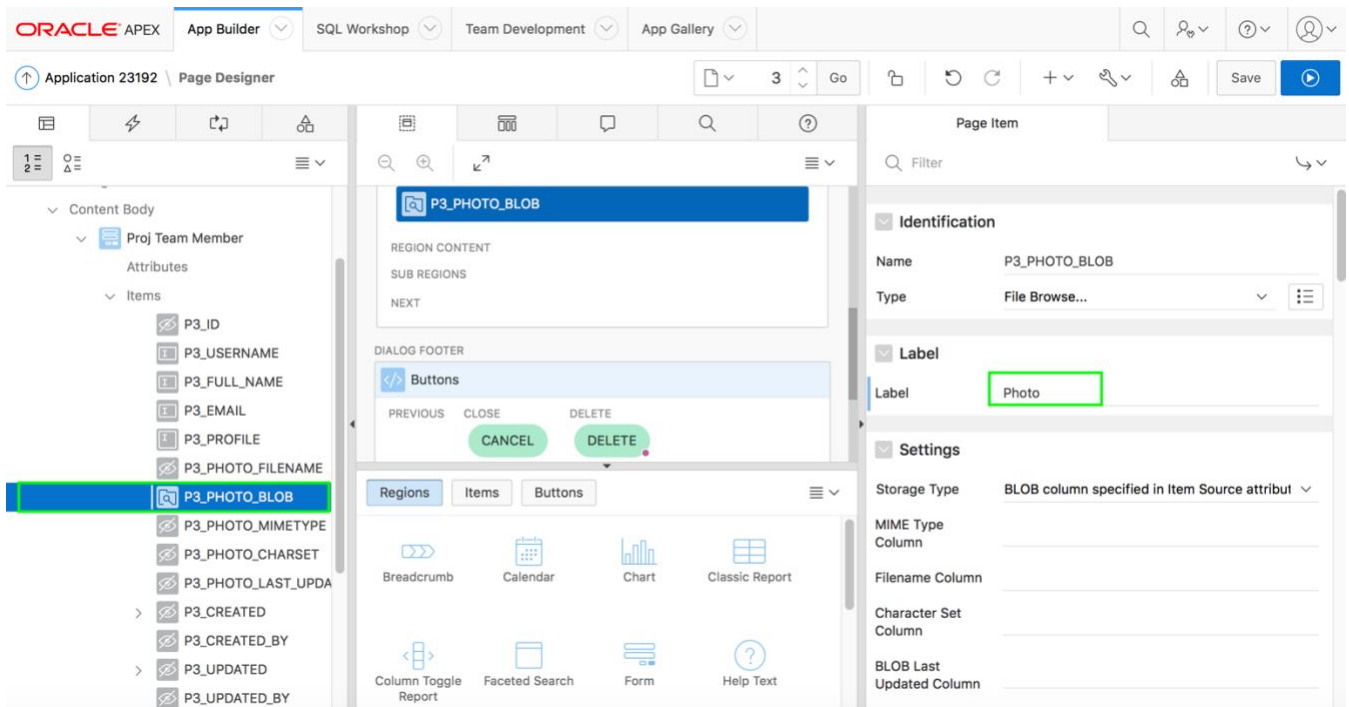
Template Options Use Template Defaults

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 alter the Photo Blob field to support file upload to a table.

In the Rendering tree, click the P3\_PHOTO\_BLOB item. For Label, enter **Photo**.

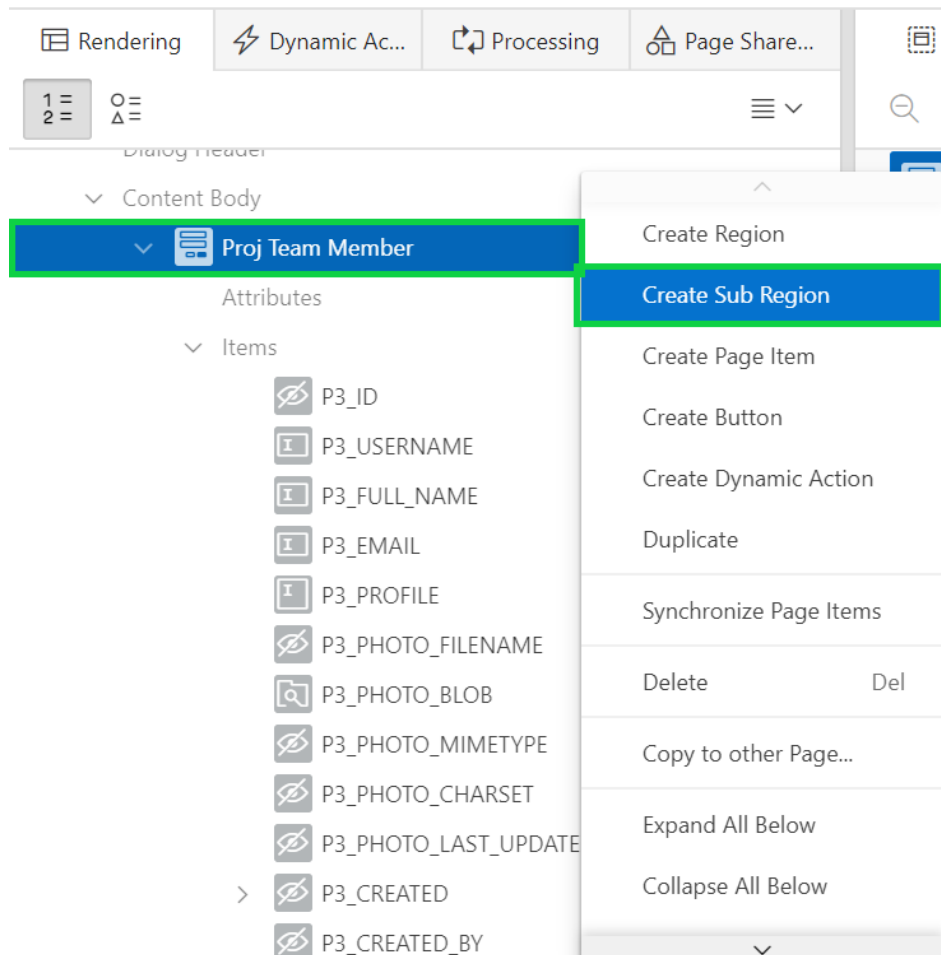


7. The tables you created earlier include audit columns for storing when and who created and last updated each record. End users should never be allowed to enter data into these columns. Furthermore, these columns should not display when the user creates a new record.

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 **PROJ\_TEAM\_MEMBER** and select **Create Sub Region**.



8. 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**.

Region

Filter

▼ Identification

Title Audit Details

Type Static Content

> Source

> Layout

▼ Appearance

Template Collapsible

Template Options Use Template Defaults, Expanded, Scroll - Default

CSS Classes

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



### Template Options

Common

General

☒ Use Template Defaults

☐ Remove Body Padding

☐ Remember Collapsible State

Collapsible Button Icons

Arrows

▼

Collapsible Icon Position

Start

▼

Default State

Collapsed

▼

Body Height

Auto - Default

▼

Accent

Default

▼

Style

Remove UI Decoration

▼

Advanced

Cancel

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.

Region

Filter

☒ Header and Footer

Header Text

Footer Text

☒ Server-side Condition

Type	Item
Item is NOT NULL	P3_ID

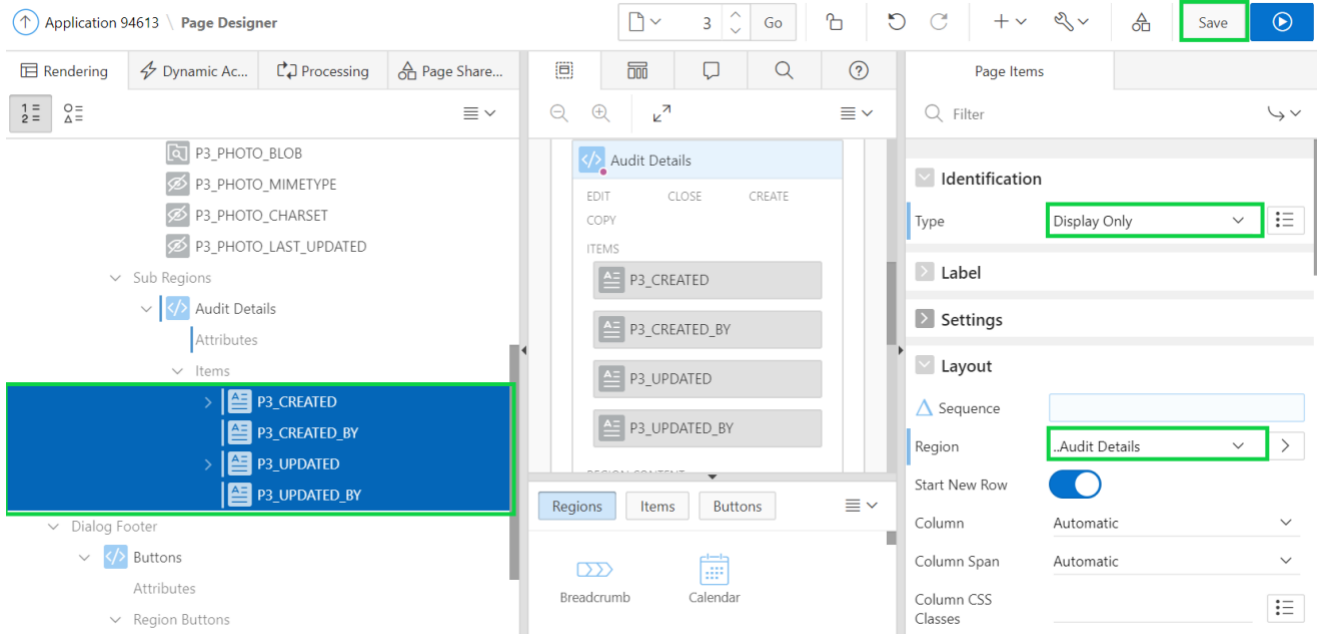
11. Move the audit columns into the new region.

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.

