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# Building Your Tables and Views - Installing Sample Tables

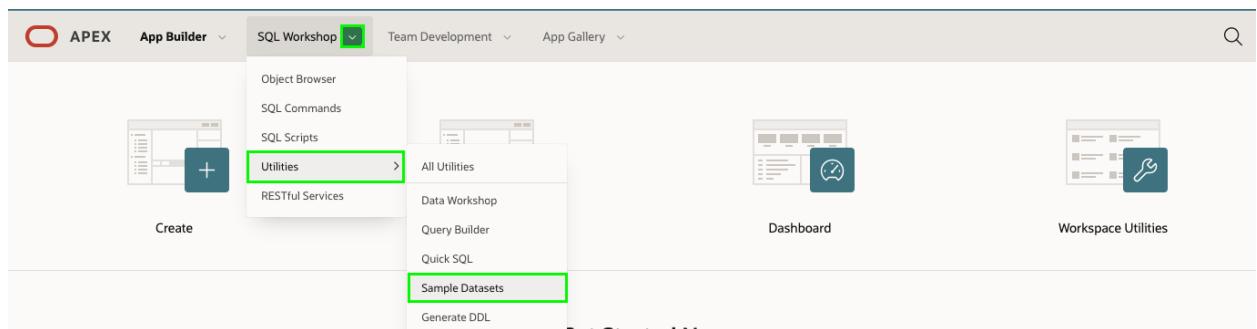
## Introduction

In this lab, you will learn how to install sample tables and views from Sample Datasets, which come complete with sample data.

Collapse All Tasks

## Task 1: Creating the Project Tables

- From your APEX workspace home page, select **SQL Workshop**, click **Utilities**, and then click **Sample Datasets**.



- On the **Project Data** row, click **Install**.

A screenshot of the Oracle APEX Utilities 'Manage Sample Dataset' page. The top navigation bar shows 'APEX' and 'App Builder' on the left, and 'SQL Workshop' with a green checkmark icon in the center. Below the navigation bar, the URL 'Utilities \ Manage Sample Dataset' is visible. The main content area is titled 'Sample Datasets'. It contains a table with the following data:

Action	Name	Languages	Description	Schema	Date Installed	Refres Availat
Install	Countries	English	Listing of countries, population, and capital.			
Install	Customer Orders	English	A collection of customers, stores, products, and orders. This dataset includes JSON data for the product description, and longitude / latitude for the stores.			
Install	EMP / DEPT	English, Chinese, Czech, French, German, Japanese, Korean, Polish, Russian, Spanish	The generic EMP and DEPT tables.			
Install	HR Data	English	The generic HR tables commonly used by Oracle Education.			
Install	Project Data	English	A collection of projects, milestones, tasks, and more. This dataset includes master-detail-detail relationships and a useful view for charting.			
Install	Tasks Spreadsheet	English	A single table with unnormalized data containing tasks, dates, status, assigned to, cost, and budget.			

- Click **Next**.
- Click **Install Dataset**.

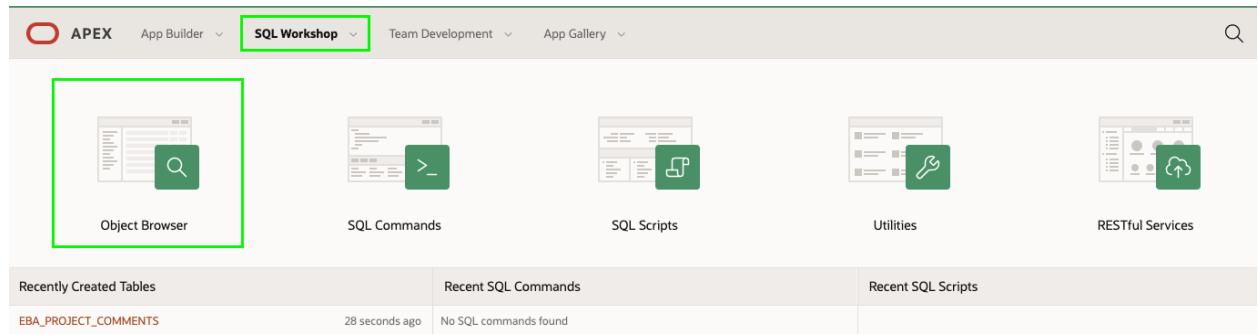
5. Click **Exit**.

*Note: You do NOT want to click Create Application, as you will manually create an application*

## Task 2: Review Database Objects

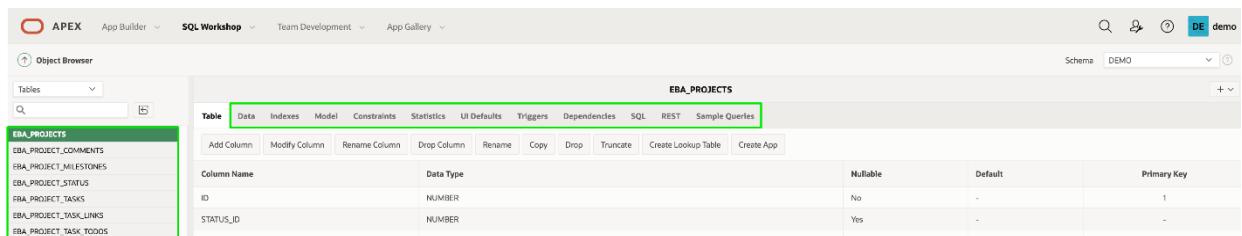
1. In the App Builder Menu, click **SQL Workshop**.

2. Click **Object Browser**.



The screenshot shows the Oracle APEX interface with the "SQL Workshop" tab selected. The main area has five tabs: "Object Browser" (highlighted with a green box), "SQL Commands", "SQL Scripts", "Utilities", and "RESTful Services". Below these tabs is a section titled "Recently Created Tables" which lists "EBA\_PROJECT\_COMMENTS" created 28 seconds ago. To the right are sections for "Recent SQL Commands" and "Recent SQL Scripts", both of which show no results.

3. Click on the tables starting with **EBA\_** and the various tabs, such as Data, Constraints, and so forth, to review the table details.



The screenshot shows the "Object Browser" tab selected in the SQL Workshop interface. On the left is a sidebar with a tree view showing "Tables" and a list of tables under "EBA\_PROJECTS": EBA\_PROJECT\_COMMENTS, EBA\_PROJECT\_MILESTONES, EBA\_PROJECT\_STATUS, EBA\_PROJECT\_TASKS, EBA\_PROJECT\_TASK\_LINKS, and EBA\_PROJECT\_TASK\_TODOS. The main panel displays the "EBA\_PROJECTS" table with its columns: ID and STATUS\_ID. The "Data" tab is selected, showing the column names, data types (NUMBER), and other properties like Nullability and Primary Key status.

## Summary

This completes Lab 1. You now know how to install a sample dataset.

# Building your app - Using the Create Application Wizard

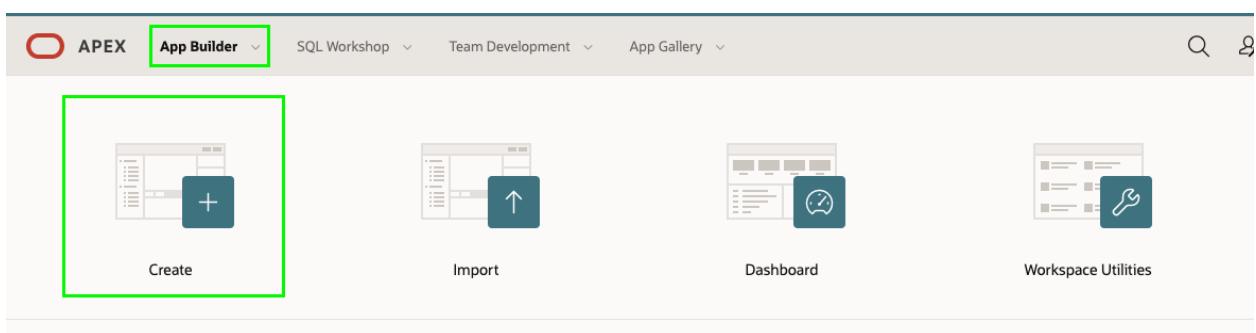
## Introduction

In this lab, you will learn how to create the initial app based on existing tables in your Oracle database. In practice, you will generally start with only one or two pages, and then use the Create Page Wizard to add additional pages to your app.

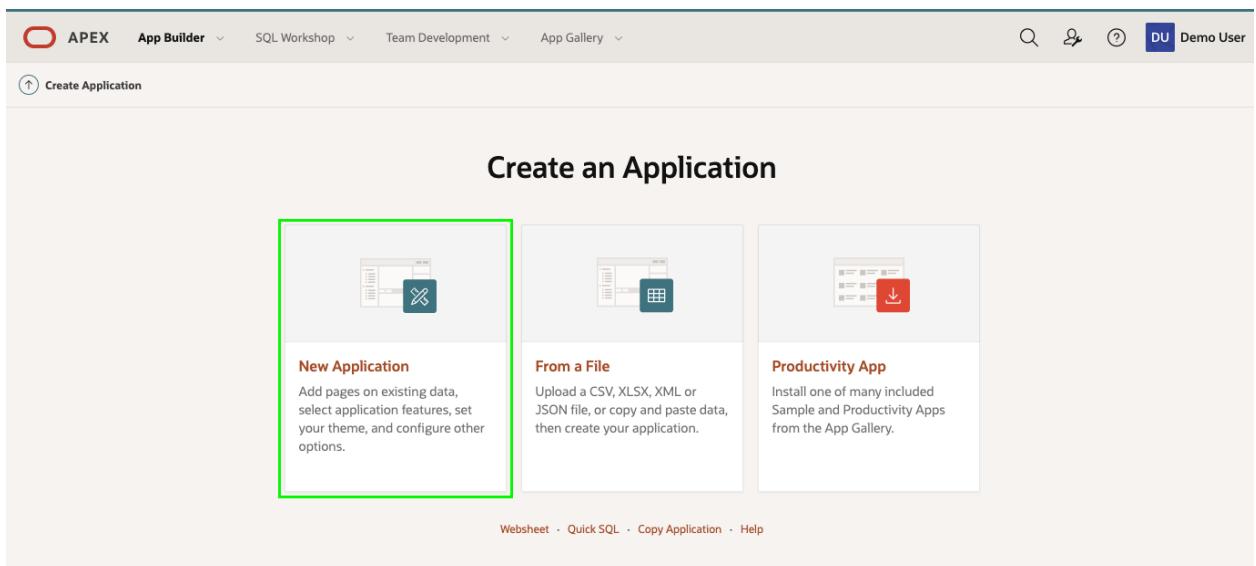
Collapse All Tasks

### Task 1: Creating an App

1. In the App Builder menu, click **App Builder**.
2. Click **Create**.

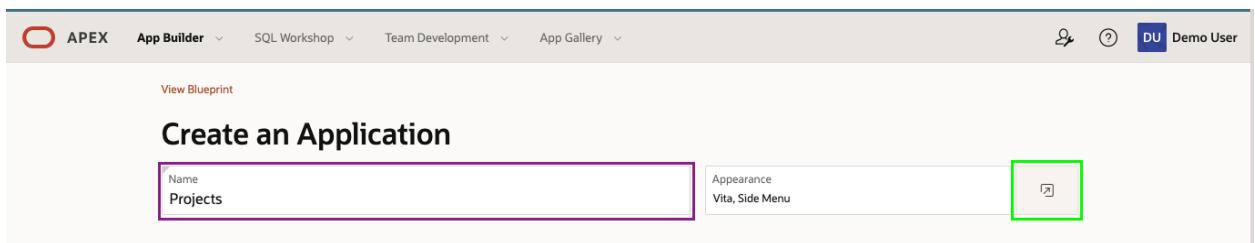


3. Click **New Application**.

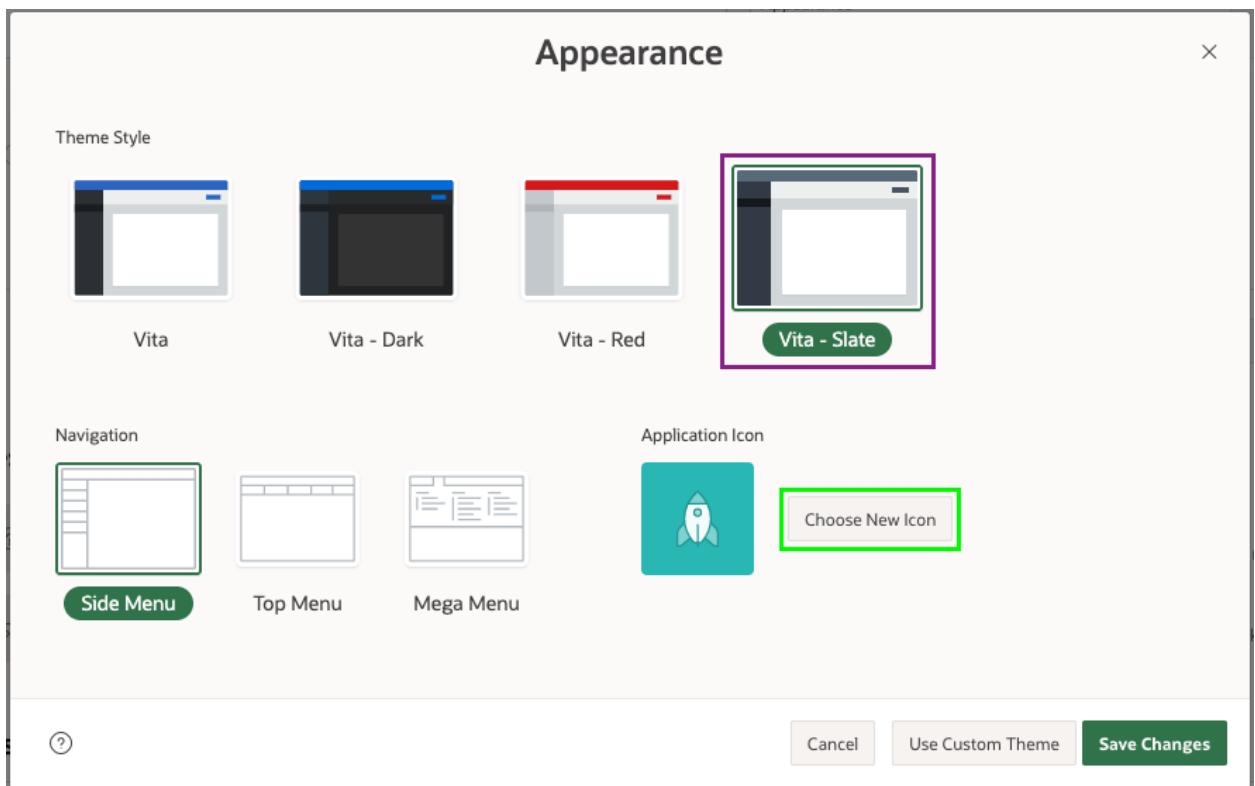


## Task 2: Naming the App

1. In the Create Application wizard, for Name enter **Projects**.
2. Click **Set Appearance** button in Appearance.

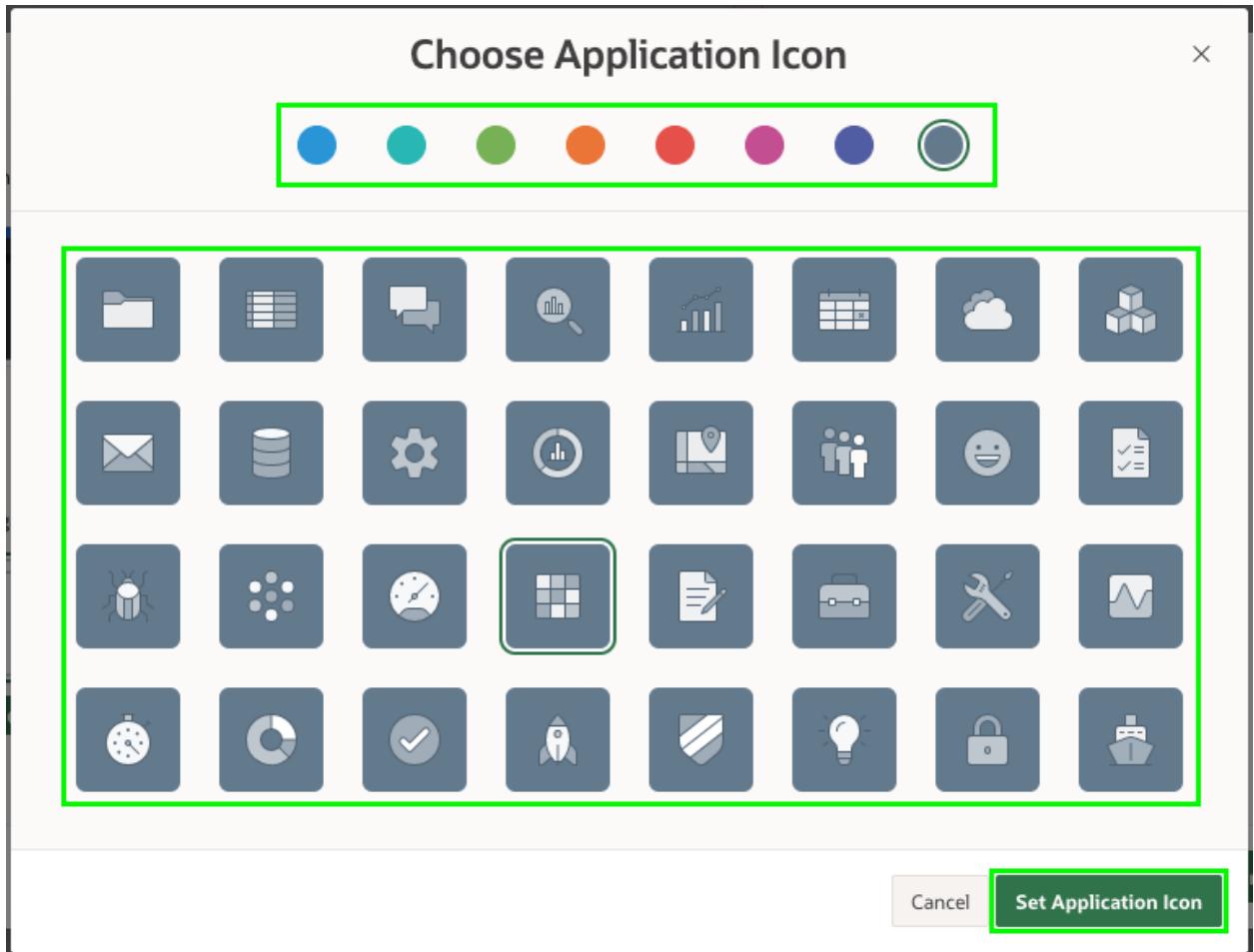


3. On the Appearance dialog, for Theme Style select **Vita – Slate**.
4. Click **Choose New Icon**.

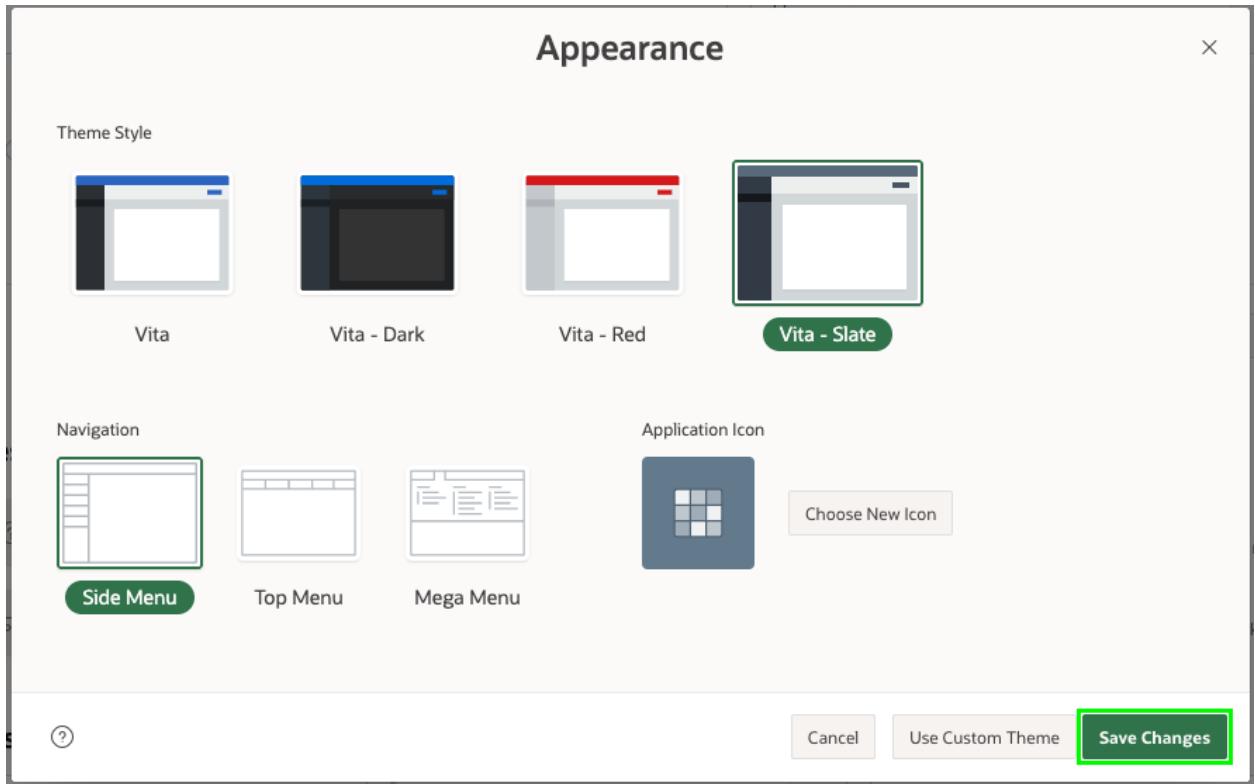


5. On the Choose Application Icon dialog, select an icon color and an icon of your choosing.

**Click Set Application Icon.**



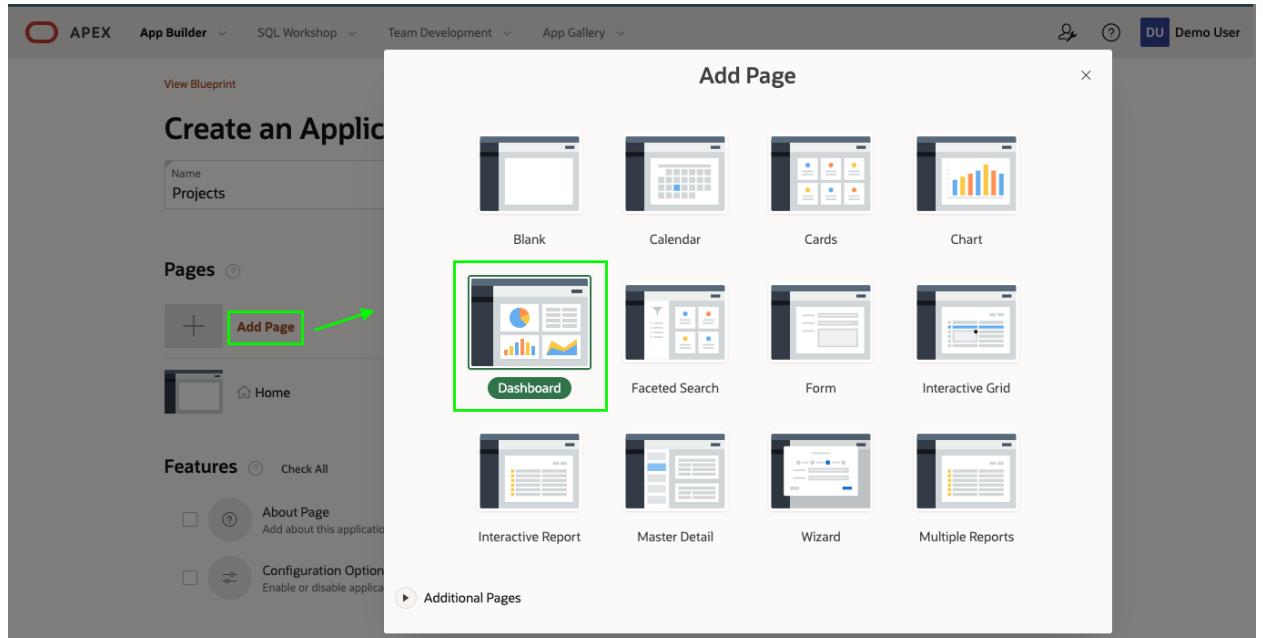
6. Click **Save Changes**.



## Task 3: Add the Dashboard Page

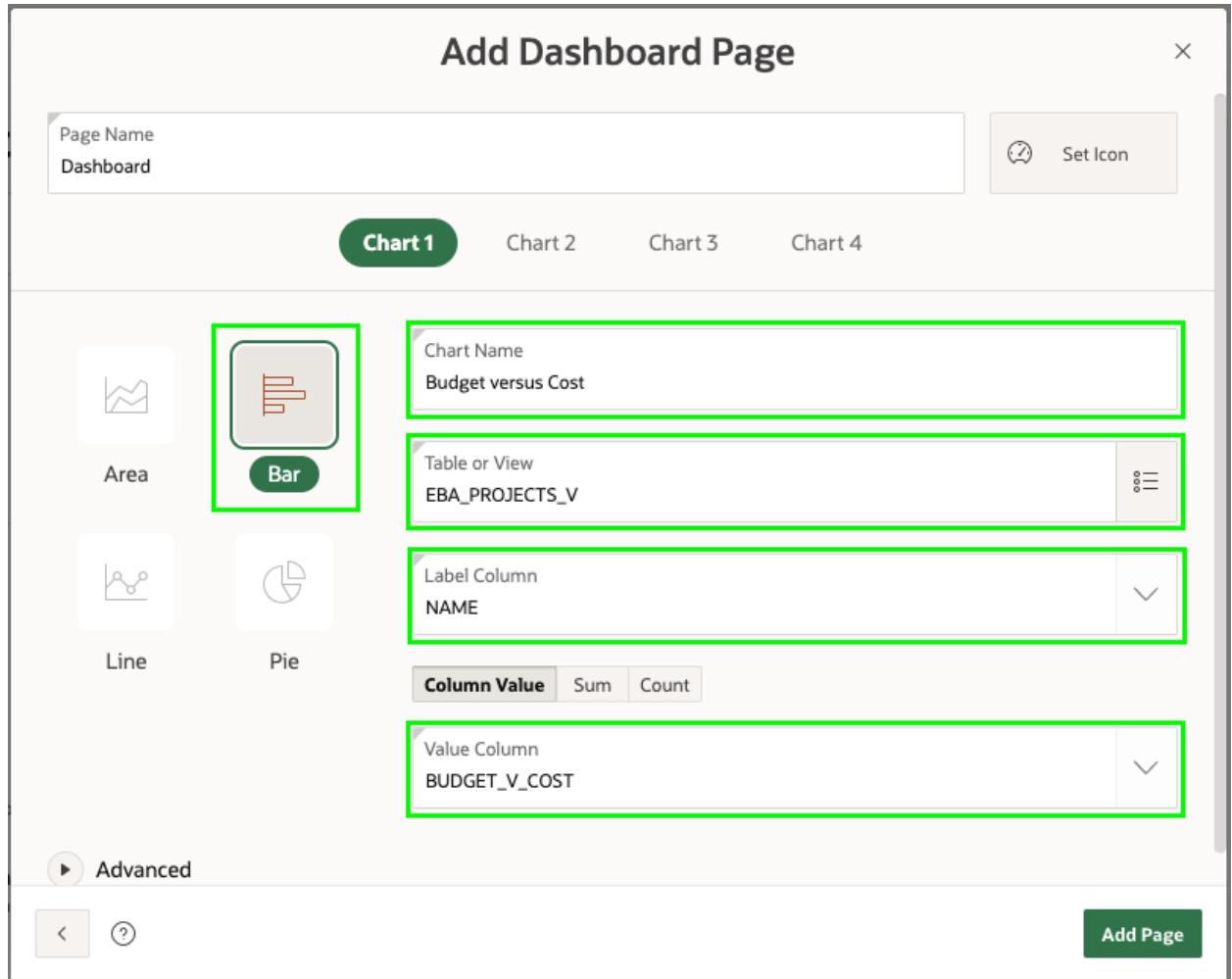
A dashboard page is a great way to show important information using various charts. When you created the Sample Dataset, it also created a view **EBA\_PROJECTS\_V**, which joins data from various tables. This view is ideal as the basis for the dashboard charts.

