

ORACLE®

Oracle APEX Hands-On Lab

Creating an App based on Existing Tables
for Oracle Autonomous Cloud Service

July, 2019 (v19.1.3)

Step Up to
Modern Cloud
Development



Overview

This lab walks you through creating an application based on existing tables in your Oracle Database.

Go from zero to hero in a ridiculously short period of time!

Please note this lab assumes that you already have the Autonomous Data Warehouse (ADW) or Autonomous Transaction Processing – Serverless (ATP-S) service provisioned.

If you do not currently have a cloud service, sign up for a free trial account at <https://cloud.oracle.com/try-autonomous-database>

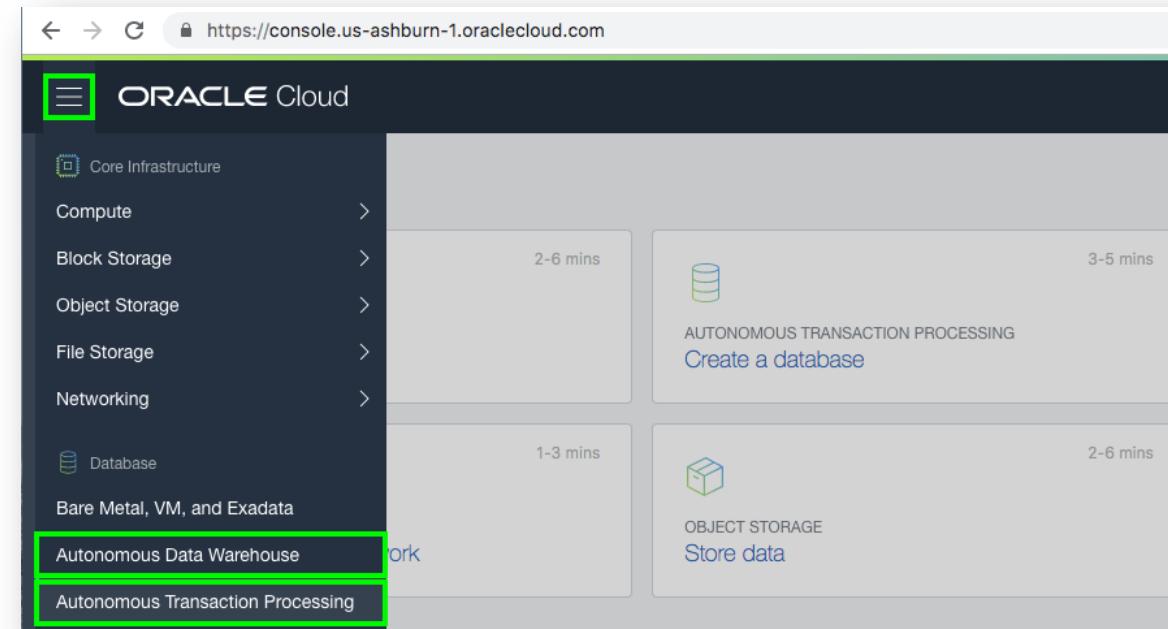
Getting Started

Obtaining a Workspace

{Note: If you have a workspace on the Autonomous Database Cloud Service then you can skip this section and move to Section 2}

Step 1.1 – Accessing APEX

- Sign into your Oracle Cloud service
- Click the hamburger (top left), select Autonomous Data Warehouse or Autonomous Transaction Processing, based on which service(s) you have defined.



Step 1.1b – Accessing APEX

- Click <Your Database> from the list

The screenshot shows the Oracle Cloud interface with the title "Autonomous Databases in dpeakea (root)". On the left, there's a sidebar with "Autonomous Database" selected. On the right, a table lists databases. One row for "dpeake" is highlighted with a green border. The table columns are Name, Database Name, State, and Dedicated Infrastructure.

Name	Database Name	State	Dedicated Infrastructure
dpeake	dpeake	Available	No

- Click Service Console

The screenshot shows the "Autonomous Database Details" page for the database "dpeake". The main area features a large green button with "ATP" in white. Below it, the word "AVAILABLE" is visible. To the right, there's a "Service Console" button highlighted with a green border. The "General Information" section at the bottom lists the Database Name as "dpeake" and the Workload Type as "Transaction Processing".

Step 1.1c – Accessing APEX

- Click Development
- Click APEX

The screenshot shows the Oracle Cloud Infrastructure homepage. On the left, there's a sidebar with navigation links: Autonomous, Transaction Processing, Overview, Activity, Administration, and Development (which is highlighted with a green box). Below that is a DATABASE section with DPEAKE. The main content area has four cards. The first card, titled 'APEX', is also highlighted with a green box. It contains text about APEX being a low-code development environment supported by Autonomous Database. The second card, 'SQL Developer Web', describes it as a browser-based integrated development environment for Oracle Autonomous Database. The third card, 'OML Notebooks', explains they provide easy access to Oracle's parallelized, scalable in-database implementations of machine learning algorithms. The fourth card, 'Download Oracle Instant Client', describes it as a free, light-weight set of tools for building and connecting applications.

Autonomous
Transaction Processing

Overview
Activity
Administration
Development

DATABASE
DPEAKE

APEX

APEX provides a low-code development environment that enables you to build apps in a single, extensible platform, which is fully supported by Autonomous Database.

SQL Developer Web

Oracle SQL Developer Web provides a browser-based integrated development environment and administration interface for Oracle Autonomous Database. It provides a subset of the features available in the desktop product.

OML Notebooks

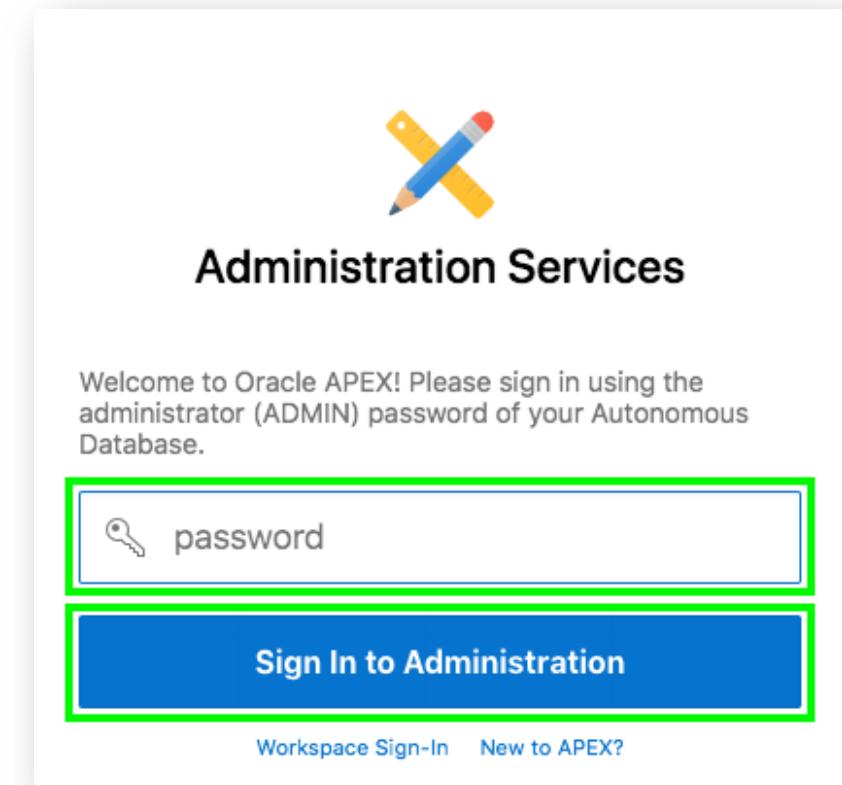
OML SQL notebooks provide easy access to Oracle's parallelized, scalable in-database implementations of a library of Oracle Advanced Analytics' machine learning algorithms (classification, regression, anomaly detection, clustering, associations, attribute importance, feature extraction, times series, etc.), SQL, PL/SQL and Oracle's statistical and analytical SQL functions.

Download Oracle Instant Client

This is a free, light-weight set of tools, libraries and SDKs for building and connecting applications. These libraries underly the Oracle APIs of languages including Node.js, Python and PHP and provide access for OCI, OCCI, JDBC, ODBC and Pro*C applications. Tools such as SQL*Plus and Oracle Data Pump are also included - Oracle recommends using this version of Data Pump for moving existing Oracle Database schemas to Autonomous Transaction Processing.

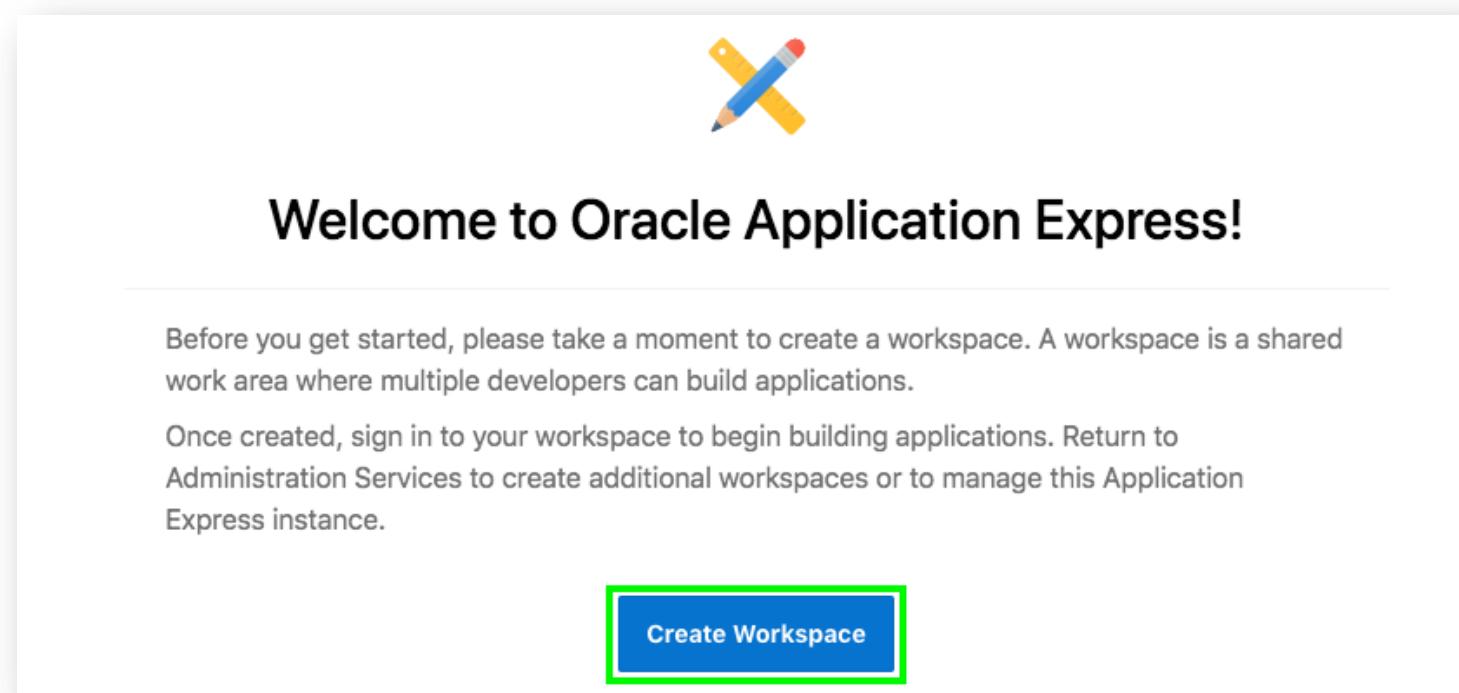
Step 1.2 – Creating a Workspace

- To sign into APEX Administrative Services for Password enter your OCI Password
- Click **Sign In to Administration**