Demo Projects

Home
DEMO\_PROJ\_TEAM\_MEMBE...
DEMO\_PROJECTS
DEMO\_PROJ\_MILESTONES
DEMO\_PROJ\_TASKS
Dashboard
Administration

DEMO\_PROJ\_TEAM\_MEMBERS

Add Team Member

Q

Go

1. Primary Report

Actions

Reset

	Username ↑	Full Name	Email	Profile
	BERNIE	Bernard Jackman	bernard.jackman@email.com	I am a great believer in the fact there is no "i" in TEAM.
	DJ	Daniel James Lee	daniel.lee@email.com	I am a DJ, I am what I say. If you ask me a question and I don't answer, it is not because I'm rude, it is probably because I have my earbuds in and am rocking out to some gangsta rap.
	EVA	Eva Jelinek	eva.jelinek@email.com	I will tell you directly what I think and expect you to tell me the same. If you are sensitive then it may be best you don't talk to me.
	HARRY	Harold Youngblood	harold.youngblood@email.com	Providing I have my soy latte, falafel, and my MacBook - Bring It!
	LBEATIE	Lucille Beattie	lucy.beattie@email.com	I have extensive experience running development teams. If I can't bring in a project on time and on budget it can't be done.
	LOWCODE	Lowcode	-	I'm the one who ran this data script to populate these demo tables.
	MADY	Madison Smith	madison.smith@email.com	Mady to my friends - I love being creative and coming up with beautiful solutions.

## Maintain Team Member



Username

BERNIE

Full Name

Bernard Jackman

Email

bernard.jackman@email.com

Profile

I am a great believer in the fact there is no "i" in TEAM.

Photo

Choose file

[Download](#)

Audit Details

Cancel

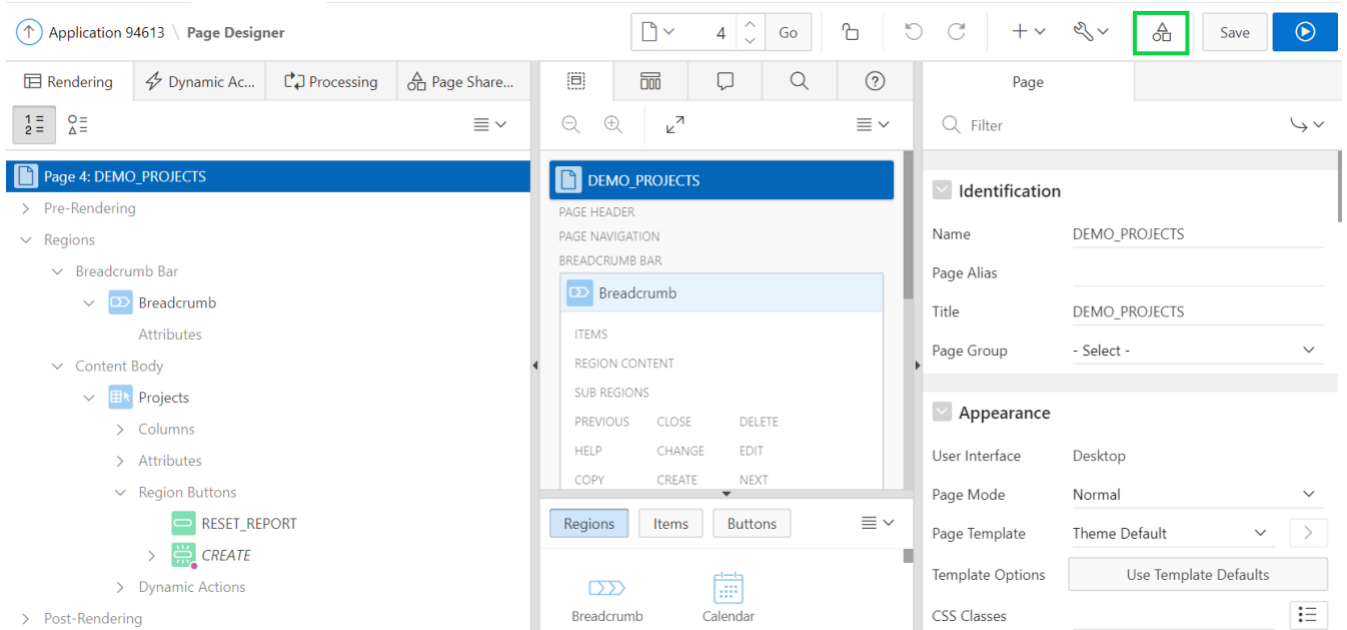
Delete

Apply Changes

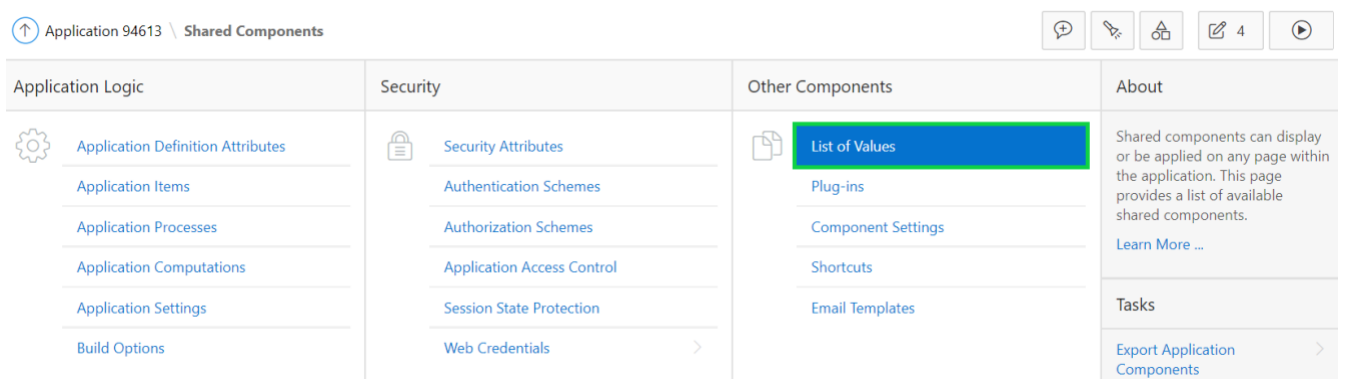
## HOL 9-2 Updating the Projects Pages

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 the username 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**.

## Create List of Values ×

✓

●

●

**Name and Type**

Static lists are based on predefined pairs of display and return values. Dynamic lists are based on a dynamic data source of either Local Database, REST Enabled SQL or Web Source Module.

\* Name  ?

Type: ☒ **Dynamic** ?  
☐ Static

< Cancel

Next >

7. For List of Values Source, click **SQL Query** for Source Type, copy and paste the SQL query and click **Next**.

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

## Create List of Values ×

✓

✓

List of Values Source

Data Source **Local Database** REST Enabled SQL Service Web Source ?

\* Source Type ☐ Table ☒ **SQL Query** ☐ Function Returning SQL ?

\* Enter a SQL SELECT statement ?

↶ ↷ 🔍 ↔ ⬆ A.. ✓

1 select full\_name as display,

2 id as return

3 from demo\_proj\_team\_members

4 order by 1

< Cancel

Next

8. For Column Mappings, accept the defaults and click **Create**.

## Create List of Values ×

✓

✓

✓

Column Mappings

\* Return Column RETURN ?

Display Column DISPLAY ?

< Cancel

Create

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

Application 94613 \ Shared Components \ Lists of Values

Lists of Values Edit Null Text Locally Defined Grid Edit Conditional Entries Subscription Utilization History

Search Go Actions Reset Copy Create >

Name	Type	Updated	Entry Count	Subscribed From	Subscribers
ACCESS_ROLES	Local	10 days ago			
DEMO_PROJECTS.NAME	Local	10 days ago			
DEMO_PROJ_MILESTONES.NAME	Local	10 days ago			
DEMO_PROJ_STATUS.DESCRPTION	Local	10 days ago			

**List of Values**

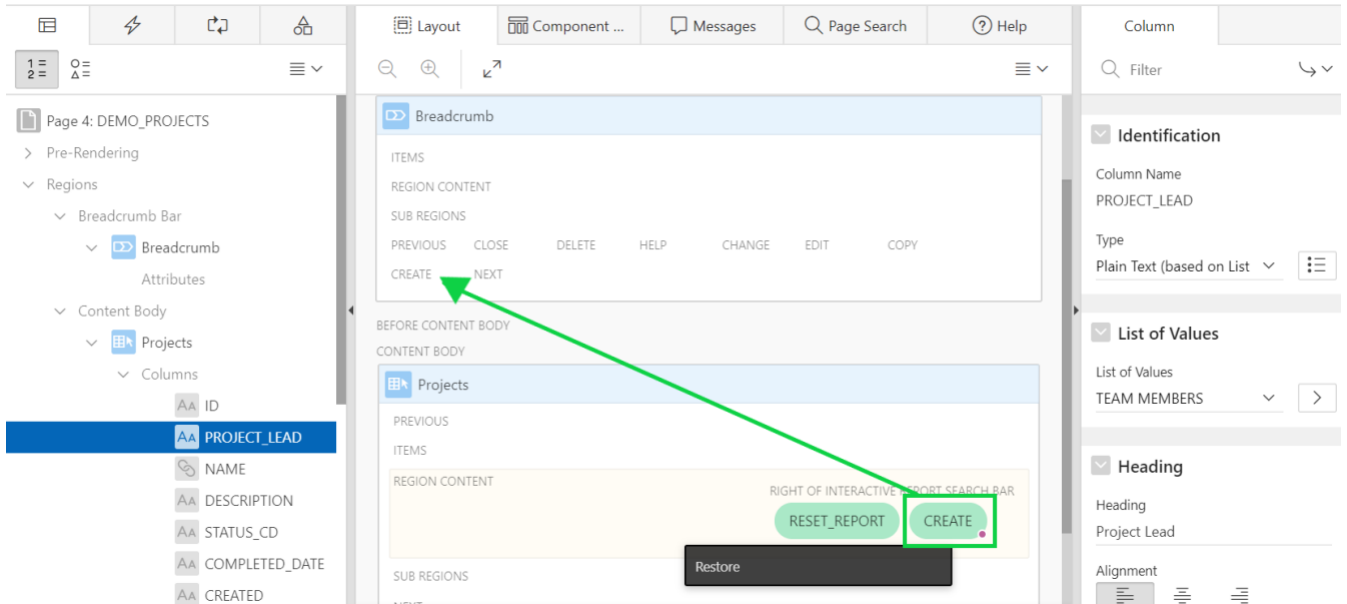
A List of Values can be referenced by page items as well as report fields. It controls the values displayed and limits the user's selection. Lists of Values can be static (based on values you enter), or dynamic (based on different data sources of either Local Database, REST Enabled SQL or Web Source Module).