1. In the Create Application wizard, click **Add Page**.
2. Click **Dashboard**.

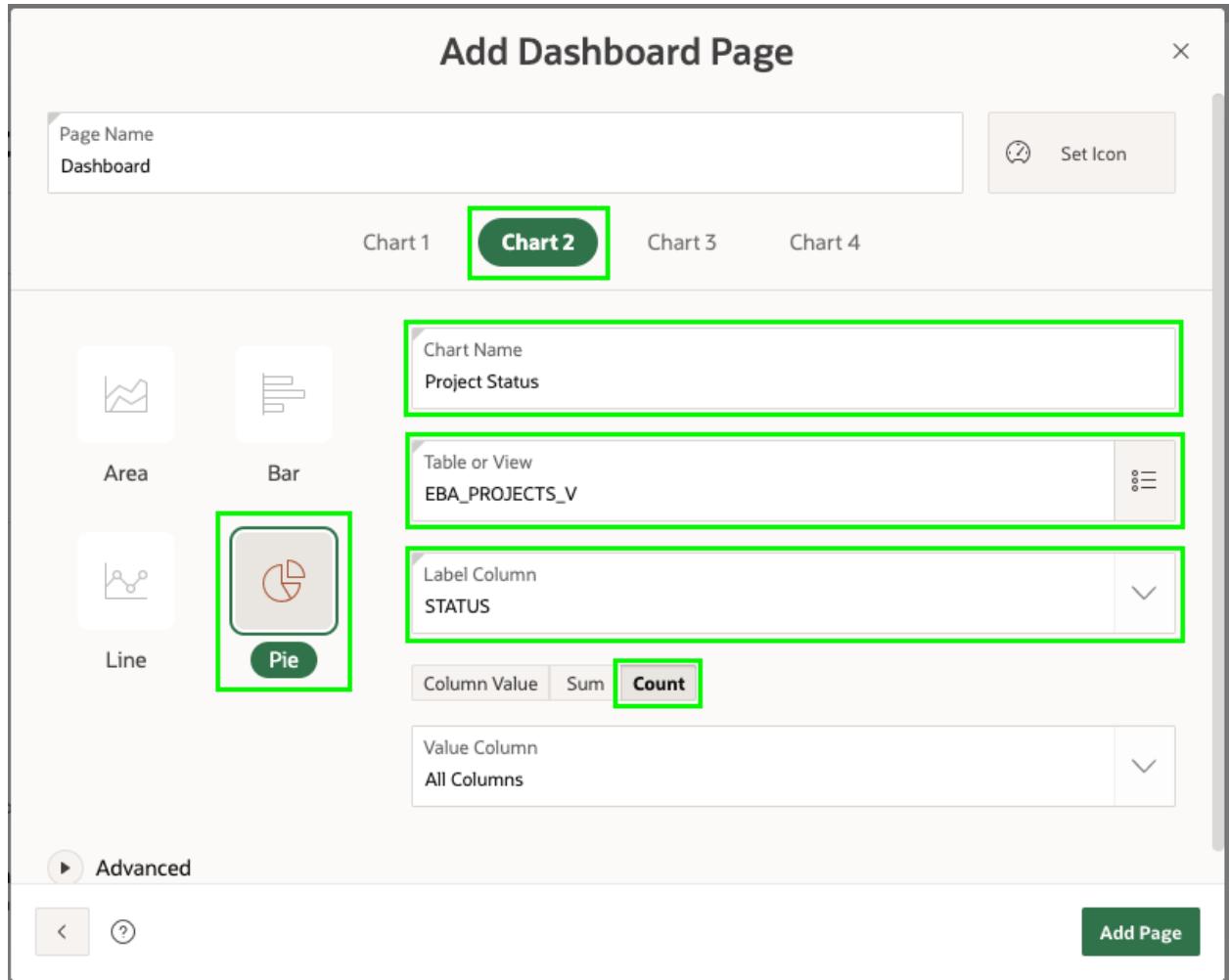


3. For **Chart 1**, enter the following:

- Chart Type – select **Bar**
- Chart Name – enter **Budget versus Cost**
- Table or View – select **EBA\_PROJECTS\_V**
- Label Column – select **NAME**
- Value Column – select **BUDGET\_V\_COST**



4. Click **Chart 2**, and enter the following:
  - o Chart Type – select **Pie**
  - o Chart Name – enter **Project Status**
  - o Table or View – select **EBA\_PROJECTS\_V**
  - o Label Column – select **Status**
  - o Type – select **Count**



5. Click **Chart 3**, and enter the following:
  - o Chart Type – select **Bar**
  - o Chart Name – enter **Project Leads**
  - o Table or View – select **EBA\_PROJECTS\_V**
  - o Label Column – select **PROJECT\_LEAD**
  - o Type – select **Count**
6. Click **Add Page**

**Add Dashboard Page**

Page Name: Dashboard

Set Icon

Chart 1    Chart 2    **Chart 3**    Chart 4

**Area**    **Bar**    Line    Pie

Chart Name: Project Leads

Table or View: EBA\_PROJECTS\_V

Label Column: PROJECT\_LEAD

Column Value: Count

Value Column: All Columns

Advanced

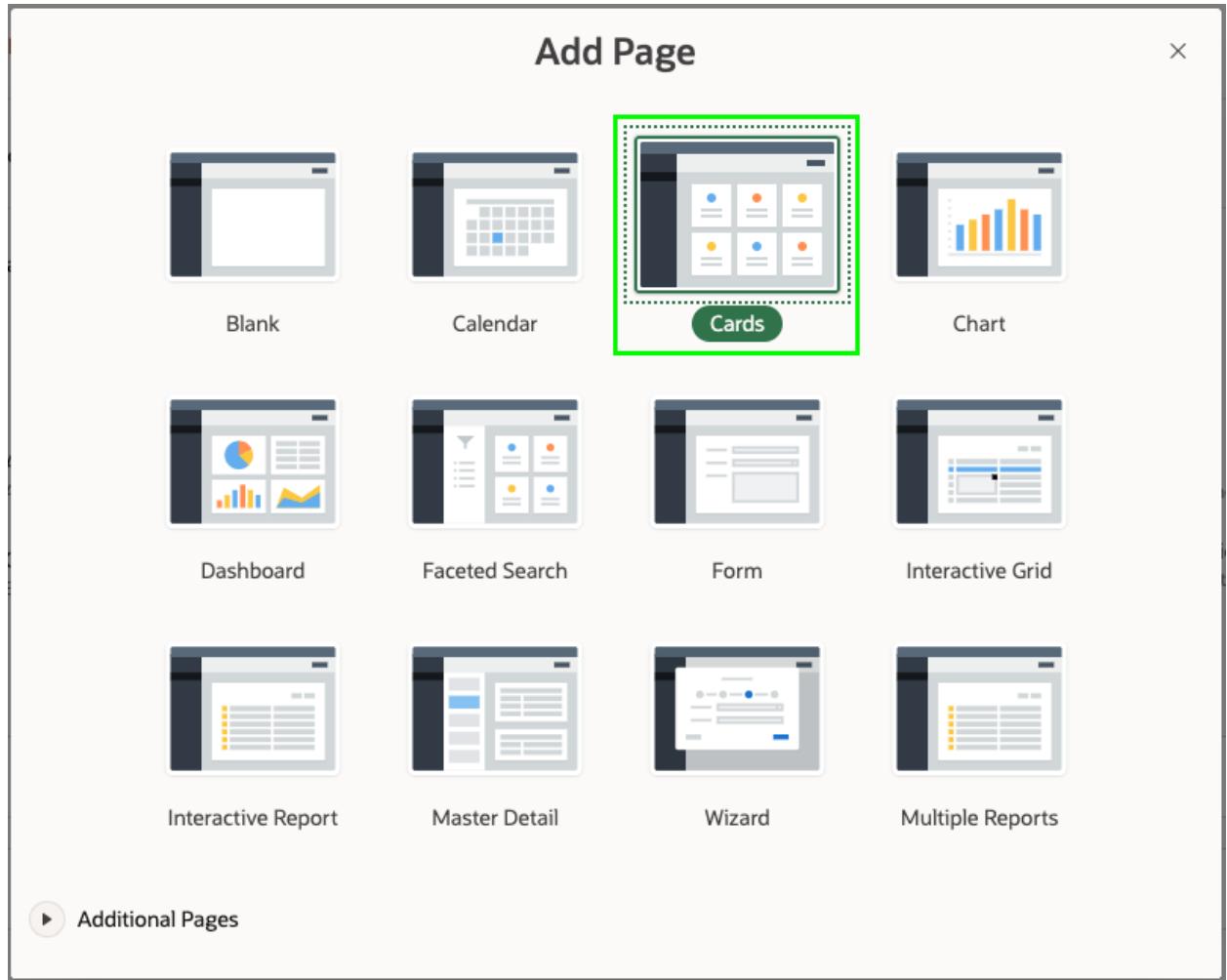
Add Page

*Note: You have not set any values for Chart 4; therefore, it will be generated with a chart based on demo data. In a later lab, we will remove this additional chart.*

## Task 4: Add the Project Page

Card pages are especially good when there is not a huge number of records, and you want to display only a few details. The **EBA\_PROJECTS** table only has 12 records and would work well as a card page.

1. In the Create Application wizard, click **Add Page**.
2. Click **Cards**.



3. On the Add Cards Page, enter the following:
  - Page Name - enter **Projects**
  - Table or View - select **EBA\_PROJECTS**
  - Title Column - select **NAME**
  - Body Column - select **Description**
  - Icon Initials Column - select **NAME**
  - Badge Column - select **COMPLETED\_DATE**
4. Click **Add Page**

## Add Cards Page

Page Name  
Projects

Table or View  
EBA\_PROJECTS

Set Icon

Grid      Float      Horizontal (Row)

Title Column  
NAME

Body Column  
DESCRIPTION

Icon Initials Column  
NAME

Badge Column  
COMPLETED\_DATE

Advanced

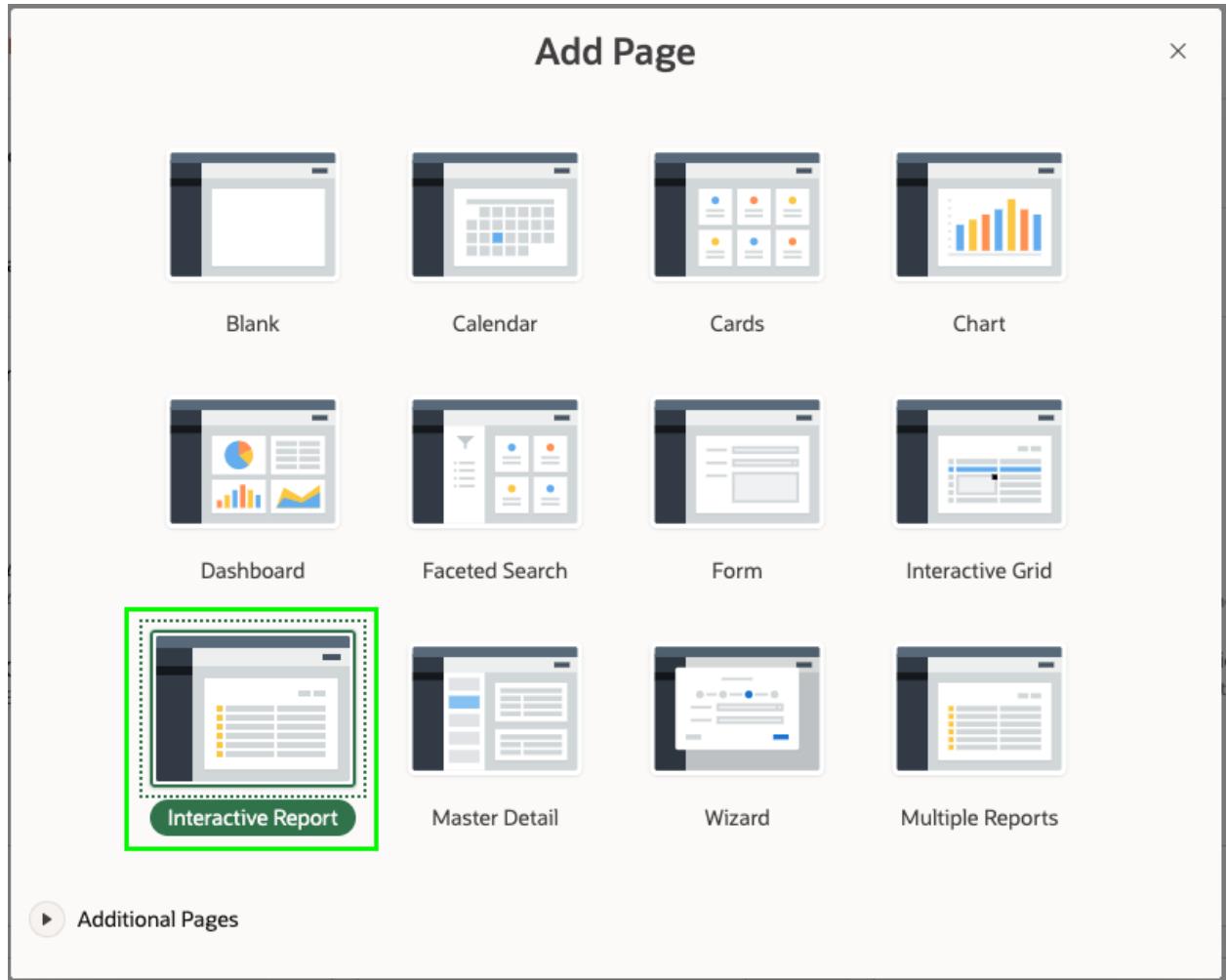
<

Add Page

## Task 5: Add the Milestone Pages

There are 30 records within **EBA\_MILESTONES**. Therefore, you will add a report page and an associated form page.

1. In the Create Application wizard, click **Add Page**.
2. Click **Interactive Report**.



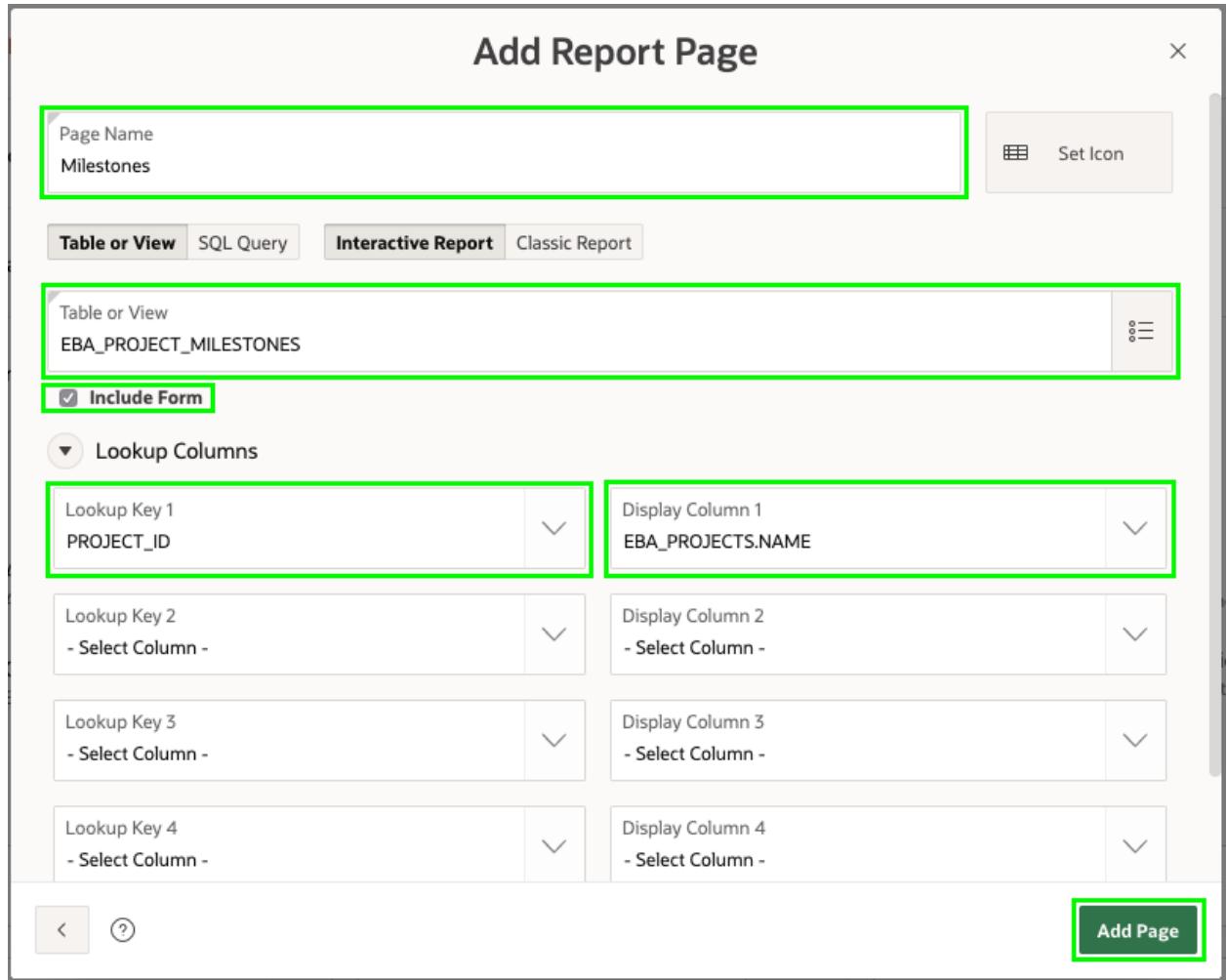
3. On the Add Report Page, enter the following:

- Page Name - enter **Milestones**
- Table or View - select **EBA\_PROJECT\_MILESTONES**
- Check **Include Form**

Expand **Lookup Columns**:

- Lookup Key 1 - select **PROJECT\_ID**
- Display Col 1 - select **EBA\_PROJECTS.NAME**

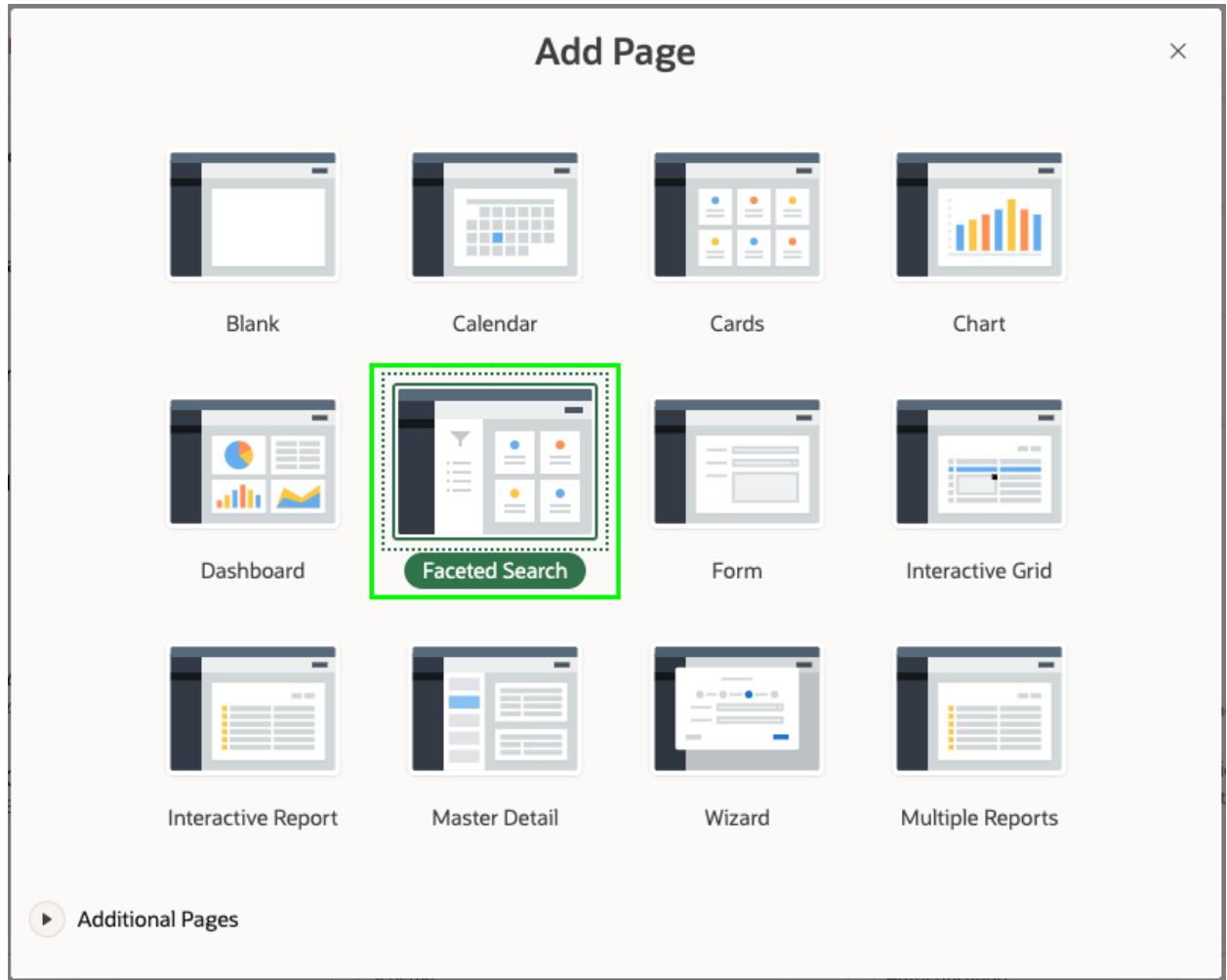
4. Click **Add Page**



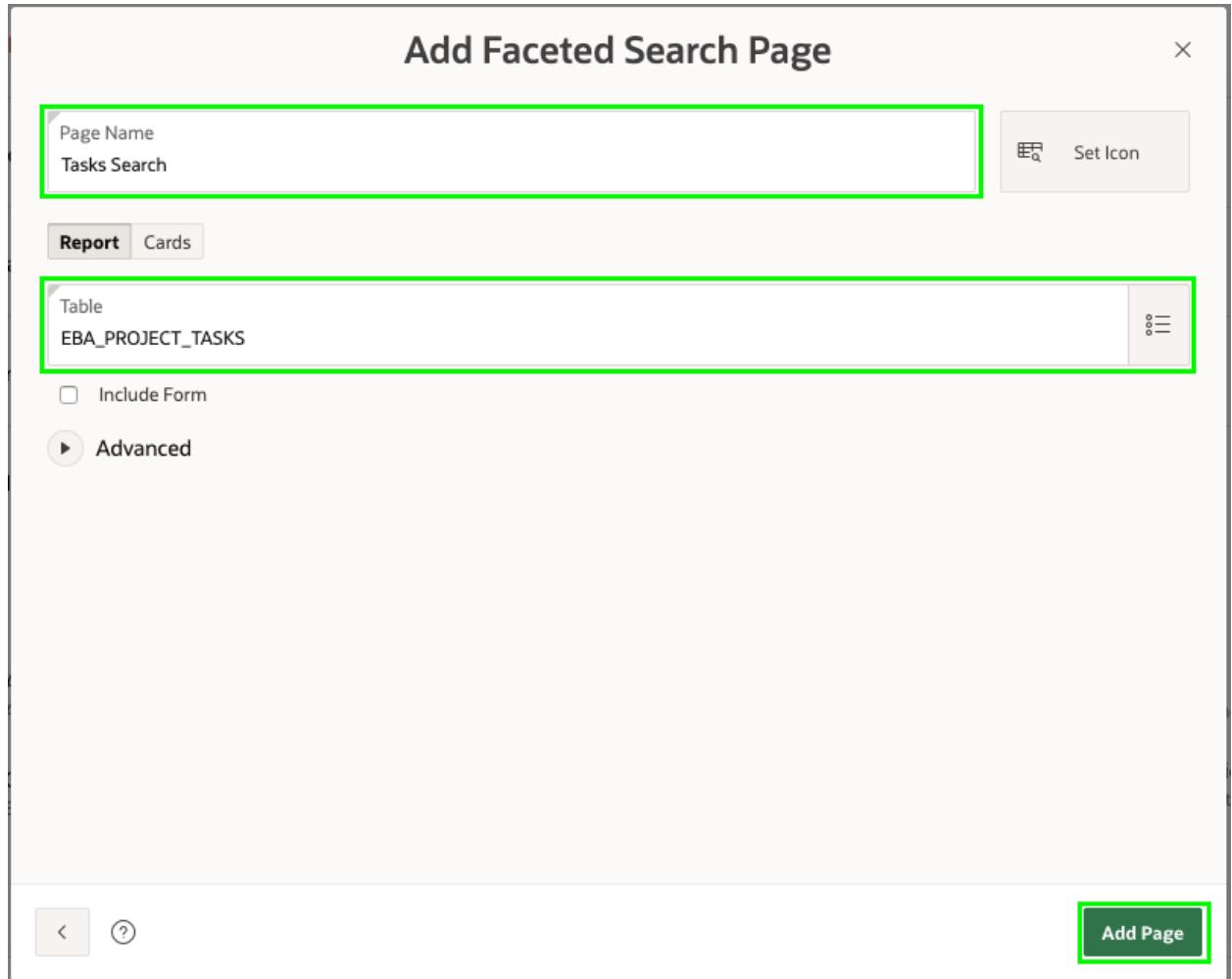
## Task 6: Add the Tasks Pages

The **EBA\_PROJECT\_TASKS** table is the primary table, where records will be reviewed and updated the most. Therefore, you will add a Faceted Search page, Report and Form pages, and a Calendar page on this table.

1. In the Create Application wizard, click **Add Page**.
2. Click **Faceted Search**.



3. On the Add Faceted Search Page, enter the following:
  - o Page Name - enter **Tasks Search**
  - o Table - select **EBA\_PROJECT\_TASKS**
4. Click **Add Page**



5. It would be better to place the **Tasks Search** page up under the **Dashboard** page.

For **Tasks Search** click and hold the hamburger (four parallel bars), after the Edit button. Drag the page up until it displays between the **Dashboard** page and the **Projects** page. Release the mouse.

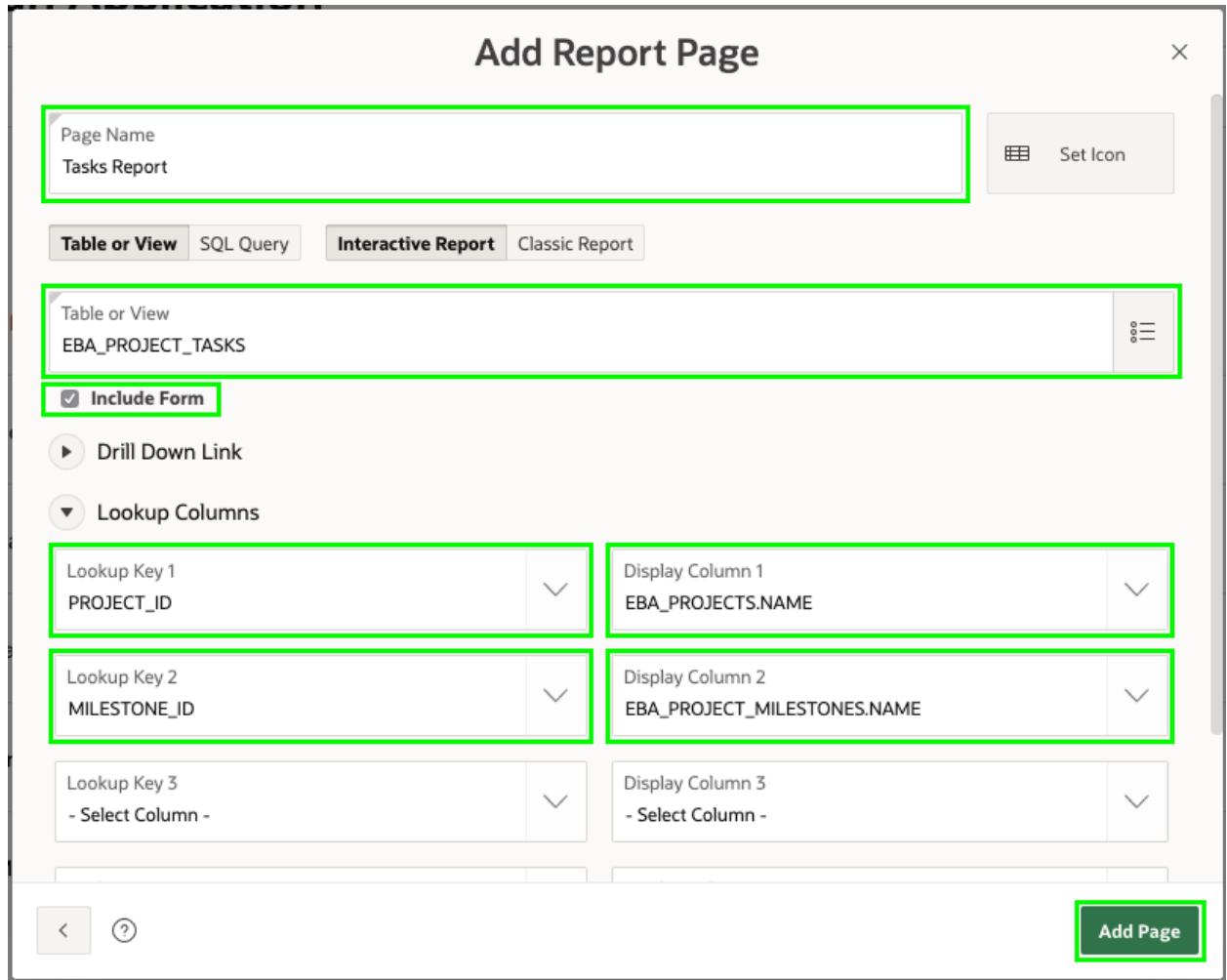
Name: Projects

Appearance: Vita - Slate, Side Menu

Pages:

- Home (Blank)
- Dashboard
- Tasks Search (Faceted Search)
- Projects (Cards)
- Milestones (Interactive Report with Form)

- Now to add the Report and Form pages.  
In the Create Application wizard, click **Add Page**.
- Click **Interactive Report**.
- On the Add Report Page, enter the following:
  - Page Name - enter **Tasks Report**
  - Table or View - select **EBA\_PROJECT\_TASKS**
  - Check **Include Form**
- Expand **Lookup Columns**
  - Lookup Key 1 - select **PROJECT\_ID**
  - Display Col 1 - select **EBA\_PROJECTS.NAME**
  - Lookup Key 2 - select **MILESTONE\_ID**
  - Display Col 2 - select **EBA\_PROJECT\_MILESTONES.NAME**
- Click **Add Page**



10. Last we will add a Calendar.

In the Create Application wizard, click **Add Page**

11. Click **Calendar**.

12. On the Add Calendar Page, enter the following:

- Page Name - enter **Tasks Calendar**
- Table or View - select **EBA\_PROJECT\_TASKS**
- Display Column - select **NAME**
- Start Date Column - select **START\_DATE**
- End Date Column - select **END\_DATE**

13. Click **Add Page**

**Add Calendar Page**

Page Name Tasks Calendar	Set Icon
Table or View EBA_PROJECT_TASKS	≡
Display Column NAME	▼
Start Date Column START_DATE	▼
End Date Column END_DATE	▼
Select this column to show events that span multiple days.	
Show Time No	▼
<span style="color: #ccc;">▶</span> Advanced	
<span style="border: 1px solid #ccc; padding: 2px;">◀</span> <span style="border: 1px solid #ccc; padding: 2px;">?</span>	<span style="border: 2px solid green; padding: 2px; color: white;">Add Page</span>

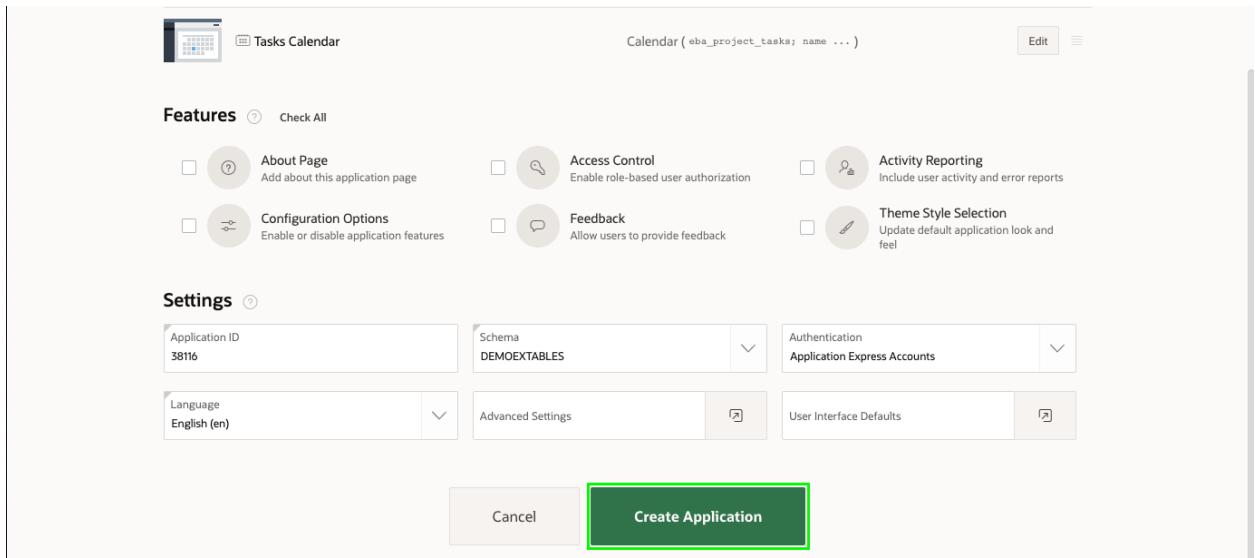
*Note: If you go to **SQL Workshop > Object Browser**, select the **EBA\_PROJECT\_TASKS** table, and then click **Create App**, it will create an app with a Dashboard page, Faceted Search page, Report and Form pages, and a Calendar page (if appropriate) all based on the selected table. This technique provides a great starting point for creating your apps, especially if you are not sure what pages you want up front.*

The screenshot shows the Oracle APEX SQL Workshop interface. In the top navigation bar, 'APEX' is selected. Below it, 'Object Browser' is active. The main area displays the 'EBA\_PROJECT\_TASKS' table details. The 'Table' tab is selected. The table structure includes columns: ID (NUMBER, Nullable: No, Primary Key: Yes), PROJECT\_ID (NUMBER, Nullable: No), and MILESTONE\_ID (NUMBER, Nullable: Yes). The 'Create App' button in the toolbar is highlighted with a green box.