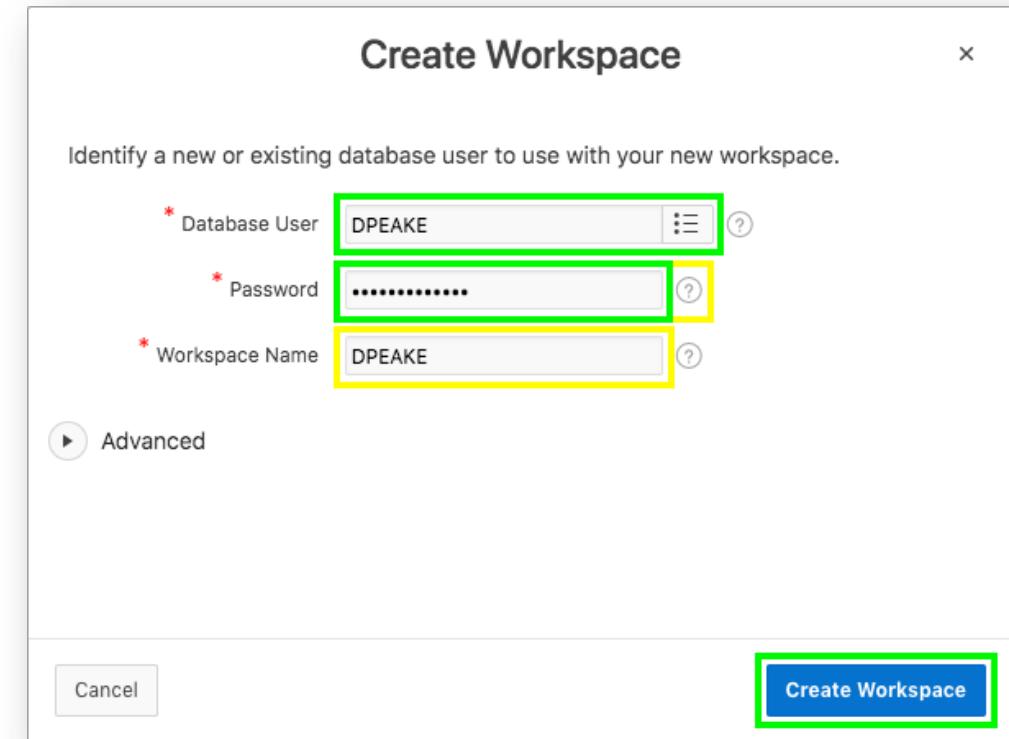
Step 1.2b – Creating a Workspace

- Given this is your first time entering APEX, click **Create Workspace**



Step 1.2c – Creating a Workspace

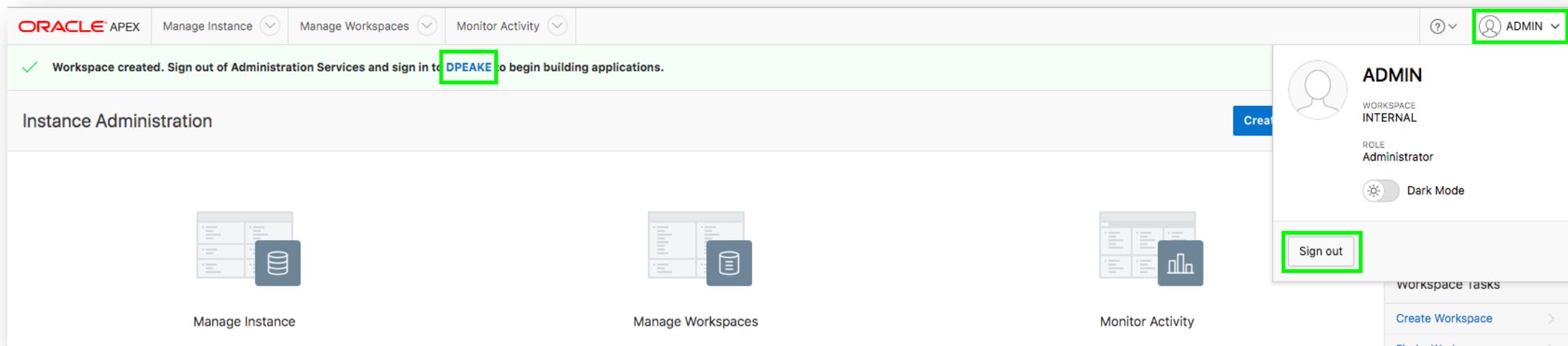
- For Database User enter an appropriate name
- Enter a Password {Click the ? Icon to see password complexity rules}
- Click **Create Workspace**



{Note: The Database User will be used for the Workspace Name. If you want you can update the Workspace Name}

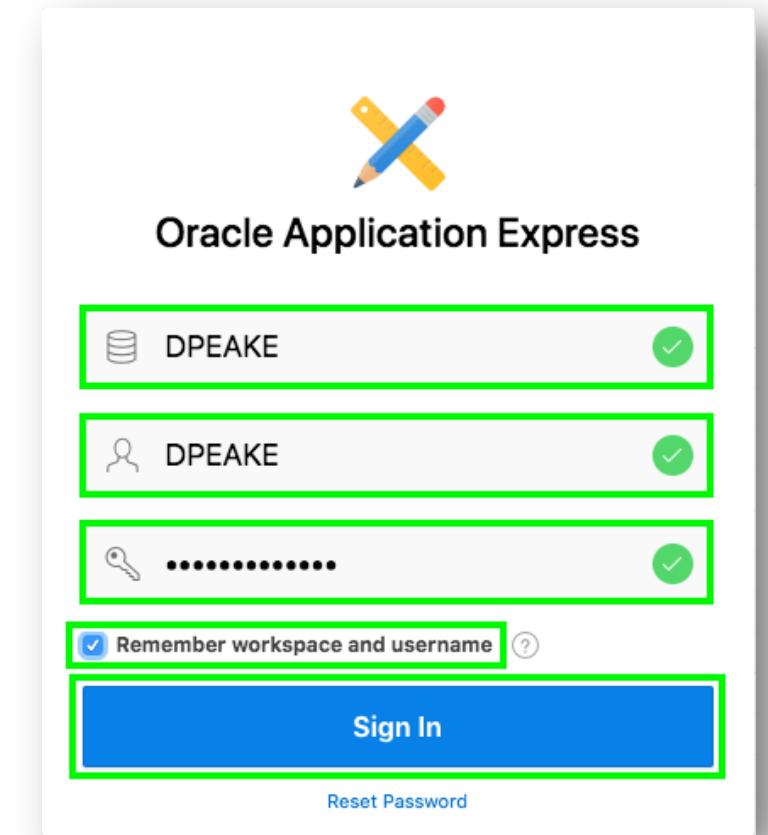
Step 1.3 – Log into your New Workspace

- Click on the link within the success message {easiest technique}
OR
Click on the Admin user (top right), click **Sign Out**,
and then click **Return to Sign In Page**



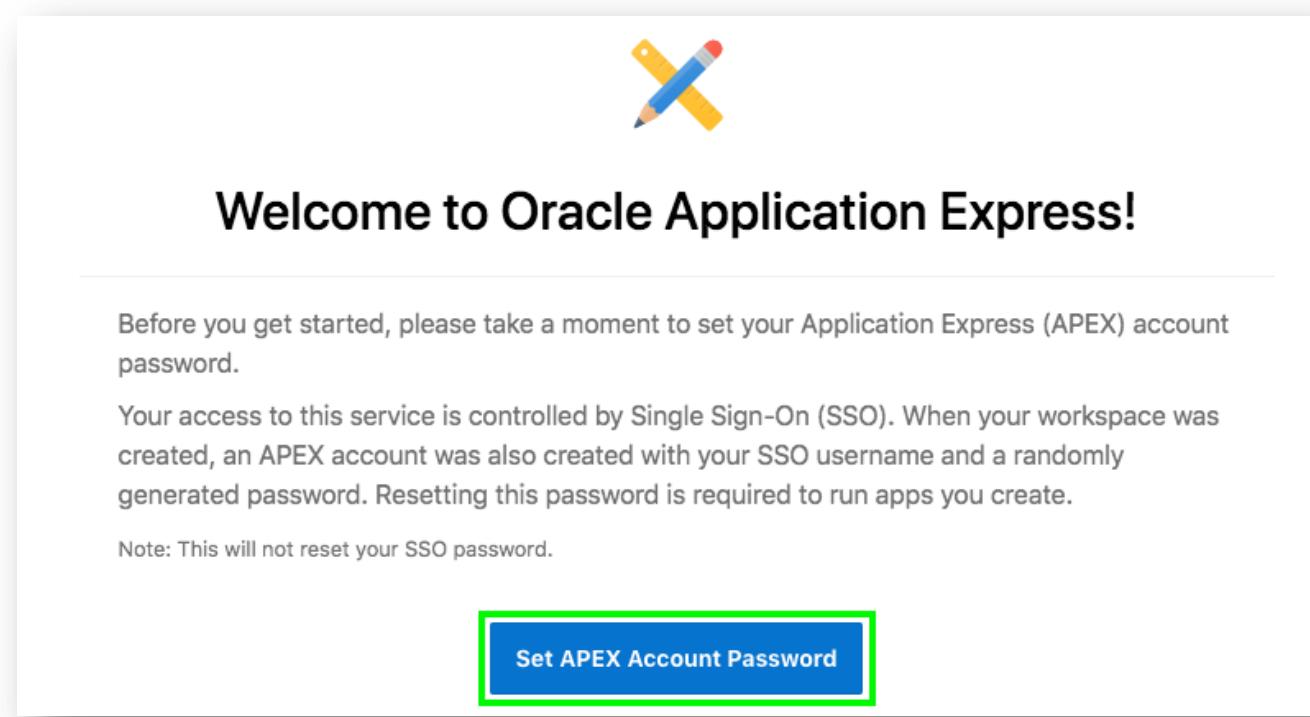
Step 1.3b – Log into your New Workspace

- Sign into your new Workspace
Workspace – enter **<Your Workspace Name>**
Username – enter **<Your Database User>**
Password – enter your OCI Password
Remember workspace and username - Check
- Click **Sign In**
- *{Note: Enter the Workspace Name and Database User entered in Step 2c above}*



Step 1.3c – Log into your New Workspace

- Given this is your first time entering your new Workspace, click **Set APEX Account Password**



Step 1.3d – Log into your New Workspace

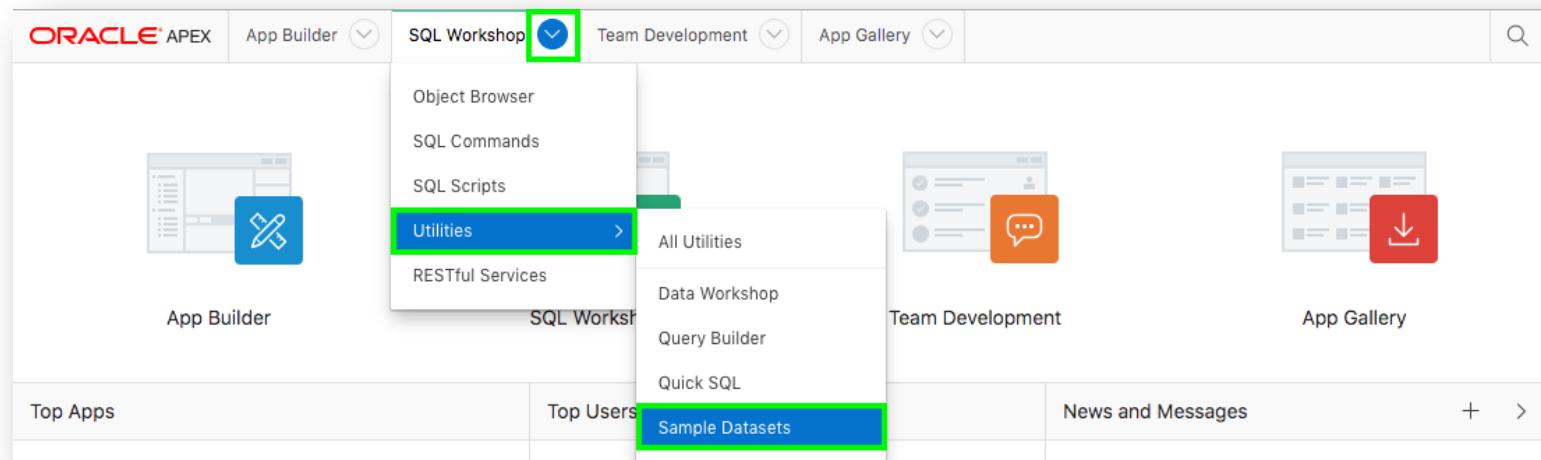
- For your user profile enter the following:
Email Address – enter your email address
Enter New Password – enter your OCI Password
Confirm Password – enter your OCI Password
- Click **Apply Changes**

The screenshot shows the 'Edit Profile' dialog box. In the 'Profile Details' section, the 'Email Address' field contains 'david.peake@oracle.com'. In the 'Password' section, both the 'Enter New Password' and 'Confirm Password' fields contain masked password entries. The 'Apply Changes' button at the bottom right is highlighted with a large blue box.

Building your tables and view Installing Sample Tables

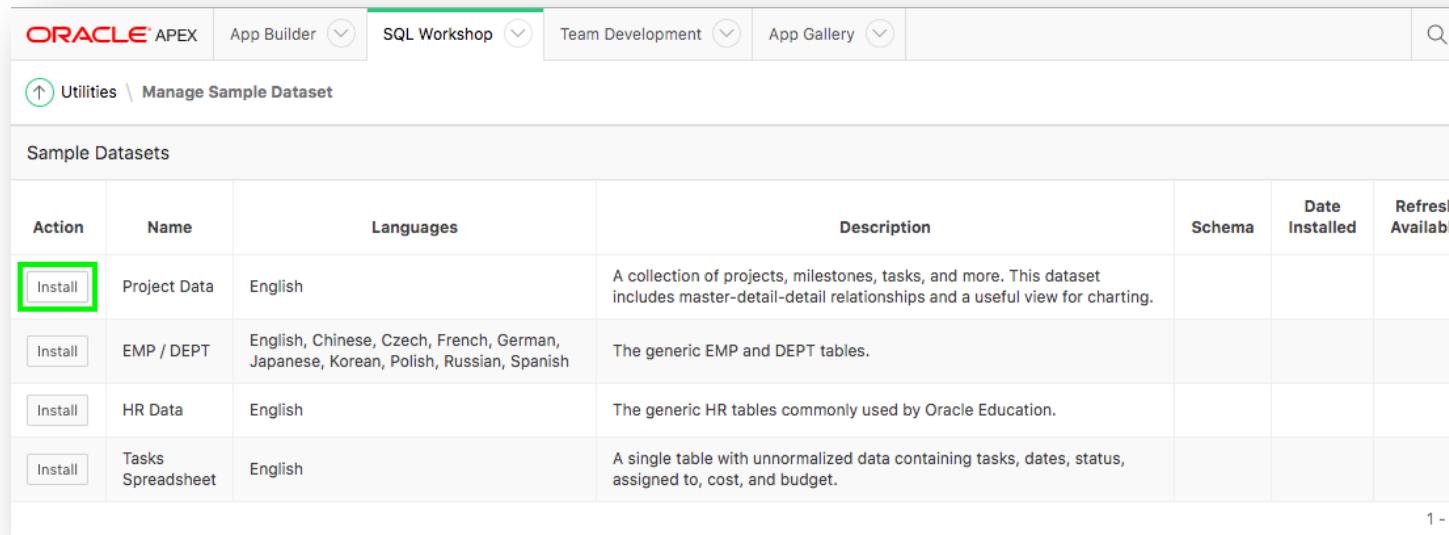
Step 2.1 – Logging In

- In the main menu, select SQL Workshop, select Utilities, click Sample Datasets



Step 2.2 – Creating the EMP and DEPT Tables

- On the Project Data row, click Install

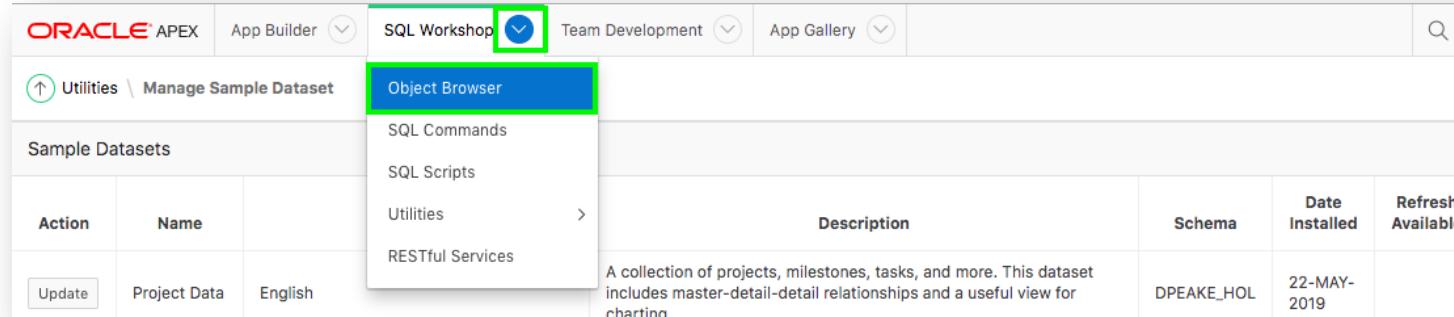


Action	Name	Languages	Description	Schema	Date Installed	Refresh Available
Install	Project Data	English	A collection of projects, milestones, tasks, and more. This dataset includes master-detail-detail relationships and a useful view for charting.			
Install	EMP / DEPT	English, Chinese, Czech, French, 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	Tasks Spreadsheet	English	A single table with unnormalized data containing tasks, dates, status, assigned to, cost, and budget.			