10. In the Rendering tree, expand the **Columns** node under the DEMO\_PROJECTS region. Click the **PROJECT\_LEAD** column.
11. In the property editor, for List of Values select **Team Members** and click **Save**.

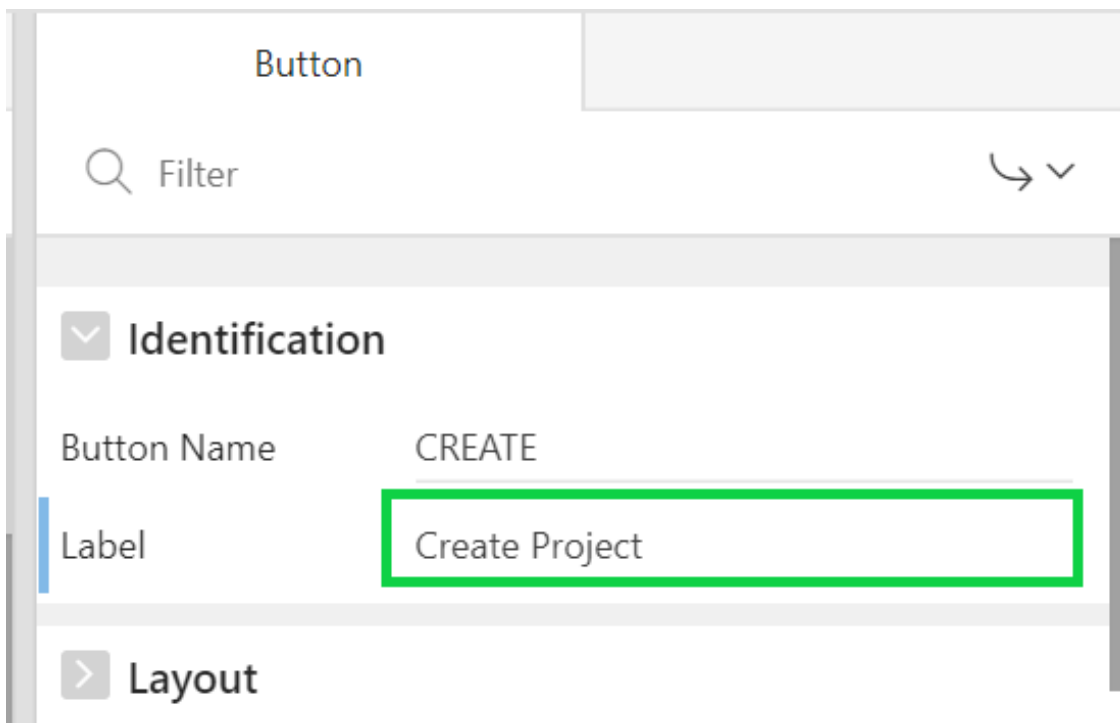


The screenshot shows the Oracle APEX Column Editor interface. At the top, there is a toolbar with icons for undo, redo, zoom in, zoom out, and a 'Save' button (highlighted with a green box). Below the toolbar, the 'Column' editor is displayed. It has a 'Filter' search bar and a 'List of Values' section. The 'List of Values' section shows a dropdown menu with 'TEAM MEMBERS' selected (highlighted with a green box). The 'Identification' section shows 'Column Name' as 'PROJECT\_LEAD' and 'Type' as 'Plain Text (based on List of)'. The 'Heading' section shows 'Heading' as 'Project Lead' and 'Alignment' as 'Left'.

12. 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 **PROJECTS** region. Click and hold the **Create** button and drag it up to the Breadcrumbs region and into the Create placeholder.



13. In the property editor, enter **Create Project** for label.



14. Click **Save and Run Page**.

15. Your screen might look like:

## DEMO\_PROJECTS

[Create Project](#)

Q

Go

Actions

Reset

Name	Project Lead	Status Cd	Completed Date	Milestones	Tasks
Develop Partner Portal POC	Lowcode	In-Progress	-	2	7
Configure Web Development Tool Environment	Lowcode	Completed	11/14/2019	0	6
Develop Production Partner Portal	Lucille Beatie	Assigned	-	5	17
Train Developers on Web development tool	Lucille Beatie	Completed	11/29/2019	2	6
Migrate Legacy Applications	Miyazaki Yokohama	In-Progress	-	3	9
				12	45

1 - 5

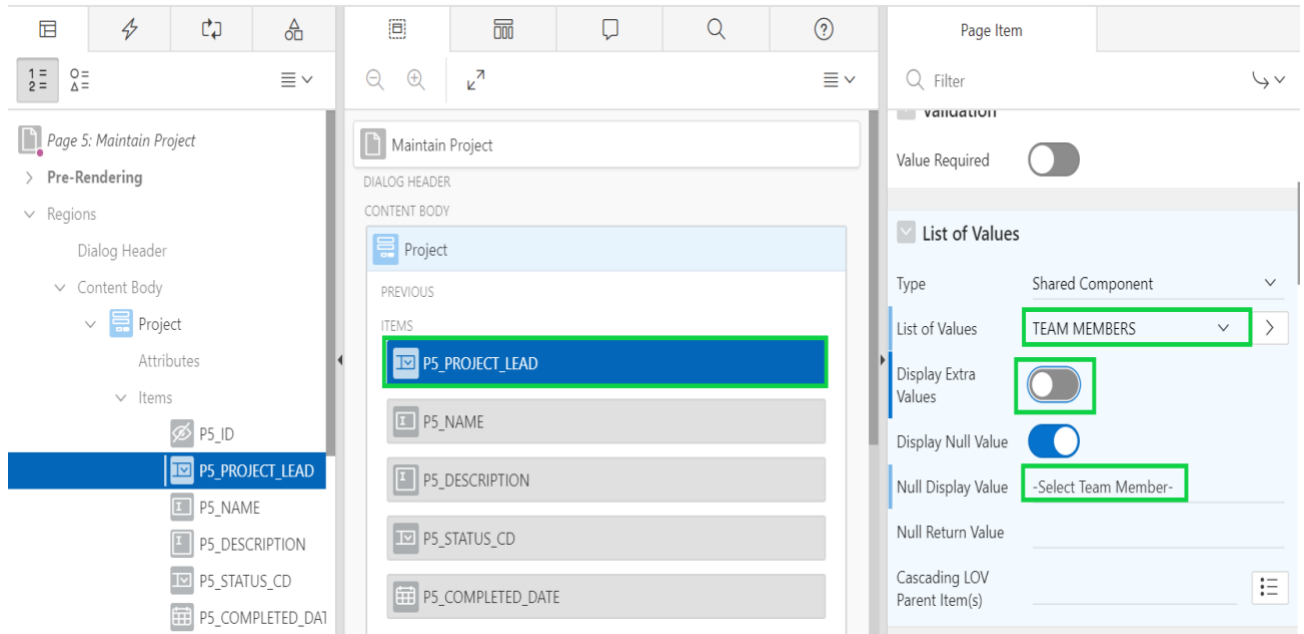
1 - 5

16. 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**.

The screenshot shows the Oracle APEX interface. On the left, the 'DEMO\_PROJECTS' table is displayed with a list of projects. The 'Develop Production Partner Portal' project is selected. On the right, the 'Maintain Project' form is open, showing the details of the selected project. The form fields include Project Lead (LBEATIE), Name (Develop Production Partner Portal), Description (Develop the production app that partners can use to work more collaboratively with us.), Status Cd (Assigned), and Completed Date. The 'Edit Page 5' button in the Developer Toolbar is highlighted.

17. In the Layout, under Content Body, click the P5\_PROJECT\_LEAD item. In the Property Editor, under **List of Values** enter the following and click **Save**.

- List of Values – select **Team Members**
- Display Extra Values – click to **Disable**
- Null Display Value – enter **-Select Team Member-**



18. Next define a list of statuses. In Page Designer, click the **Shared Components** button, found on the right side of the toolbar. Perform the following steps:

- a) Under Other Components, click **List of Values** and click **Create**.
- b) For Create List of Values, select **From Scratch** and click **Next**.
- c) Enter **Statuses** for Name and click **Next**.
- d) For List of Values, click **SQL Query** for Source Type and copy and paste the SQL Query in the Enter a SQL SELECT statement box. and click **Next**.

```
select description as display,
cd as return
from demo_proj_status
order by 1
```

- e) For Column Mappings, select **Return** for Return Column and click **Create**.
- f) Click **Edit Page 5** icon on the toolbar, to return to Page Designer.

19. Navigate to the Demo Projects application runtime environment.

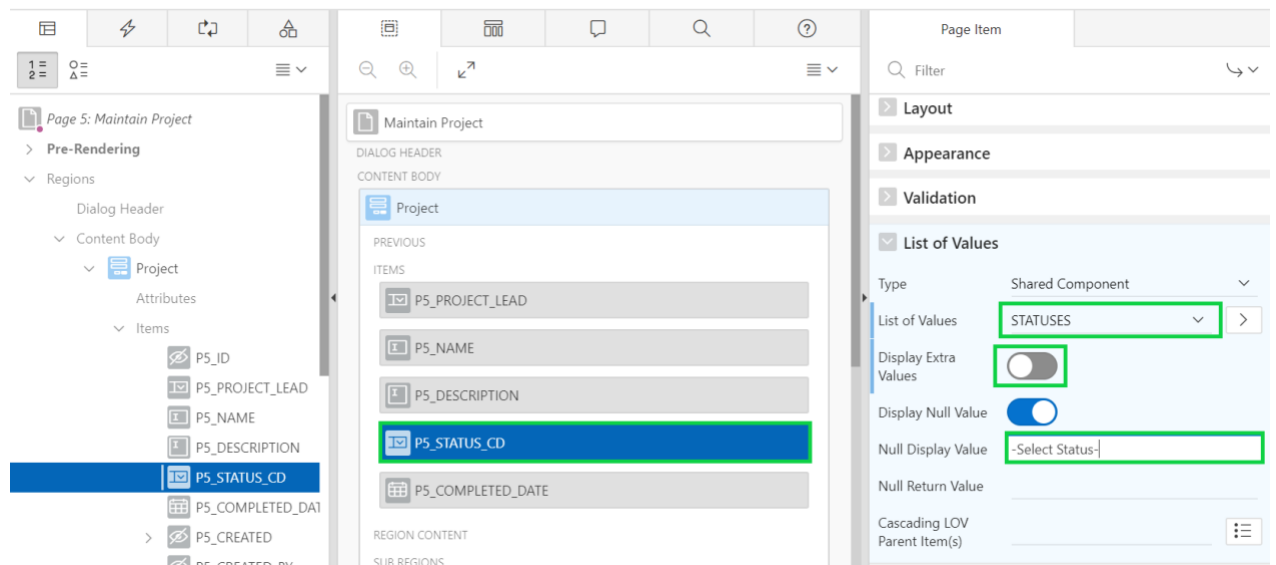
In the navigation menu, click **Demo Projects**.