## Task 7: Generate the App

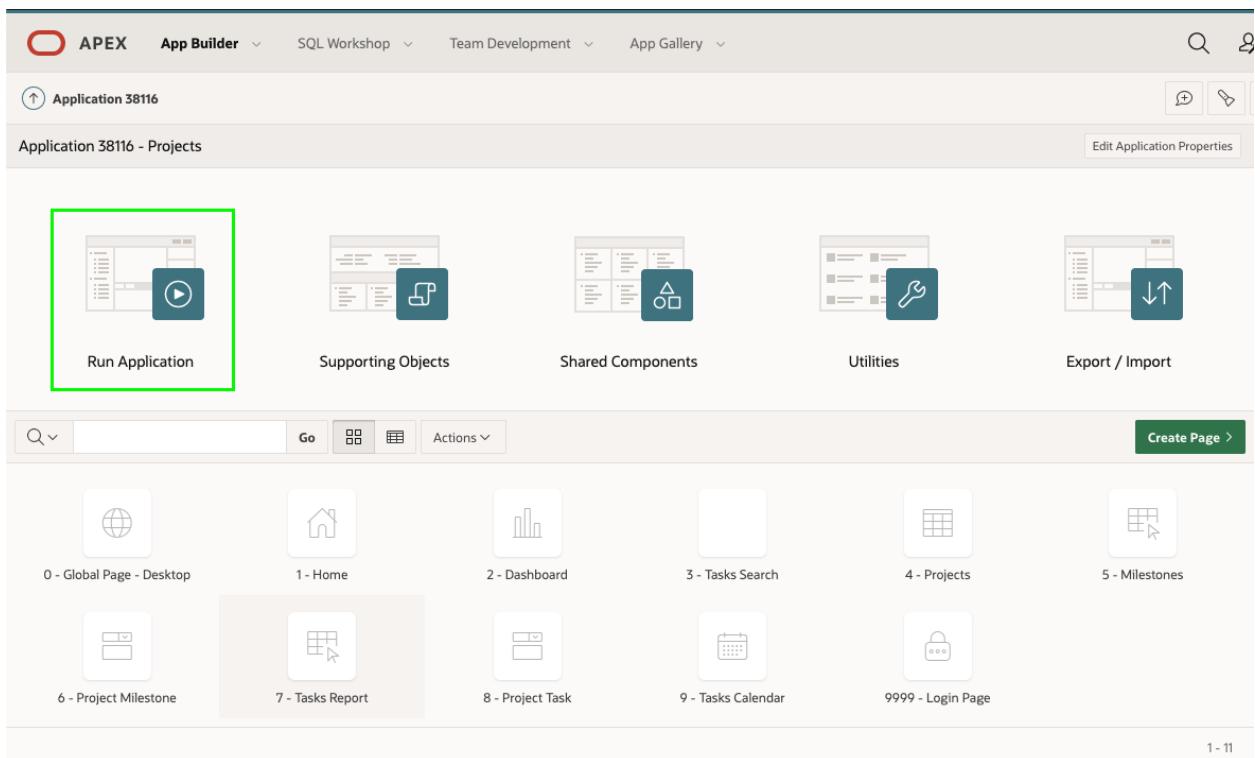
Now that you have added all the pages, it is time to generate the app and review it.

1. Scroll to the bottom of the page, and click **Create Application**.



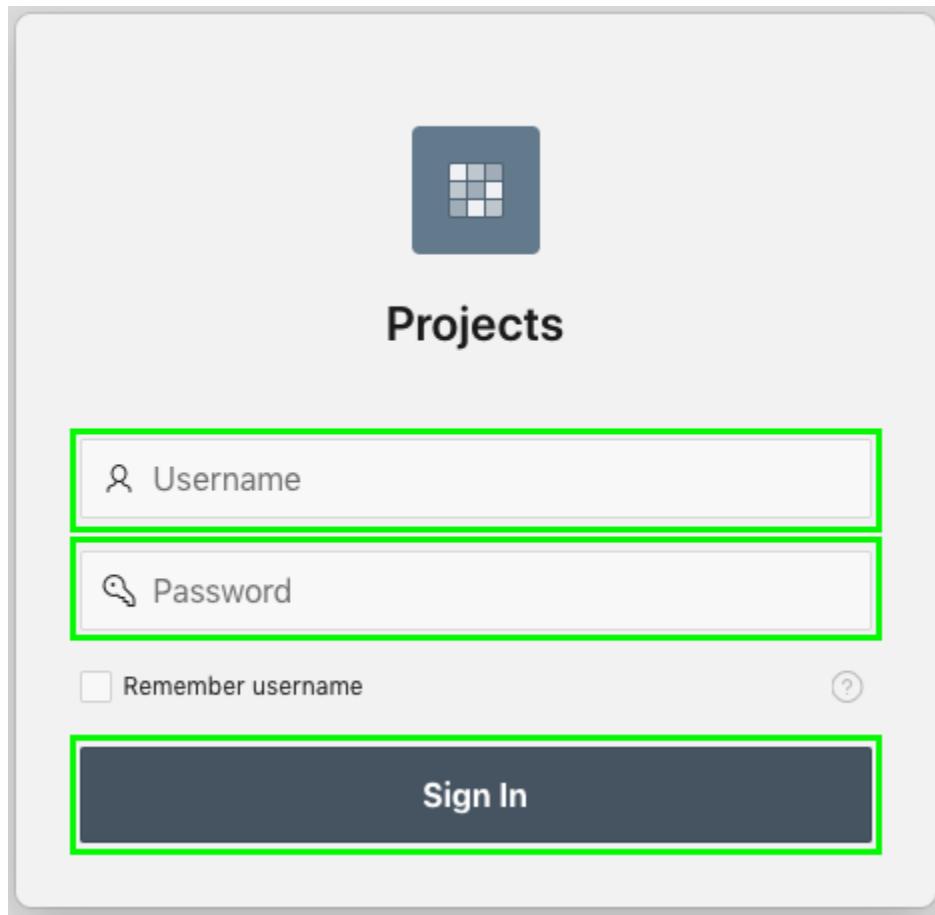
2. Once the application has been generated, your new app will be displayed in the application home page.

**Click Run Application.**

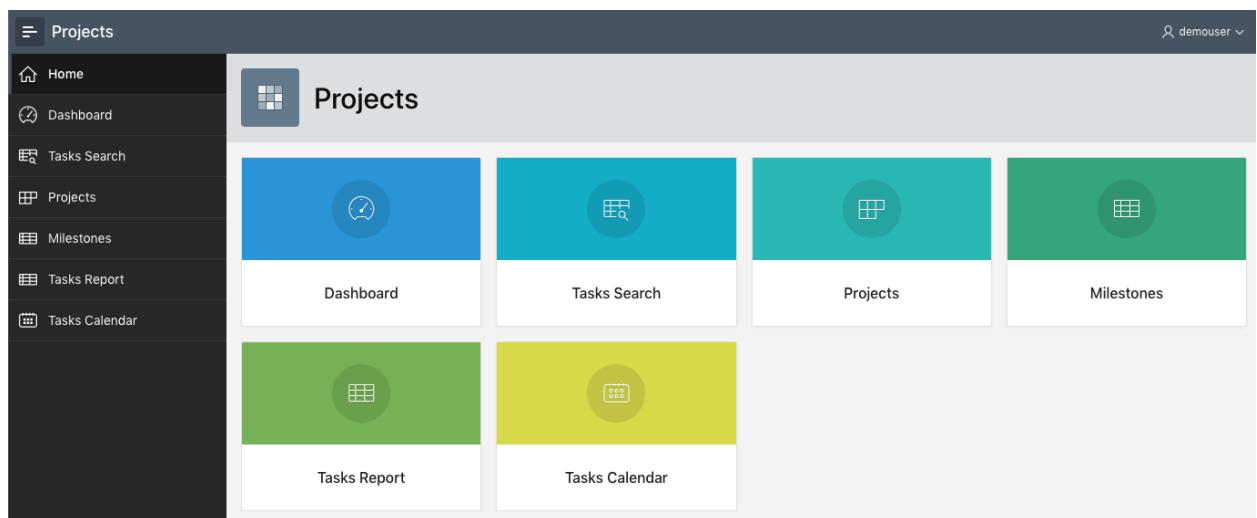


## Task 8: Runtime App

1. Enter your user credentials. Click **Sign In**.



2. This is your *Runtime Environment*. Play around with your new application!



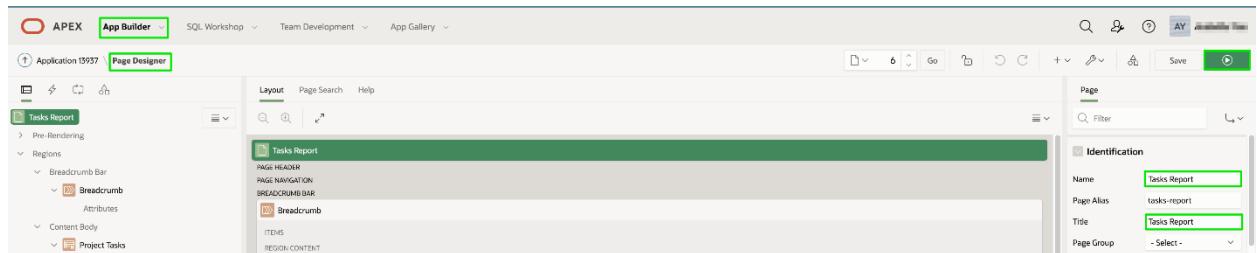
## Summary

This completes Lab 2. You now know how to create an application, with numerous different page types, based on existing database objects. [Click here to navigate to Lab 3](#)

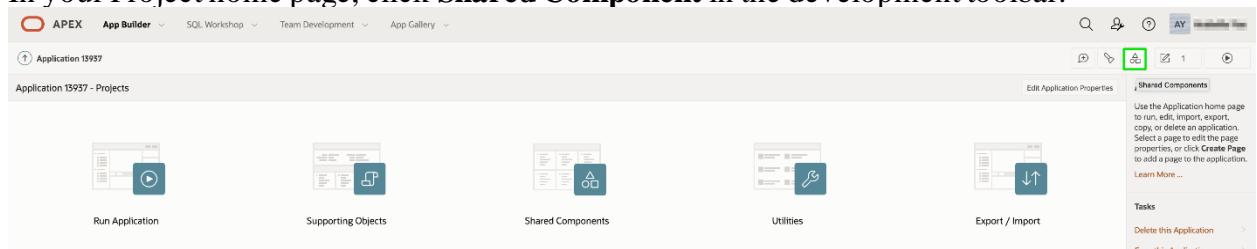
## Learn More / Troubleshooting: How to change a page's name

If you want to change a page's name after you create an application, the process is involved. Though it is recommended that you give a page an accurate name at the beginning, here are the instructions on how you can change a page's name.

1. In *App Builder*, click your Project. In your Project home page, click the page you want to edit. In *Page Designer*, change **Identification > Name** and **Identification > Title** to the new name. Click **Save and Run Page**. In the runtime environment, you will see the tab's name is updated.



2. In your Project home page, click **Shared Component** in the development toolbar.



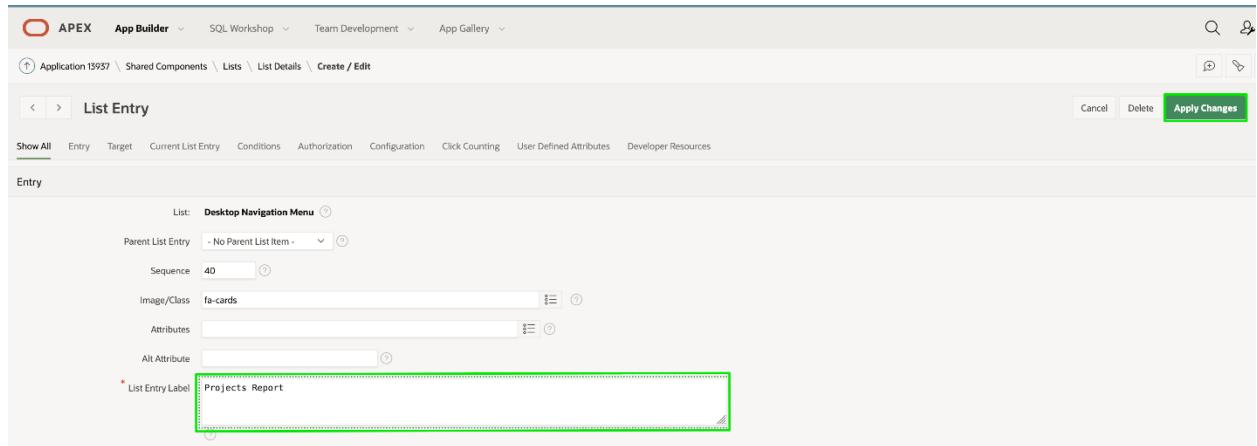
In Shared Component home page, under **Navigation**, click **Breadcrumbs**. Click **Breadcrumbs** again, click the page you want to edit.

The screenshot shows the Oracle APEX App Builder interface with the 'App Builder' tab selected. The main area displays the 'Shared Components' page. The 'Navigation' section is currently active, indicated by a green border around its title. Within this section, the 'Breadcrumbs' item is also highlighted with a green border. Other items in the navigation list include 'Lists', 'Navigation Menu', and 'Navigation Bar List'. To the right, there are sections for 'Security', 'User Interface', 'Files', 'Data Sources', 'Reports', and 'Globalization', each containing various configuration options.

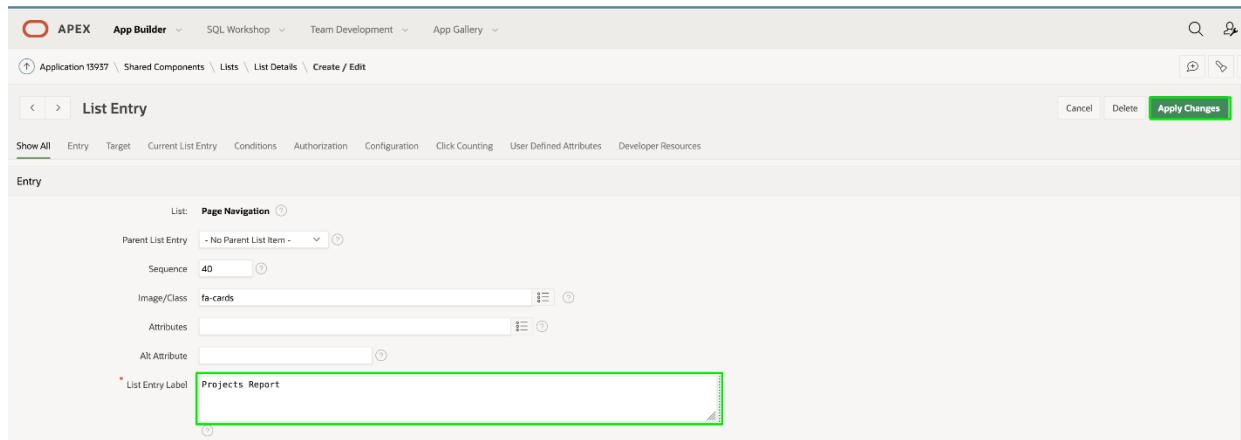
Change **Entry > Short Name** to the new name. Click **Apply Changes**. In the runtime environment, you will see the title of the page is updated.

The screenshot shows the 'Breadcrumb Entry: Projects' configuration screen. At the top, the breadcrumb path is visible: Application 13937 \ Shared Components \ Breadcrumbs \ Entries \ Create / Edit. The 'Breadcrumb' tab is selected. In the 'Entry' section, the 'Short Name' field is highlighted with a green border and contains the value 'Projects Report'. Other fields in this section include 'Sequence' (set to 10), 'Parent Entry' (set to '- Select Parent -'), and 'Long Name'. At the bottom right, there are buttons for 'Cancel', 'Delete', and 'Apply Changes', with 'Apply Changes' being the last one in the sequence.

3. In Shared Component home page, under **Navigation**, click **Breadcrumbs**. Click **Breadcrumbs** again, click the page you want to edit, change **Entry > List Entry Label** to the new name. Click **Apply Changes**. You will see the page's name is updated on the left navigation menu.



4. In Shared Component home page, under **Navigation**, click **Lists**, then click **Page Navigation**. Click the page you want to edit, change **Entry > List Entry Label** to the new name. Click **Apply Changes**. You will see the page's name is updated in the Home page of you application.



# Regenerating the App

## Introduction

In the runtime environment, if you navigate to Milestones, and then from the report page, click the edit icon, the form page for maintaining milestones will be displayed. You will notice that there are only a few fields. Therefore, it may be better to utilize an Interactive Grid, which is similar to a spreadsheet, where several records can be maintained directly within the grid.

The screenshot shows the Oracle APEX runtime environment. On the left, a sidebar menu includes Home, Dashboard, Tasks Search, Projects, Milestones (which is highlighted with a green box), Tasks Report, and Tasks Calendar. The main content area is titled "Milestones". It features a table with columns: Project, Name, Description, and Due Date. One row is selected, and an edit icon is highlighted with a green box. A modal dialog titled "Project Milestone" is open, showing the details for the selected row: Project (Develop Bug Application), Name (Deliver First-Cut of Bug Tracker), Description (Create the initial screens and populate with data so key stakeholders can review the initial solution.), and Due Date (3/22/2020). The "Apply Changes" button is visible at the bottom right of the dialog.

*Note: See how to go to your runtime environment from the previous lab.*

Collapse All Tasks

## Task 1: Delete Generated App

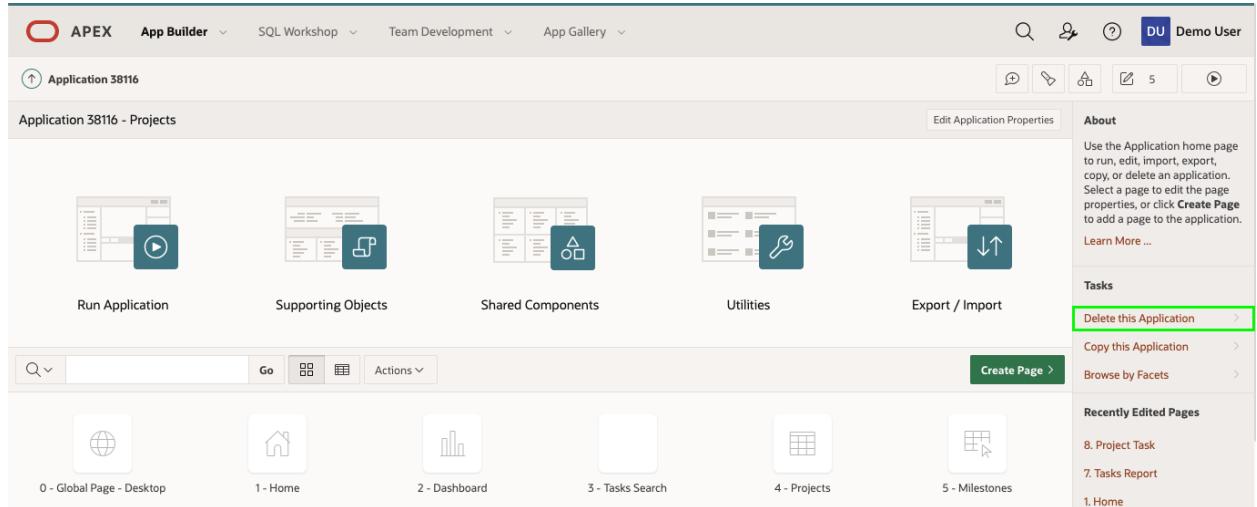
Given you are going to regenerate the app from the Create Application Wizard, it is best to delete the app you just generated to avoid confusion.

1. In the runtime environment, within the develop toolbar, click **Application xxxxx**.



*Note: The Developer Toolbar is only shown to developers who run the application from the App Builder. End users will never be shown the Developer Toolbar*

- From the App Home Page, under Tasks, click **Delete this Application**.

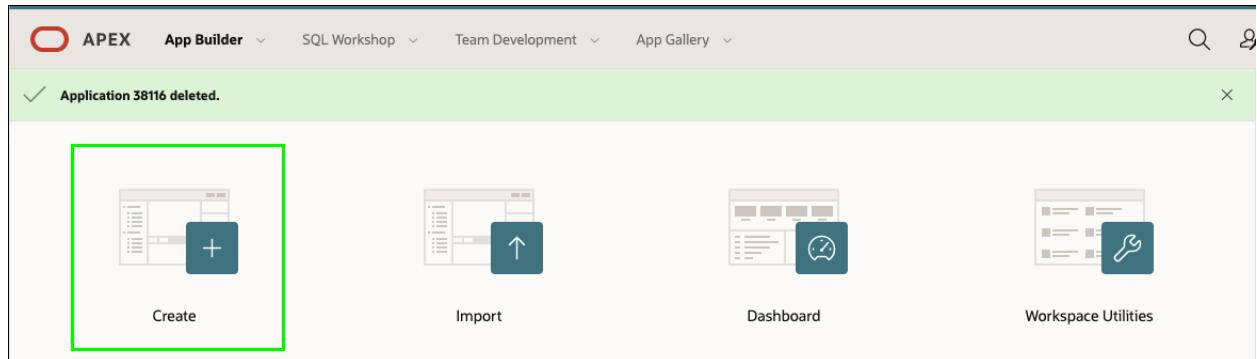


- On the Confirm Delete page, click **Permanently Delete Now**.

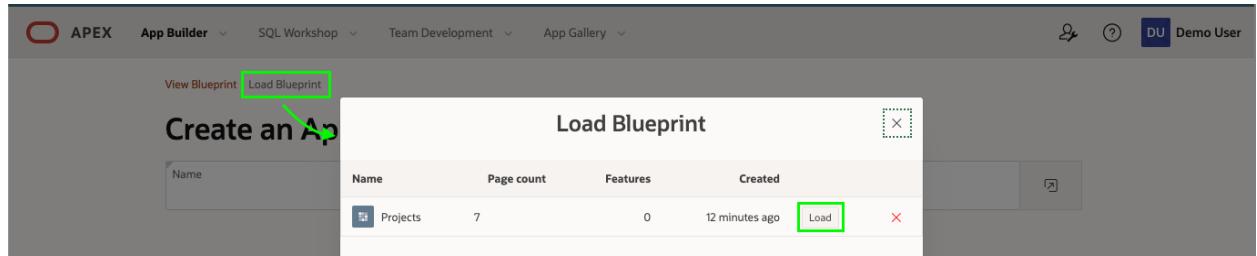
## Task 2: Reload the Projects App

The Create Application Wizard includes the ability to reload apps that you previously generated, making it easy to make some changes and generate a new and improved version of the initial app.

- From the App Builder Home Page, click **Create**.



- Click **New Application**.
- Click **Load Blueprint**.  
On Load Blueprint, for the latest app generated, click **Load**.

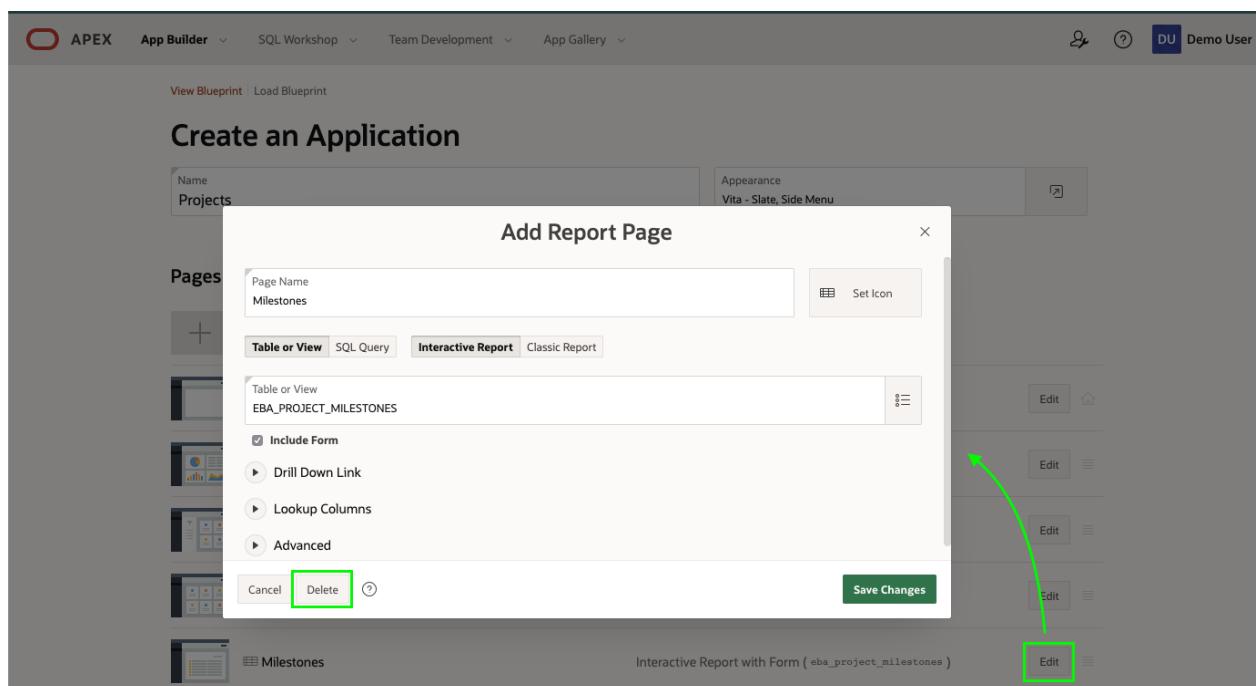


The previously defined app blueprint will be displayed.