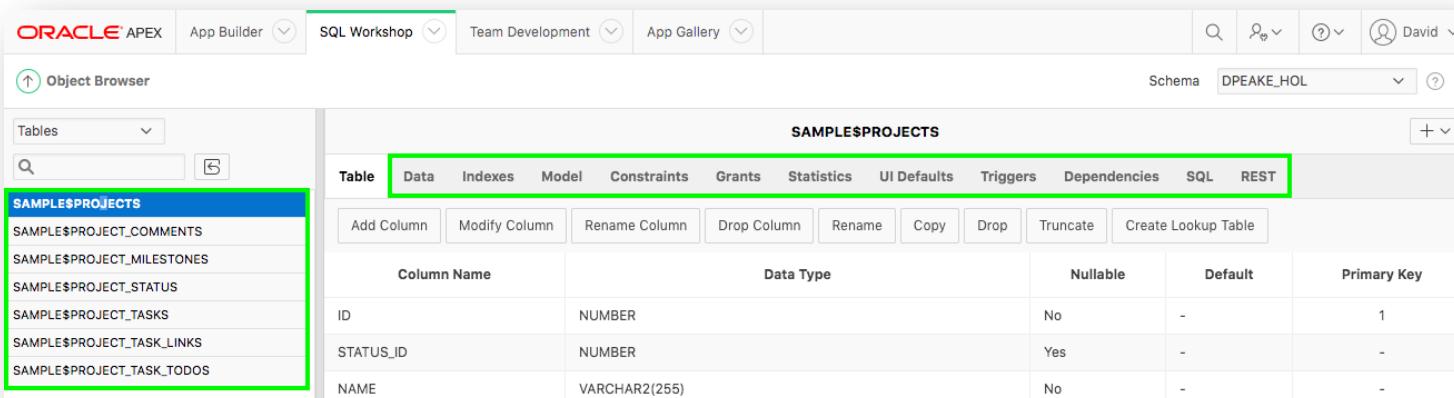
- Click Next
- Click Install Dataset
- Click Exit
{We do not want to create an application directly on the tables}

Step 2.3 – Review Database Objects

- In the App Builder Menu, select **SQL Workshop**, and click **Object Browser**.



- Click on the tables and the various tabs (such as Data, Constraints, etc.) to review the table details

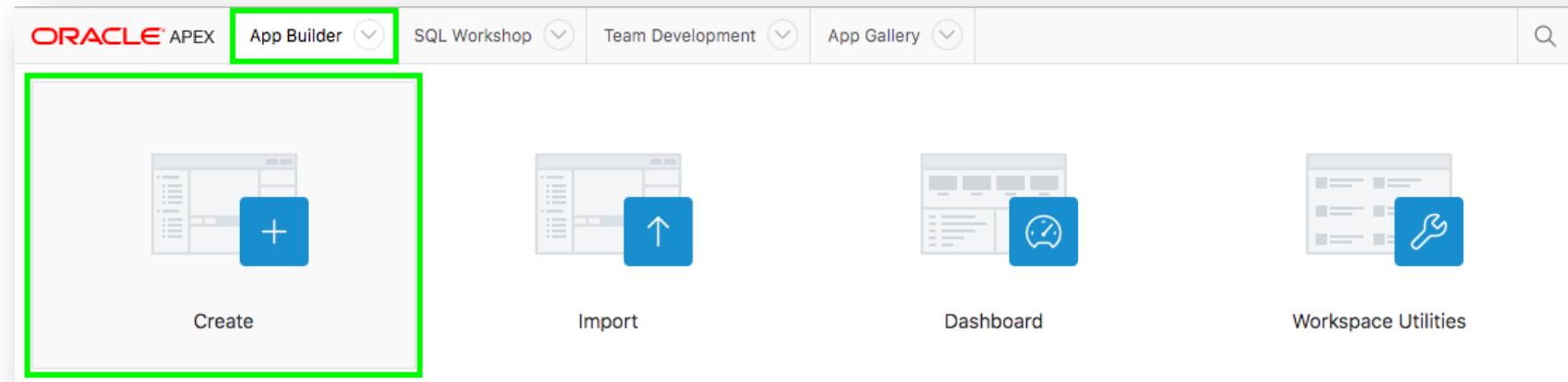


Building your app

Using the Create Application Wizard

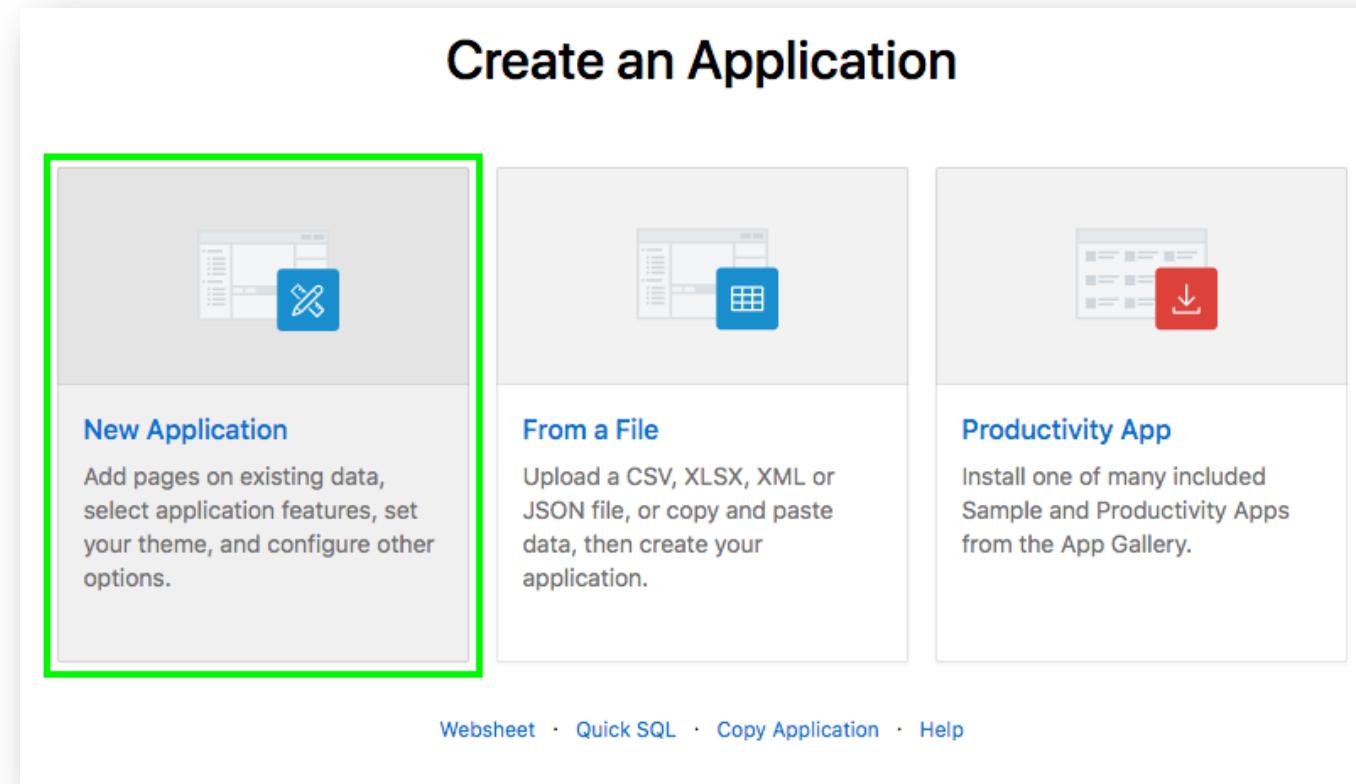
Step 3.1 – Creating an App

- In the App Builder menu, click App Builder
- Click Create



Step 3.2 – Selecting App Type

- Click New Application

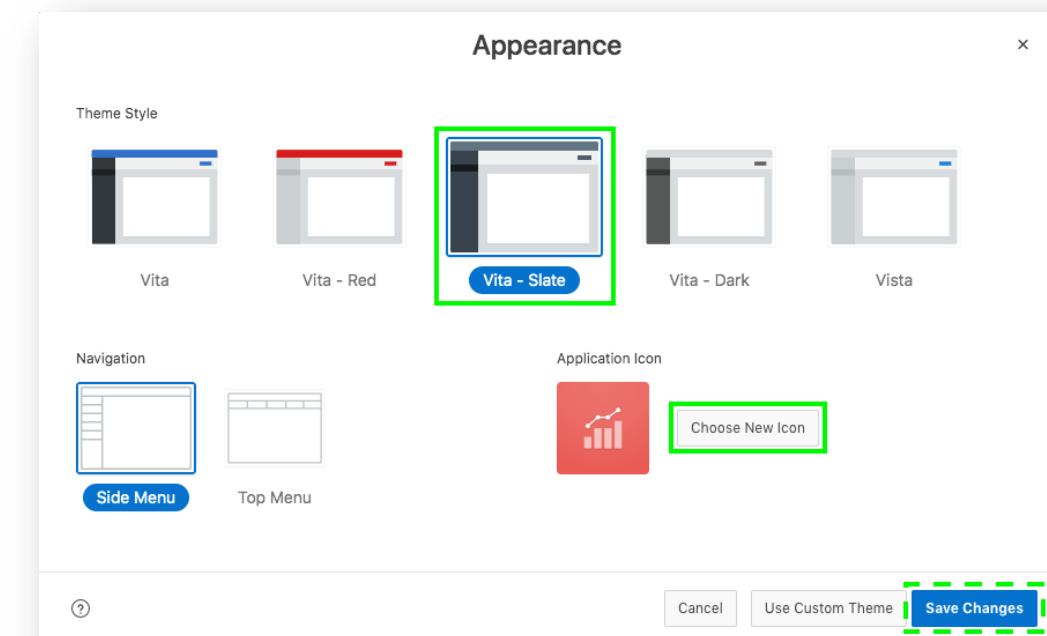


Step 3.3 – Naming the App

- For Name enter Projects
- Click Appearance

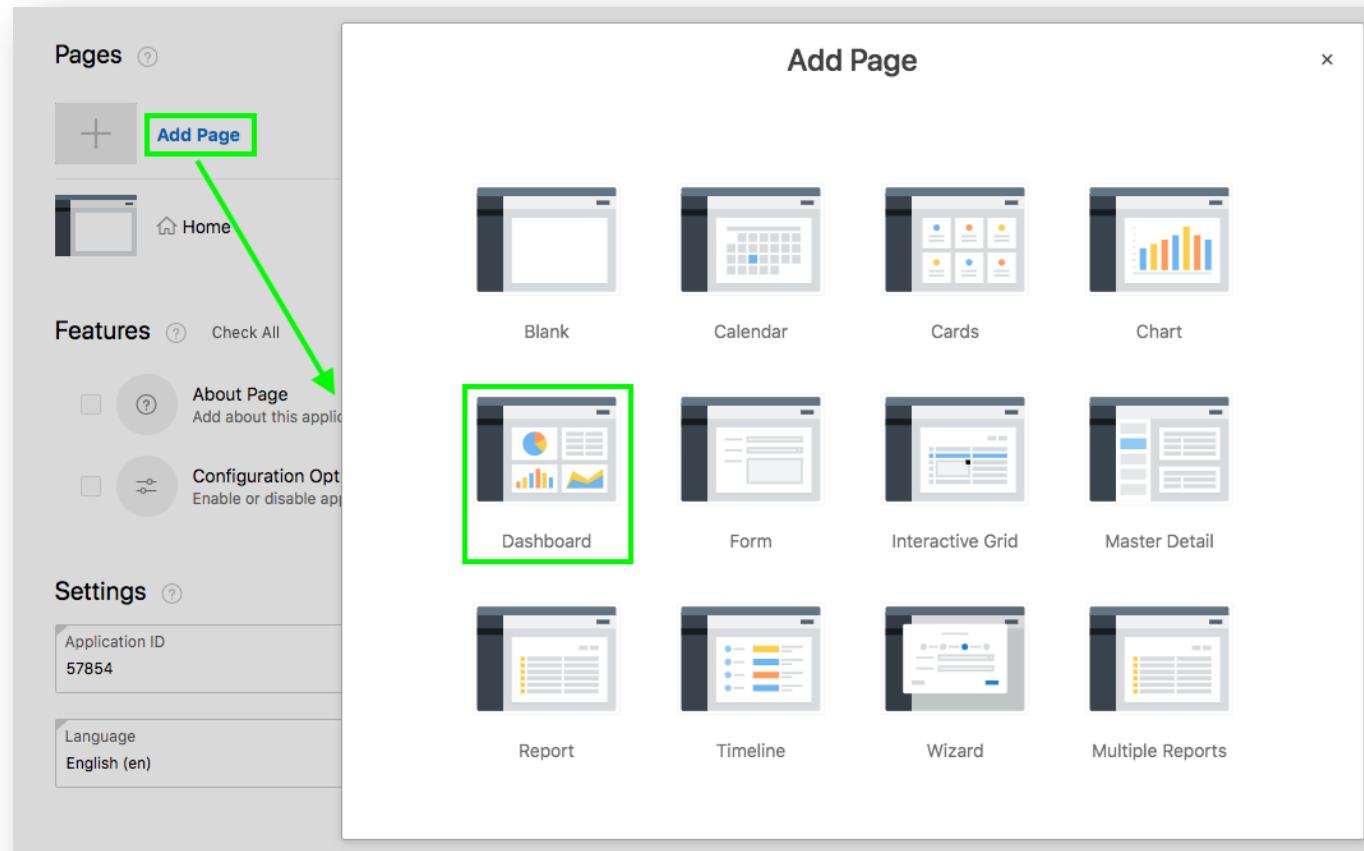


- For Theme Style select Vita – Slate
- Click Choose New Icon
- Select the icon color and an icon
- Click Set Application Item
- Click Save Changes