Click a project name and then in the Developer Toolbar, click **Edit Page 5**.

In the Layout, under Content Body, click the **P5\_STATUS\_CD** item. In the Property Editor:

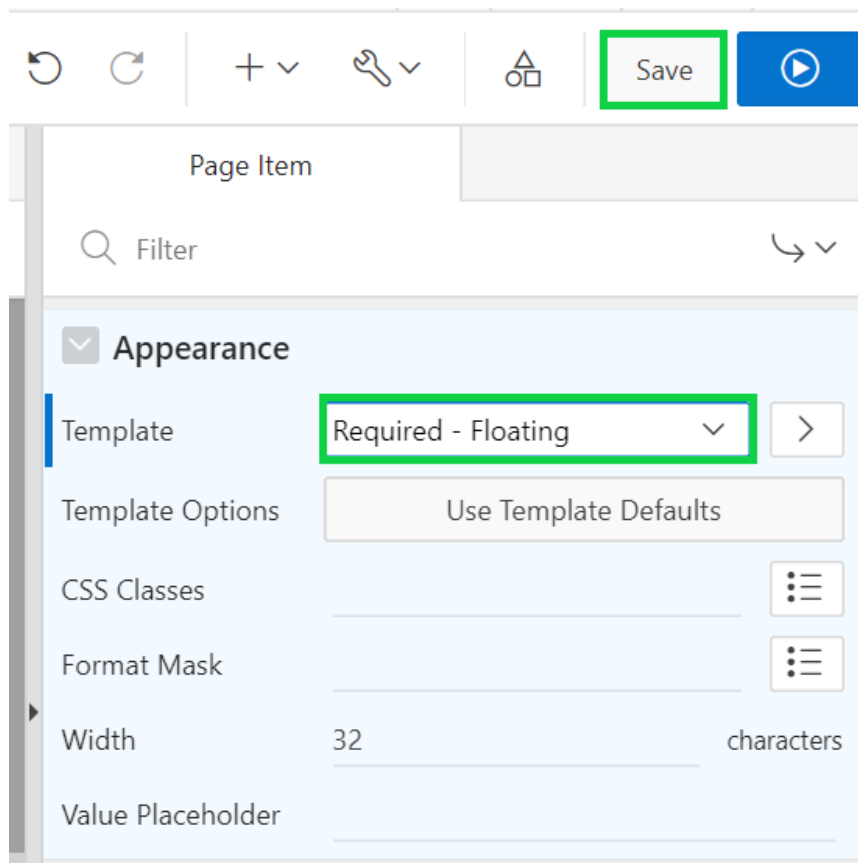
- List of Values: List of Values – select **Statuses**
- List of Values: Display Extra Values – click to **Disable**

- List of Values: Null Display Value – enter **-Select Status-**



20. Click the **P5\_COMPLETED\_DATE** item.

In the property editor, under Appearance, select **Required - Floating** for Template. Then, click **Save**.



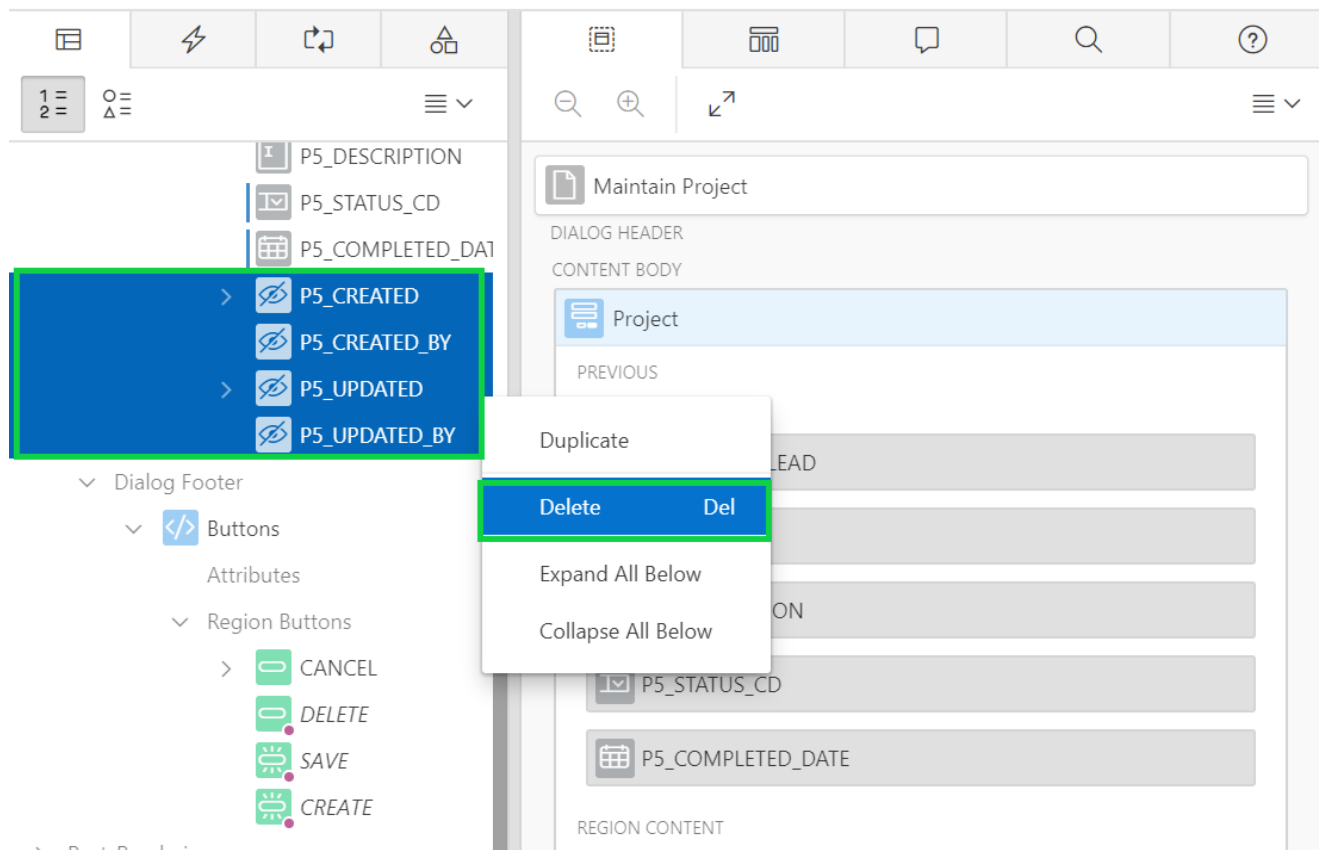
21. In the lab HOL 9-1, you created a sub-region called Audit Details for the Maintain Team Member page (Page 3). Since the four items included in that region are the same as those on the Maintain Project page and are associated with the exact same database columns, you can copy them to the Maintain 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.

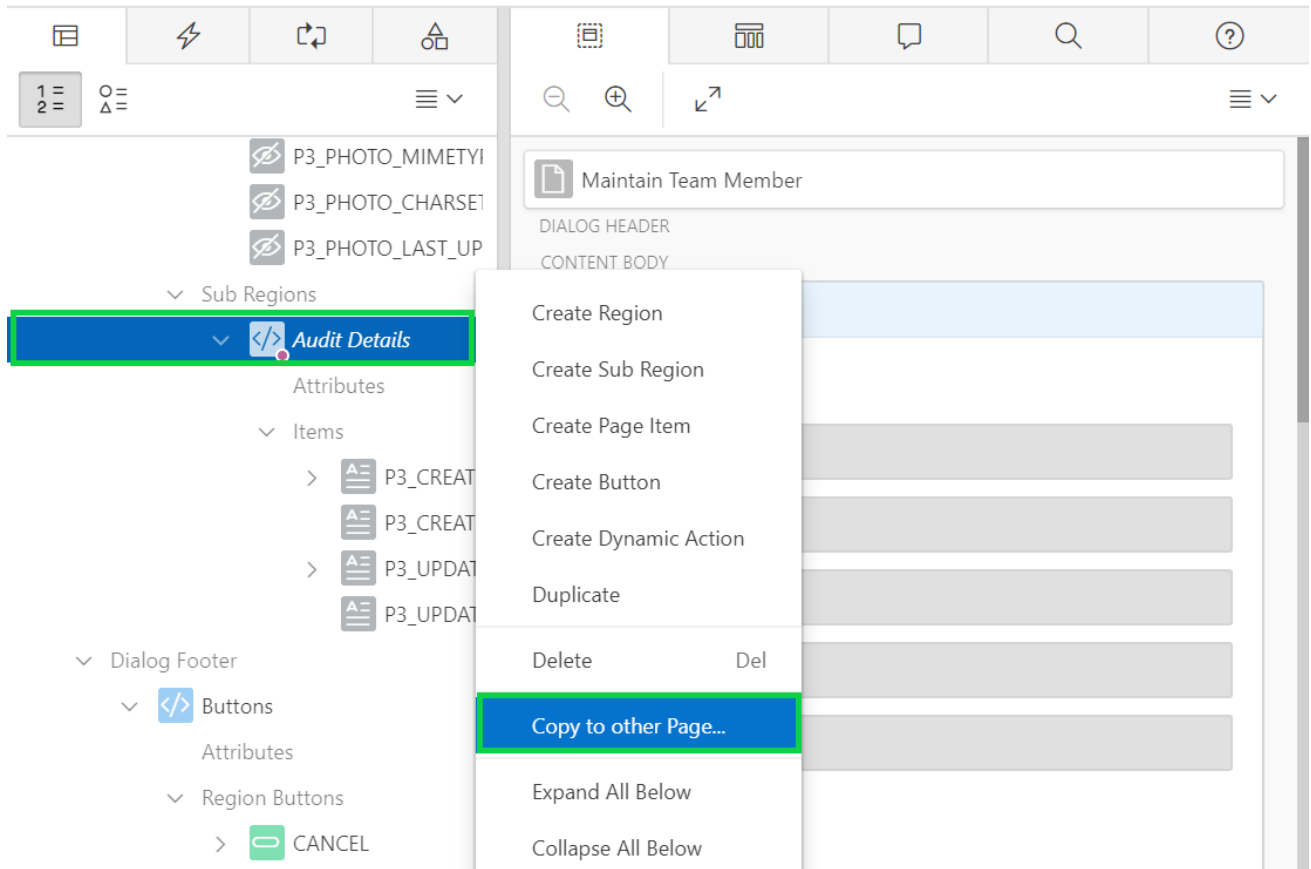
In the Rendering tree, hold the Ctrl key and select the items: **P5\_CREATED**, **P5\_CREATED\_BY**, **P5\_UPDATED**, and **P5\_UPDATED\_BY**.