## Task 3: Replacing the Milestone Pages

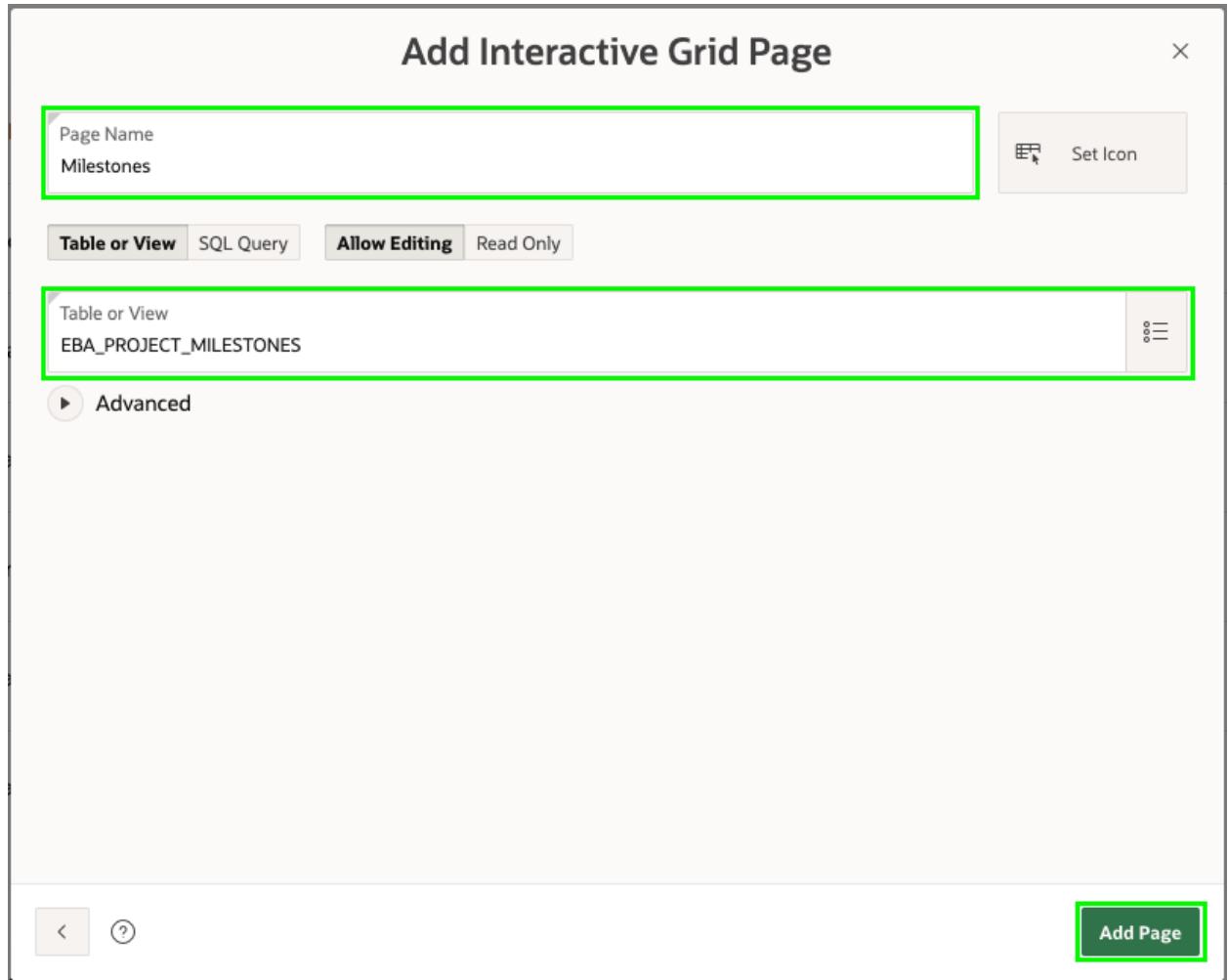
Rather than having two ways to maintain milestone records, you will delete the original report and form pages, and then add a new page, and reposition it in the list of pages.

1. In the list of pages, for Milestones, click **Edit**.
2. Click **Delete**.



3. In the Create Application Wizard, click **Add Page**.
4. Click **Interactive Grid**.
5. On the Add Interactive Grid Page, enter the following:
  - o Page Name - enter **Milestones**

- Table or View - select **EBA\_PROJECT\_MILESTONES**
- Click **Add Page**



6. Now to reorder the new page.

In the list of Pages, for the Milestones page, select the hamburger.  
Drag the page up until it is under the Projects page and drop.

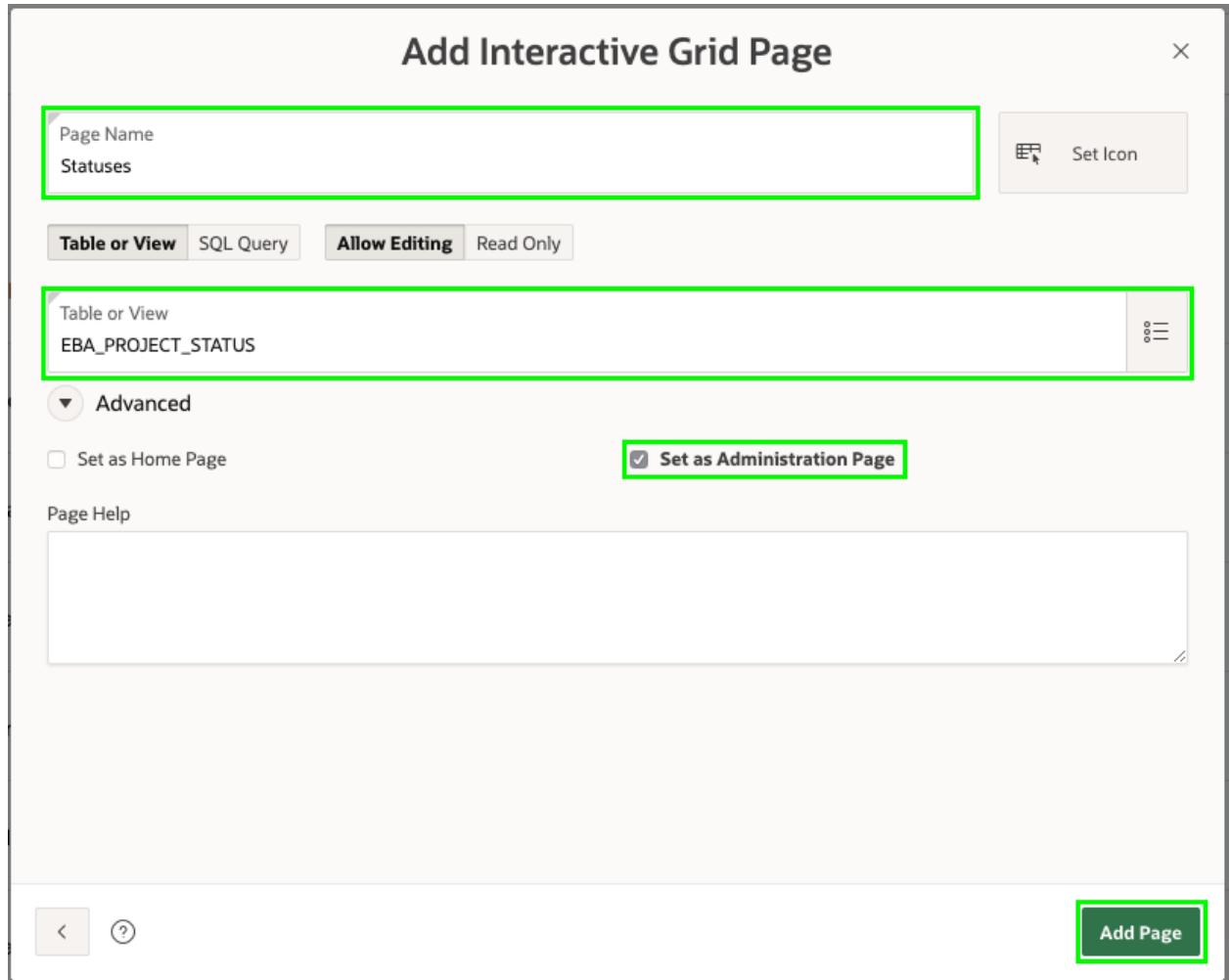
The screenshot shows the Oracle APEX App Builder interface. At the top, there are navigation links: APEX, App Builder (selected), SQL Workshop, Team Development, and App Gallery. On the right, there are icons for Help, Demo User, and a user profile. Below the navigation, there are buttons for 'View Blueprint' and 'Load Blueprint'. The main title is 'Create an Application'. Under 'Name', the application is titled 'Projects'. Under 'Appearance', it is set to 'Vita - Slate, Side Menu'. The 'Pages' section lists the following pages:

Page	Type	Description	Actions
Home	Blank		Edit
Dashboard	Dashboard		Edit
Tasks Search	Faceted Search ( eba_project_tasks )		Edit
Projects	Cards ( eba_projects )		Edit
Milestones	Interactive Grid ( eba_project_milestones )		Edit
Tasks Report	Interactive Report with Form ( eba_project_tasks )		Edit

## Task 4: Add the Status Page

The **EBA\_PROJECT\_STATUS** table is used to maintain project statuses. This table should be maintainable; however, only application administrators should be able to modify records. As such, adding the Status page under Administration is the optimal solution.

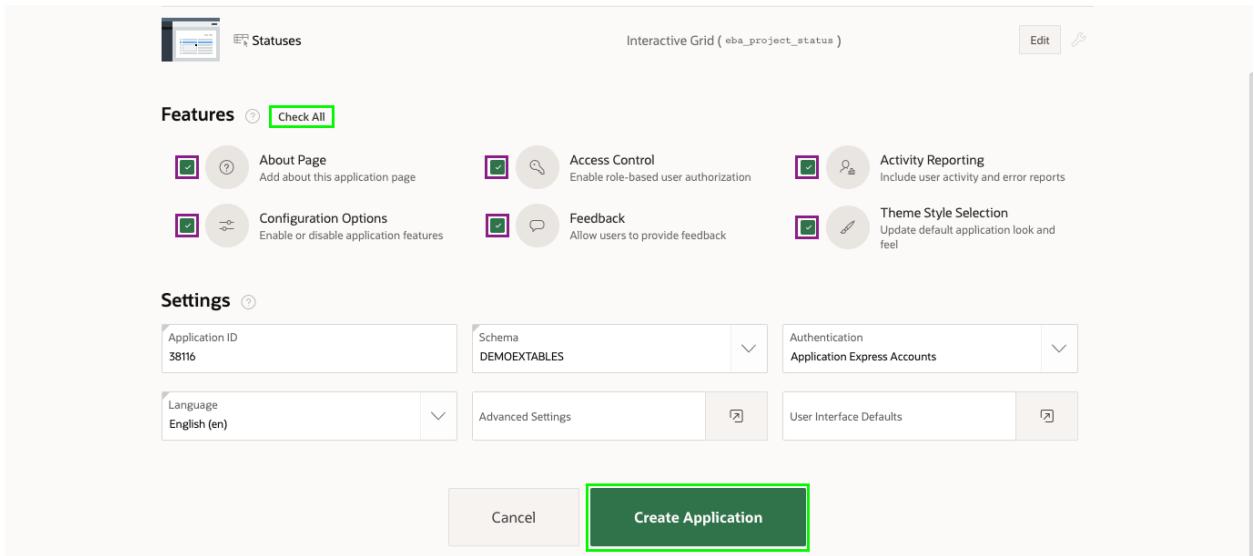
1. In the Create Application Wizard, click **Add Page**.
2. Click **Interactive Grid**.
3. On the Add Interactive Grid Page, enter the following:
  - o Page Name - enter **Statuses**
  - o Table or View - select **EBA\_PROJECT\_STATUS**
  - o Expand **Advanced**
    - Click **Set as Administration Page**
  - o Click **Add Page**



## Task 5: Completing the App

The Create Application Wizard also has the ability to add various features to your app, such as Access Control, Activity Reporting, Feedback, and more, to make your app more functionally complete and "production-ready".

1. In the Create Application Wizard, for Features, click **Check All**
2. Click **Create Application**



*Note: Your new application will generally have a new Application Id*

Your new application will be displayed in the App Builder.

3. Click **Run Application**.
4. Enter your user credentials.
5. Navigate to **Milestones**.
6. Double-click in any column to see how you can enter data directly into the grid.

Projects		Milestones			
		<input type="text"/> Search: All Text Columns <input type="button" value="Go"/> Actions <input type="button" value="Edit"/> <input type="button" value="Save"/> <input type="button" value="Add Row"/> <input type="button" value="Reset"/>			
	Project	Name	Description	Due Date	
	Train Developers	Train the Trainers	Rather than all developers being trained...	15-JAN-2020	
	Train Developers	All Developers Trained	Train the Trainers will have successfully ...	19-JAN-2020	
	Migrate Legacy Applications	Move Data Structures	Move all of the tables and program logic...	25-MAR-2020	
	Migrate Legacy Applications	Redevelop HR Applications	Build applications to replace the HR fun...	02-APR-2020	
	Migrate Legacy Applications	Redevelop Project Tracking Applications	Build applications to replace the project...	08-APR-2020	
	Develop Partner Portal POC	Define Requirements	Work with key stakeholders to define th...	11-APR-2020	
	Develop Partner Portal POC	Build Proof-of-Concept	Create the initial screens and populate ...	18-APR-2020	
<input checked="" type="checkbox"/>	Develop Production Partner Portal	Define Production App Scope	Based on the results of the POC, define ...	19-APR-2020	
	Develop Production Partner Portal	Build Phase 1 of Production Partner Port...	Develop the modules defined in the first...	26-APR-2020	

*Note: Project column will display a list of projects, Name and Description columns will be text areas, and Due Date column will be a date picker, based on the different data types.*

7. Click the navigation button at the top-left of the page, and navigate to **Administration** to review the capabilities provided.

**Administration**

**Application Administration**

- Statuses**  
Manage component

**Configuration**

- Configuration Options**  
Enable or disable application features

**User Interface**

- Theme Style Selection**  
Set the default application look and feel

**Activity Reports**

- Dashboard**  
View application activity metrics
- Top Users**  
Report of page views aggregated by user
- Application Error Log**  
Report of errors logged by this application
- Page Performance**  
Report of activity and performance by application page
- Page Views**

**Access Control**

Only users defined in the application access control list may access this application

Role	Count
Administrator	1
Contributor	0
Reader	0

**Feedback**

Status	Count
Acknowledged	0
Closed	0
No Action	0
Open	0

**Feedback Settings**  
Manage if attachments should be allowed.

**User Feedback**  
Report of all feedback submitted by application users

**Footer Icons:** Home, Application 38116, Edit Page 10000, Session, View Debug, Debug, Page Info, Quick Edit, Theme Roller, Settings

## Summary

This completes Lab 3. You now know how to regenerate an application and add additional features.

# Improving the Dashboard

## Introduction

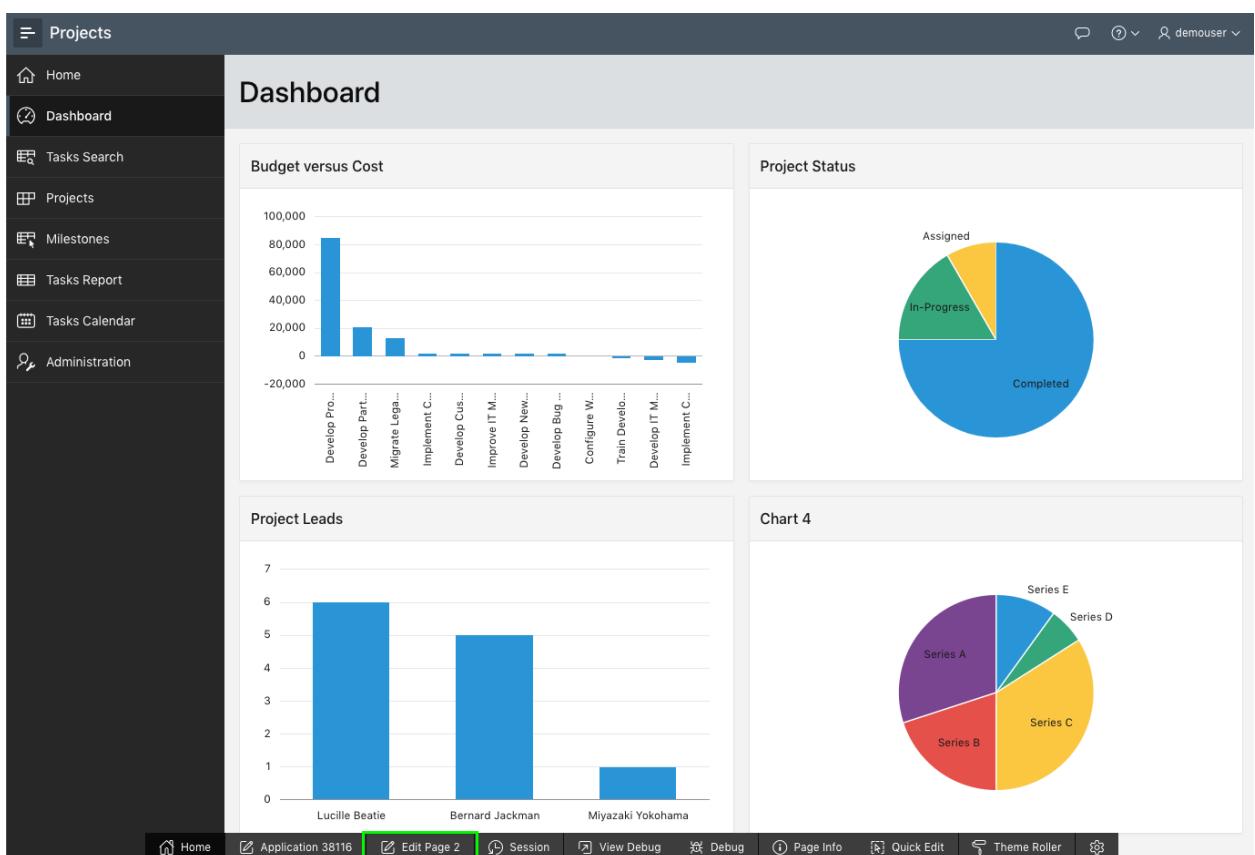
In this lab, you will learn how to manipulate regions in Page Designer to improve your Dashboard.

Collapse All Tasks

### Task 1: Removing Chart 4

Looking at the Dashboard, you will see that Chart 4 is based on demo data and should be removed.

1. In the runtime environment, click **Dashboard**.
2. In the Developer Toolbar (at the bottom of the runtime page), click **Edit Page 2**.

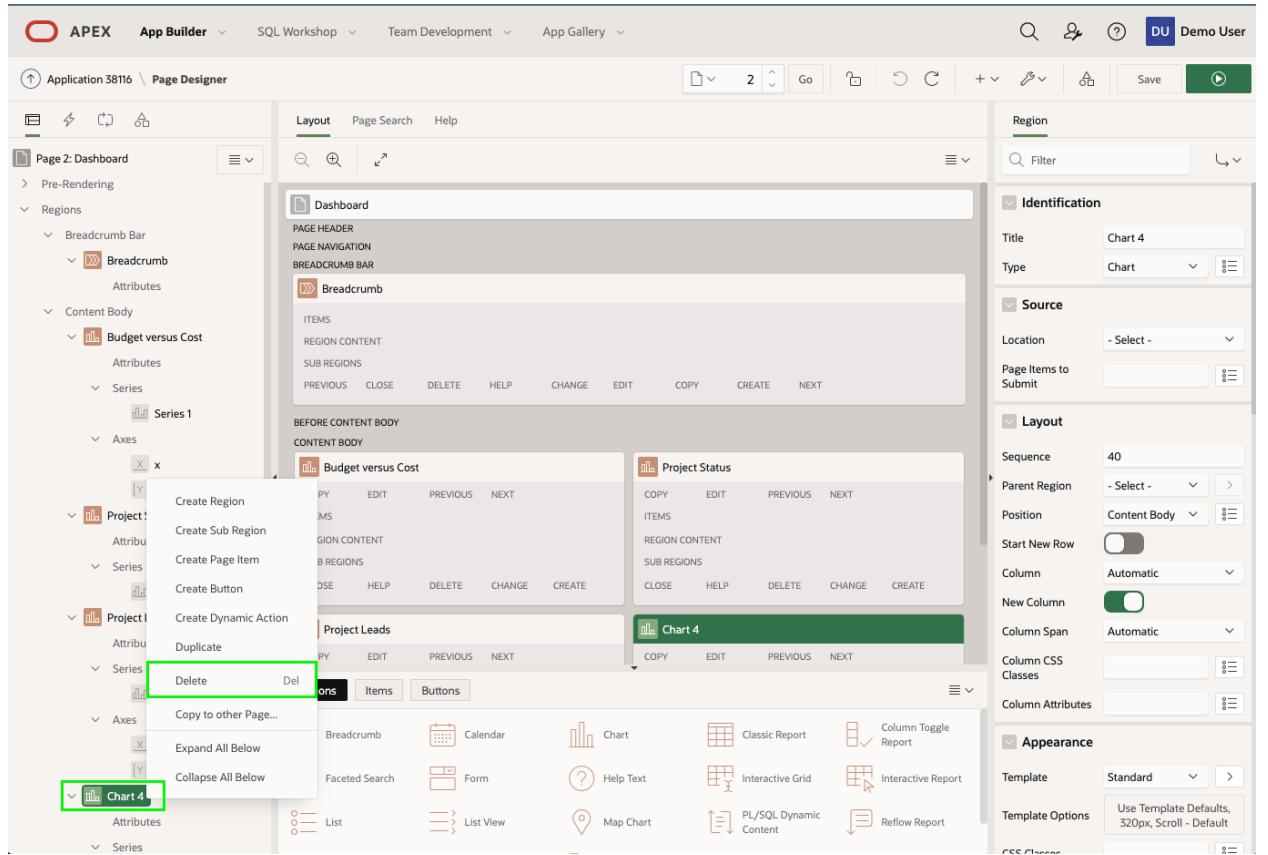


You should now be in *Page Designer*. Page Designer is where you will spend the majority of your time improving your application. There are three panes within Page Designer. The left pane initially displays the Rendering tree, with a list of page components. The middle pane displays the Layout, a representation of the page, and

Gallery (in the bottom), from which you can drag and drop new components into the Layout. The right pane is the Property Editor, where you can change attributes for the selected component.

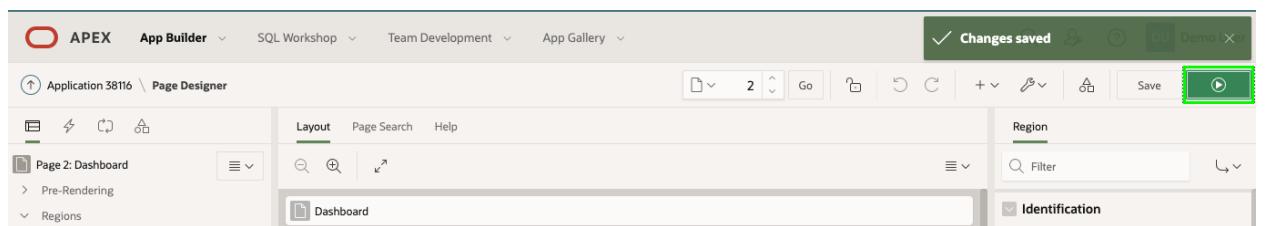
*Note: If you don't see the Developer Toolbar at the bottom of your page, try closing the current runtime environment and reaccessing it from the App Builder.*

- Within Page Designer, in the Rendering tree (left pane), scroll down and **right-click Chart 4** and select **Delete**.

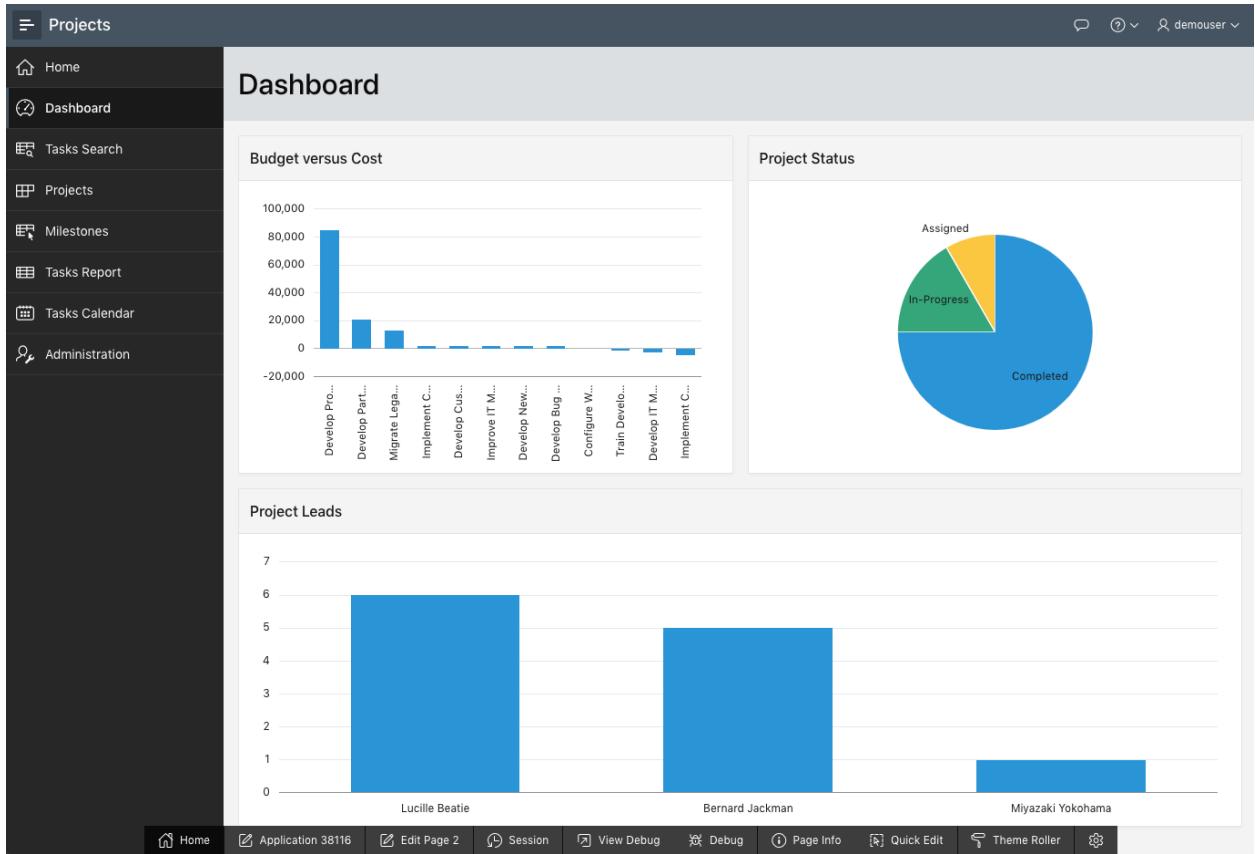


- Let's review the dashboard again.

In the Page Designer toolbar (at the top of your screen), click **Save and Run Page** button.



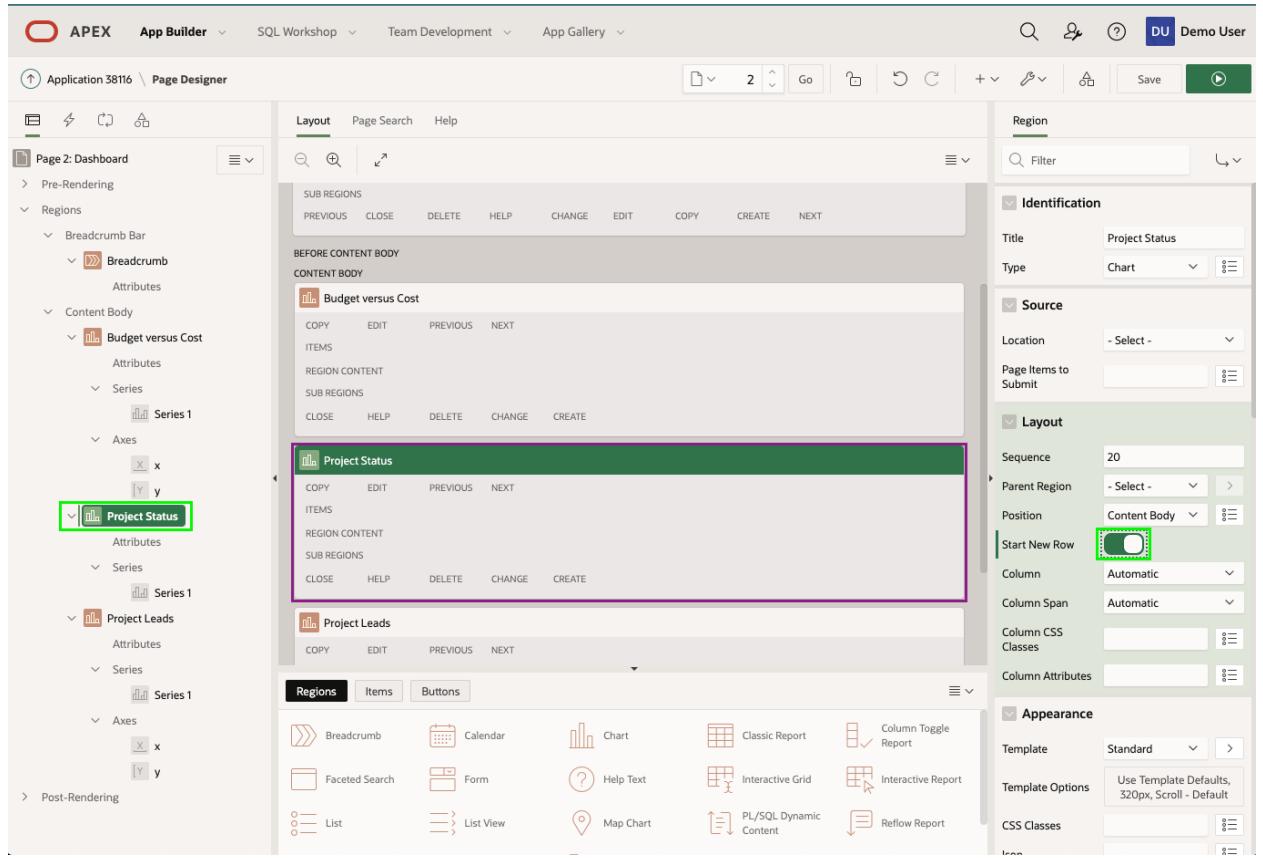
The revised layout will be displayed.



## Task 2: Move Regions

Looking at the revised Dashboard page, it would look better to have the Budget versus Cost chart on a line by itself.