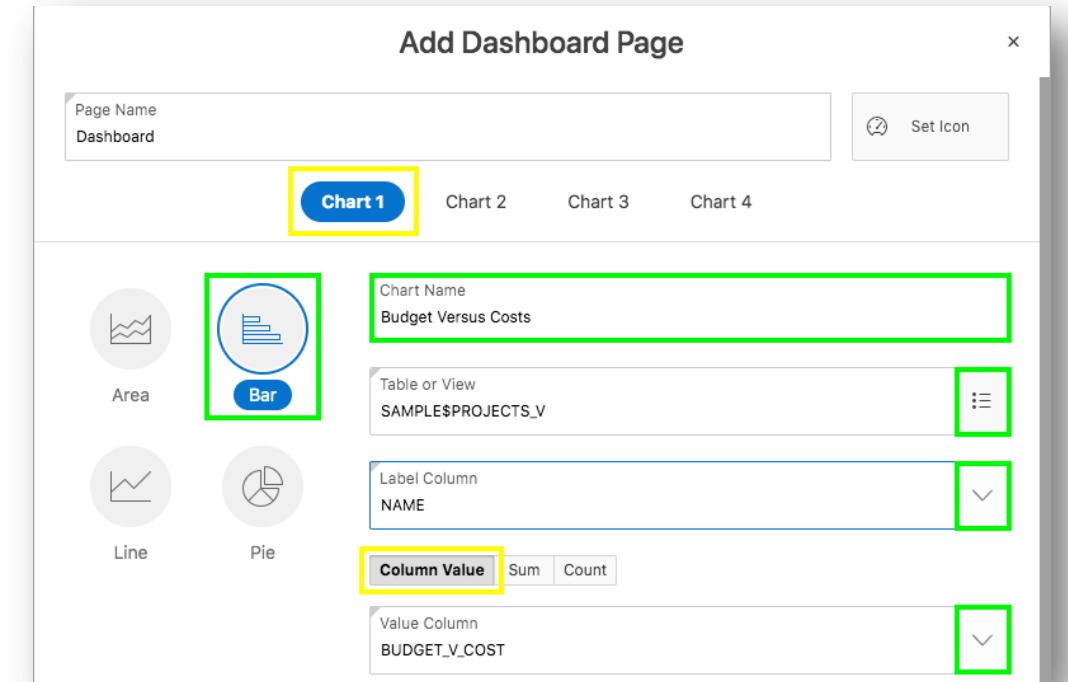
Step 3.4 – Add the Dashboard Page

- Click Add Page
- Click Dashboard



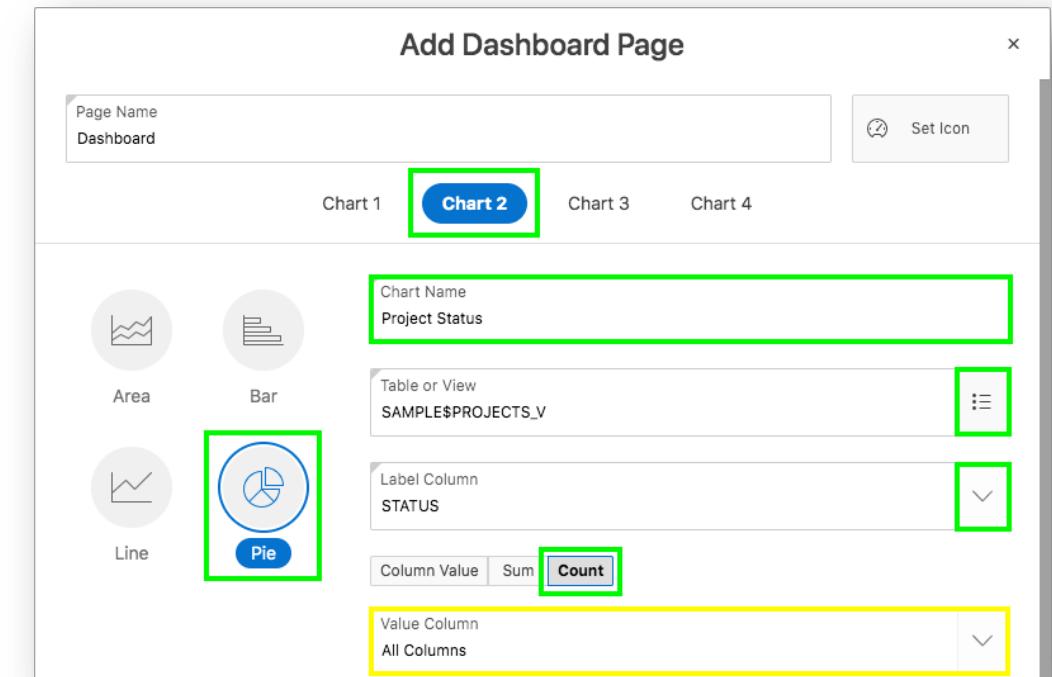
Step 3.4b – Add the Dashboard Page

- For Chart 1, enter the following:
 - Chart Type – select Bar
 - Chart Name – enter **Budget versus Cost**
 - Table or View – select **SAMPLE\$PROJECTS_V**
 - Label Column – select **NAME**
 - Value Column – select **BUDGET_V_COST**



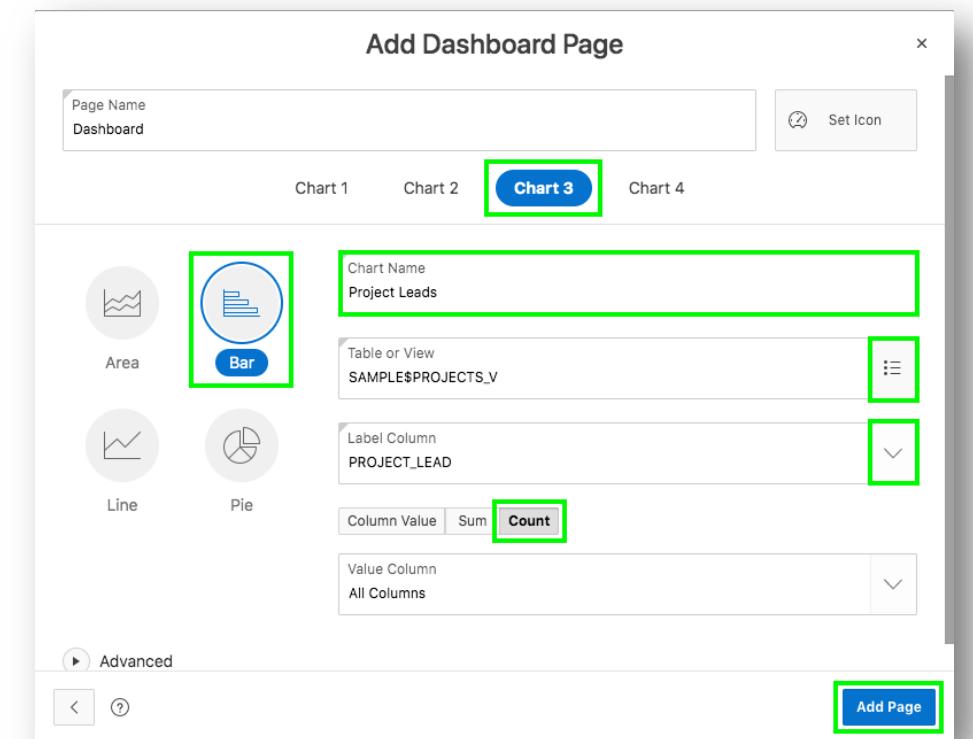
Step 3.4c – Add the Dashboard Page

- For Chart 2, enter the following:
 - Chart Type – select **Pie**
 - Chart Name – enter **Project Status**
 - Table or View – select **SAMPLE\$PROJECTS_V**
 - Label Column – select **Status**
 - Type – select **Count**



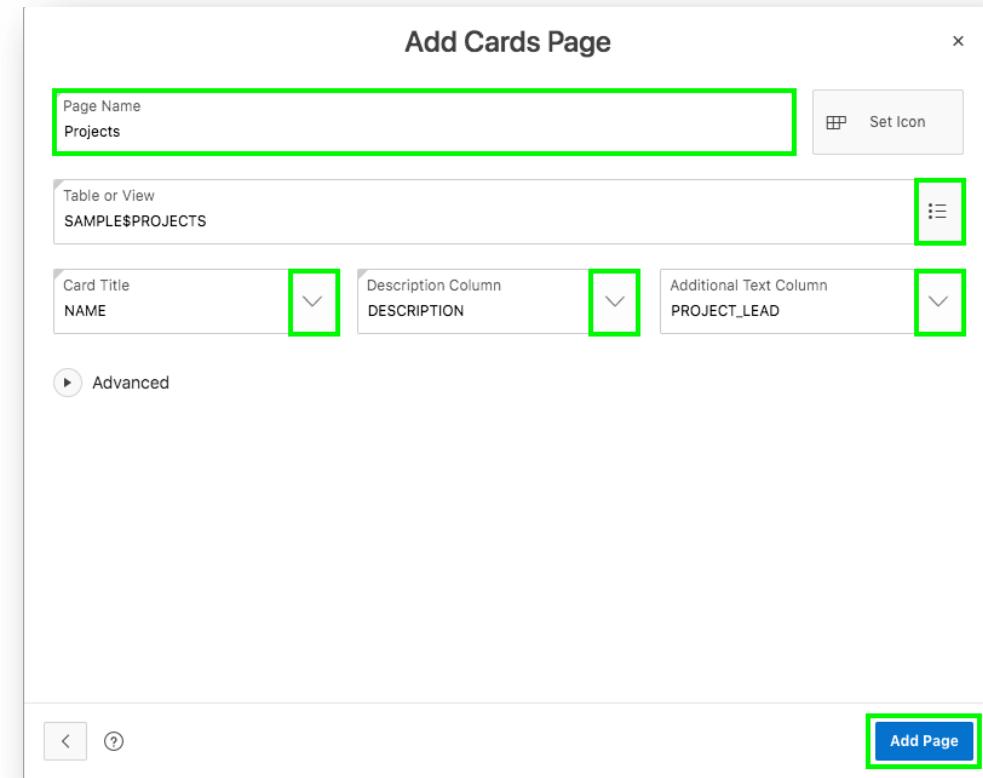
Step 3.4d – Add the Dashboard Page

- For Chart 3, enter the following:
 - Chart Type – select Bar
 - Chart Name – enter Project Leads
 - Table or View – select SAMPLE\$PROJECTS_V
 - Label Column – select PROJECT_LEAD
 - Type – select Count
- Click Add Page



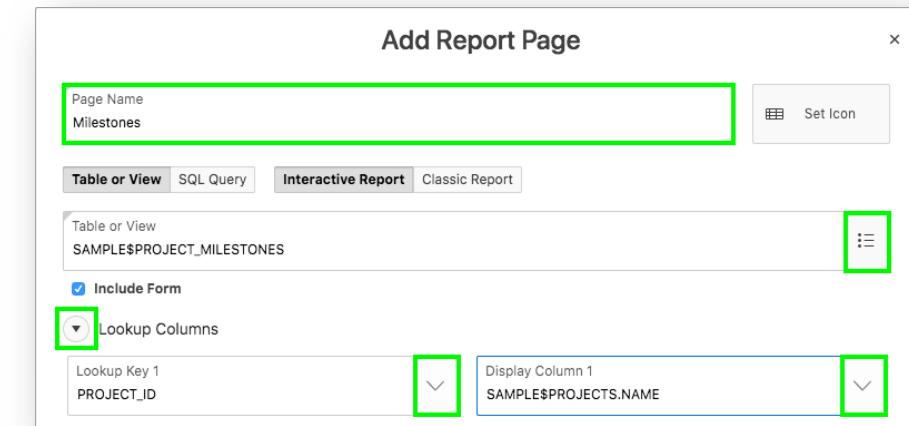
Step 3.5 – Add the Project Page

- Click Add Page
- Click Cards
- Enter the following:
 - Page Name - enter **Projects**
 - Table - select **SAMPLE\$PROJECTS**
 - Card Title - select **NAME**
 - Description - select **Description**
 - Additional Text - select **PROJECT_LEAD**
- Click Add Page