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**.

## Copy Region

To Page

Identify page for new region.

\* To Page  ?

Copy Region Items: ☒ Yes ? ☐ No

> Copy From Region

> Copy From Region Items

> Recently Edited Pages

25. Click **Copy**.

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 **Project**.

The screenshot shows the Oracle APEX Page Designer interface. On the left, the 'Rendering tree' shows the 'Audit Details' sub-region selected under 'Sub Regions'. The 'Audit Details' sub-region is highlighted with a green box. On the right, the 'Property Editor' shows the 'Layout' section. The 'Parent Region' dropdown is set to 'Project', which is also highlighted with a green box. The 'Audit Details' sub-region is visible in the center of the page, showing a table with columns: P5\_CREATED, P5\_CREATED\_BY, P5\_UPDATED, and P5\_UPDATED\_BY.

28. In the Rendering tree, hold the Ctrl key and select the items: **P5\_CREATED**, **P5\_CREATED\_BY**, **P5\_UPDATED**, and **P5\_UPDATED\_BY**.

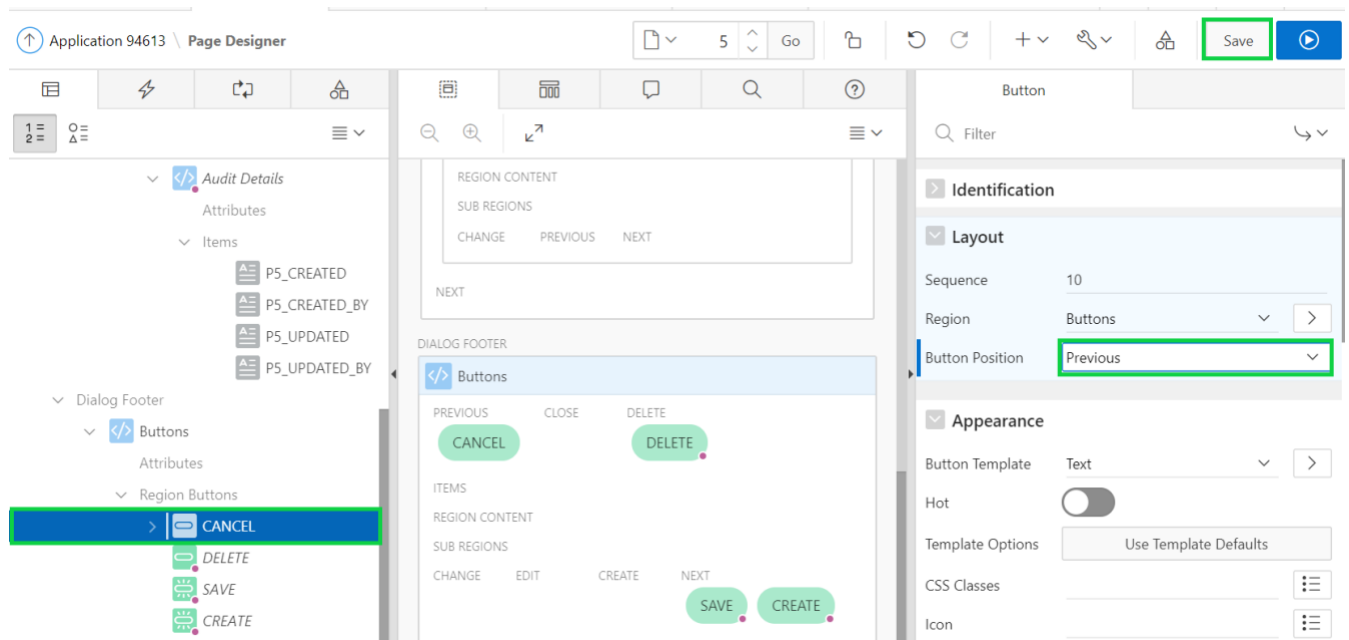


In the property editor, under Source, for Form Region, select **Project**. Click **Save**.

Select each of these items, and in the Property Editor, update the entry for the label. For example, enter the following labels for each of the items and then click **Save**.

- P5\_CREATED: Created
- P5\_CREATED\_BY: Created By
- P5\_UPDATED: Updated
- P5\_UPDATED\_BY: Updated By

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



30. 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.

## Maintain Project



Project Lead  
Lowcode



Name  
Develop Partner Portal POC

Description  
Develop a proof of concept that partners can use to work more collaboratively with us.



Status Cd  
In-Progress



Completed Date



▼ Audit Details

Created  
12/11/2019

Created By

Cancel

Delete

Apply Changes

## 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 also 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**.

Application 94613 \ Shared Components \ Lists of Values

Lists of Values Edit Null Text Locally Defined Grid Edit Conditional Entries Subscription Utilization History

Search Go Reset Copy Create >

Name ↑	Type	Updated	Entry Count	Subscribed From	Subscribers
ACCESS_ROLES	Local	12 days ago			
DEMO_PROJECTS.NAME	Local	12 days ago			
DEMO_PROJ_MILESTONES.NAME	Local	12 days ago			
DEMO_PROJ_STATUS.DESCRPTION	Local	12 days ago			
DEMO_PROJ_TEAM_MEMBERS.USERNAME	Local	12 days ago			

A List of Values can be referenced by page items as well as report fields. It controls the values displayed and limits the user's selection. Lists of Values can be static (based on values you enter), or dynamic (based on different data sources of either Local Database, REST Enabled SQL or Web Source Module).

Recently Edited

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

## Copy List of Values ×

\* Copy List of Values TEAM MEMBERS - Dynamic ?

\* New List of Values Name Projects ?

Cancel
Copy

6. Click the **Projects** List of Values entry.
7. 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**.

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

ORACLE APEX App Builder SQL Workshop Team Development App Gallery

Application 94613 > Shared Components > Lists of Values

✓ Action processed.

**Lists of Values** Edit Null Text Locally Defined Grid Edit Conditional Entries Subscription Utilization History

Q  Go Actions Reset Copy Create >

Name	Type	Updated	Entry Count	Subscribed From	Subscribers
ACCESS_ROLES	Local	12 days ago			
DEMO_PROJECTS.NAME	Local	12 days ago			

**List of Values**

A List of Values can be referenced by page items as well as report fields. It controls the values displayed and limits the user's selection. Lists of Values can be static (based on values you enter), or dynamic (based on different data sources of either Local Database, REST Enabled SQL or Web Source Module).

9. In the Rendering tree, expand the Columns node under the **Proj Milestones** region. Select the **PROJECT\_ID** column.  
In the Property Editor under List of Values, for List of Values select **PROJECTS**

The screenshot shows the 'Column' property editor in Oracle APEX. It has a 'Filter' search bar at the top. Under the 'Identification' section, the 'Column Name' is 'PROJECT\_ID' and the 'Type' is 'Plain Text (based on List of Values)'. Under the 'List of Values' section, there is a 'List of Values' dropdown menu with 'PROJECTS' selected, which is highlighted by a green rectangular box.

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 **Proj Milestones** region and select the **Create** button.
12. In the Property Editor:
  - Identification: Label - enter **Create Milestone**
  - Layout: Region - select **Breadcrumb**
  - Layout: Button Position - select **Create**

Button

Filter

Identification

Button Name: CREATE

Label: Create Milestone

Layout

Sequence: 30

Region: Breadcrumb

Button Position: Create

13. Click **Save and Run Page**.

Demo Projects

Home

DEMO\_PROJ\_TEAM\_MEMBE...