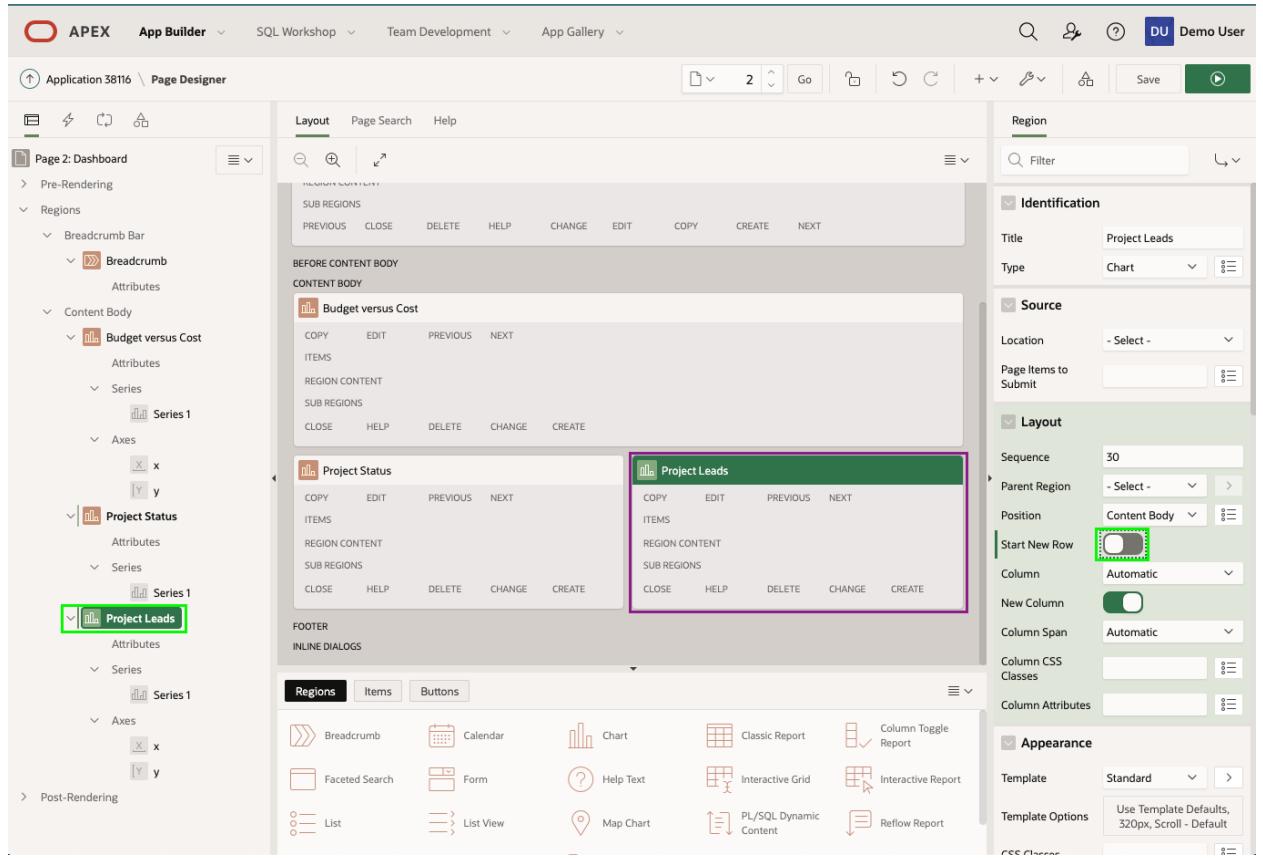
- From the runtime environment, navigate back to the App Builder by clicking **Edit Page 2** in the Developer Toolbar, or by navigating back to the App Builder browser tab manually.
  - Within Page Designer, in the Rendering tree (left pane), click **Project Status**. In the Property Editor (right pane), **check Layout > Start New Row**.
- Note: Within Layout (middle pane), the Project Status region will move onto a row by itself*



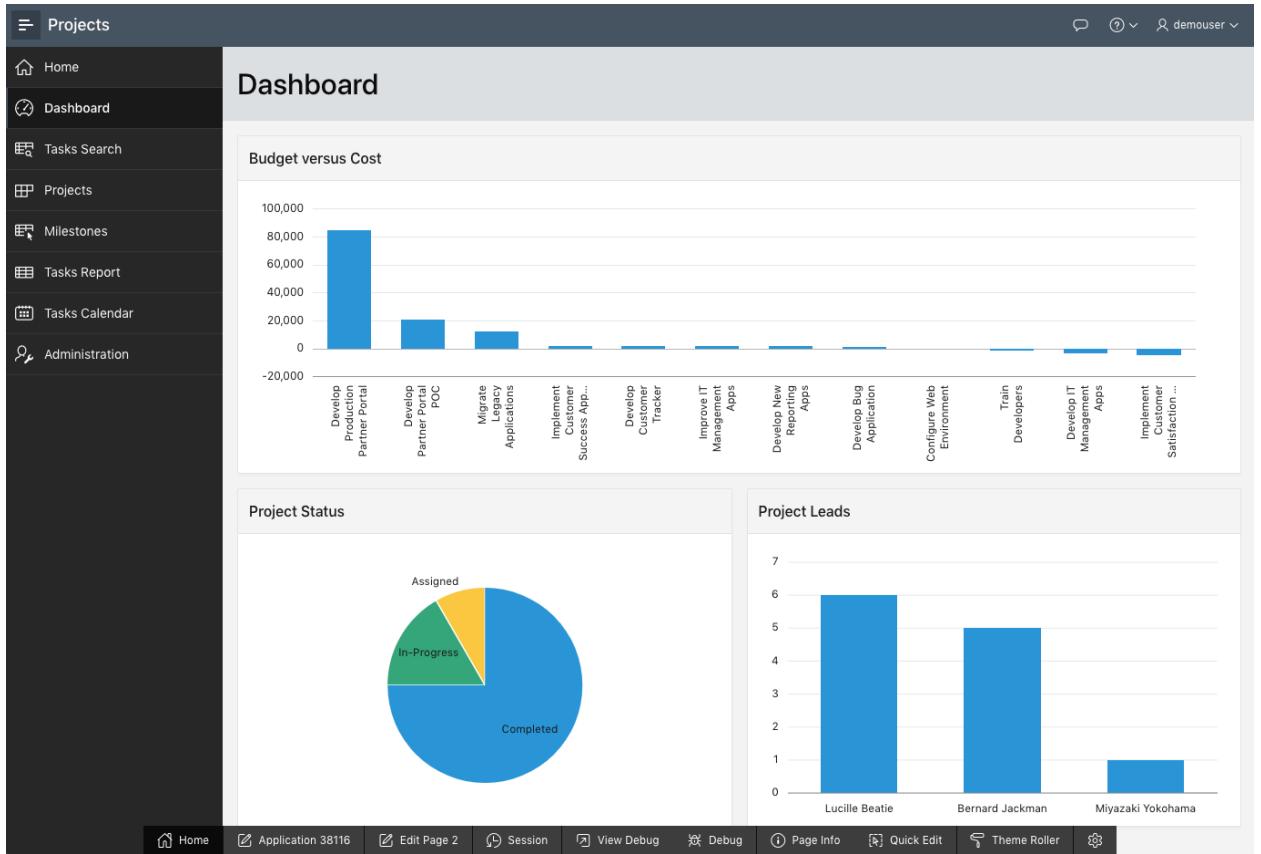
- Now to move the Project Leads chart up on to the same line as the Project Status chart.  
In the Rendering tree (left pane), click **Project Leads**.

In the Property Editor (right pane), **uncheck Layout > Start New Row**.

*Note: Within Layout (middle pane), the Project Leads region will move up to be on the same row as Project Status*



- Now to review the page!
- Click **Save and Run Page** button.



## Summary

This completes Lab 4. You now know how to remove and reposition regions.

# Improving Projects

## Introduction

In this lab, you will learn how to use the *Create Page Wizard* to add additional pages to your app. Then, you will link the new page to the existing Card page. You will then learn how to easily manipulate how items are displayed, and finally to create a *Dynamic Action*.

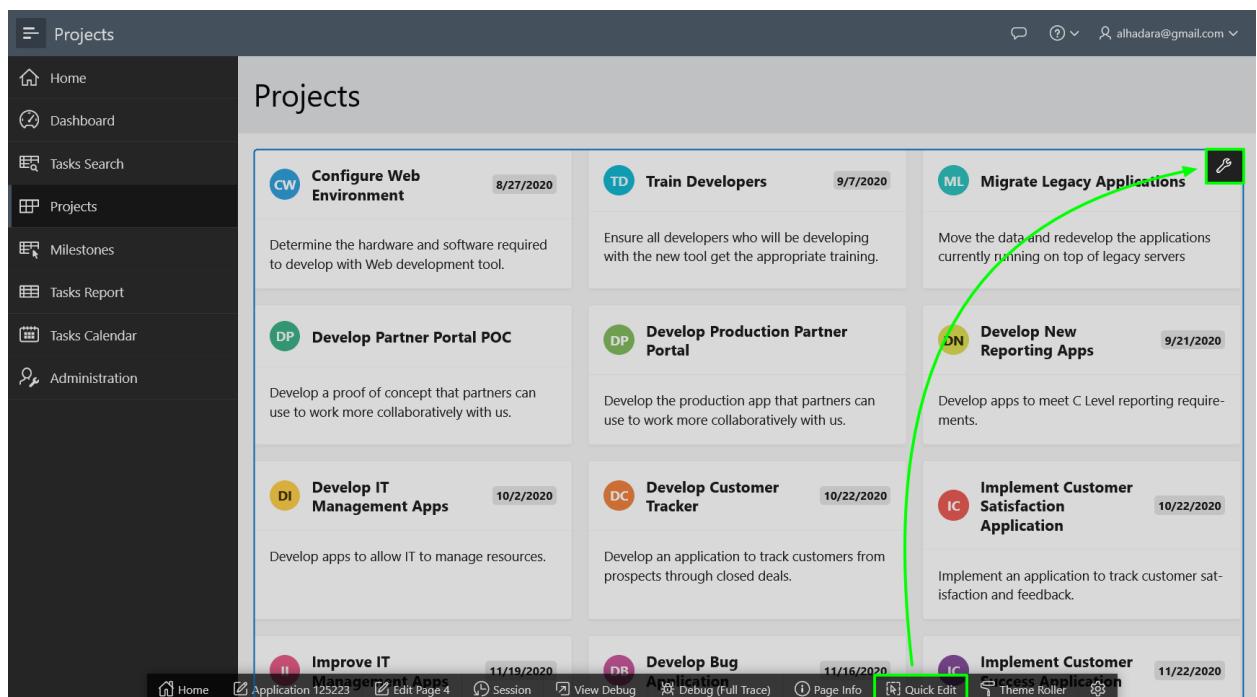
Collapse All Tasks

### Task 1: Changing the Cards Region Style

Looking at the Projects Card region, you should notice the cards' icons are circle, which could be displayed differently. To change the cards region style, you will utilize **Live Template Options** directly in the runtime environment. You could also make changes from the App Builder; however, it is much easier to make changes as you can see the results.

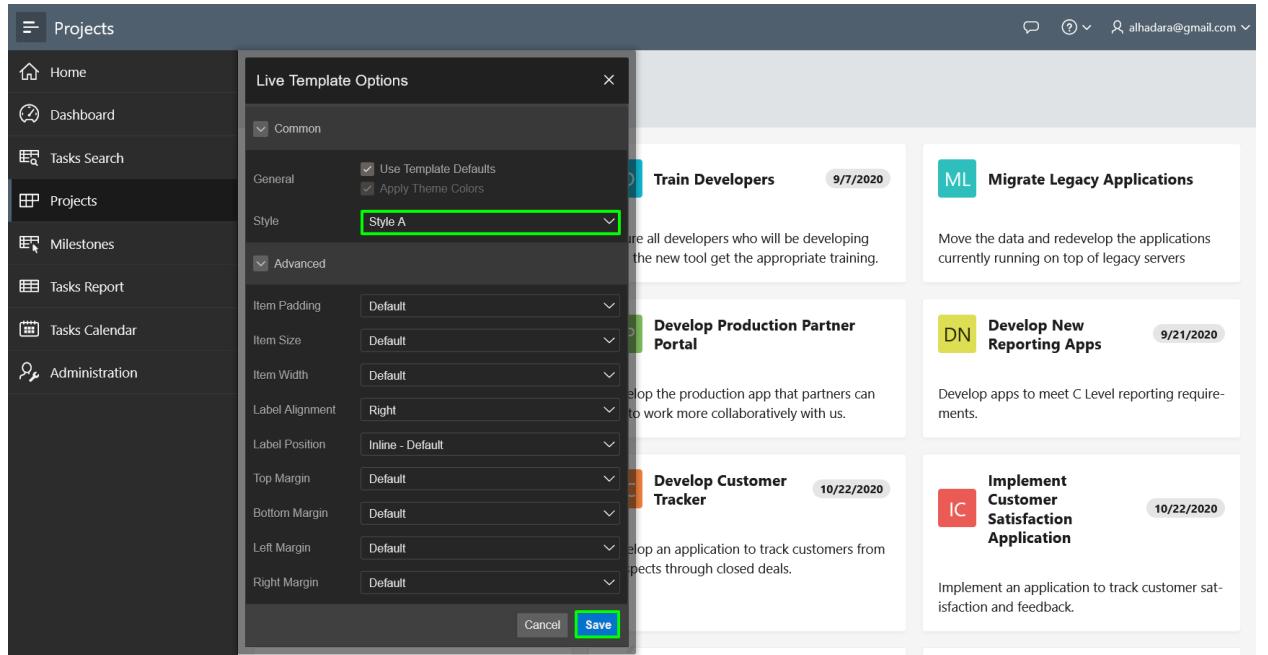
1. In the runtime environment, click **Projects**.
2. In the Developer Toolbar (at the bottom of the runtime environment), click **Quick Edit**.

Move the mouse until it is inside the Cards region, and a blue box surrounds the region, with a wrench in the top right corner.  
Click the wrench.



3. In the Live Template Options dialog, select the following:

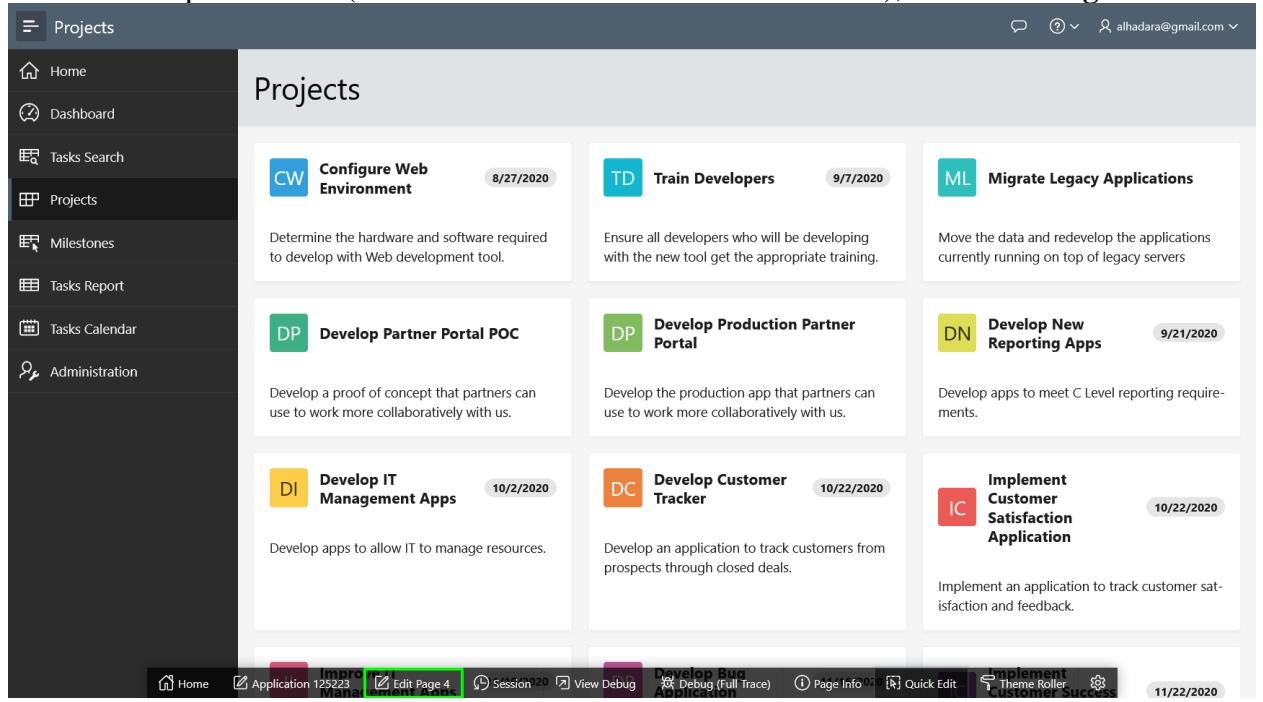
- Style - select **Style A**
4. Click **Save**



## Task 2: Enhancing Projects Page

You will notice that the Projects page shows the cards columns based on the current available width. Let's fix the number of grid columns to 4. We will also add the project lead in the subtitle of the card.

1. In the Developer Toolbar (at the bottom of the runtime environment), click **Edit Page 4**.



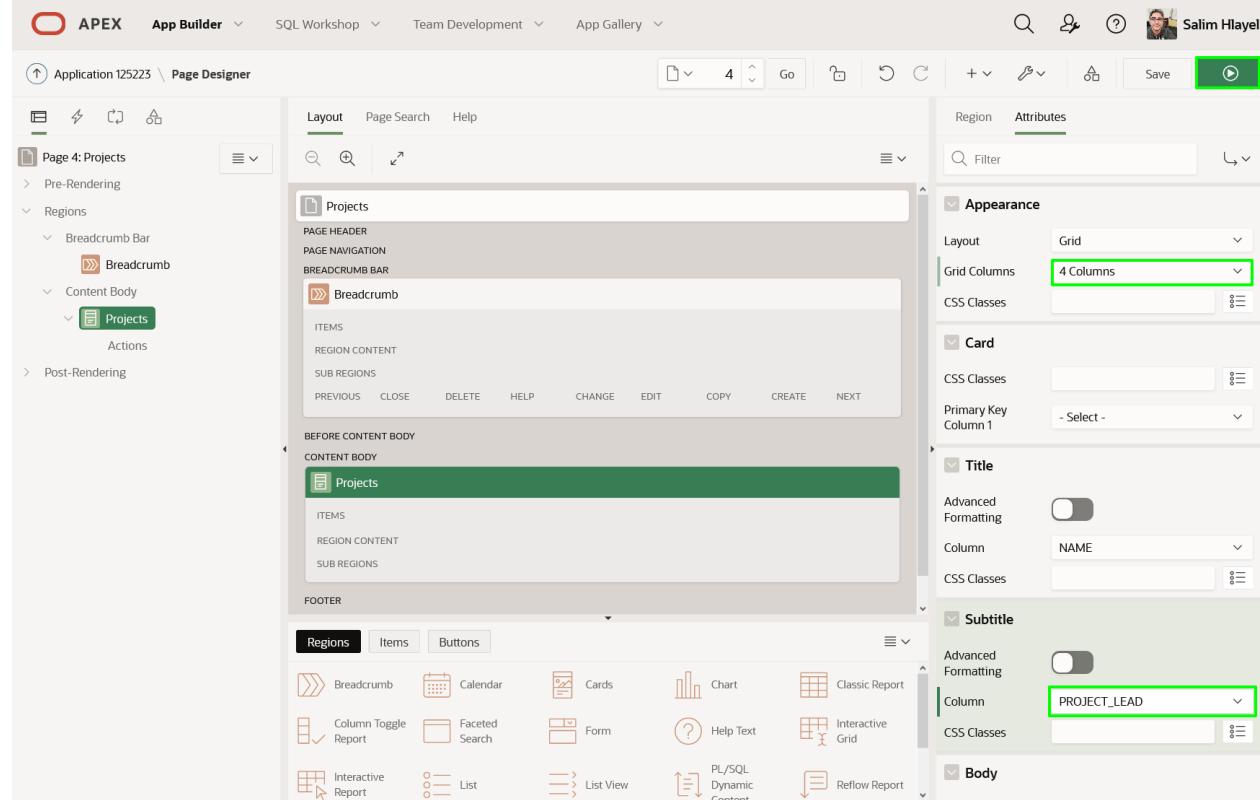
The screenshot shows the Developer Toolbar at the bottom of a runtime environment window. The toolbar items are: Home, Application 125223, Import, **Edit Page 4** (highlighted with a green box), Session 20, View Debug, Debug (Full Trace), Page Info, Quick Edit, Theme Roller, and Help. The main window displays a 'Projects' grid with several tasks listed.

Task ID	Task Name	Due Date	Description
CW	Configure Web Environment	8/27/2020	Determine the hardware and software required to develop with Web development tool.
TD	Train Developers	9/7/2020	Ensure all developers who will be developing with the new tool get the appropriate training.
ML	Migrate Legacy Applications		Move the data and redevelop the applications currently running on top of legacy servers.
DP	Develop Partner Portal POC		Develop a proof of concept that partners can use to work more collaboratively with us.
DP	Develop Production Partner Portal		Develop the production app that partners can use to work more collaboratively with us.
DN	Develop New Reporting Apps	9/21/2020	Develop apps to meet C Level reporting requirements.
DI	Develop IT Management Apps	10/2/2020	Develop apps to allow IT to manage resources.
DC	Develop Customer Tracker	10/22/2020	Develop an application to track customers from prospects through closed deals.
IC	Implement Customer Satisfaction Application	10/22/2020	Implement an application to track customer satisfaction and feedback.

2. In the Property Editor (the right pane), under Attributes tab, change the followings:

- Grid Columns to **4 Columns**
- Subtitle Column to **PROJECT LEAD**

- Click the Save and Run Page button



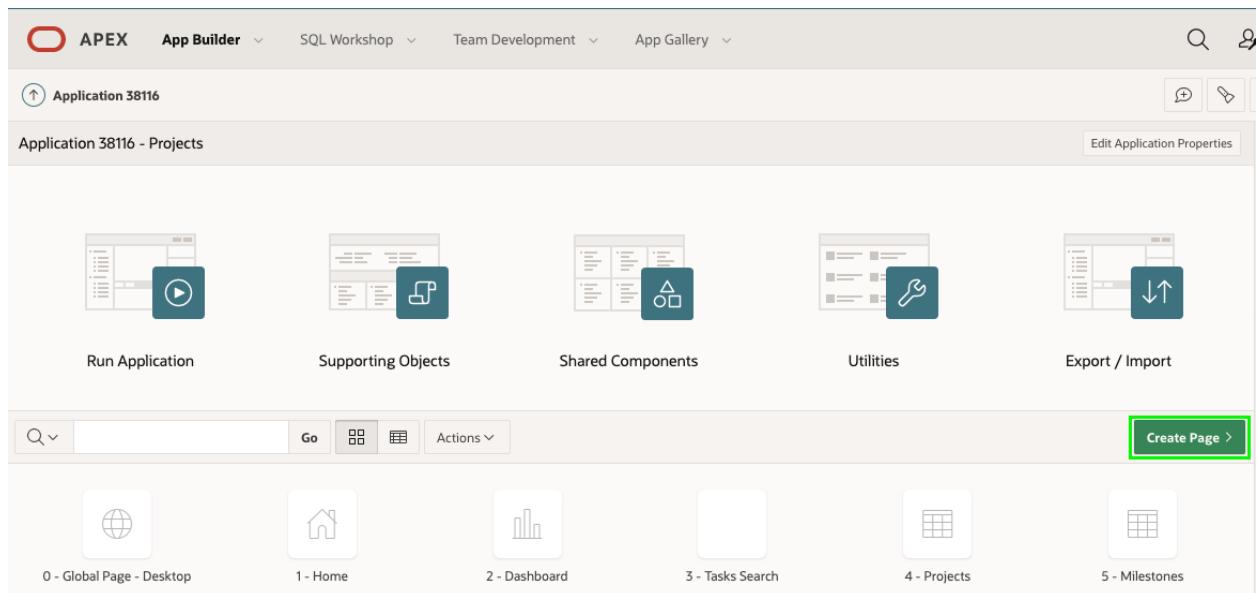
3. The Cards Region now show only four projects per row. The Project Lead is added in the subtitle of the card.

Project ID	Project Name	Lead	Description
CW	Configure Web Environment	Lucille Beatie	Determine the hardware and software required to develop with Web development tool.
TD	Train Developers	Lucille Beatie	Ensure all developers who will be developing with the new tool get the appropriate training.
ML	Migrate Legacy Applications	Miyazaki Yokohama	Move the data and redevelop the applications currently running on top of legacy servers.
DP	Develop Partner Portal POC	Bernard Jackman	Develop a proof of concept that partners can use to work more collaboratively with us.
DP	Develop Production Partner Portal	Lucille Beatie	Develop the production app that partners can use to work more collaboratively with us.
DN	Develop New Reporting Apps	Lucille Beatie	Develop apps to meet C Level reporting requirements.
DI	Develop IT Management Apps	Bernard Jackman	Develop apps to allow IT to manage resources.
DC	Develop Customer Tracker	Lucille Beatie	Develop an application to track customers from prospects through closed deals.
IC	Implement Customer Satisfaction Application	Bernard Jackman	Implement an application to track customer satisfaction and feedback.
II	Improve IT Management Apps	Bernard Jackman	Enhance apps to allow IT to manage resources.
DB	Develop Bug Application	Lucille Beatie	Develop an application to track bugs and their resolution.
IC	Implement Customer Success Application	Bernard Jackman	Implement an application to track and display customer success stories and quotes.

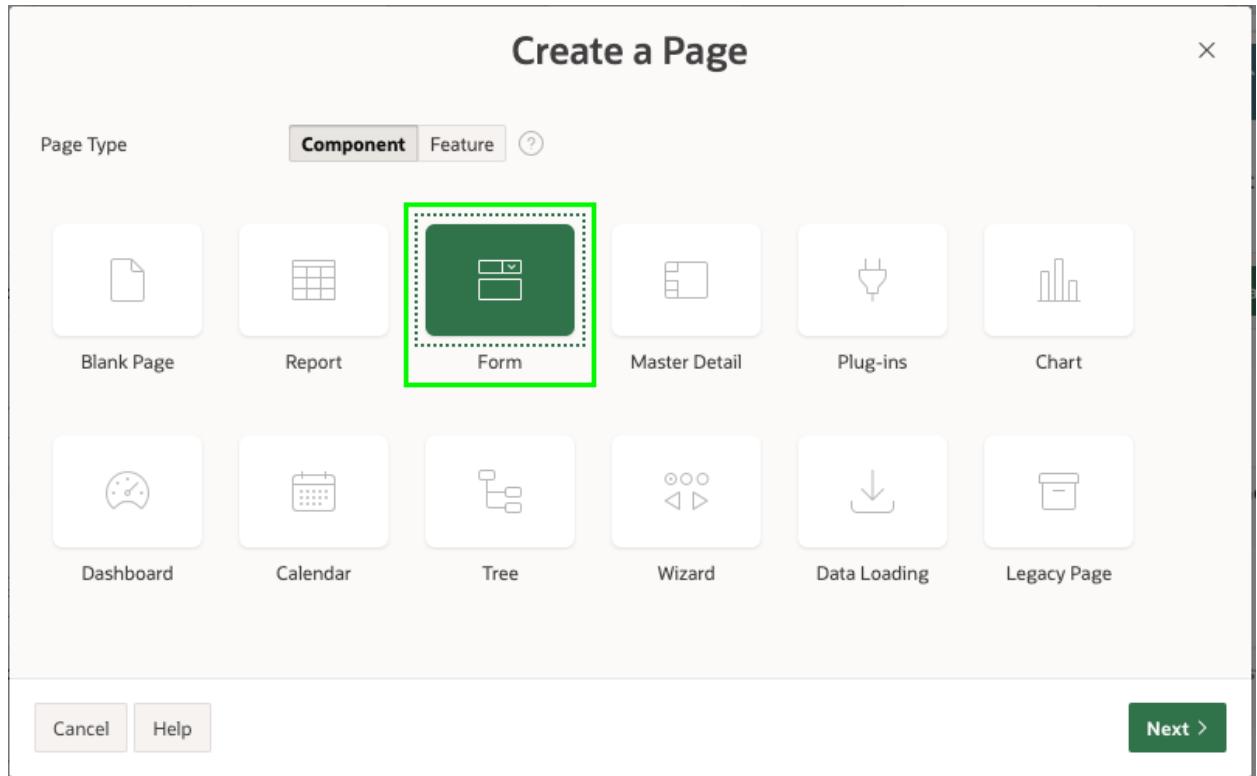
## Task 3: Adding a Form Page

Currently there is no way to maintain project records. Therefore, you will use the *Create Page Wizard* to create a form page on the *EBA\_PROJECTS* table.

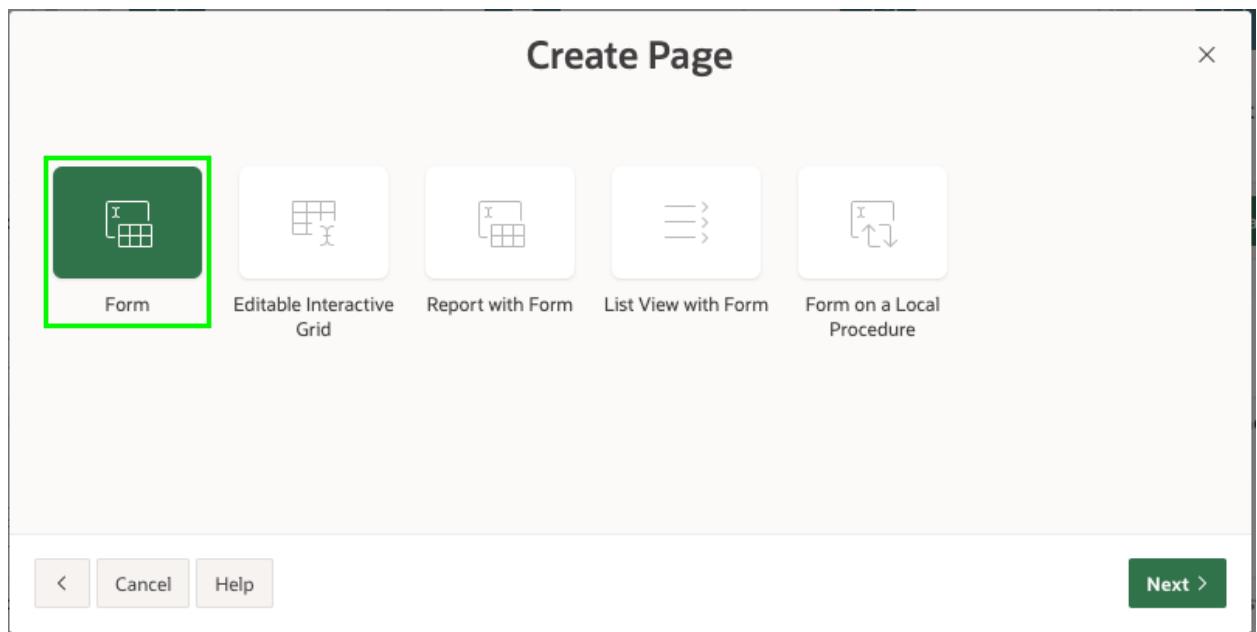
1. Navigate back to the App Builder by clicking **Application xxxxx** in the Developer Toolbar, or by navigating back to the App Builder browser tab manually.
2. On the application home page, click **Create Page**.