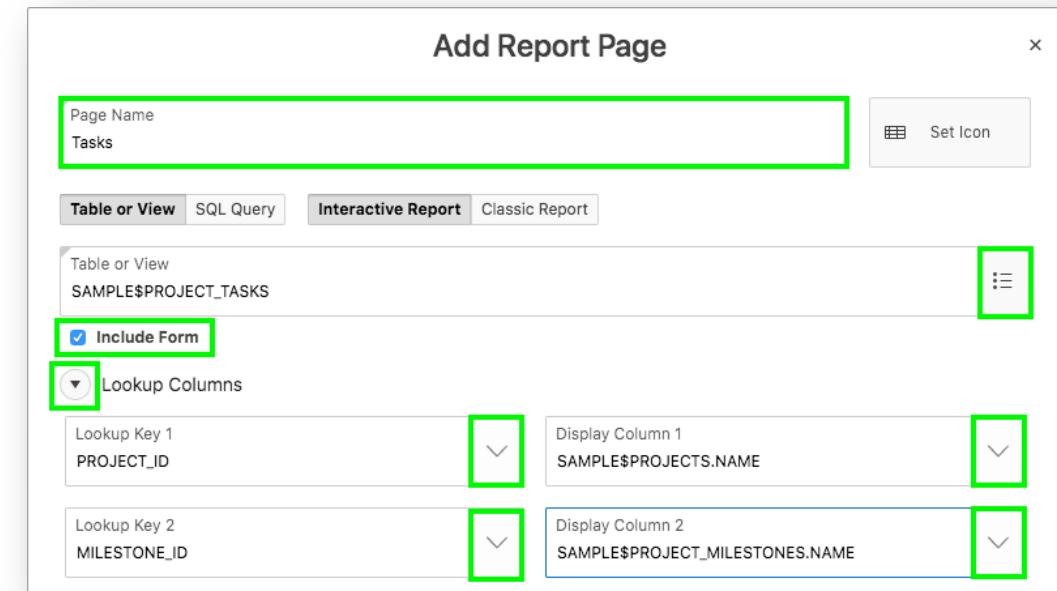
Step 3.6 – Add the Milestone Pages

- Click Add Page
- Click Report
- Enter the following:
 - Page Name - enter **Milestones**
 - Table - select **SAMPLE\$PROJECT_MILESTONES**
 - Check **Include Form**
 - Lookup Key 1 - select **PROJECT_ID**
 - Display Col 1 - select **SAMPLE\$PROJECTS.NAME**
- Click Add Page



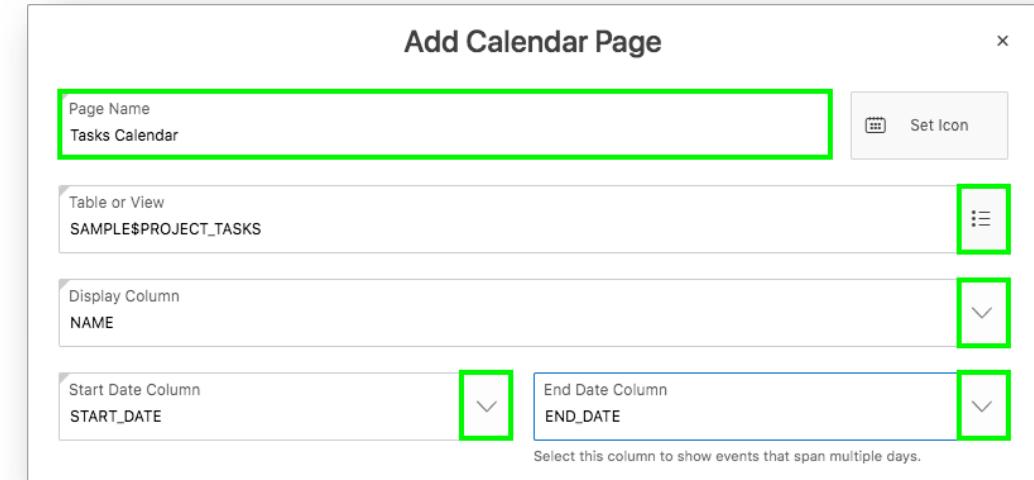
Step 3.7 – Add the Task Pages

- Click Add Page
- Click Report
- Enter the following:
 - Page Name - enter Tasks
 - Table - select SAMPLE\$PROJECT_TASKS
 - Check Include Form
 - Lookup Key 1 - select PROJECT_ID
 - Display Col 1 - select SAMPLE\$PROJECTS.NAME
 - Lookup Key 2 - select MILESTONE_ID
 - Display Col 2 - select SAMPLE\$PROJECT_MILESTONES.NAME
- Click Add Page



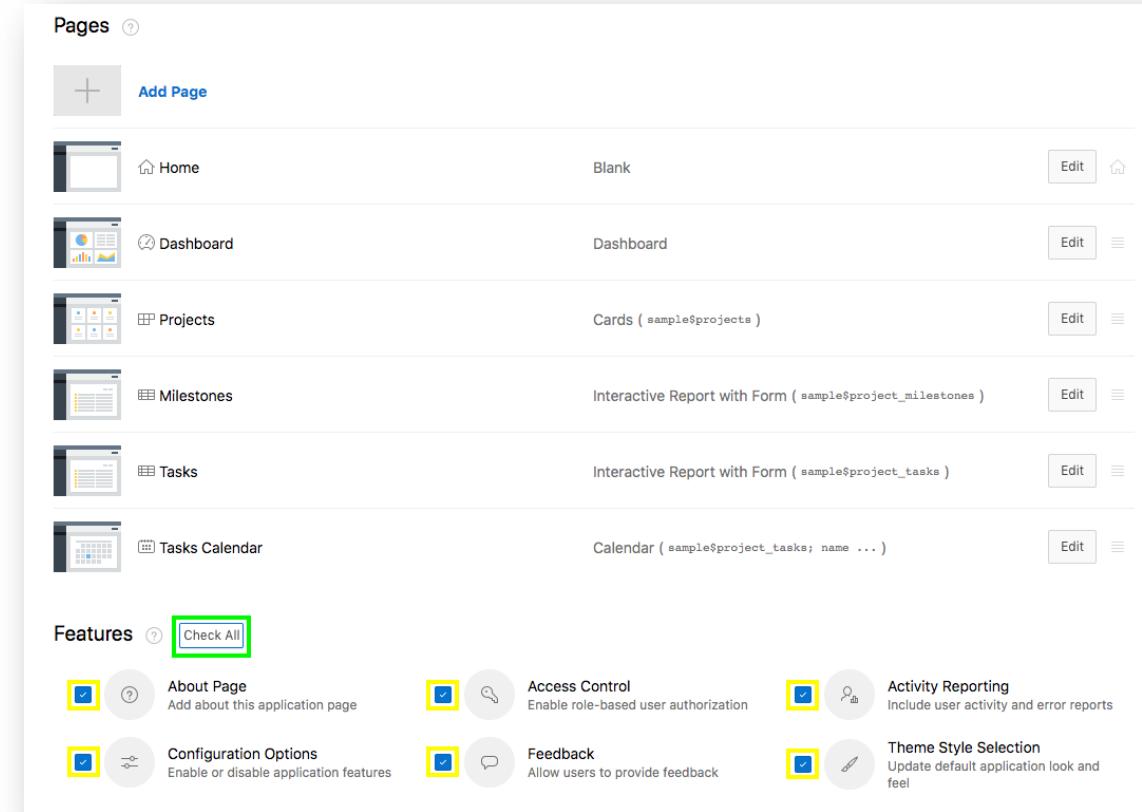
Step 3.8 – Add a Calendar Page

- Click Add Page
- Click Calendar
- Enter the following:
 - Page Name - enter Tasks
 - Table - select SAMPLE\$PROJECT_TASKS
 - Display Column - select NAME
 - Start Date Column - select START_DATE
 - End Date Column - select END_DATE
- Click Add Page



Step 3.9 – Include All Features

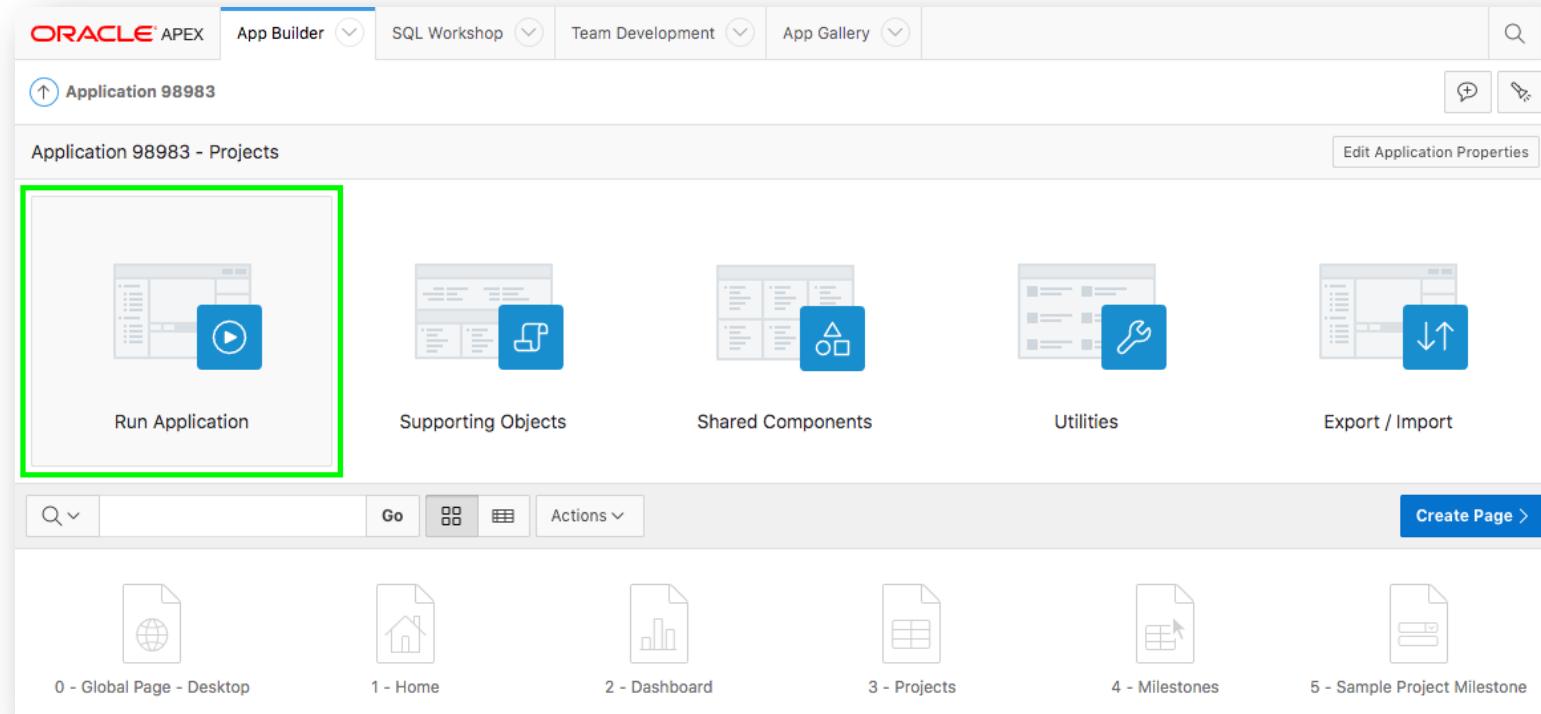
- Next to Features, click Check All



- Click Create Application

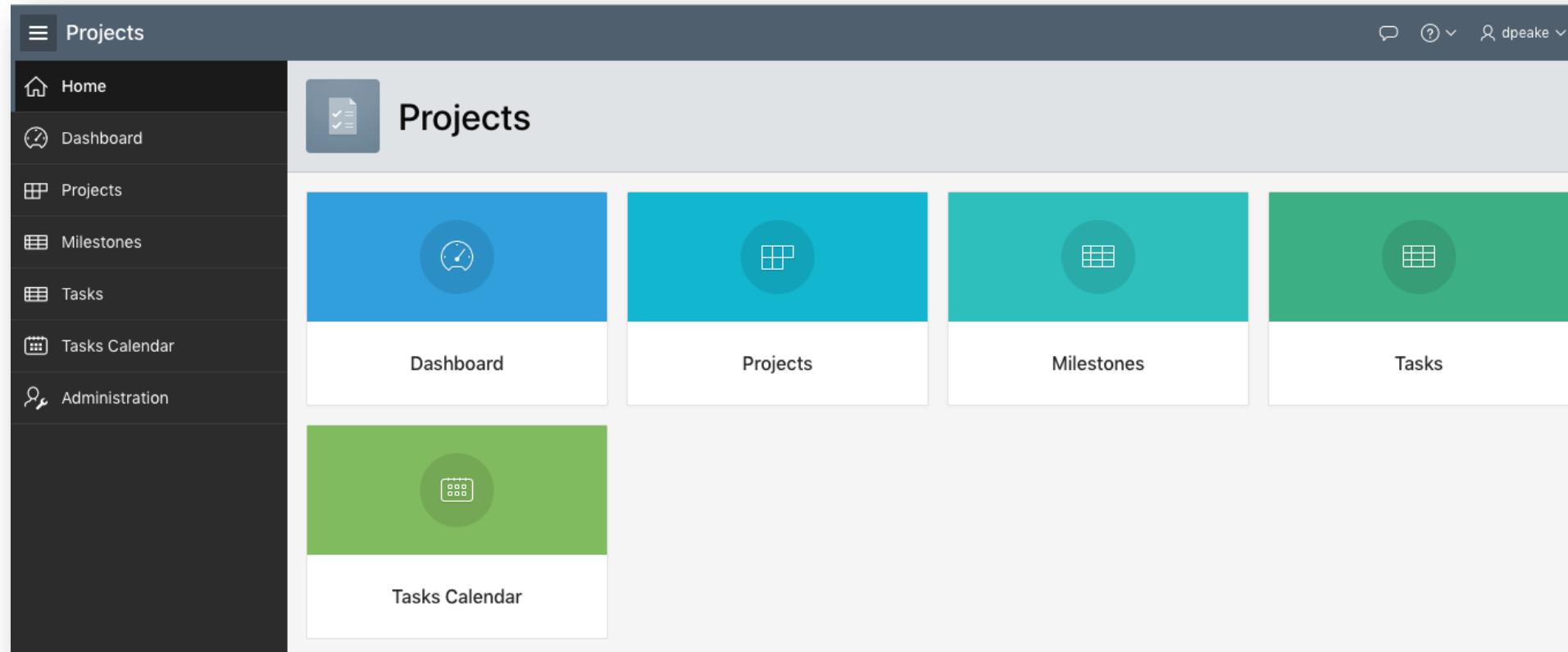
Step 3.10 – App in Page Designer

- Your new application will be displayed in Page Designer
- Click Run Application