DEMO\_PROJECTS

**DEMO\_PROJ\_MILESTONES**

DEMO\_PROJ\_TASKS

Dashboard

Administration

## DEMO\_PROJ\_MILESTONES

Create Milestone

Search

Go

Actions

Reset

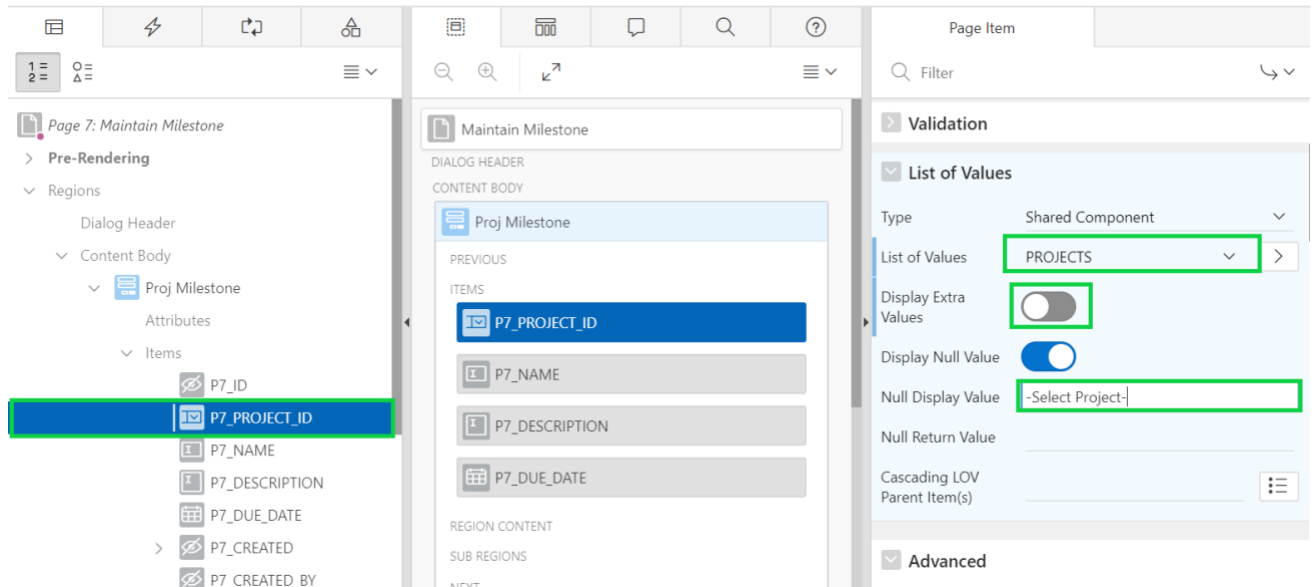
Project	Milestone	Due Date ↑	Tasks
<a href="#">Train Developers on Web development tool</a>	Train the Trainers	11/20/2019	5
<a href="#">Train Developers on Web development tool</a>	All Developers Trained	11/24/2019	2
<a href="#">Migrate Legacy Applications</a>	Move Data Structures	11/29/2019	3
<a href="#">Migrate Legacy Applications</a>	Redevelop HR Applications	12/7/2019	3
<a href="#">Migrate Legacy Applications</a>	Redevelop Project Tracking Applications	12/13/2019	3
<a href="#">Develop Partner Portal POC</a>	Define Requirements	12/16/2019	3
<a href="#">Develop Partner Portal POC</a>	Build Proof-of-Concept	12/23/2019	4
<a href="#">Develop Production Partner Portal</a>	Define Production App Scope	12/24/2019	3
<a href="#">Develop Production Partner Portal</a>	Build Phase 1 of Production Partner Portal App	12/31/2019	3
<a href="#">Develop Production Partner Portal</a>	Perform Beta testing with select Partners	1/8/2020	3
<a href="#">Develop Production Partner Portal</a>	Complete Phase 1 Development of Partner Portal app	2/4/2020	3
<a href="#">Develop Production Partner Portal</a>	Roll out Phase 1 of Partner Portal app	2/8/2020	4

Home Application 23192 Edit Page 6 Session View Debug Debug Page Info Quick Edit Theme Roller 39

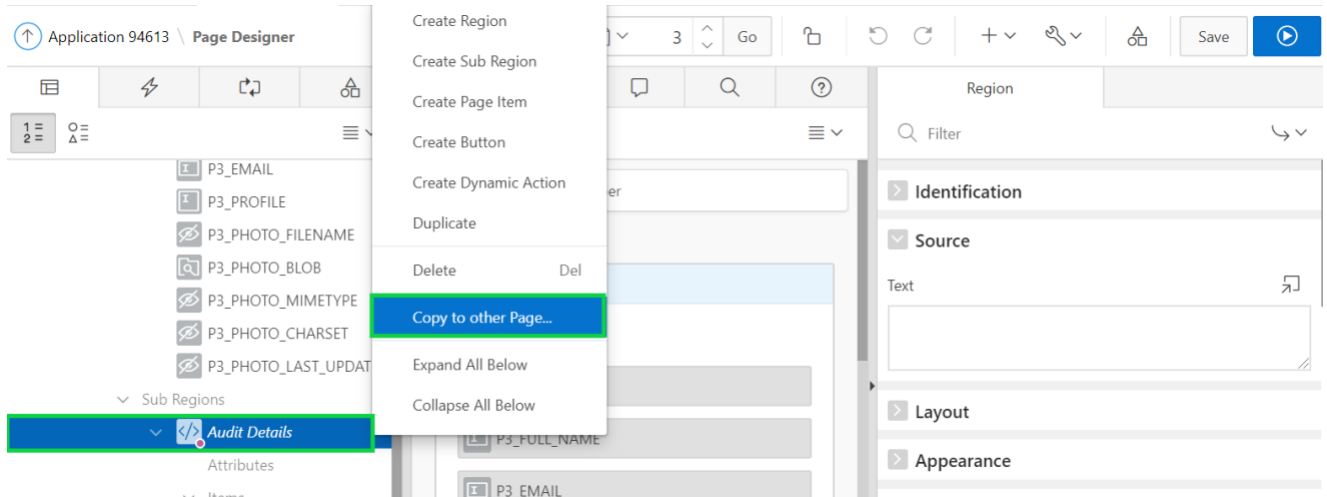
14. For any project, click the edit icon. In the Developer Toolbar, click **Edit Page 7**.

15. Update the page items. Under Rendering, expand Items, select the **P7\_PROJECT\_ID** item. In the Property Editor:

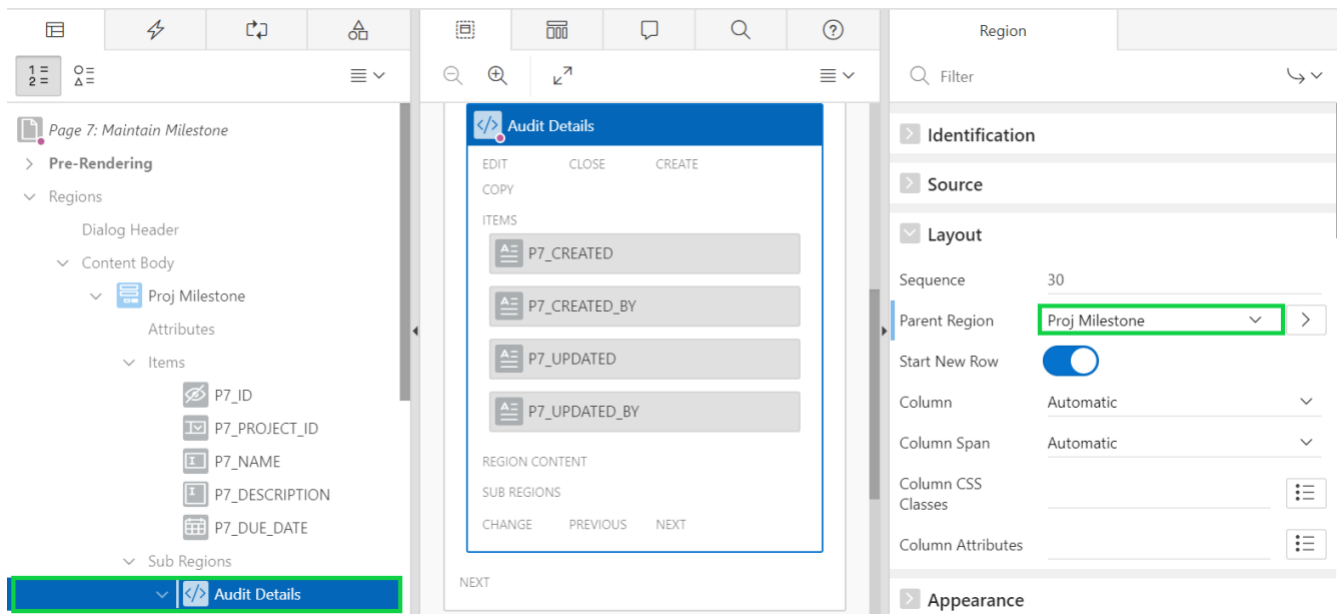
- List of Values: List of Values - select **PROJECTS**
- List of Values: Display Extra Values - click to **Disable**
- List of Values: Null Display Value - enter - **Select Project -**



16. In the Rendering tree, select the **P7\_NAME** item. In the Property Editor, for Label, enter **Milestone**.
17. 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**.
18. Copy the Audit Details region from Page 3 to Page 7. In page designer, navigate to **Page 3**.
19. In the Rendering tree, right-click the **Audit Details** sub region and select **Copy to other Page....**



20. Enter **7** for To Page and select **Yes** for Copy Region Items. Click **Next**.
21. Click **Copy**.
22. In Page Designer, navigate back to **Page 7**.
23. In the Rendering tree, select the **Audit Details** sub region. In the Property Editor, for Layout: Parent Region select **Proj Milestone**.



31. In the Layout, hold the Ctrl key and select the items: **P5\_CREATED**, **P5\_CREATED\_BY**, **P5\_UPDATED**, and **P5\_UPDATED\_BY**. In the property editor, under Source, for Form Region, select **Proj Milestone**. Click **Save**.



Select each of these items, and in the Property Editor, update the entry for the label. For example, enter the following labels for each of the items and then click **Save**.

- P5\_CREATED: Created
- P5\_CREATED\_BY: Created By
- P5\_UPDATED: Updated
- P5\_UPDATED\_BY: Updated By

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

25. Click **Save**.

Navigate to the application runtime environment and click **Demo\_Proj\_Milestones**. Click any edit icon to see the modified dialog.

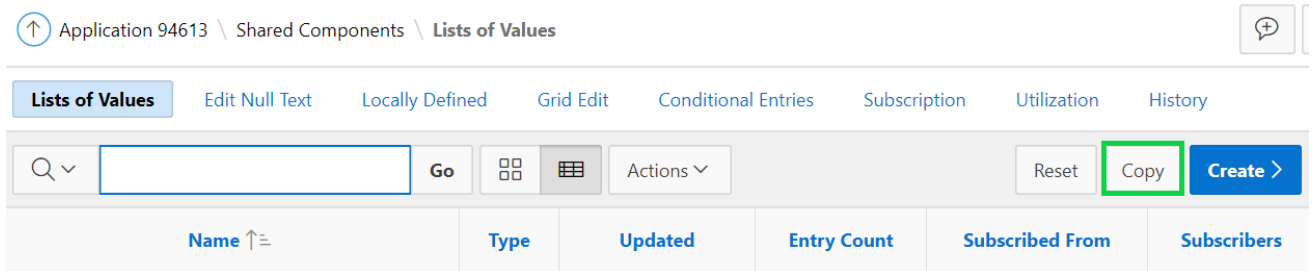
The screenshot shows the Oracle APEX application runtime environment. The left sidebar contains a menu with items: Home, DEMO\_PROJ\_TEAM\_MEMBERS, DEMO\_PROJECTS, DEMO\_PROJ\_MILESTONES (highlighted with a green box), DEMO\_PROJ\_TASKS, Dashboard, and Administration. The main area displays a table of milestones. The 'Maintain Milestone' dialog box is open, showing the following details:

- Project:** Train Developers on Web development tool
- Milestone:** All Developers Trained
- Description:** Train the Trainers will have successfully trained the remaining development team members.
- Due Date:** 10/27/2019
- Audit Details:** (expandable section)
- Buttons:** Cancel, Delete, Apply Changes