3. In the Create a Page dialog, click **Form**.



4. In the Create Page dialog, click **Form**.



5. In the Create Form dialog, for Page Attributes, enter the following:

- o Page Name – enter **Project**
- o Page Mode – click **Modal Dialog**

**Click Next**

The screenshot shows the 'Create Form' dialog box with the title 'Create Form'. A progress bar at the top has one green dot and three grey dots. The section 'Page Attributes' is selected. The following fields are visible:

- \* Page Number: 10
- \* Page Name: Project (highlighted with a green box)
- Page Mode: Normal (highlighted with a green box)
- Page Group: - Select Page Group -
- Breadcrumb: - do not add breadcrumb region to page -

At the bottom are buttons: < (disabled), Cancel, and Next > (highlighted with a green box).

6. For Navigation Menu, select **Identify an existing navigation menu entry for this page**.  
For Existing Navigation Menu Entry, select **Projects**.  
**Click Next.**

The screenshot shows the 'Create Form' dialog box with the title 'Create Form'. A progress bar has two green dots and two grey dots. The section 'Navigation Menu' is selected. The following fields are visible:

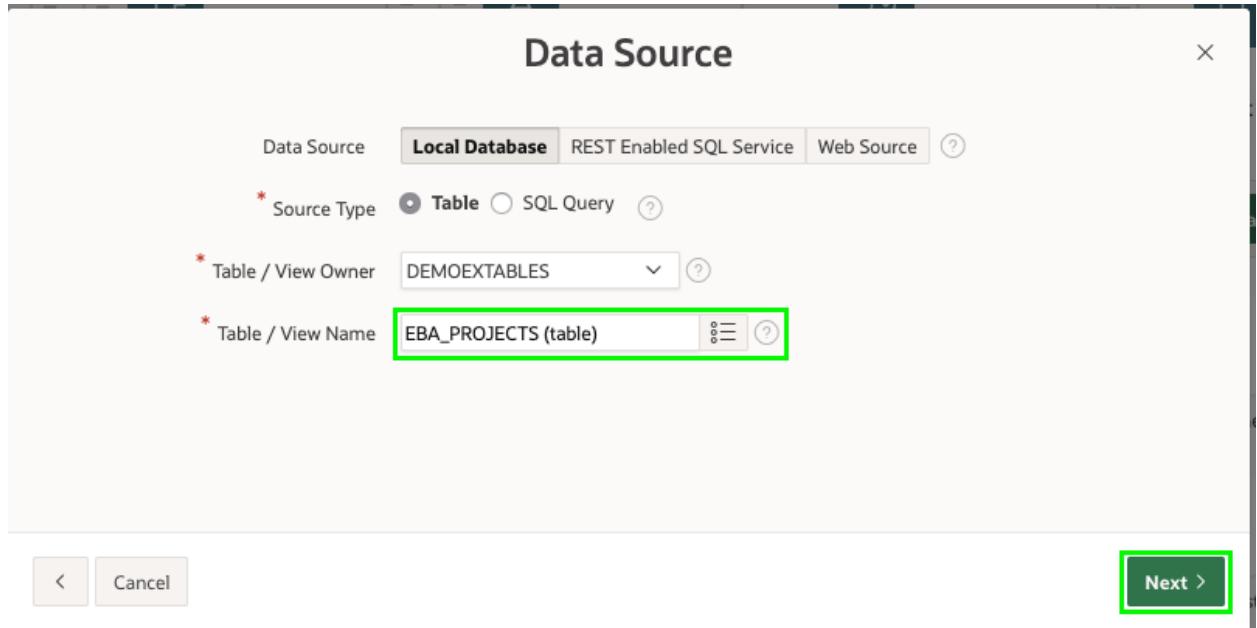
Navigation Preference:

- Do not associate this page with a navigation menu entry
- Create a new navigation menu entry
- Identify an existing navigation menu entry for this page (highlighted with a green box)

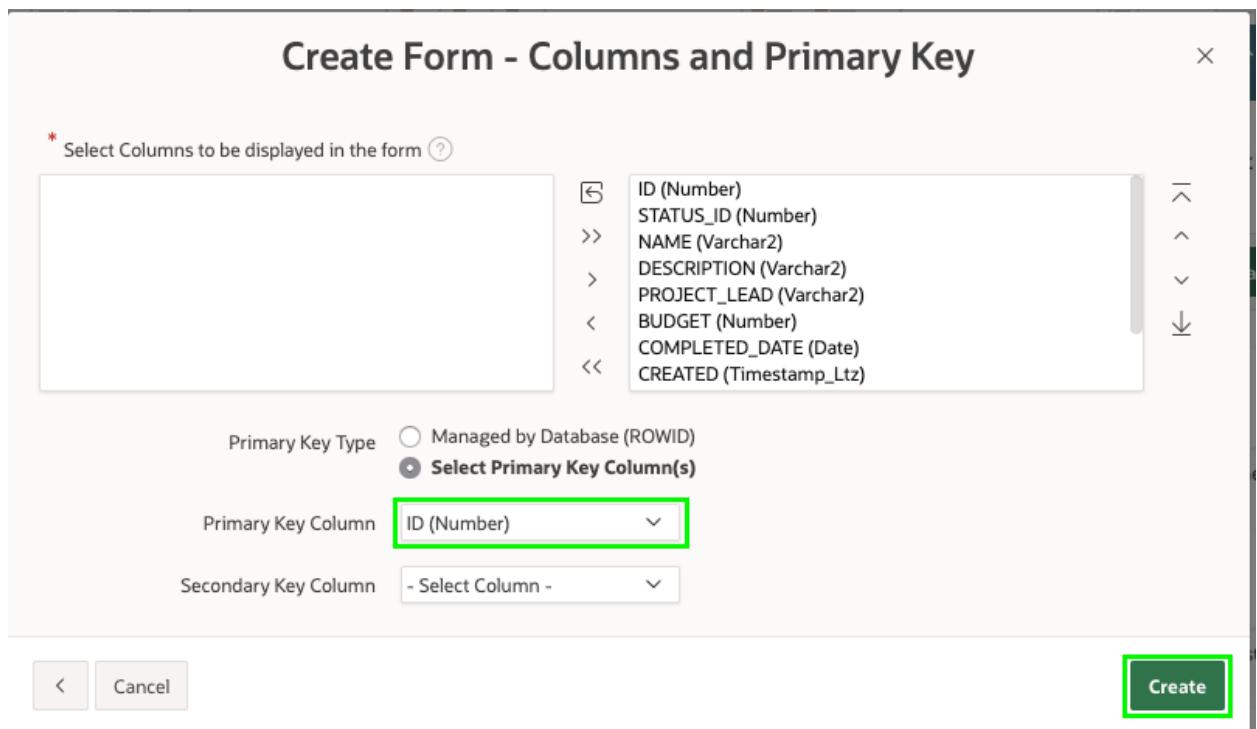
\* Existing Navigation Menu Entry: Projects (highlighted with a green box)

At the bottom are buttons: < (disabled), Cancel, and Next > (highlighted with a green box).

7. For Table/ View Name, select **EBA\_PROJECTS (table)**.  
**Click Next.**



8. For Primary Key Column, select **ID (Number)**.  
Click **Create**.



*Note: This will create Page 10: Project if you have followed the previous sections correctly. If not Page 10, please repeat Lab 3, and ensure the Interactive Grids for both Milestones and Statuses are created*

## Task 4: Link to Projects Page

Now to link this new page to the Project Cards page.

*Note: Defining a link for a Card region requires modifying the SQL statement. However, elsewhere in Oracle APEX, defining links is very easy and declarative as you will learn in Lab 7.*

1. In the Application Toolbar, click the page selector in front of the page number (10).  
Click 4, for the Projects page

The screenshot shows the Oracle APEX Page Designer interface. On the left, the rendering tree for 'Page 10: Project' is visible, showing various regions like Pre-Rendering, Content Body, and Post-Rendering. In the center, a modal dialog titled 'Page Finder' is open, displaying a list of pages. The table has columns: Page Number, Page Name, Page Alias, and Group. The page 'Projects' (page number 4) is highlighted with a green border. On the right, the 'Page' properties panel is open, showing details like Name: Project, Page Alias: project, Title: Project, and Group: - Select -. The application toolbar at the top includes a page selector with the number 10, which is being changed to 4.

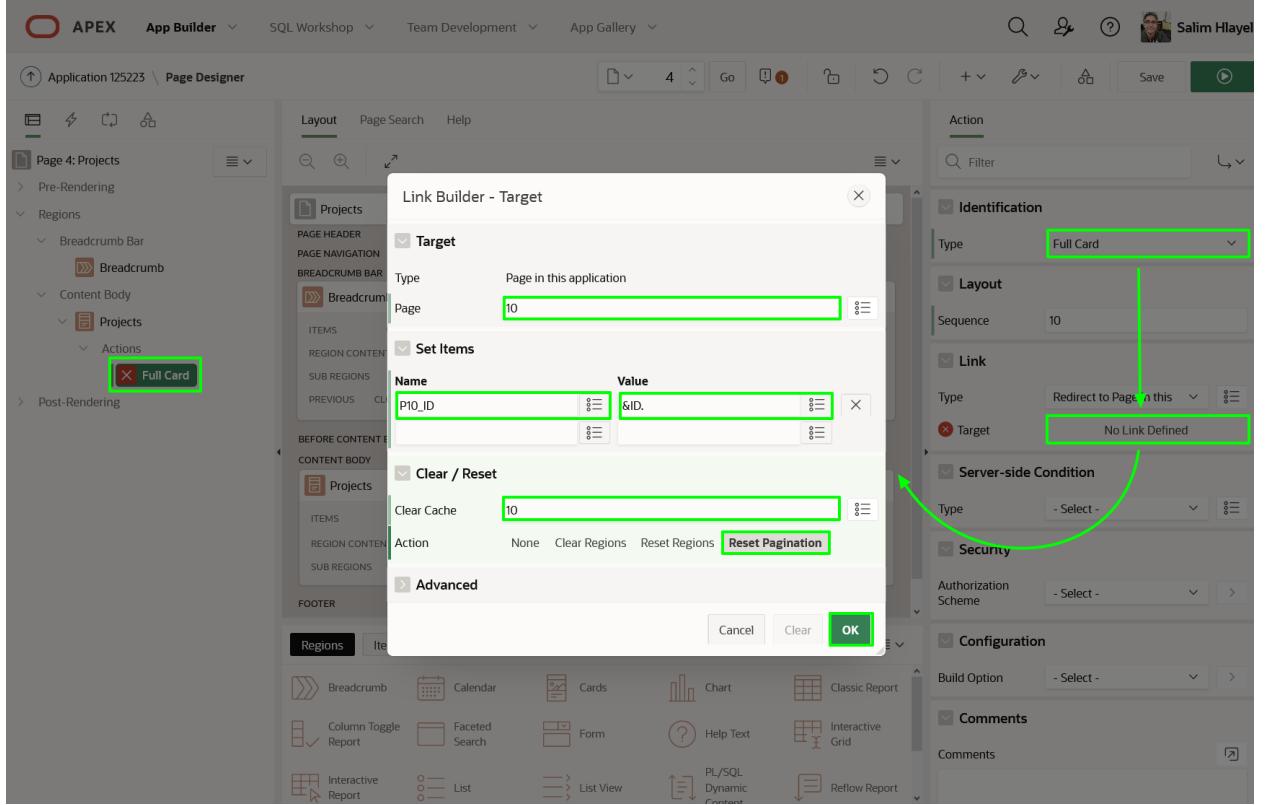
*Note: Alternatively, you can type in a page number or use the up / down arrows in the Application Toolbar to navigate to different pages within Page Designer*

2. In the Rendering tree (left pane), right click **Actions** under **Projects** then click **Create Action**.

The screenshot shows the Oracle APEX Page Designer interface with 'Page 4: Projects' selected. In the rendering tree, under the 'Content Body' region, there is a 'Projects' item with an 'Actions' submenu. A green box highlights the 'Create Action' option in this submenu. To the right, the 'Property Editor' panel is open, showing sections for PAGE HEADER, PAGE NAVIGATION, and BREADCRUMB BAR. The BREADCRUMB BAR section is expanded, showing items like REGION CONTENT, SUB REGIONS, and buttons for PREVIOUS, CLOSE, DELETE, HELP, CHANGE, EDIT, COPY, CREATE, and NEXT. The application toolbar at the top includes a page selector with the number 4, which is highlighted.

In the Property Editor (right pane), update the following properties:

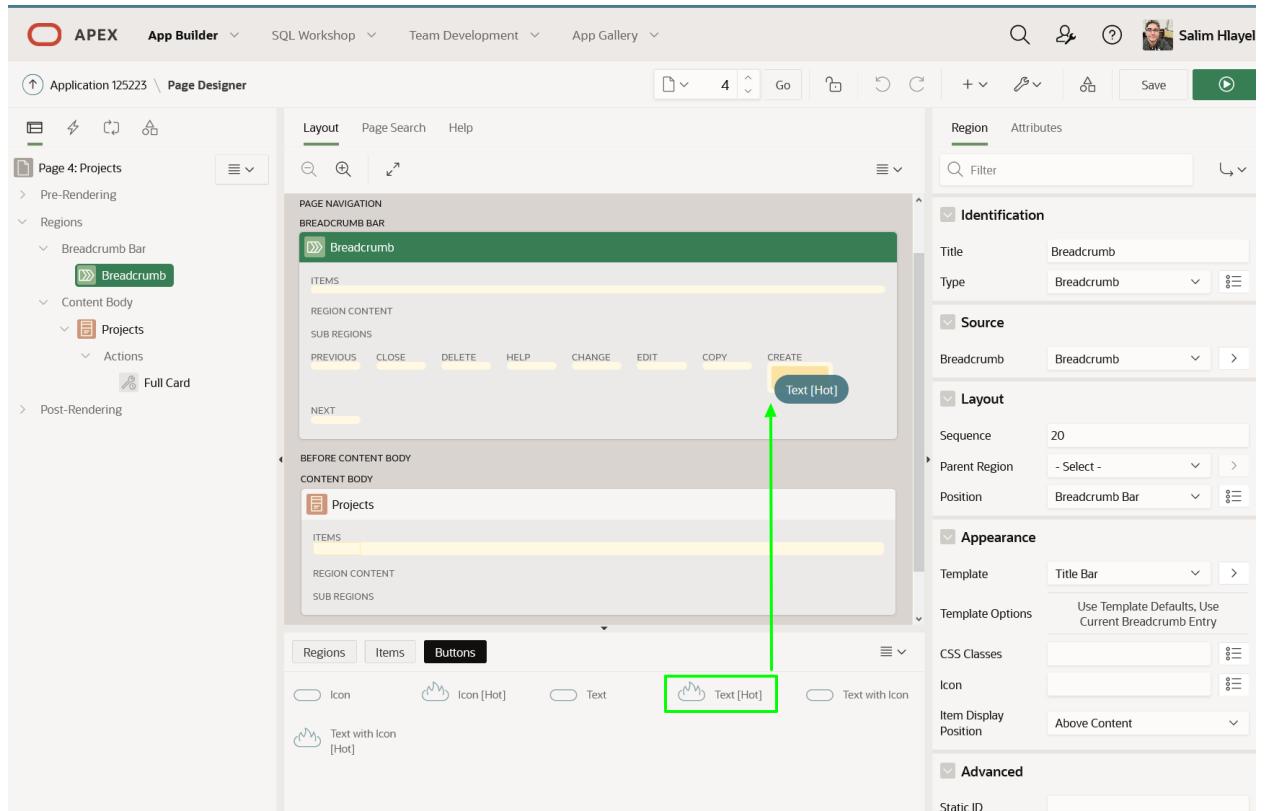
- **Type:** - select Full Card
- Click **Link > Target**
- In the Link Builder, **Page** - enter **10**
- Under **Set Items**, Enter **P10\_ID** for **Name** and enter **&ID.** for **Value**



3. You also need to be able to add new projects, so will need to add a button and link it to the Project form page. The easiest way to add this is to drag and drop a component into the Layout (middle pane) from the Gallery.

- In the Layout (middle pane), click **Breadcrumb** to highlight the region.
- In the Gallery (below Layout), click **Buttons**.
- Click and hold **Text [Hot]**.
- Drag the button up into the Breadcrumb region, and hover under the **Create** placeholder.

Once the CREATE selection expands to a large yellow box, release the mouse.

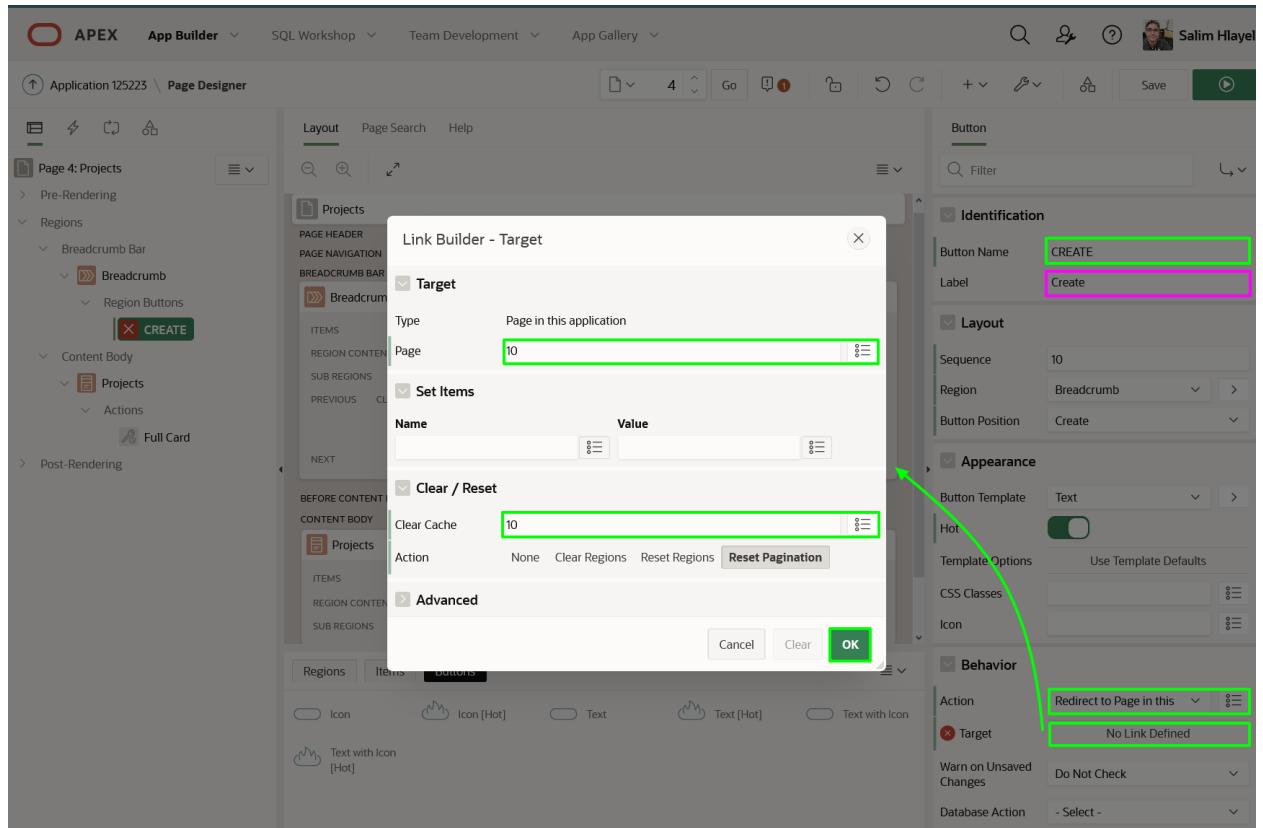


4. Now to update the button properties.

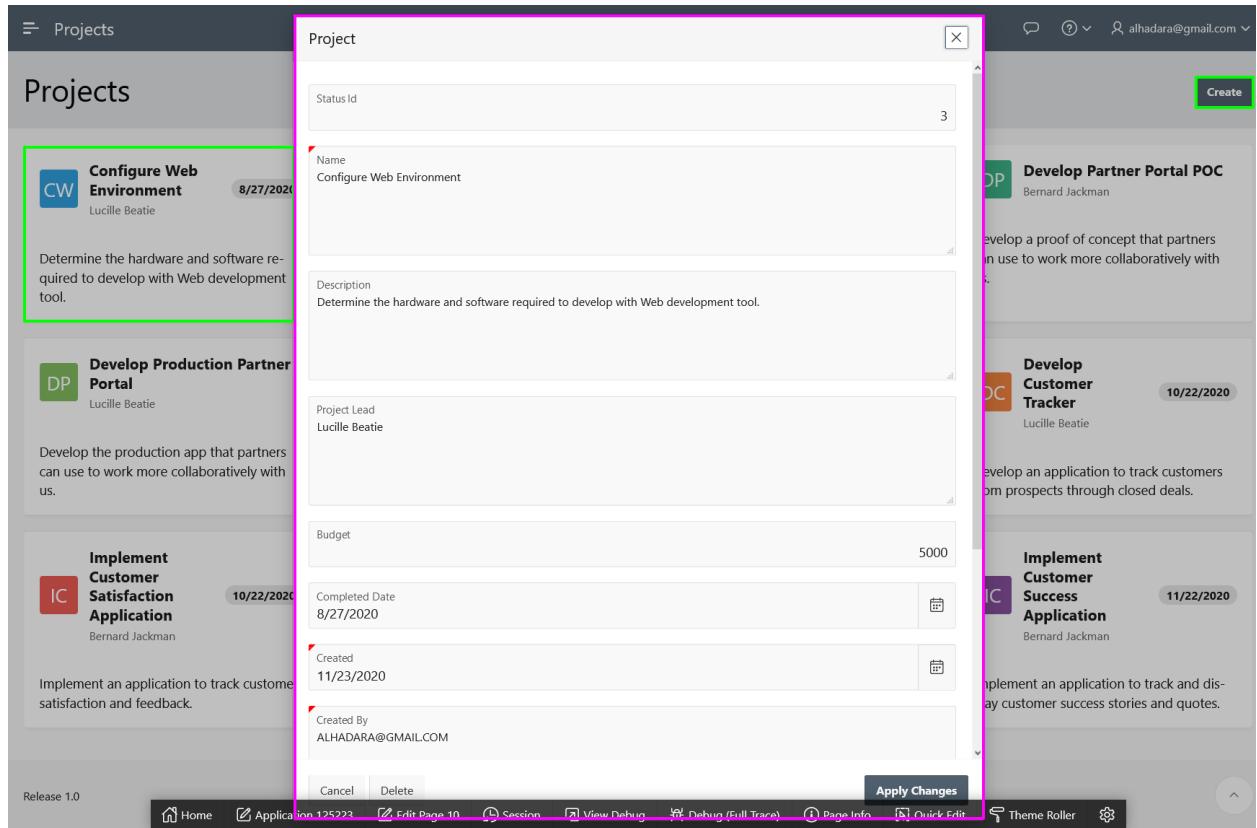
In the Property Editor (right pane), enter the following:

- Identification > Button Name - enter **CREATE**  
*Note: The Identification > Label is update to Create once you enter the Button Name*
- Behavior > Action - select **Redirect to Page in this Application**
- Behavior > Target - click **No Link Defined**, and enter:
  - Target > Page - enter **10**
  - Clear / Reset > Clear Cache - enter **10**

5. Click **OK**



- Now to test the page links work!
- Click **Save and Run Page** button. Click on a project card or click **Create**.



## Task 5: Update How Items are Displayed

The way the Status Id, Name, and Project Lead are displayed can be easily improved. The **Status Id** item is a foreign key to the **EBA\_PROJECT\_STATUS** table. Therefore, rather than requiring end users to enter a number, you will update the item to be a list of values based on the lookup table. The Name and Project Lead fields should be updated to Text Fields. Lastly, the audit columns (Created, Created By, Updated, Updated by) should be hidden.

- First you need to change the Status item from a number entry to a list of allowable values. From the Runtime environment, from the Project Form page, in the Developer Toolbar, click **Edit Page 10**. Alternatively, navigate back to the App Builder browser tab, and then navigate to Page 10 manually.
- In Page Designer for Page 10, in the Rendering tree (left pane), click **P10\_STATUS\_ID**. In the Property Editor (right pane), enter the following:
  - Identification > Type - select **Select List**  
*Note: As soon as you choose Select List, P10\_STATUS\_ID item will change to red and a Message indicator will display in the Application Toolbar. This will be remedied once the List of Values attributes are entered*
  - Label > Label - enter **Status**

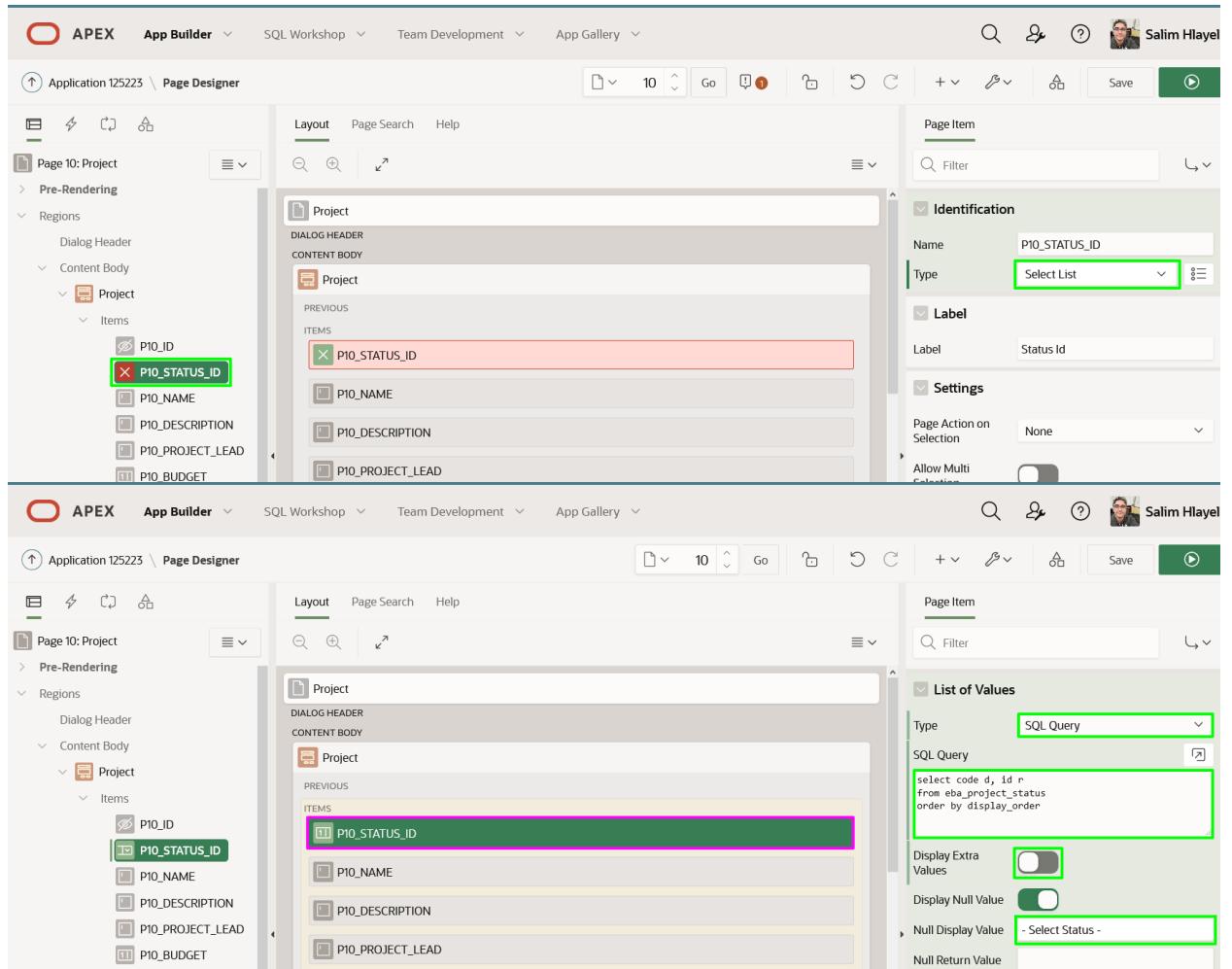
- List of Values > Type - select **SQL Query**
- SQL Query enter:

- Copy **select** code d, id r
- **from** eba\_project\_status

```
order by display_order
```