Step 3.11 – Runtime App

- Enter your user credentials
- Play around with your new application

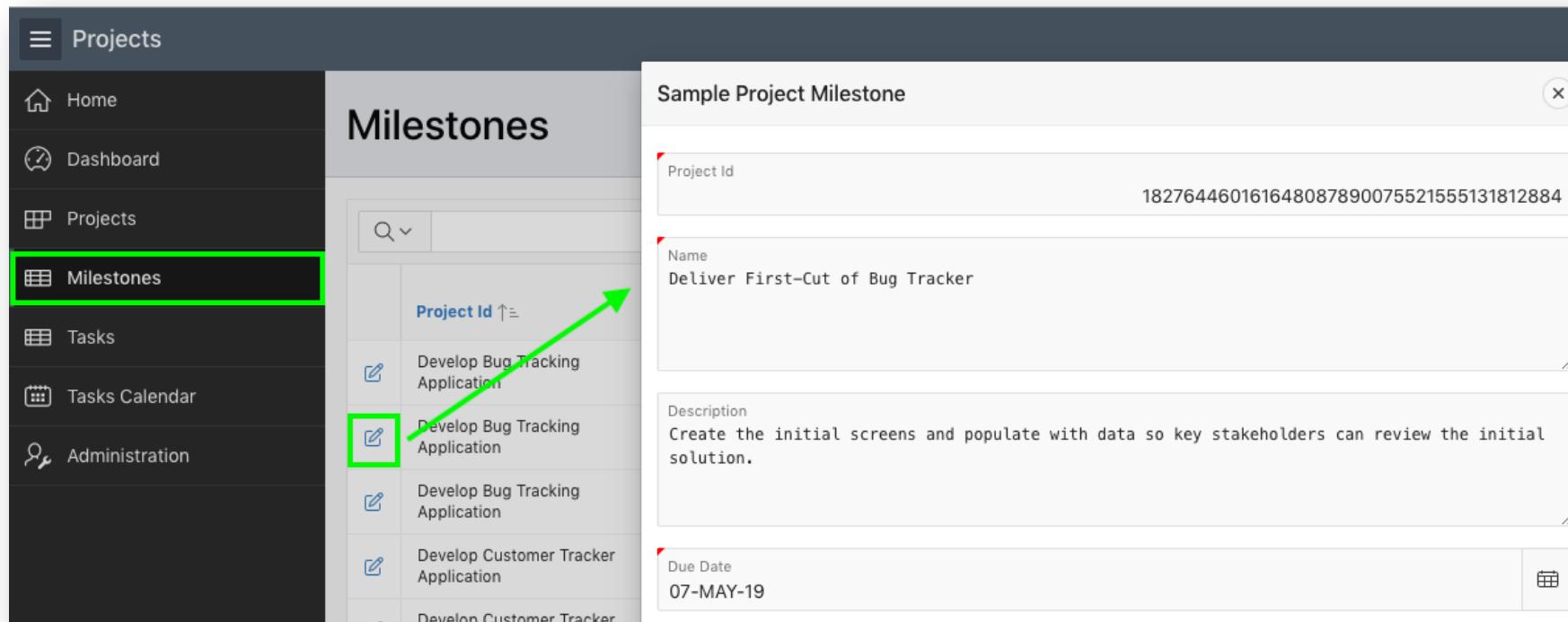


Recreating the App

Improving the Generated App

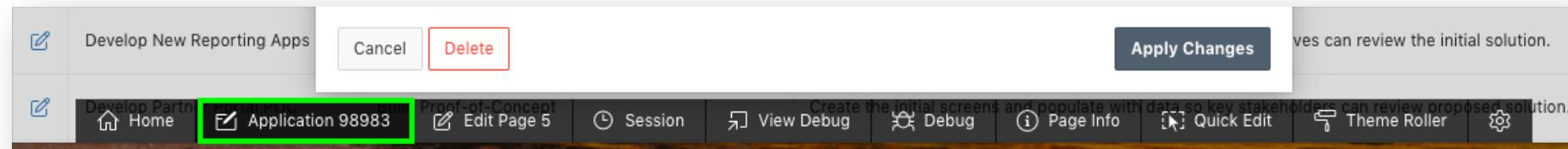
Step 4.1 – View Milestone Form

- In the runtime environment, within the menu, click **Milestones**
- Click the edit icon for a milestone
*Notice that there are only a few items
– An Interactive Grid may work better.*



Step 4.2 – Return to the App Builder

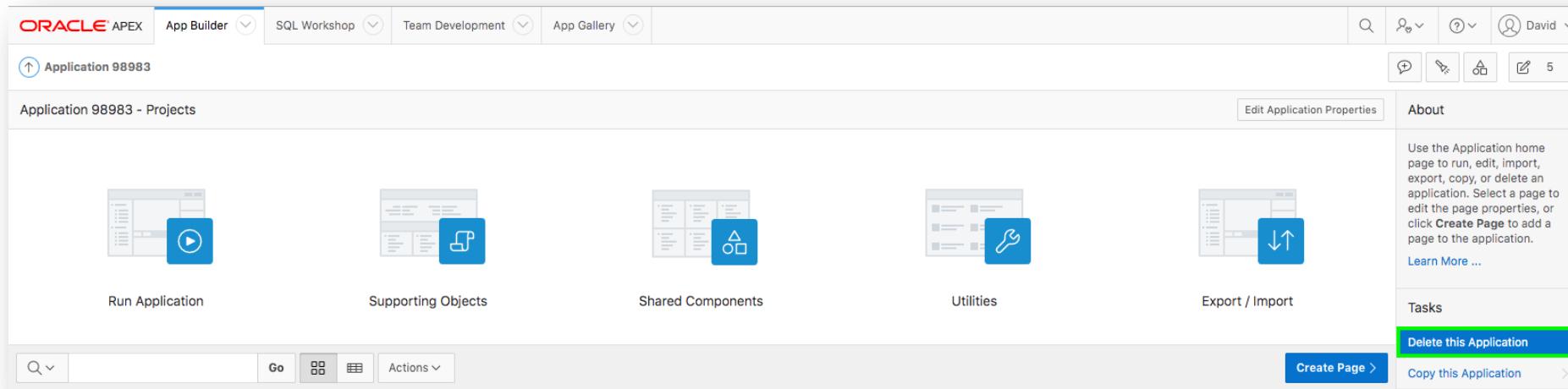
- In the runtime environment, within the develop toolbar, click Application xxxxx



{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}

Step 4.3 – Delete the App

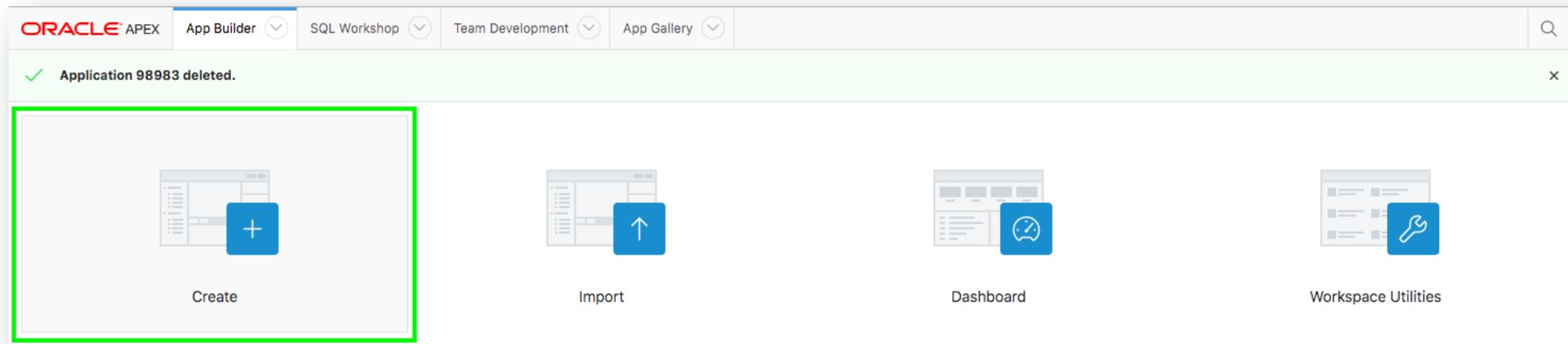
- From the App Home Page, under Tasks, click **Delete this application**



- Click **Permanently Delete Now**

Step 4.4 – Create a new App

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



- Click **New Application**

Step 4.5 – Load Blueprint

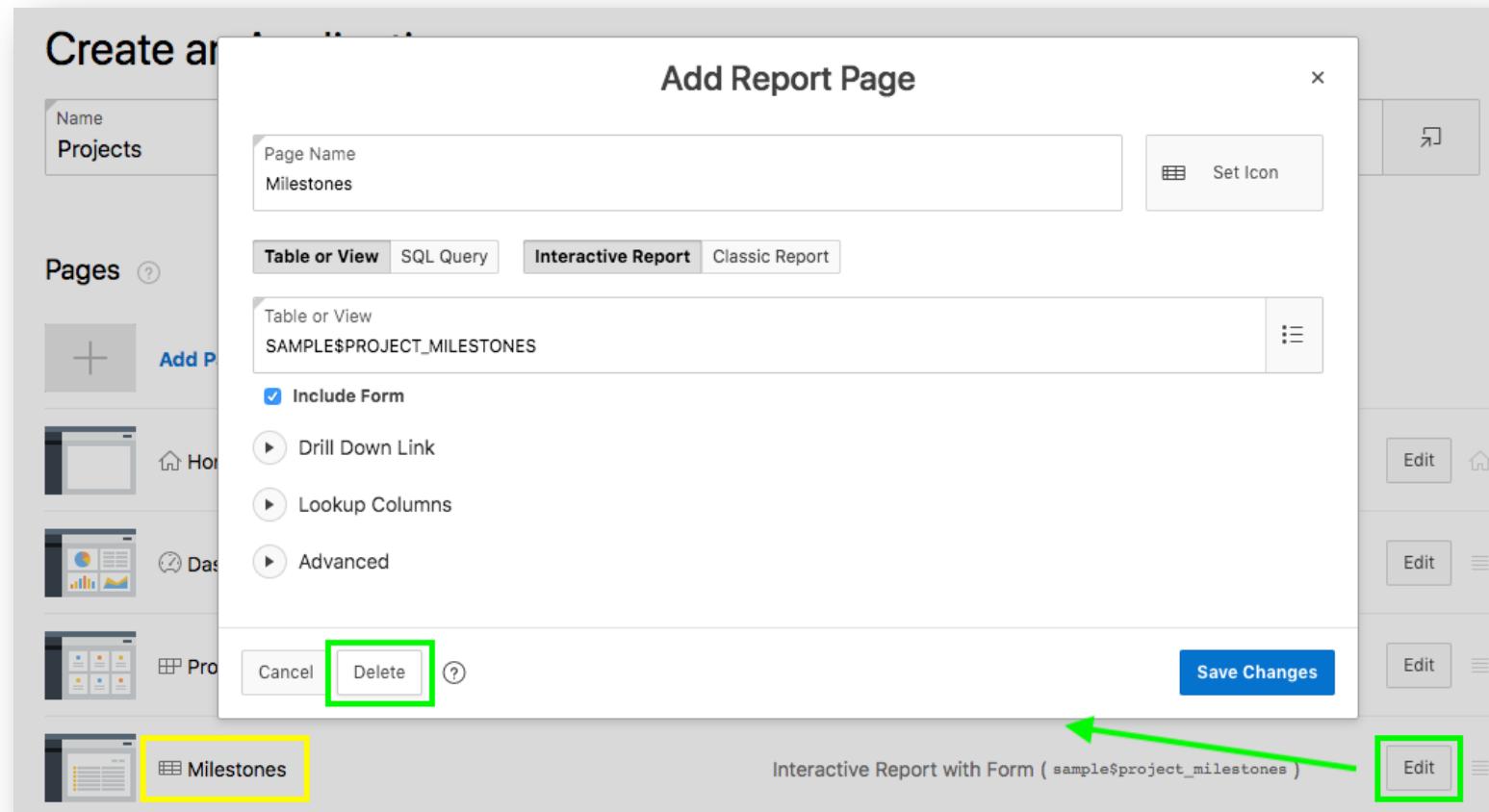
- Click Load Blueprint
- For the latest app generated, click Load



The previously defined app definition will be displayed.