## 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 also 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 Assignee column is currently displaying username 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**.
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
```

Click **Apply Changes**.

8. Click **Edit Page 8** on the toolbar, to return to Page Designer.
9. In the Rendering tree, locate the **Proj Tasks** region. Expand the Columns node, and click the **ASSIGNEE** column. In the Property Editor, under List of Values, for List of Values

select **TEAM MEMBERS**.

The screenshot shows the 'Column' property editor in Oracle APEX. The 'Identification' section shows the column name 'ASSIGNEE' and its type 'Plain Text (based on List of Values)'. The 'List of Values' section is expanded, showing a dropdown menu with 'TEAM MEMBERS' selected. The dropdown is highlighted with a green border.

10. In the Rendering tree, click the **PROJECT\_ID** column. In the Property Edit, under List of Values, for List of Values select **PROJECTS**.
11. In the Rendering tree, click the **MILESTONE\_ID** column. In the Property Editor, under List of Values, for List of Values select **MILESTONES**.
12. 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**.
13. 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 **Proj Tasks** region.  
In the Property Editor, for Source > Type, select **SQL Query**.
14. In the SQL Query, replace "IS\_COMPLETE\_YN", with the following:

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

Region

Filter

Type: Interactive Report

Source

Location: Local Database

Type: SQL Query

SQL Query