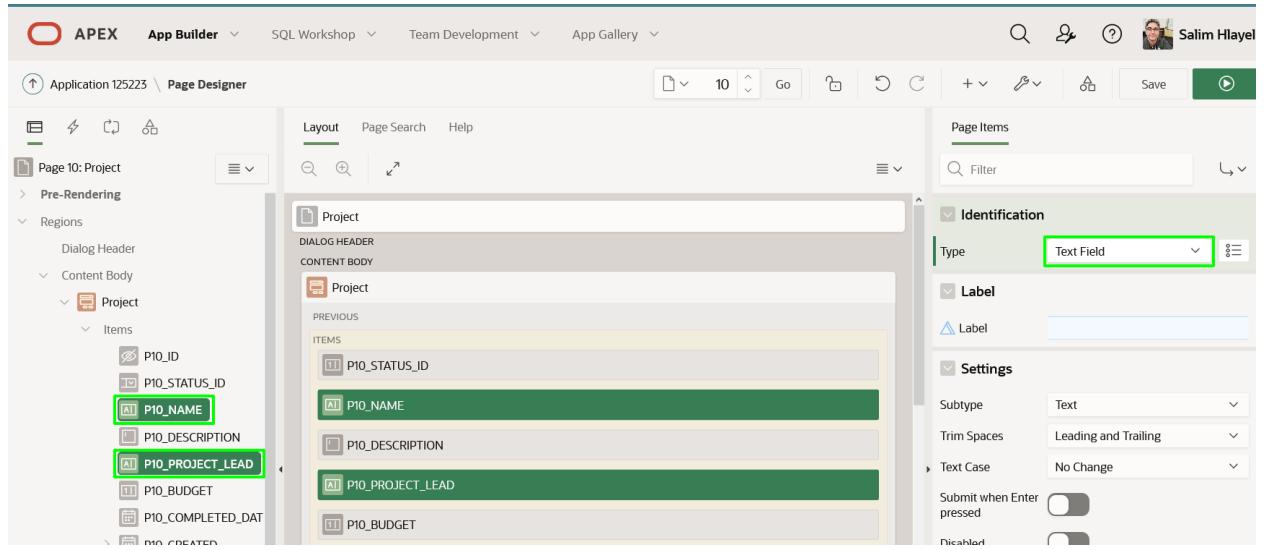
3. *Note: The code column is the value displayed to users, while the id column is the value returned to the table column. The table includes a display\_order column to ensure the statuses are displayed in the correct order*

- Display Extra Values - **Uncheck**
- Null Display Value - enter – **Select Status** -  
*Note: This text must be typed*



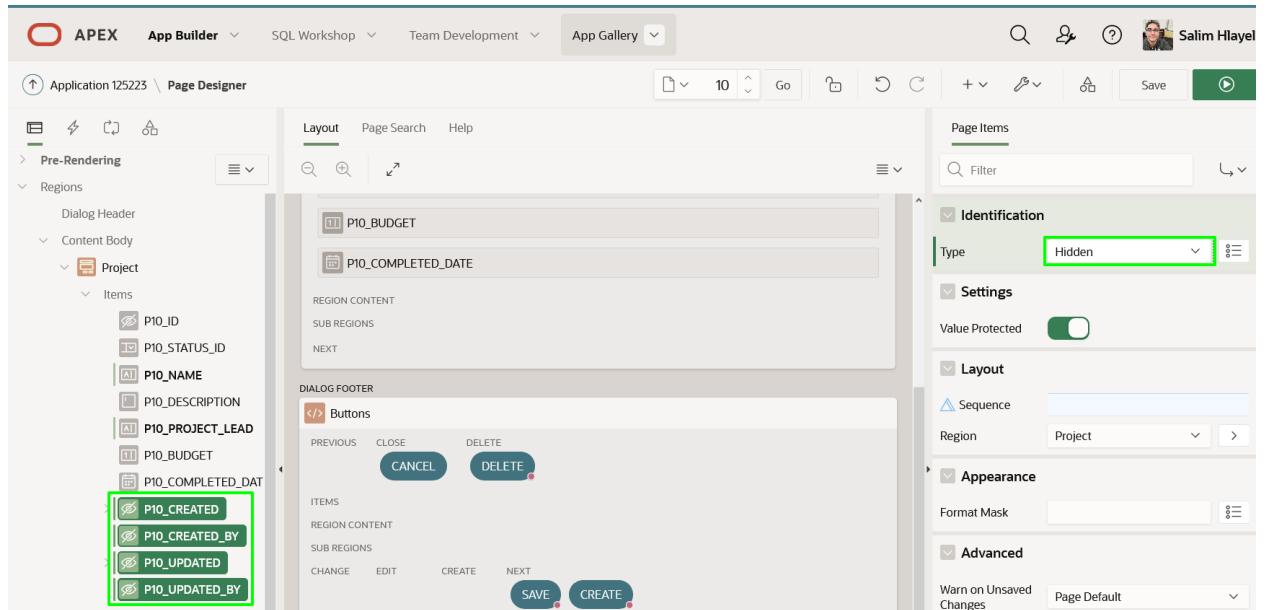
- Now to update the Name and Project Lead items to text fields.  
In the Rendering Tree (left pane), click **P10\_NAME**  
Hold down the [Control] key (or [Command] key in Mac) and click **P10\_PROJECT\_LEAD**

In the Property Editor (right pane), for Identification > Type, select **Text Field**



5. Last step is to hide the audit columns.  
 In the Rendering Tree (left pane), click **P10\_CREATED**  
 Hold down the [Shift] key and click **P10\_UPDATED\_BY**

In the Property Editor (right pane), for Identification > Type, select **Hidden**

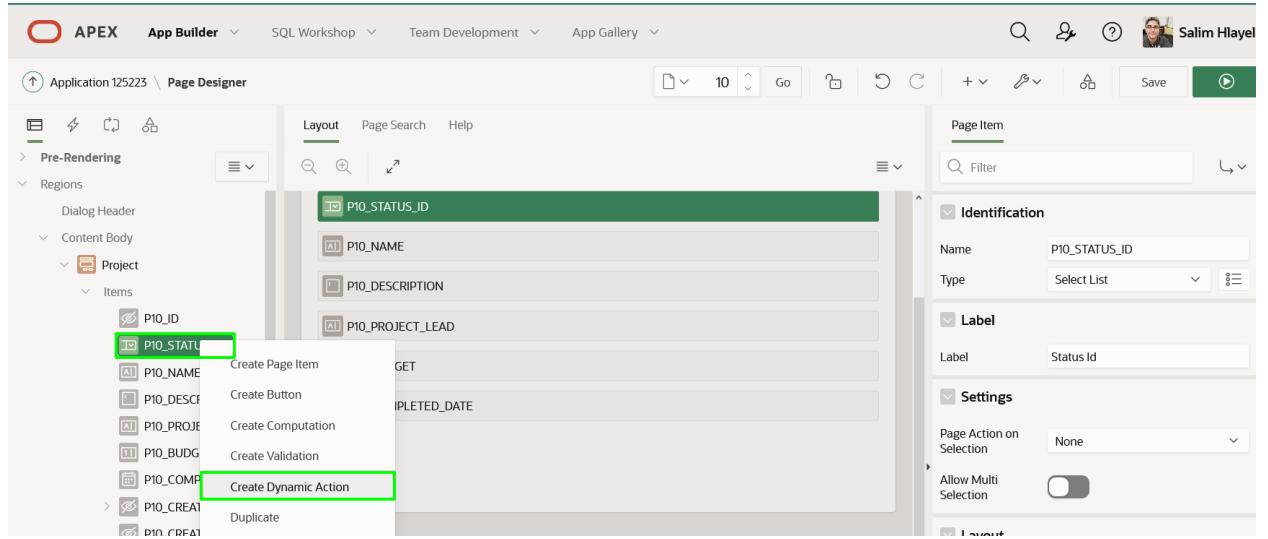


## Task 6: Improve the Completed Date

Currently a Completed Date can be entered on any project. However, it would greatly improve data quality to allow the completed date to be entered only if the Status is **COMPLETED**. Implementing such functionality requires JavaScript to dynamically enable / disable the Completed Date item based on the value of Status. Thankfully, as an APEX developer, you don't need to write such JavaScript. You can simply define a **Dynamic Action**, which allows you to

declaratively define such client-side interactivity, by specifying the trigger, action, and affected element(s).

1. You need to define the Dynamic Action on the triggering element, which is the Status. In the Rendering Tree (left pane), **right-click P10\_STATUS\_ID**. Select **Create Dynamic Action**.



2. Update the Dynamic Action so that it only triggers when the Status is **COMPLETED**. With the Dynamic Actions selected (click **New** under Dynamic Actions), in the Property Editor (right pane), enter the following:

- o Identification > Name - enter **Enable Completed Date**
- o Client-side Condition > Type - select **Item = Value**  
*Note: The Client-side Condition > Item is automatically set to the current item P10\_STATUS\_ID*
- o Client-side Condition > Value - enter **3**  
*Note: The value 3 corresponds to a status of COMPLETED*

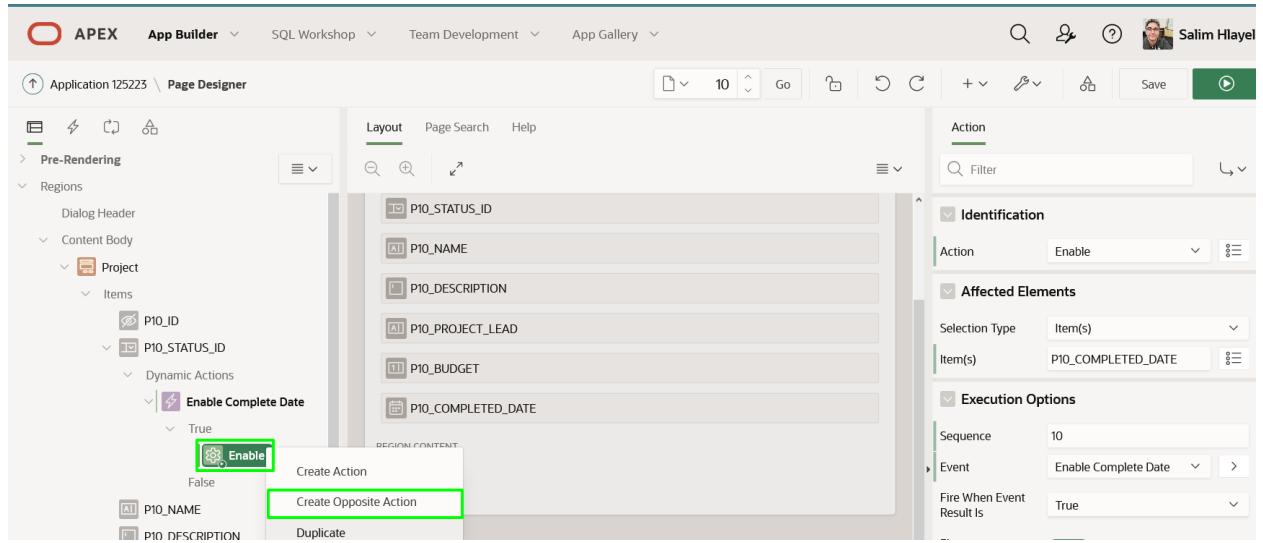
The screenshot shows the Oracle APEX App Builder Page Designer interface. On the left, the Rendering tree displays a 'Dynamic Actions' section under 'Project' items, with 'Enable Complete Date' selected. In the center, the main workspace shows a dialog with fields for P10\_STATUS\_ID, P10\_NAME, P10\_DESCRIPTION, P10\_PROJECT\_LEAD, P10\_BUDGET, and P10\_COMPLETED\_DATE. At the bottom is a 'DIALOG FOOTER' with buttons for PREVIOUS, CLOSE, CANCEL, and DELETE. On the right, the Property Editor shows the 'Dynamic Action' configuration. The 'Identification' section has a name 'Enable Complete Date'. The 'Execution Options' section shows a sequence of 20, an event of 'Change' on 'P10\_STATUS\_ID', and a condition 'Item = Value' with 'P10\_STATUS\_ID' set to 3. The 'Action' section is set to 'Enable'.

- Next you need to specify what happens when the triggering event is true.  
In the Rendering tree (left pane), click the action under True (currently Show).  
In the Property Editor (right pane), enter the following:

- Identification > Action - select **Enable** (under Component)
- Affected Elements > Item(s) - select **P10\_COMPLETED\_DATE**

This screenshot shows the same APEX interface as the previous one, but the 'Affected Elements' section in the Property Editor is now highlighted. The 'Action' dropdown in the 'Identification' section is set to 'Enable'. The 'Affected Elements' section shows 'P10\_COMPLETED\_DATE' selected as the item(s).

- Lastly, it is very important to *disable* the Completed Date item when the triggering event is false.  
In the Rendering tree (left pane), under Dynamic Actions, *right-click* **Enable**. Select **Create Opposite Action**.

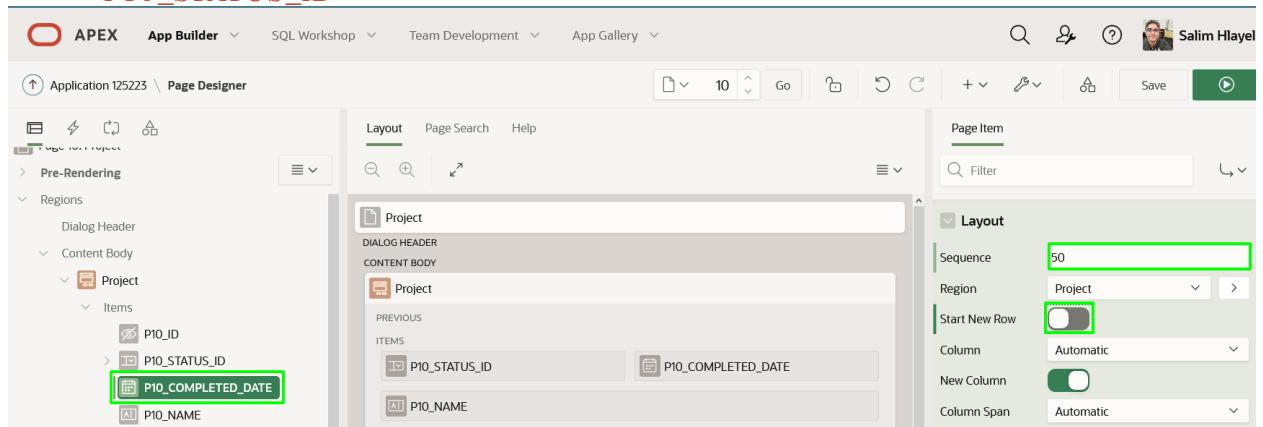


- Rather than displaying the Completed Date down the page, it would be far better to display the item directly after the Status item.

In the Rendering tree (left pane), click **P10\_COMPLETED\_DATE**.

In the Property Editor (right pane), enter the following:

- Layout > Sequence - enter **50**  
*Note: This will position P10\_COMPLETED\_DATE between P10\_STATUS\_ID (Sequence 40) and P10\_NAME (Sequence 60)*
- Layout > Start New Row - **Uncheck**  
*Note: This will position the item on the same line as the previous item, P10\_STATUS\_ID*



- Now to review the Project Form page.

Click **Save**

*Note: If you click the Save and Run Page button, your changes will be saved but the page will not be run. Given the Project Form page is a modal page, it must be run from a calling page, rather than directly from Page Designer*

7. Navigate back to the Runtime environment, refresh the browser, and within the Navigation Menu (left side) click **Projects**.

Click a card record to display the corresponding record in the form page.

Change the Status and ensure the Completed Date is enabled / disabled correctly.

Make changes and click **Apply Changes**, or click **Cancel**.

The screenshot shows a web-based application interface for managing projects. At the top, there's a navigation bar with a search bar and user information. Below it, a main title 'Projects' is displayed. On the left, there's a list of project cards:

- Configure Web Environment** (CW) - Status: COMPLETED, Completed Date: 8/27/2020. Description: Determine the hardware and software required to develop with Web development tool.
- Develop Production Partner Portal** (DP) - Status: IN PROGRESS, Completed Date: 10/22/2020. Description: Develop the production app that partners can use to work more collaboratively with us.
- Implement Customer Satisfaction Application** (IC) - Status: PENDING, Completed Date: 10/22/2020. Description: Implement an application to track customer satisfaction.
- Develop Customer Tracker** (DC) - Status: PENDING, Completed Date: 10/22/2020. Description: Develop an application to track customers from prospects through closed deals.
- Implement Customer Success Application** (IC) - Status: PENDING, Completed Date: 11/22/2020. Description: Implement an application to track and dis...

In the center, a modal window titled 'Project' is open for the 'Configure Web Environment' project. It contains the following fields:

- Status Id: COMPLETED
- Completed Date: 8/27/2020
- Name: Configure Web Environment
- Description: Determine the hardware and software required to develop with Web development tool.
- Project Lead: Lucille Beatie
- Budget: 5000

At the bottom of the modal are 'Cancel', 'Delete', and 'Apply Changes' buttons. The 'Apply Changes' button is highlighted in blue.

## Summary

This completes Lab 5. You now know how to add additional pages to your application, link pages together, modify how items are displayed, and define client-side interactivity declaratively.

# Improving Milestones

## Introduction

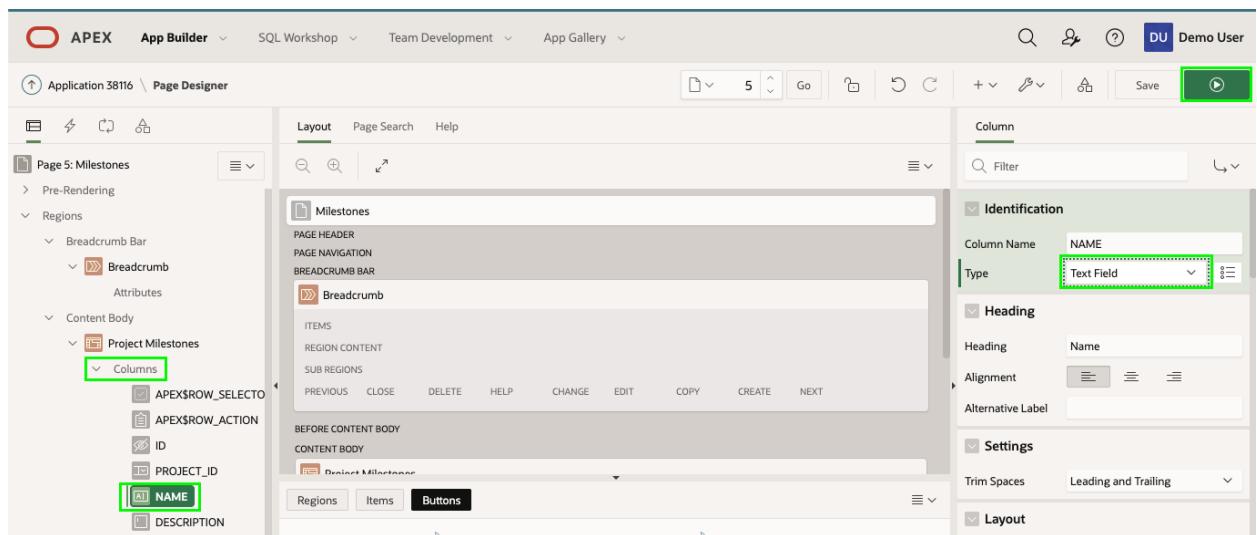
In this lab, you will learn how to update and then save the layout of an *Interactive Grid* to improve your Milestones.

Collapse All Tasks

### Task 1: Change the Name Column

In your runtime environment, click on **Milestones** and then double-click a record, you can edit the details. Navigate to each column and notice that the Project column is a select list, the Name and Description columns are textareas, and the Due Date is a date picker. Generally, the Name is not that long; therefore, you should update the column type to a text field.

1. Navigate to the App Builder.
2. Within your application, navigate to **Page 5: Milestones** in Page Designer.
3. In the Rendering tree (left pane), under the **Project Milestones** region, expand **Columns**. Within the list of columns click **Name**.  
In the Property Editor (right pane), for Identification > Type select **Text Field**.



4. In the Application toolbar, click **Save and Run Page**  
Double-click a record and review the Name column.

A screenshot of a web-based application interface titled "Milestones". The left sidebar shows navigation links for Home, Dashboard, Tasks Search, Projects, and Milestones. The main area is titled "Milestones" and contains a table with one row. The table has columns: "Project" (checkbox), "Name" (text input containing "Train the Trainers"), "Description" (text area containing "Rather than all developers being trained central..."), and "Due Date" (date input showing "15-"). At the top of the table are buttons for "Search: All Text Columns", "Go", "Actions", "Edit", "Save", and "Add Row". A "Reset" button is located in the top right corner of the table.

## Task 2: Update the Grid Layout

Once again reviewing the report, it would be beneficial to rearrange the columns into the following order - Name, Project, Due Date, and then Description. It would also be useful to freeze the Name column so users can scroll left and right to see more of the Description column.

1. In the Runtime environment, click **Actions**, and then click **Columns**

A screenshot of the same "Milestones" application interface. The "Actions" button in the toolbar is highlighted with a green box. The "Columns" button in the toolbar is also highlighted with a green box. The rest of the interface is identical to the first screenshot, showing the single row in the grid.

2. In the Columns dialog, click **Name** and then click the up arrow to move the column before **Project**.  
Click **Save**.

A screenshot of the "Columns" dialog box. The "Name" column is selected and highlighted with a green box. Below the list of columns, there is a set of movement arrows: a green box highlights the upward arrow. At the bottom of the dialog are "Help", "Cancel", and "Save" buttons. The background shows the original "Milestones" grid with the same data and layout as the previous screenshots.

3. You can also reorder columns using Drag and Drop.

- o Hover over the beginning of the **Due Date** column until the movement indicator is displayed.
- o Click and hold the mouse.
- o Drag the column to the left until it displays before the **Description** column.

- Release the mouse, dropping the column.

	Name	Project	Due Date	Description
<input checked="" type="checkbox"/>	Train the Trainers	Train Developers	15-JAN-2020	Rather than all developers being trained centrally, a...
<input type="checkbox"/>	All Developers Trained	Train Developers	19-JAN-2020	Train the Trainers will have successfully trained the...

4. To see the grid better, you can collapse the menu. Click the icon in front of the application name.

	Name	Project	Due Date	Description
<input checked="" type="checkbox"/>	Train the Trainers	Train Developers	15-JAN-2020	Rather than all developers being trained centrally, a...
<input type="checkbox"/>	All Developers Trained	Train Developers	19-JAN-2020	Train the Trainers will have successfully trained the...

5. Now that the columns are in the correct order, you should freeze the Name column.

- Click the **Name** column heading.
- Click **Freeze**.

	Name	Project	Due Date	Description
<input checked="" type="checkbox"/>	Train the Trainers	Train Developers	15-JAN-2020	Rather than all developers being trained centrally, a...
<input type="checkbox"/>	All Developers Trained	Train Developers	19-JAN-2020	Train the Trainers will have successfully trained the...
<input type="checkbox"/>	Migrate Legacy Applications	Migrate Legacy Applications	25-MAR-2020	Move all of the tables and program logic across to t...
<input type="checkbox"/>	Redevelop HR Applications	Migrate Legacy Applications	02-APR-2020	Build applications to replace the HR functionality c...

6. The column sizes now need to be adjusted to better display the data.

- Hover in between the **Name** and **Project** columns until the resize indicator is displayed.

- Drag the column separator to the right until it is a good size for the **Name** column.
  - Repeat for the Project and Due Date columns.
- Note: You can also expand the size of the Description column by using the resize indicator at the end of the column*

Name	Project	Due Date	Description
Train Developers	Train Developers	15-JAN-2020	Rather than all developers being trained centrally, a select group will...
All Developers Trained	Train Developers	19-JAN-2020	Train the Trainers will have successfully trained the remaining development team members.

Name	Project	Due Date	Description
Train the Trainers	Train Developers	15-JAN-2020	Rather than all developers being trained centrally, a select group will t...
All Developers Trained	Train Developers	19-JAN-2020	Train the Trainers will have successfully trained the remaining development team members.
Move Data Structures	Migrate Legacy Applications	25-MAR-2020	Move all of the tables and program logic across to the new database
Redevelop HR Applications	Migrate Legacy Applications	02-APR-2020	Build applications to replace the HR functionality currently implemented in older technologies
Redevelop Project Tracking Applications	Migrate Legacy Applications	08-APR-2020	Build applications to replace the project tracking functionality currently running on legacy servers

- To test the freeze display, redisplay the menu. Click the icon in front of the application name.

Name	Project	Due Date	Description
Train the Trainers	Train Developers	15-JAN-2020	Rather than all developers being trained centrally, a...
All Developers Trained	Train Developers	19-JAN-2020	Train the Trainers will have successfully trained the ...
Move Data Structures	Migrate Legacy Applications	25-MAR-2020	Move all of the tables and program logic across to t...

## Task 3: Save the Report

The changes you have made to the grid layout are only visible to you. If other users log in, they will see the original layout with the previous column order and column sizes. Therefore, you need to save the Default report layout.

- In the runtime environment, click **Actions**, select **Report**, and then select **Save**.
- Note: Only developers, who have run the application from App Builder, can save the "Default" report. End users can only use "Save As"*

The screenshot shows a web-based application interface for managing milestones. On the left, there's a sidebar with links like Home, Dashboard, Tasks Search, Projects, Milestones (which is selected and highlighted), Tasks Report, Tasks Calendar, and Administration. The main area is titled 'Milestones' and contains a grid of data. The grid has columns for Name, Due Date, and Description. A green box highlights the 'Actions' dropdown menu at the top right of the grid. The 'Report' option in this menu is also highlighted with a green box. A purple box highlights the 'Save' and 'Save As' options under the 'Report' submenu.

Name	Due Date	Description
Train the Trainers	15-JAN-2020	Rather than all developers being trained centrally, a...
All Developers Trained	19-JAN-2020	Train the Trainers will have successfully trained the ...
Move Data Structures	25-MAR-2020	Move all of the tables and program logic across to t...
Redevelop HR Applications	02-APR-2020	Build applications to replace the HR functionality cu...
Redevelop Project Tracking Applications	08-APR-2020	Build applications to replace the project tracking fu...
Define Requirements	11-APR-2020	Work with key stakeholders to define the scope of t...
Build Proof-of-Concept	18-APR-2020	Create the initial screens and populate with data so ...
Define Production App Scope	19-APR-2020	Based on the results of the POC, define the require...
Build Phase 1 of Production Partner Portal	26-APR-2020	Develop the modules defined in the first phase of t...

## Summary

This completes Lab 6. You now know how to manipulate an Interactive Grid and save a default report.

# Improving Tasks

## Introduction

In this lab, you will learn how to define a shared *List of Values* and use it to improve the Faceted Searches and Interactive Report pages for Tasks. You will also learn how easy it is to link the Calendar to the Tasks Form page.

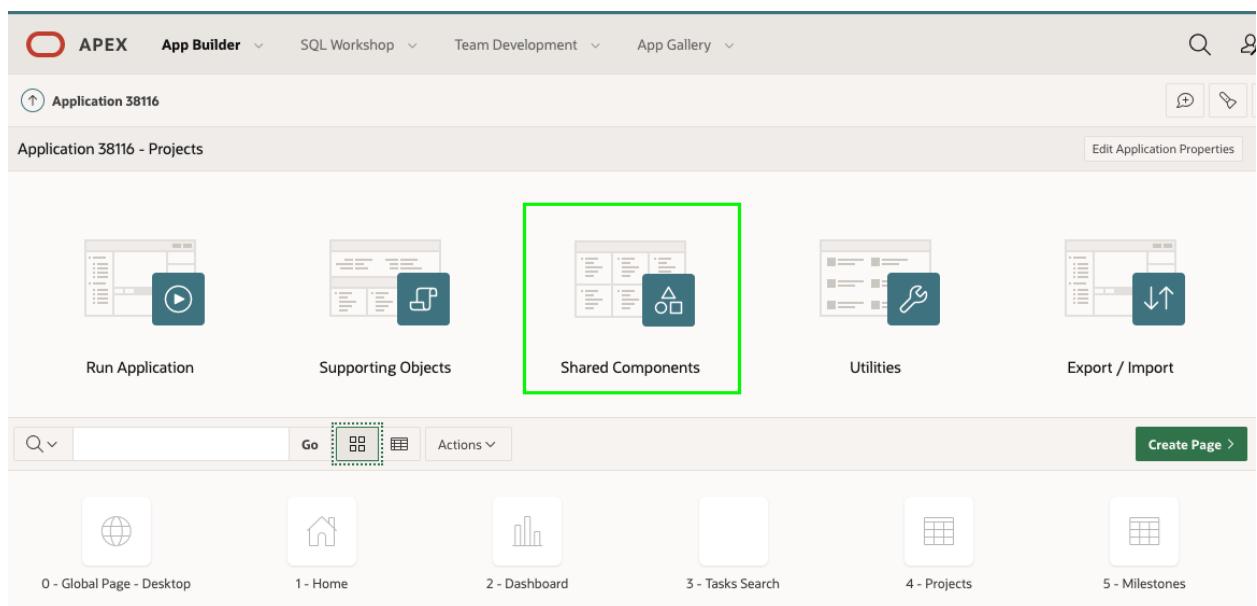
Collapse All Tasks

### Task 1: Defining a Shared List of Values

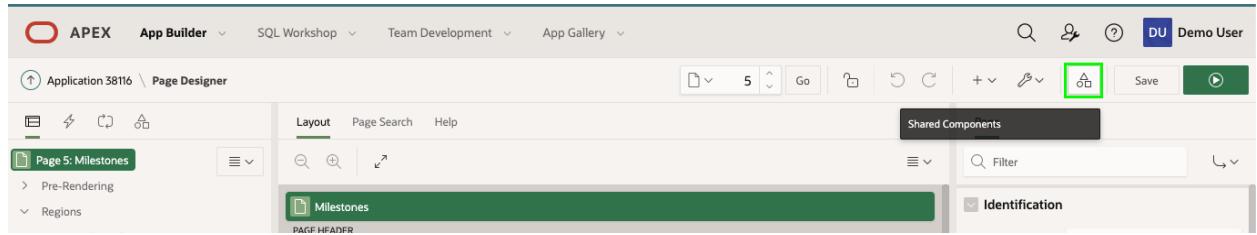
In the Runtime environment, navigate to **Tasks Search** and review the page. Notice that Is Complete column simply displays "Y" or "N". Now navigate to **Tasks Report**, and you will notice the same issue. It would be far better to display "Yes" or "No". This can readily be achieved by defining a *List of Values (LOV)*

You can define a LOV directly on a page. However, if you require the same LOV on multiple pages, as you do here, it is far better to define it once as a *Shared Component*.