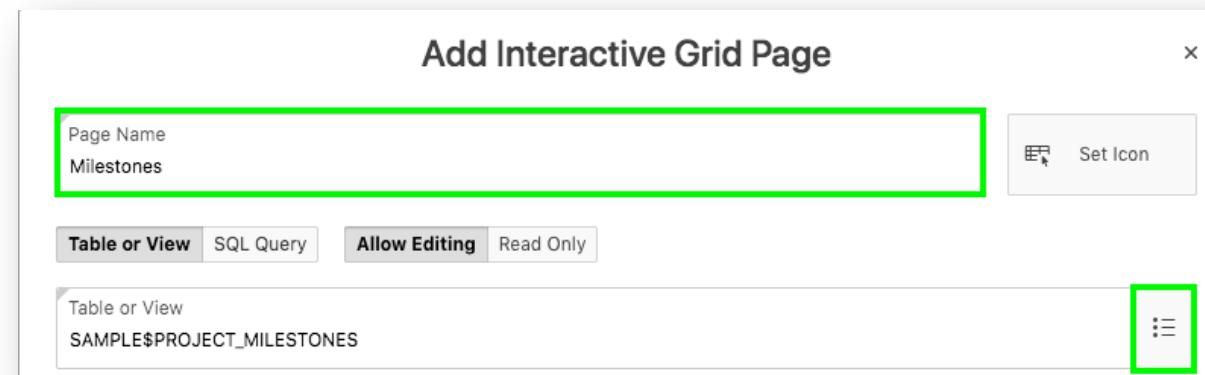
Step 4.6 – Delete the Milestones Report

- In the list of pages, for Milestones, click **Edit**
- Click **Delete**



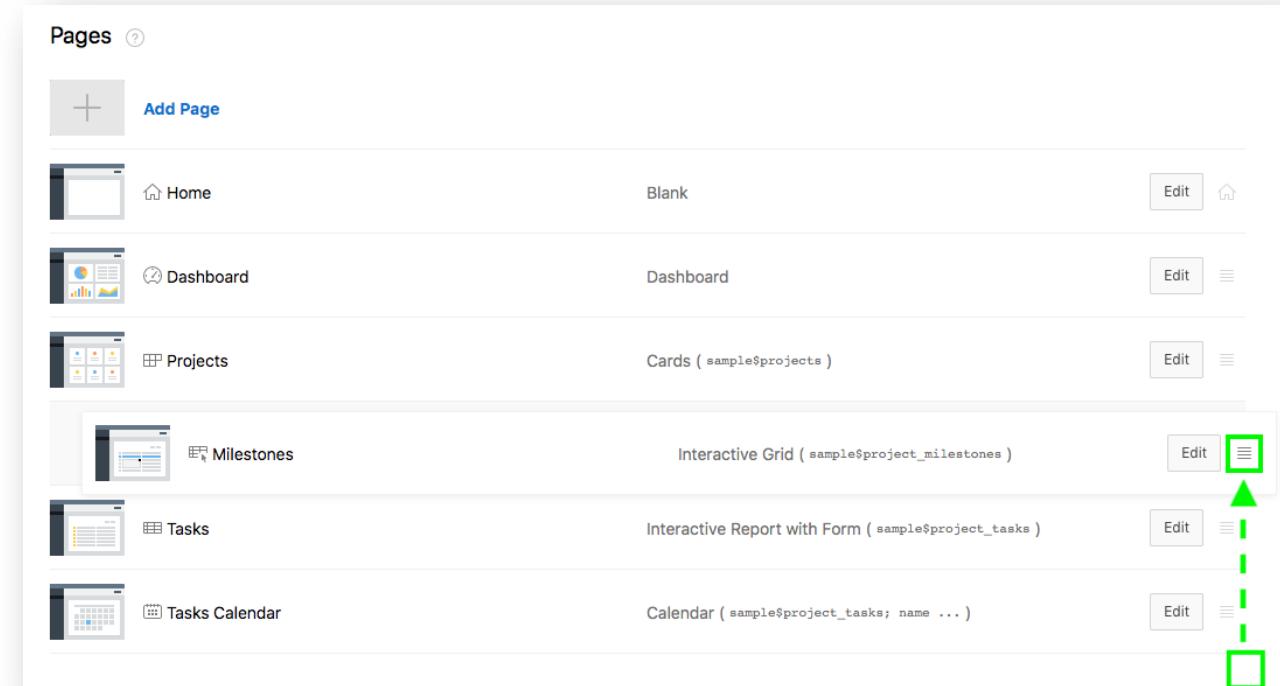
Step 4.7 – Add a new Milestone Page

- Click Add Page
- Click Interactive Grid
- Enter the following:
 - Page Name - enter **Milestones**
 - Table - select **SAMPLE\$PROJECT_MILESTONES**
- Click Add Page



Step 4.8 – Reorder the pages

- 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



- Click **Create Application**

Step 4.9 – App in Page Designer

- Your new application will be displayed in Page Designer
- Click Run Application
- Enter your user credentials
- Navigate to Milestones

The screenshot shows the Oracle Page Designer interface. The left sidebar has a dark theme with the following menu items:

- Home
- Dashboard
- Projects (selected)
- Milestones (selected)
- Tasks
- Tasks Calendar
- Administration

The main content area is titled "Milestones". It contains a sub-header "Milestones" and a table with the following data:

Milestones								
Actions		Search: All Text Columns			Go	Actions	Edit	Save
Project Id	Name	Description	Due Date	Created	Created By	Updated		
1827644601614594...	Train the Trainers	Rather than all devel...	01-MAR-2019	22-MAY-2019 18:34	DPEAKE	22-MAY-2019		
1827644601614594...	All Developers Train...	Train the Trainers wi...	05-MAR-2019	22-MAY-2019 18:34	DPEAKE	22-MAY-2019		

Using Page Designer Updating the Milestones Page

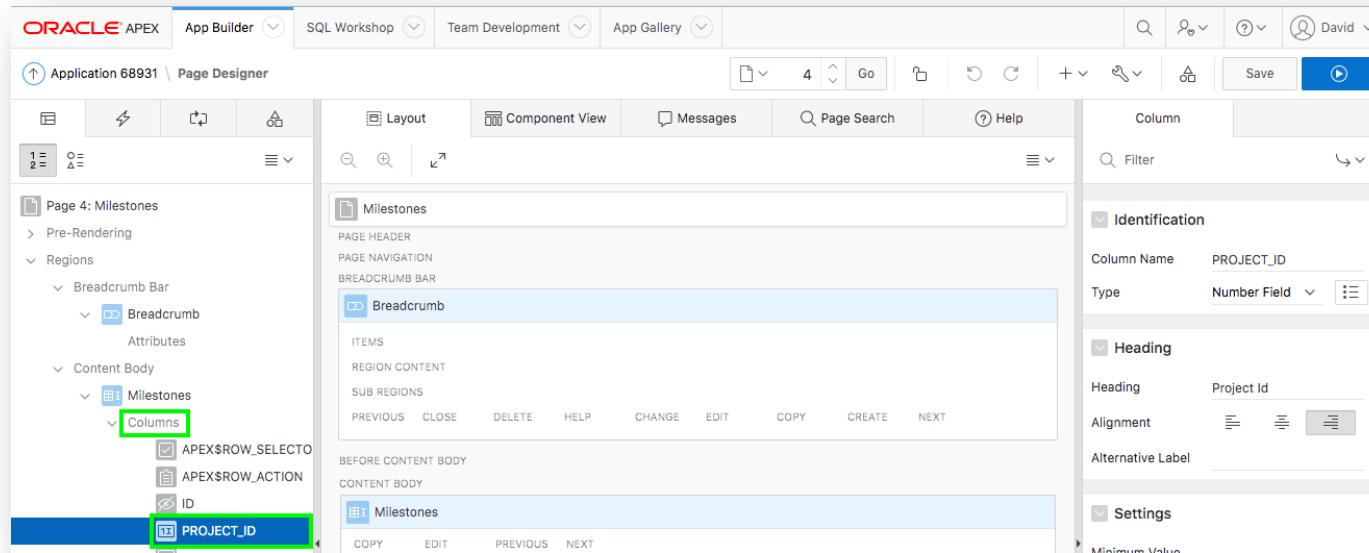
Step 5.1 – Update Project Id

To replace the Project Id with the Project Name, define an LOV

- In the runtime environment, within the developer toolbar, click **Edit Page 4**

Page Designer will be displayed for the Milestones page

- In the Rendering tree (left pane), click **Columns**, click **PROJECT_ID**



Step 5.1b – Update Project Id

- In the Property Editor (right pane), enter the following:
 - Identification > Type – select **Select List**
 - Heading – enter **Project**
 - List of Values > Type – select **SQL Query**
 - SQL Query enter
*select name, id
from sample\$projects
order by 1*
 - Display Extra Values – select **No**
 - Null Display Value – enter - **Select Project** -
- Click **Save**
- Run the application

Step 5.1b – Update Project Id

The screenshot shows the Oracle APEX App Builder interface in the Page Designer mode. The top navigation bar includes links for ORACLE APEX, App Builder (selected), SQL Workshop, Team Development, and App Gallery. The main toolbar has icons for file operations, search, and navigation.

The left sidebar displays the page structure under "Page 4: Milestones". It lists regions like Pre-Rendering, Regions (Breadcrumb Bar, Content Body), and Post-Rendering. In the Content Body region, there is a "Milestones" item which is currently selected. The "Columns" section of this item is open, showing columns: APEX\$ROW_SELECTOR, APEX\$ROW_ACTION, ID, and PROJECT_ID (which is highlighted with a blue selection bar).

The central workspace shows the "Milestones" component configuration. The "Identification" tab is selected, showing the column name PROJECT_ID and its type as "Select List". The "Heading" tab shows the heading "Project". The "List of Values" tab is expanded, showing the type as "SQL Query" and the query:

```
select name, id  
from sample$projects  
order by 1
```

Other settings in the "List of Values" tab include "Display Extra Values" set to "No", "Display Null Value" set to "Yes", and "Null Display Value" set to "- Select Project -".

The top right corner of the interface shows a user profile for "David" and a "Save" button, which is highlighted with a green rectangle.

Step 5.2 – Manage Columns

- In the runtime environment, click Actions, click Columns

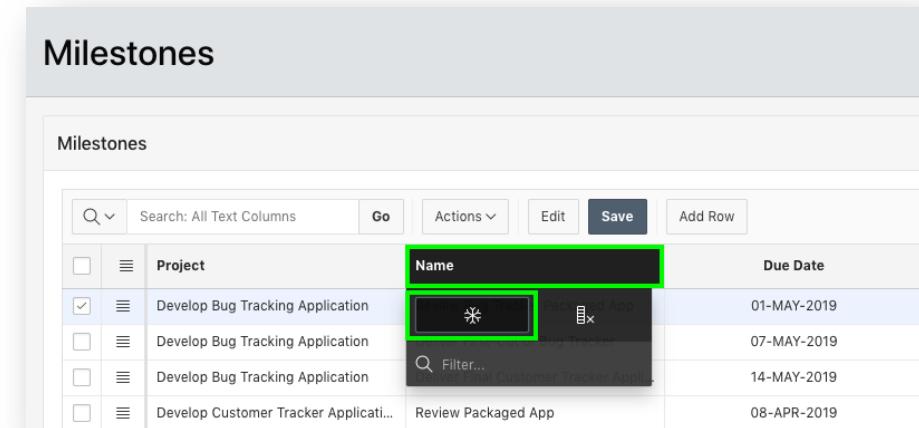
The screenshot shows the Oracle Projects application interface. On the left, there's a sidebar with navigation links: Home, Dashboard, Projects, Milestones (which is selected and highlighted in blue), Tasks, Tasks Calendar, and Administration. The main content area is titled 'Milestones' and displays a table of milestones. At the top of the table, there's a toolbar with search, filter, and column-related buttons. A green box highlights the 'Actions' dropdown menu, which is currently open, showing options like 'Edit', 'Save', 'Add Row', and 'Columns'. Below the toolbar is a table header with columns: Project, Name, Date, Created, Created By, Updated, and Updated By. Two rows of data are visible: one for 'Develop Bug Tr...' and another for 'Deliver First-Cu...'. The 'Created' and 'Updated' columns contain placeholder text 'Y-2019'.

- Uncheck **Created**, **Created By**, **Updated**, and **Updated By**
- Select **Due Date**, click the Up Arrow
- Click **Save**

This screenshot shows the 'Columns' configuration dialog box. It has two main sections: 'Displayed' and 'Column'. In the 'Displayed' section, the 'Due Date' checkbox is checked and highlighted with a green box. In the 'Column' section, there is a list of columns: Due Date, Description, Created, Created By, Updated, and Updated By. The 'Created', 'Created By', 'Updated', and 'Updated By' checkboxes are unselected and highlighted with green boxes. At the bottom of the dialog, there are up and down arrow buttons for reordering, and a 'Save' button which is also highlighted with a green box.