```

ASSIGNEE,
NAME,
DESCRIPTION,
START_DATE,
END_DATE,
decode (IS_COMPLETE_YN, 'Y', 'Yes', 'No') as "IS_COMPLETE_YN",
CREATED,
CREATED_BY,
UPDATED,
UPDATED_BY
from DEMO_PROJ_TASKS

```

15. 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 **Proj Tasks** region.  
Select the **Create** button.  
In the Property Editor:
  - Identification: Label - enter **Create Task**
  - Layout: Region - select **Breadcrumb**
  - Layout: Button Position - select **Create**

Button

Filter

▼ Identification

Button Name CREATE

Label Create Task

▼ Layout

Sequence 30

Region Breadcrumb

Button Position Create

17. Click **Save and Run Page**.
18. In the interactive report, rearrange the Task and Assignee columns so that Task is displayed first followed by Assignee.  
Click **Actions > Columns**.  
In the Select Columns dialog, select **Task**, click the **Up** button once and then click **Apply**.

### Select Columns

Do Not Display

Created  
Created By  
Description  
ID  
Updated  
Updated By

←

>>

>

<

<<

Display in Report

Project  
Milestone  
Assignee  
**Task**  
Start Date  
End Date  
Completed?

↑

↑

↓

↓

Cancel

Apply

19. Then, click **Actions > Report > Save Report**.  
For Save, select **As Default Report Settings**.  
For Default Report Type, select **Primary** and click **Apply**.  
The default report is saved for all users.

Your screen should look like:

38

# DEMO\_PROJ\_TASKS

Create Task

☒ Project

☒ Milestone

**Project : Configure Web Development Tool Environment, Milestone :**

Task	Assignee	Start Date ↑	End Date	Completed?
Identify Server Requirements	Lowcode	11/10/2019	11/11/2019	Yes
Install Web development tool	Mei Yu	11/12/2019	11/12/2019	Yes
Configure Web Listeners	Harold Youngblood	11/12/2019	11/12/2019	Yes
Configure Web development tool Instance Administration Settings	Bernard Jackman	11/13/2019	11/13/2019	Yes
Define Workspaces	Mei Yu	11/14/2019	11/14/2019	Yes
Assign Workspace Administrators	Harold Youngblood	11/14/2019	11/14/2019	No

**Project : Develop Partner Portal POC, Milestone : Build Proof-of-Concept**

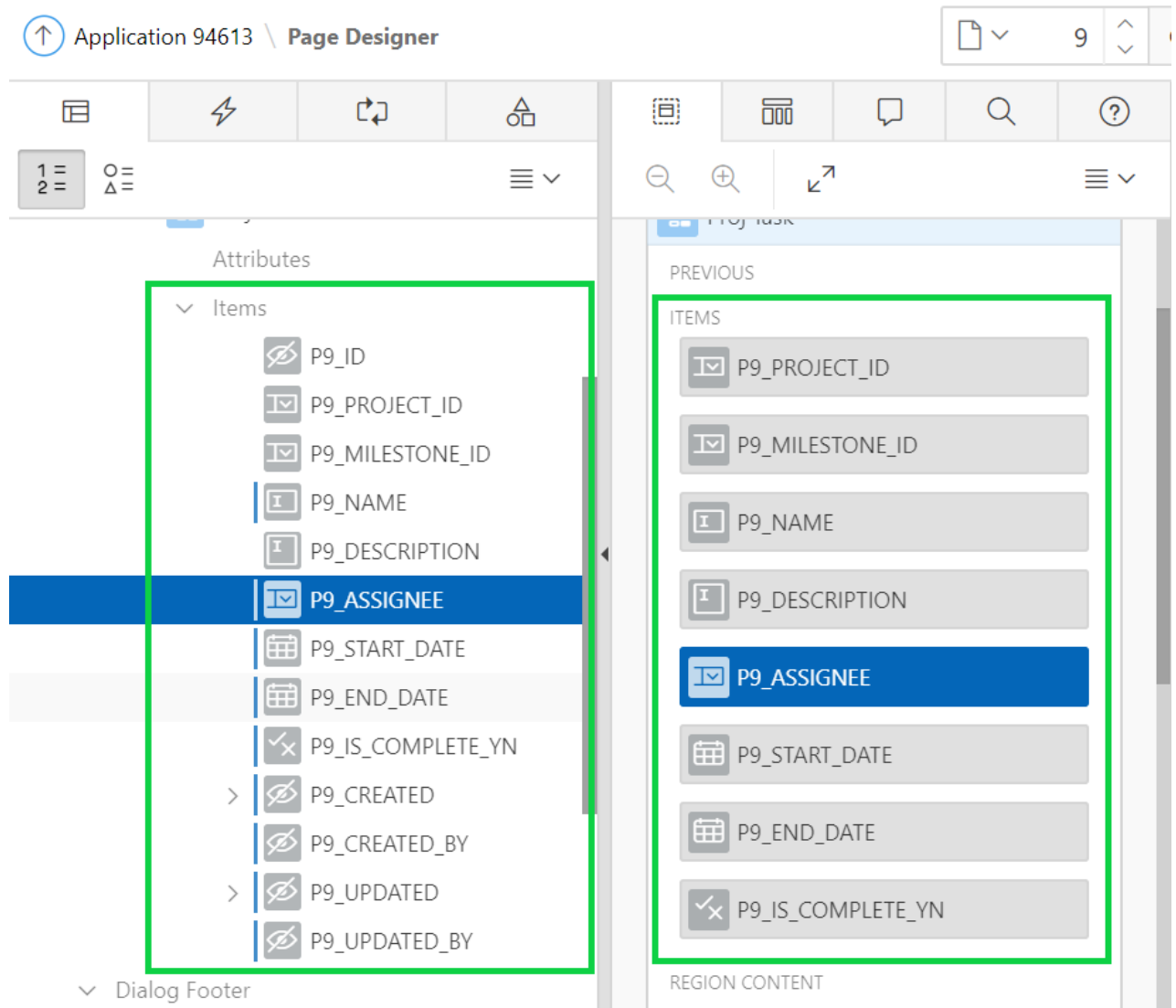
Task	Assignee	Start Date	End Date	Completed?
------	----------	------------	----------	------------

20. In the interactive report, click the edit icon. 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:

- List of Values: List of Values - select **PROJECTS**
- List of Values: Display Extra Values - click to **Disable**.
- 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:

- List of Values: Type - select **SQL Query**
- List of Values: SQL Query - copy 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 - click to **Disable**
  - 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

**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: ☐

Display Null Value: ☒

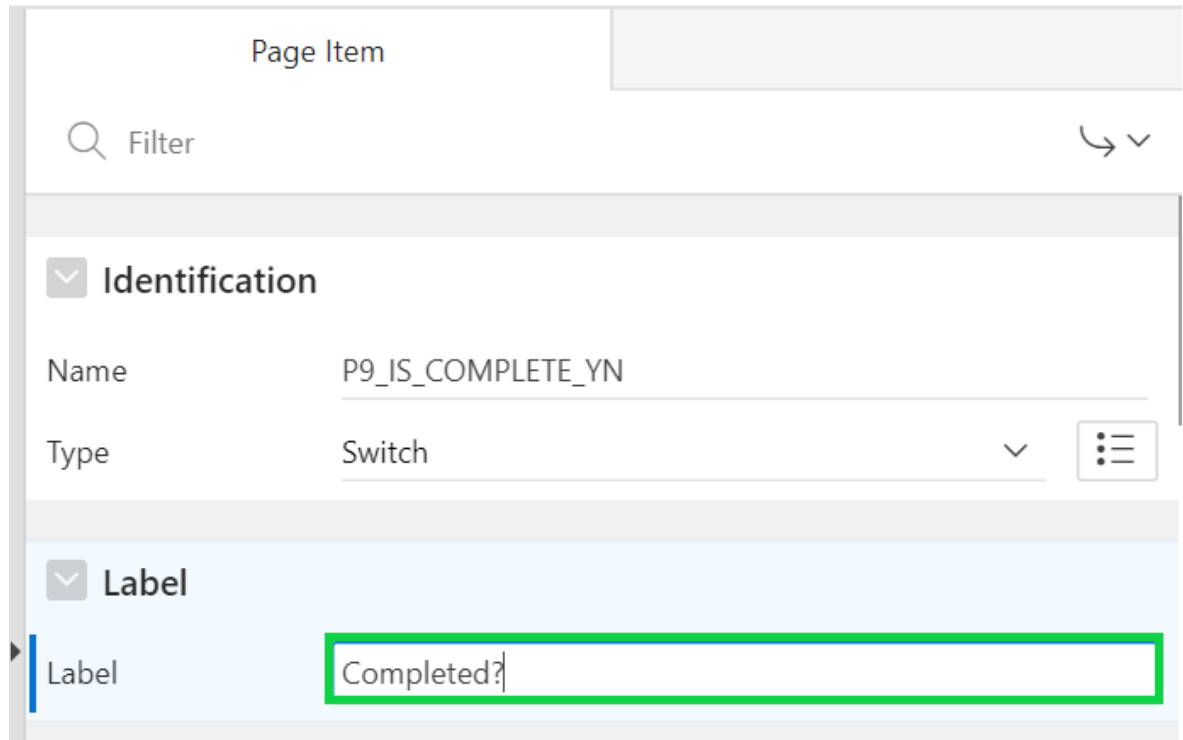
Null Display Value: -Select Milestone-

Null Return Value:

Cascading LOV Parent Item(s): P9\_PROJECT\_ID

Items to Submit:

24. In the Rendering tree, click the **P9\_NAME** item. In the Property Editor, for Label, enter **Task**.
25. In the Grid Layout, under Content Body, click the **P9\_ASSIGNEE** item. In the Property Editor:
  - List of Values: List of Values - select **TEAM MEMBERS**
  - List of Values: Display Extra Values - click to **Disable**
  - List of Values: Null Display Value - enter **-Select Assignee-**
26. In the Rendering tree, click the **P9\_IS\_COMPLETE\_YN** item. In the Property Editor, for Label, enter **Completed?**.



27. 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**.
28. Click **Save**.
29. Copy the Audit Details region from Page 3 to Page 9. In page designer, navigate to **Page 3**.
30. In the Rendering tree, right-click the **Audit Details** sub region and select **Copy to other Page....**
31. Enter **9** for To Page and select **Yes** for Copy Region Items. Click **Next**.
32. Click **Copy**.
33. In Page Designer, navigate back to **Page 9**.
34. In the Rendering tree, select the **Audit Details** sub region.  
In the Property Editor, under Layout, for Parent Region select **Proj Task**.  
Click **Save**.
32. In the Layout, hold the Ctrl key and select the items: **P5\_CREATED**, **P5\_CREATED\_BY**, **P5\_UPDATED**, and **P5\_UPDATED\_BY**.  
In the property editor, under Source, for Form Region, select **Proj Task**.  
Click **Save**.

Select each of these items, and in the Property Editor, update the entry for the label. For example, enter the following labels for each of the items and then click **Save**.

- P5\_CREATED: Created
- P5\_CREATED\_BY: Created By
- P5\_UPDATED: Updated
- P5\_UPDATED\_BY: Updated By

35. Navigate to the application runtime environment and click **Demo\_Proj\_Tasks**. Click any edit icon to see the modified dialog.

**Demo Proj Task**

Project: Develop Partner Portal POC

Milestone: Define Requirements

Task: Define scope of Partner Portal App.

Description: Meet with internal and external SMEs and define the requirements

Assignee: Lowcode

Start Date: 17-MAY-19

End Date: 24-MAY-19

Completed?: ☐ Yes ☒ No

**Audit Details**

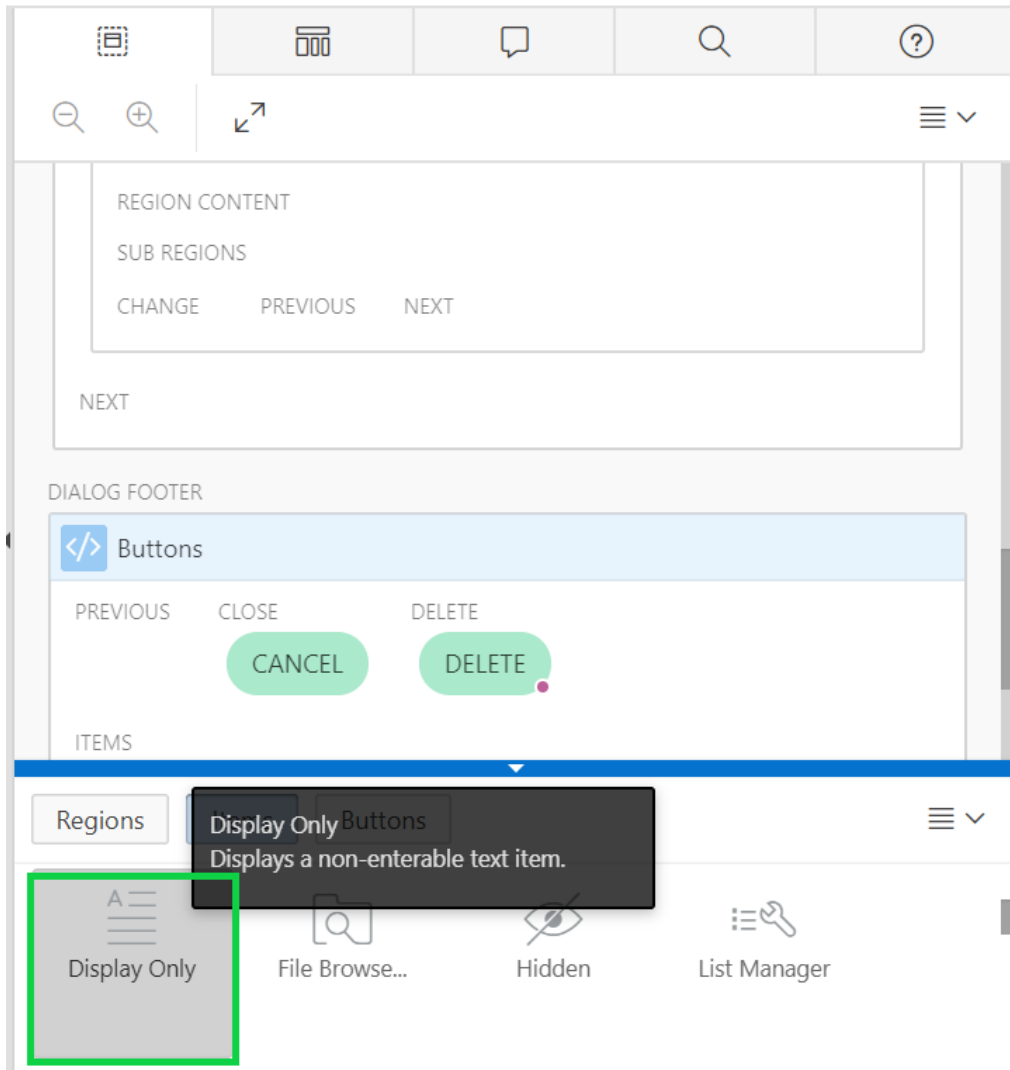
Cancel Delete Apply Changes

End Date	Completed?
21-APR-19	Yes
22-APR-19	Yes
22-APR-19	Yes
23-APR-19	Yes
24-APR-19	Yes
24-APR-19	No
End Date	Completed?
24-MAY-19	No
27-MAY-19	No
26-MAY-19	No
31-MAY-19	No
29-MAY-19	No
30-MAY-19	No
01-JUN-19	No

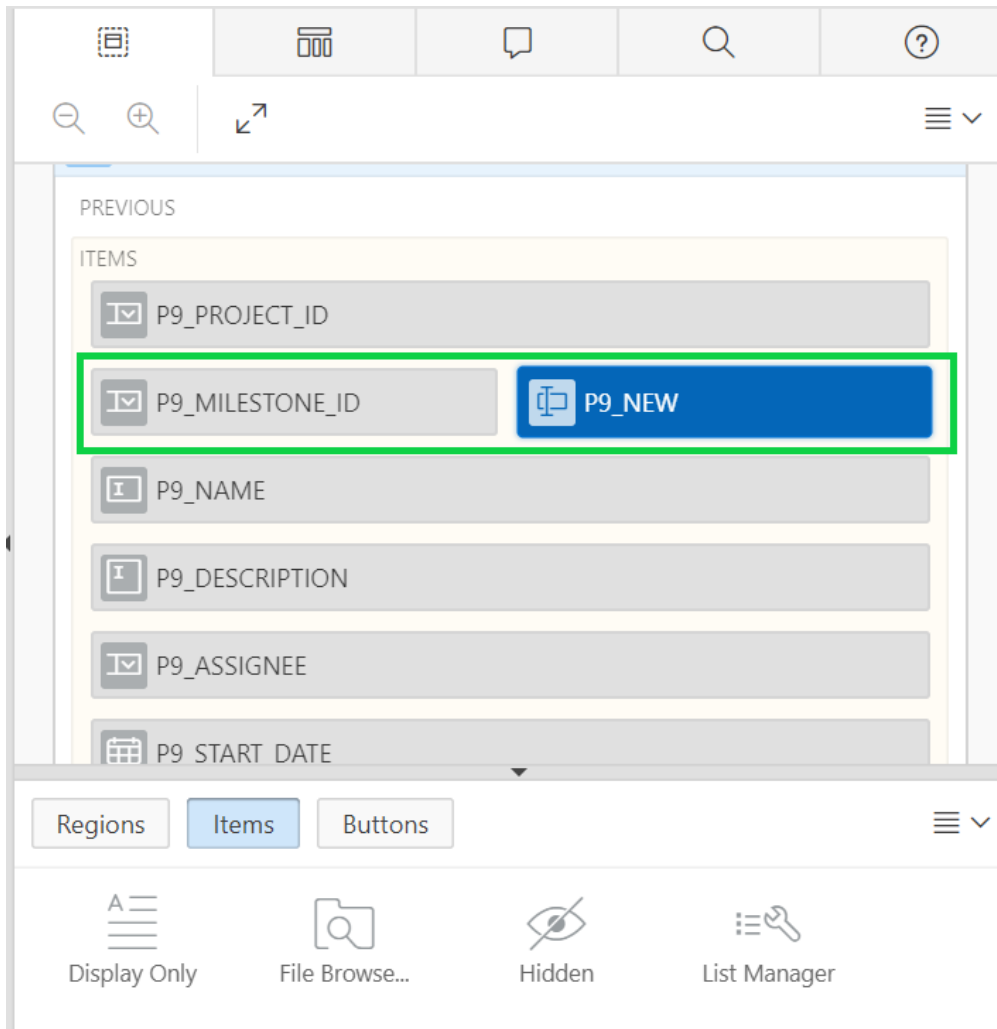
36. Click **Edit Page 9** in the Develop Toolbar, to return to Page Designer.

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**

Page Item

Filter

Identification

Name P9\_MILESTONE\_DUE\_DATE

Type Display Only

Label

Label Due Date

**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.



Oracle is committed to developing practices and products that help protect the environment

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200  
oracle.com

Copyright © 2020, Oracle and/or its affiliates. All rights reserved. Licensed under the Creative Commons Attribution 4.0 International License as shown at <https://creativecommons.org/licenses/by/4.0/legalcode>.

This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.