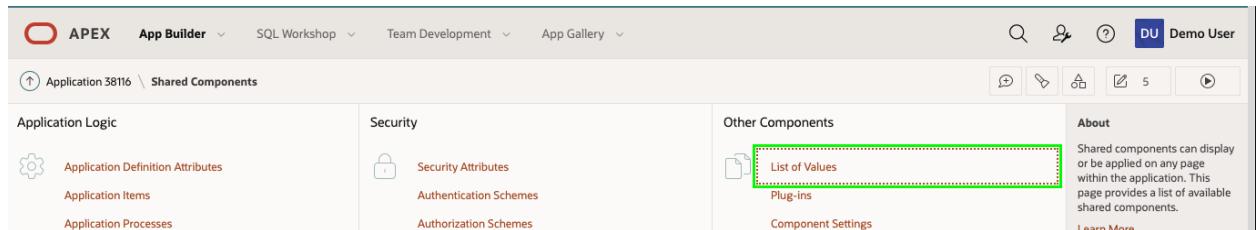
1. Navigate back to the App Builder browser tab, click your application.
2. On the application home page, click **Shared Components**.



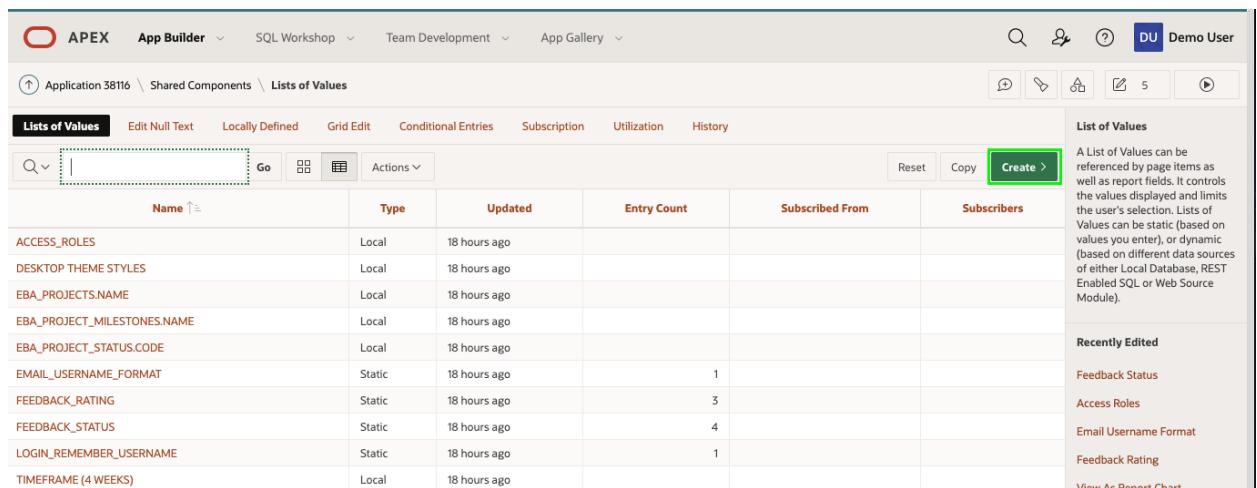
Alternatively, if in Page Designer, within the toolbar, click the **Shared Components** icon.



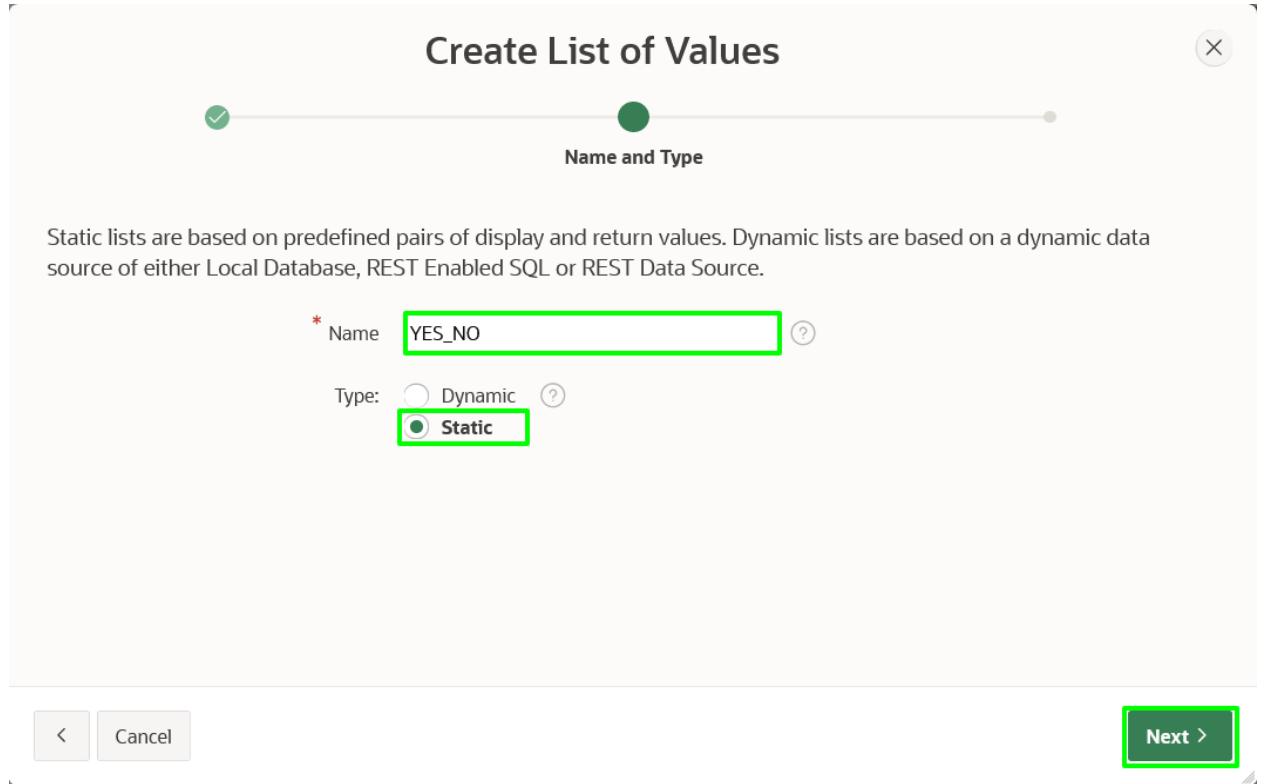
3. On Shared Components, under Other Components, click List of Values.



4. You will notice there are already several LOVs listed.  
To create a new LOV click Create.



5. On the Create List of Values dialog, for Source, keep the default selection ("From Scratch"). Click Next
6. On the Name and Type dialog, enter the following:
- o Name - enter YES\_NO
  - o Type - select Static
7. Click Next



8. On the Static Values dialog, enter the following:

- Sequence 1
  - Display Value - enter Yes
  - Return Value - enter Y
- Sequence 2
  - Display Value - enter No
  - Return Value - enter N
- Click **Create List of Values**

**Create List of Values**

Static Values

Enter static display and return values. Values will display in the order entered. **Return Value** does not display, but is the value that is returned to the Application Express engine. If you do not specify a **Return Value** then it is equal to the **Display Value**. You can display additional attributes including build option controls and item level conditional display by editing the List of Values.

List of Values Name: **YES\_NO** [?](#)

Sequence	Display Value	Return Value
1	Yes	Y
2	No	N
3		

[«](#) [Cancel](#) Create List of Values

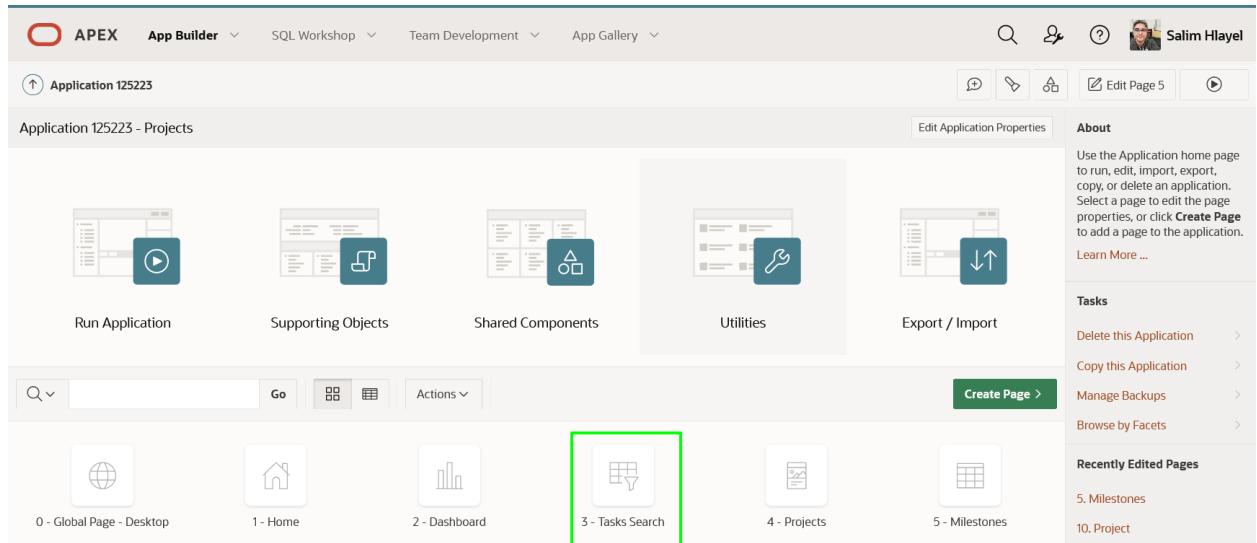
## Task 2: Updating the Faceted Search

Now that you have defined the shared component, you need to utilize it on the Faceted Search page.

1. In the breadcrumbs, click **Application xxxx**

The screenshot shows the Oracle APEX App Builder interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'App Gallery'. Below the navigation is a breadcrumb trail: 'Application 125223 \ Shared Components \ Lists of Values'. A success message 'Static List of Values created.' is displayed in a green bar. The main content area shows a table with three rows. The first row has 'Sequence' 1, 'Display Value' 'Yes', and 'Return Value' 'Y'. The second row has 'Sequence' 2, 'Display Value' 'No', and 'Return Value' 'N'. The third row has 'Sequence' 3, 'Display Value' empty, and 'Return Value' empty. Navigation buttons '«' and 'Cancel' are on the left, and a large green button 'Create List of Values' is on the right.

2. From the application home page, click **3 - Tasks Search**



3. You first want to update the entries in the *Search*.

- Within Page Designer, in the Rendering tree (left pane), under Search, click **P3\_IS\_COMPLETE\_YN**.

4. In the Property Editor (right pane), select the following:

- List of Values > Type - select **Shared Component**
- List of Values > List of Values - select **YES\_NO**

The screenshot shows the Oracle APEX Page Designer. The left pane displays the 'Rendering tree' for 'Page 3: Tasks Search', showing regions like Pre-Rendering, Regions, Left Column, and Search. Under the Search region, the 'Facets' section contains fields: P3\_SEARCH, P3\_PROJECT\_ID, P3\_ASSIGNEE, P3\_COST, P3\_MILESTONE\_ID, and P3\_IS\_COMPLETE\_YN (which is highlighted with a green box). The right pane shows the 'Property Editor' for the 'Tasks Search' page. In the 'Facet' section, the 'List of Values' settings are shown: 'Type' is set to 'Shared Component' and 'List of Values' is set to 'YES\_NO'. Other settings like 'Include Null Option' and 'Cascading List of Values' are also visible.

5. Next you also want to update the displayed value in the *Report*.

- In the Rendering tree (left pane), under **Project Tasks**, expand **Columns**.
- Within the list of columns, click **IS\_COMPLETE\_YN**.

6. In the Property Editor (right pane), enter the following:

- Identification > Type - select **Plain Text (based on List of Values)**
- List of Values > Type - select **Shared Component**
- List of Values > List of Values - select **YES\_NO**

The screenshot shows the Oracle APEX App Builder Page Designer interface. On the left, the 'Project Tasks' section is expanded, showing various columns like ID, PROJECT\_ID, MILESTONE\_ID, NAME, DESCRIPTION, ASSIGNEE, START\_DATE, END\_DATE, COST, and IS\_COMPLETE\_YN. The 'IS\_COMPLETE\_YN' column is highlighted with a green box. On the right, the 'Identification' section of the Property Editor is shown, with 'Column Name' set to 'IS\_COMPLETE\_YN' and 'Type' set to 'Plain Text (based on List of Values)'. Below it, the 'List of Values' section is also highlighted with a green box, showing 'Type' as 'Shared Component' and 'List of Values' as 'YES\_NO'.

7. The report has many columns. The Description column takes up too much real estate, so should be hidden.
  - In the Rendering tree (left pane), under **Project Tasks**, within the list of columns, click **DESCRIPTION**.
  - In the Property Editor (right pane), for Identification > Type select **Hidden Column**.

The screenshot shows the Oracle APEX App Builder Page Designer interface. The left pane displays the 'Rendering Tree' with nodes like 'P3\_ASSIGNEE', 'P3\_COST', 'P3\_MILESTONE\_ID', 'P3\_IS\_COMPLETE\_YN', 'Content Body' (containing 'Button Bar', 'Region Buttons', 'RESET'), and 'Project Tasks' (containing 'Columns' with 'ID', 'PROJECT\_ID', 'MILESTONE\_ID', 'NAME', and 'DESCRIPTION'). The right pane shows the 'Layout' and 'Identification' sections of the property editor. In the 'Identification' section, the 'Type' dropdown is set to 'Hidden Column' (highlighted with a green box). The 'Layout' section shows a sequence of 5.

8. While we are on the page, we can quickly change the order of the search columns.

- In the Rendering tree (left pane), under **Search**, click **P3\_MILESTONE\_ID**
- In the Property Editor (right pane), for Layout > Sequence enter **25**  
*Note: This will position P3\_MILESTONE\_ID after P3\_PROJECT\_ID (Sequence 20)*
- In the Rendering tree (left pane), click **P3\_IS\_COMPLETE\_YN**
- In the Property Editor (right pane), for Layout > Sequence enter **35**  
*Note: This will position P3\_IS\_COMPLETE\_YN after P3\_ASSIGNEE (Sequence 30)*

The screenshot shows the Oracle APEX App Builder Page Designer interface. The left pane displays the 'Rendering Tree' with nodes like 'P3\_SEARCH', 'P3\_PROJECT\_ID', 'P3\_MILESTONE\_ID' (highlighted with a green box), 'P3\_ASSIGNEE', 'P3\_IS\_COMPLETE\_YN', and 'P3\_COST'. The right pane shows the 'Facet' and 'Identification' sections of the property editor. In the 'Identification' section, the 'Name' is 'P3\_IS\_COMPLETE\_YN' and the 'Type' is 'Radio Group'. The 'Layout' section shows a sequence of 35 (highlighted with a green box).

9. Let's review that the Faceted Search is complete.

- In the Page Designer toolbar, click **Save and Run Page**.

Project	Milestone	Name	Assignee	Start Date	End Date	Cost	Is Complete
Configure Web Environment		Identify Server Requirements	Tameka Hall	8/23/2020	8/24/2020	2,000	Yes
Configure Web Environment		Install Web development tool	Mei Yu	8/25/2020	8/25/2020	1,000	Yes
Configure Web Environment		Configure Web Listeners	Harold Youngblood	8/25/2020	8/25/2020	500	Yes
Configure Web Environment		Configure Web development tool Instance Administration Settings	Bernard Jackman	8/26/2020	8/26/2020	500	Yes
Configure Web Environment		Define Workspaces	Mei Yu	8/27/2020	8/27/2020	500	Yes
Configure Web		Assign Workspace	Harold				

## Task 3: Updating the Interactive Report

The Tasks Report also needs the Is Complete column updated.

1. In the Runtime environment, click **Tasks Report** in the menu.
  - In the Developer Toolbar (bottom of page), click **Edit Page 6**.  
*Note: You can also navigate back to your application home page in the App Builder browser tab and manually navigate to Page 6*
2. In Page Designer, with **Page 6: Tasks Report** selected, in the Rendering tree (left pane), under **Project Tasks** region, expand **Columns**.
  - In the list of columns, click **IS\_COMPLETE\_YN**.
3. In the Property Editor (right pane), enter the following:
  - Identification > Type - select **Plain Text (based on List of Values)**
  - List of Values > List of Values - select **YES\_NO**

4. Run the application.

In the Page Designer toolbar, click **Save and Run Page**.

Project	Milestone	Name	Description	Assignee	Start Date	End Date	Cost	Is Complete
Configure Web Environment		Identify Server Requirements	Determine which databases will be used to install Web development tool for Development, QA and Production. Also specify which Web Listeners will be used for the three environments.	Tameka Hall	8/23/2020	8/24/2020	2,000	Yes
Configure Web Environment		Install Web development tool	Install the latest version of Web development tool from the vendor into the databases for Development, QA and Production. Note: For QA and Production, Web development tool should be configured as "run time" only.	Mei Yu	8/25/2020	8/25/2020	1,000	No
Configure Web Environment		Assign Workspace Administrators	In development assign a minimum of two Workspace administrators to each workspace. These administrators will then be responsible for maintaining developer access within their own workspaces.	Harold Youngblood	8/27/2020	8/27/2020	250	No

5. Click on the edit icon for a record.

Notice that Is Complete uses a Switch so no need to modify the Form page.

*Note: The Form page is Page 7 which we will need in the next part*

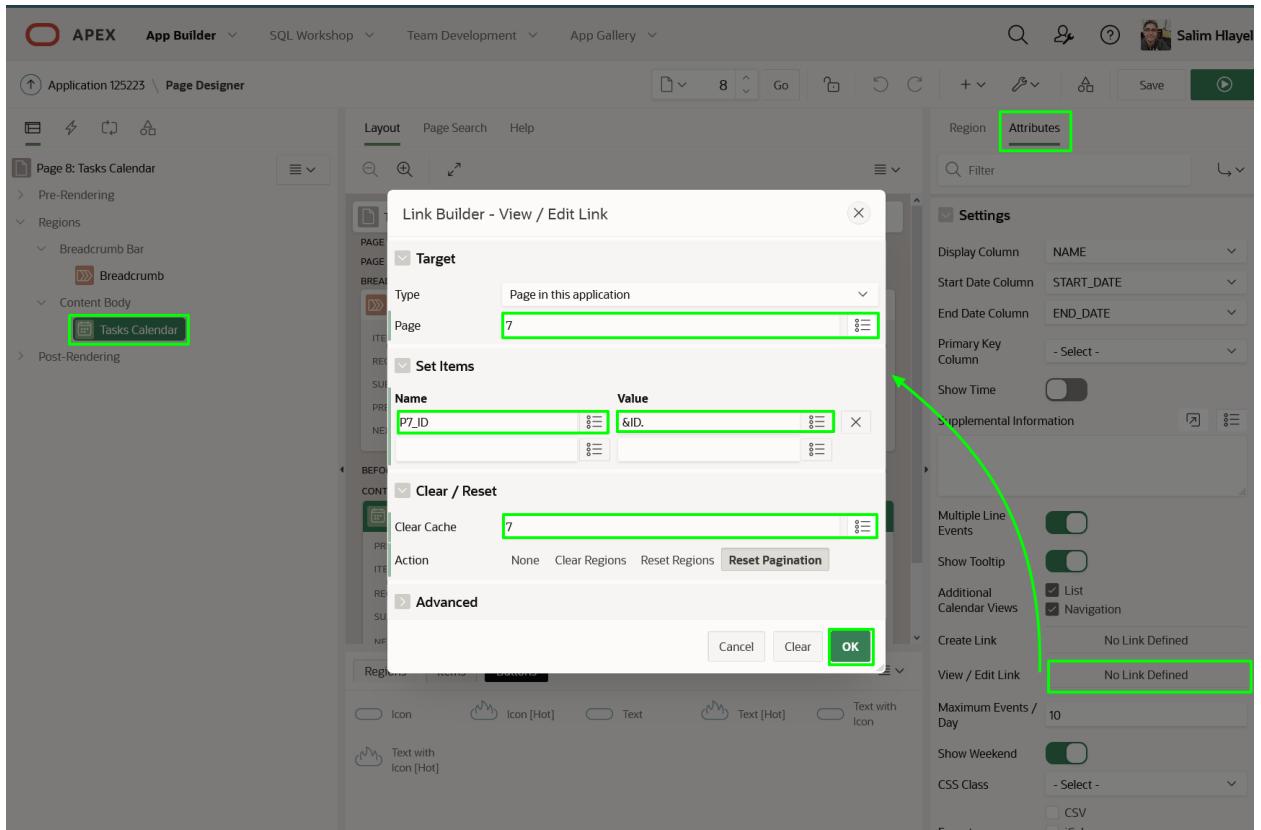
## Task 4: Linking the Calendar

The Tasks Calendar page shows numerous tasks; however, there is no way to directly modify a record. Therefore, you should add a link to the existing Project Task Form page.

1. In the runtime environment, within the Navigation Menu, click **Tasks Calendar**
2. Click on any entry to confirm it simply displays the event details

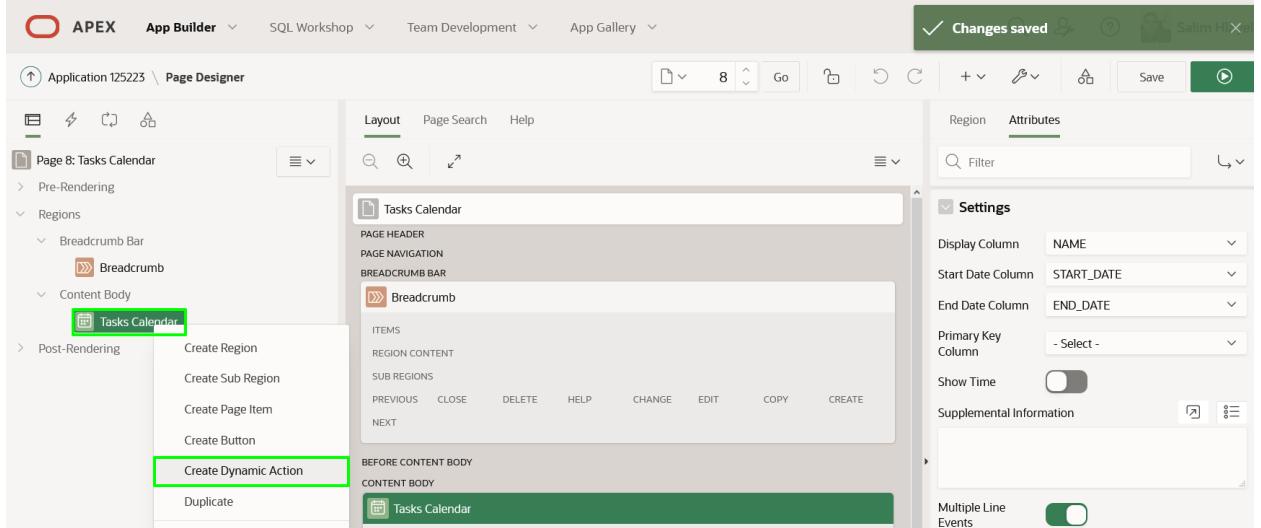
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Define Admin Screens for Customer Success App	2 Design Bug Tracker Look and Feel	3 Create New Tables	4 Migrate data from Legacy Server	5	6	7
8 Define production screens for revised IT Management apps	9 Define external bug data feeds	10 Monitor IT Staff on IT Management Apps	11 Define necessary customizations to the Bug Tracker app	12 Convert transaction logic	13 Customize the Bug Tracker app	14 Populate Data Structures for Bug Tracker
9 Migrate data from Legacy Server	10 Finalize Customer Success Data Model	11 Customize the Bug Tracker app based on First-Cut feedback	12 Design screens for collecting information and analyzing results	13 Design production screens for the customer to provide quotes and success stories	14 Load new production data	
10 Convert transaction logic	11 Finalize User Experience for Customer Success app	12 Final upload of Data Structures for Bug Tracker	13 Load new production data	14		

3. In the Developer Toolbar (bottom of page), click **Edit Page 8**
4. In Page Designer, within the Rendering tree (left pane), under **Tasks Calendar** region, click **Attributes**.
  - In the Property Editor (right pane), for Settings > View / Edit Link, click **No Link Defined**
5. In the Link Builder dialog, enter the following:
  - Target > Page - select **7**
  - Set Items > Name - select **P7\_ID**
  - Set Items > Value - select **ID (Returns &ID.)**
    - Clear / Reset > Clear Cache - enter **7**
6. Click **OK**



7. It is important that the calendar is updated if the Task Name, Start Date, or End Date are updated when the Project Task Form page is called from the calendar.

- o In the Rendering tree (left pane), *right-click* Tasks Calendar.
- o Select Create Dynamic Actions.



8. With New under Dynamic Actions selected, in the Property Editor (right pane), enter the following:

- Identification > Name - enter **Refresh Calendar**
- When > Event - select **Dialog Closed** (under **Framework Events**)

*Note: The Refresh Calendar event will fire when the Project Task Form page is closed as it is a modal page*

The screenshot shows the Oracle APEX App Builder interface. In the left pane, the 'Dynamic Actions' section of the rendering tree is selected, showing a 'Refresh Calendar' entry under the 'True' condition. In the right pane, the 'Dynamic Action' properties are displayed. The 'Name' field is set to 'Refresh Calendar' and the 'Event' dropdown is set to 'Dialog Closed'. Both the 'Name' and 'Event' fields are highlighted with green boxes.

9. In the Rendering tree (left pane), under the True action, click **Show**. In the Property Editor (right pane), select the following:

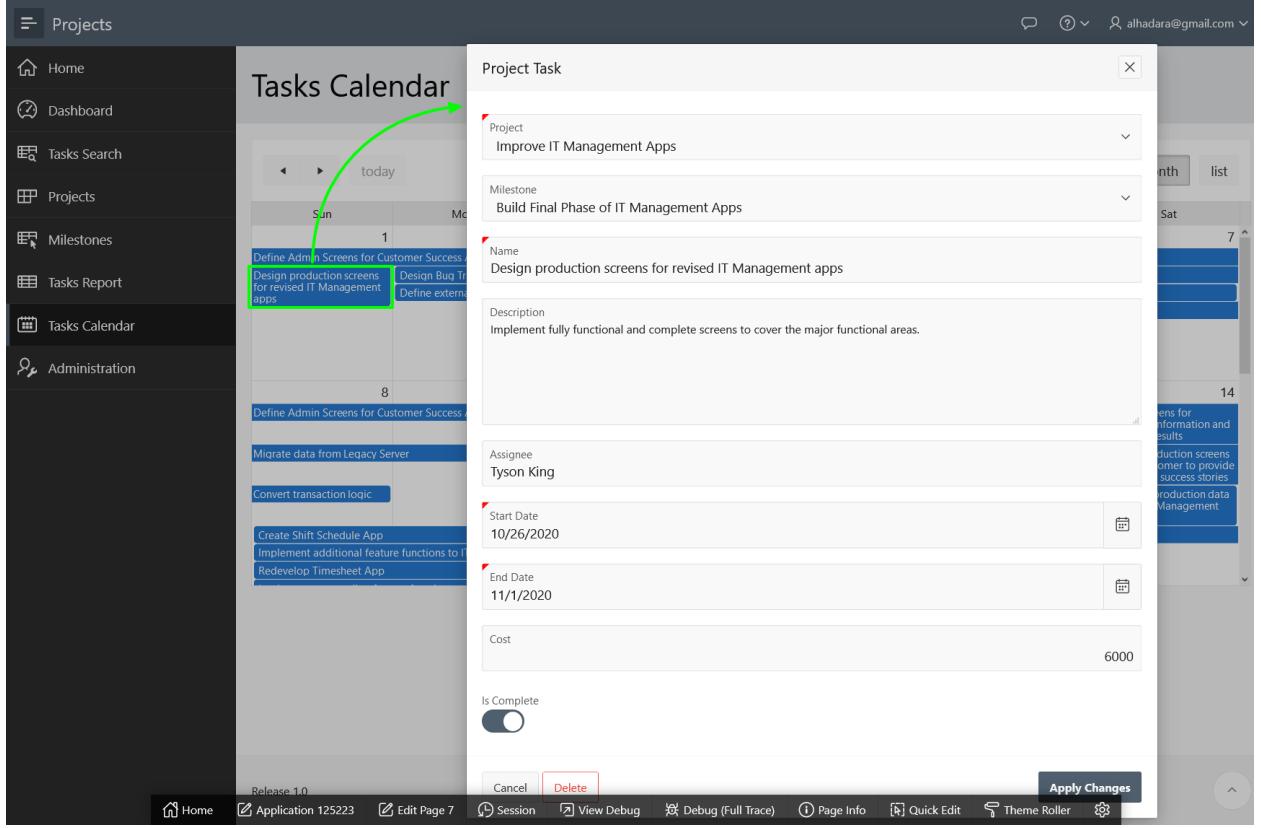
- Identification > Action - select **Refresh** (under **Component**)
- Affected Elements > Selection Type - select **Region**
- Affected Elements > Region - select **Tasks Calendar**

Click **Save**

The screenshot shows the Oracle APEX App Builder interface. In the left pane, the 'Dynamic Actions' section of the rendering tree is selected, showing a 'Refresh' entry under the 'True' condition. In the right pane, the 'Dynamic Action' properties are displayed. The 'Action' field is set to 'Refresh' and the 'Selection Type' and 'Region' fields are set to 'Region' and 'Tasks Calendar' respectively. Both the 'Action' and 'Selection Type' fields are highlighted with green boxes.

10. Navigate back to the runtime environment, and refresh the browser.

- Click a calendar entry



If you update the Name, Start Date, or End Date, and click **Apply Changes** on the Project Task Form page, the changes will be reflected immediately in the calendar.

## Summary

This completes Lab 7 and the workshop. You now know how to create a Shared Component, use it to improve Faceted Search page and Interactive Report, and link a Calendar page that refreshes after a record is updated.