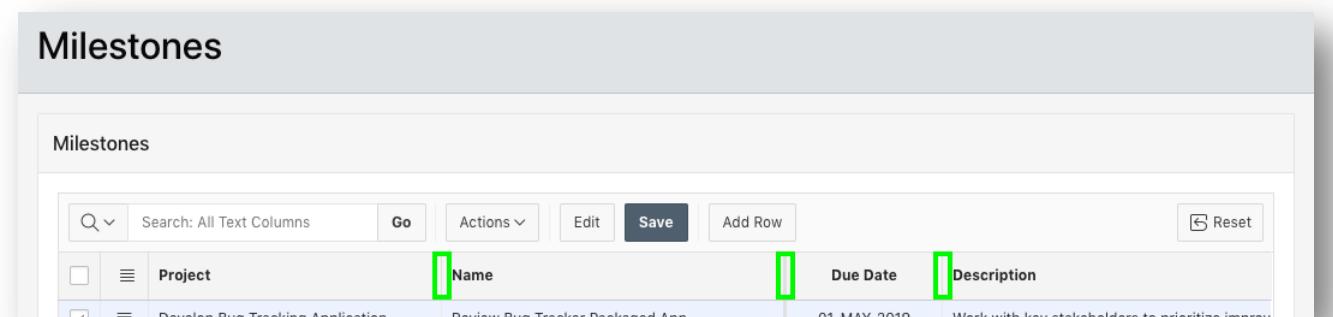
Step 5.3 – Freeze and Resize Columns

- Click the column heading Name
- Click Freeze



Milestones		
<input type="text"/> Search: All Text Columns <input type="button" value="Go"/> Actions <input type="button" value="Edit"/> <input type="button" value="Save"/> Add Row		
<input type="checkbox"/>	Project	Name
<input type="checkbox"/>	Develop Bug Tracking Application	Review Bug Tracker Packaged App
<input type="checkbox"/>	Develop Bug Tracking Application	01-MAY-2019
<input type="checkbox"/>	Develop Bug Tracking Application	07-MAY-2019
<input type="checkbox"/>	Develop Customer Tracker Application	14-MAY-2019
<input type="checkbox"/>	Develop Customer Tracker Application	08-APR-2019

- Hover between the Project and Name columns until a bar displays
- Drag to the right until the Project resizes to a suitable size
- Repeat for other columns



Milestones				
<input type="text"/> Search: All Text Columns <input type="button" value="Go"/> Actions <input type="button" value="Edit"/> <input type="button" value="Save"/> Add Row <input type="button" value="Reset"/>				
	Project	Name	Due Date	Description
<input type="checkbox"/>	Develop Bug Tracking Application	Review Bug Tracker Packaged App	01-MAY-2019	Work with key stakeholders to prioritize improvements.

Step 5.4 – Save the Report

- Click Actions, select Report, click Save

The screenshot shows the Oracle Project Management interface. On the left, a sidebar menu under the 'Projects' header includes Home, Dashboard, Projects, Milestones (which is selected and highlighted with a blue background), Tasks, Tasks Calendar, and Administration. The main content area is titled 'Milestones' and contains a sub-section titled 'Milestones'. At the top of this section are several buttons: a magnifying glass icon, a search bar with placeholder 'Search: All Text Columns', a 'Go' button, an 'Actions' dropdown menu (highlighted with a green box), an 'Edit' button, a 'Save' button, and an 'Add Row' button. Below these buttons is a table with columns for 'Project', 'Due Date', and 'Status'. The table lists various projects with their due dates and status indicators. At the bottom of the table, there are buttons for 'Filter', 'Data', 'Format', 'Selection', 'Chart', 'Report' (highlighted with a green box), and 'Save' (highlighted with a green box). The 'Report' button has a dropdown arrow pointing to the 'Save' button.

The screenshot shows the Oracle Project Management interface again. The top navigation bar is visible with the 'Projects' header. The main content area is titled 'Milestones'. A green rectangular callout box highlights a success message in the top right corner: 'Default report saved for all users' with a checkmark icon. The rest of the interface is mostly dark, indicating a night mode or a specific theme.

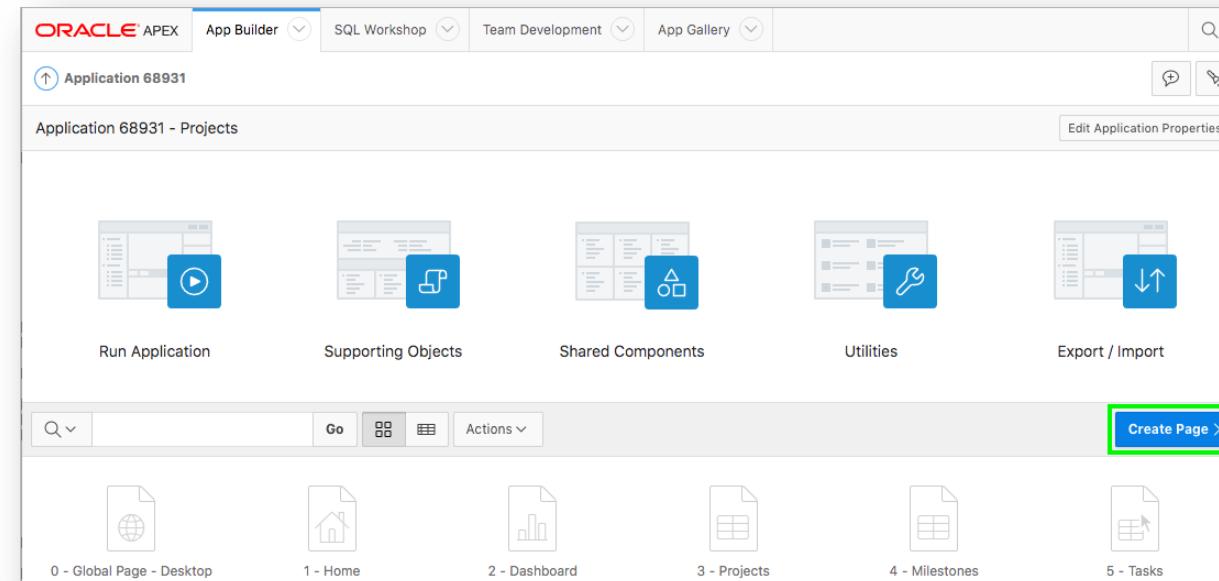
Creating a page to update project records

Add the Project Form Page

Step 6.1 – Adding a Page

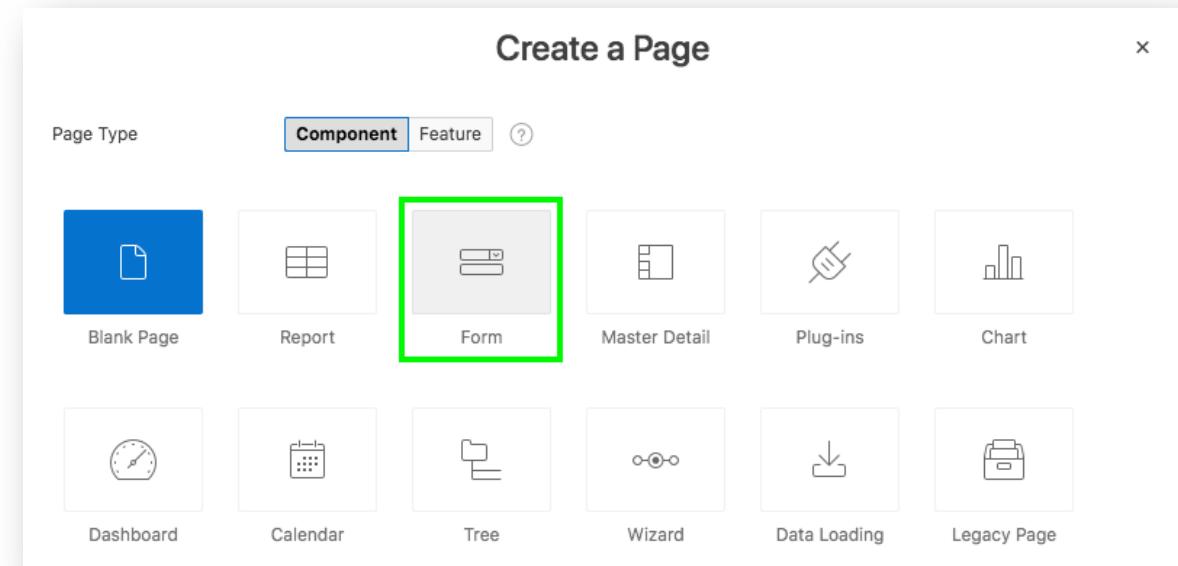
There is no form page to manage Projects details

- In the runtime environment, within the developer toolbar, click **Application xxxxx**
- In the Application Home Page, click **Create Page**

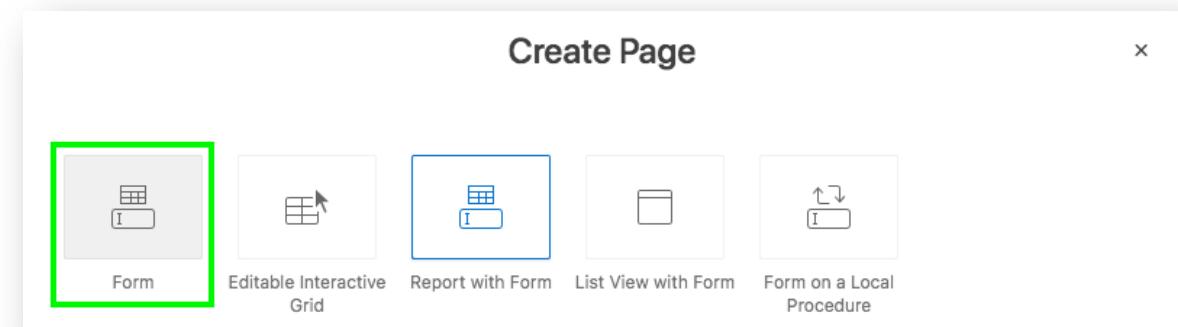


Step 6.1b – Adding a Page

- In the wizard, click Form



- Click Form



Step 6.1c – Adding a Page

- Enter the following:
 - Page Name – enter **Maintain Project**
 - Page Mode – select **Modal Dialog**
 - Breadcrumb – select **Breadcrumb**
 - Parent Entry – select **Projects (Page 3)**
- Click **Next**

Create Form

Page Attributes

* Page Number 8

* Page Name **Maintain Project**

Page Mode Normal **Modal Dialog**

Page Group - Select Page Group -

Breadcrumb **Breadcrumb**

Parent Entry **Projects (Page 3)**

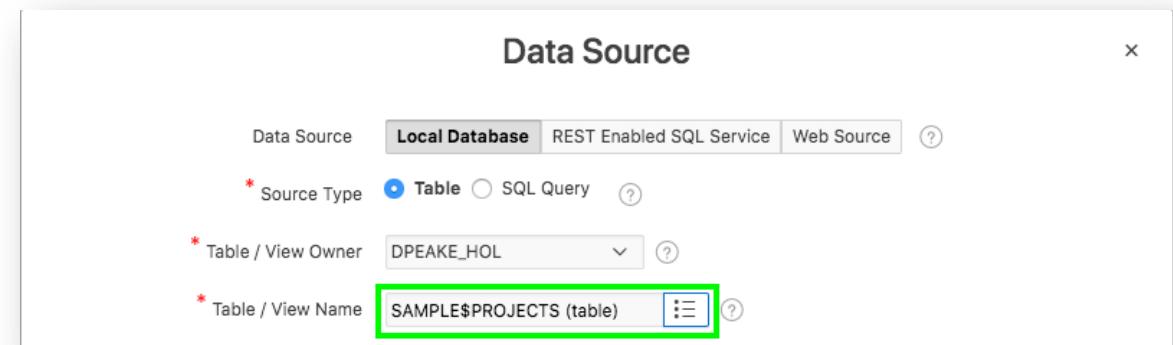
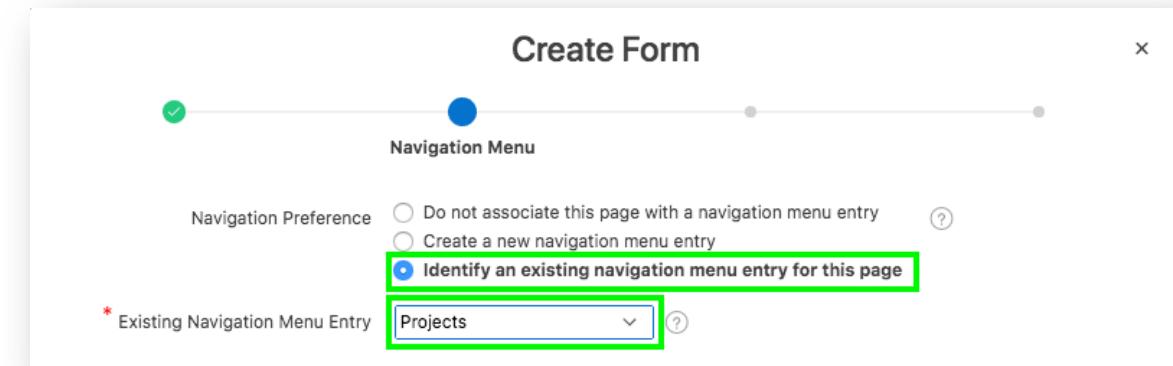
Entry Name **Maintain Project**

< Cancel Next >

The screenshot shows the 'Create Form' dialog with the 'Page Attributes' tab selected. The 'Page Name' field contains 'Maintain Project' and is highlighted with a green border. The 'Page Mode' dropdown is set to 'Modal Dialog' and is also highlighted with a green border. The 'Breadcrumb' dropdown is set to 'Breadcrumb'. The 'Parent Entry' dropdown is set to 'Projects (Page 3)'. The 'Entry Name' field is also highlighted with a yellow border. At the bottom, there are '<' and 'Cancel' buttons, and a 'Next >' button which is also highlighted with a green border.

Step 6.1d – Adding a Page

- For Navigation Preference, select **Identify an existing navigation menu entry for this page**
 - For Existing Navigation Menu Entry, select **Projects**
 - Click **Next**
-
- For Table/ View Name, select **SAMPLE\$PROJECTS (table)**
 - Click **Next**



Step 6.1e – Adding a Page

- For Primary Key Column, select ID (Number)
- Click Create

Create Form - Columns and Primary Key

* Select Columns to be displayed in the form [?](#)

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

Primary Key Column - Select Column - [▼](#)

Secondary Key Column [- Select Column - ▼](#)

[Cancel](#) [Create](#)

Columns available to be selected:
ID (Number)
STATUS_ID (Number)
NAME (Varchar2)
DESCRIPTION (Varchar2)
PROJECT_LEAD (Varchar2)
BUDGET (Number)
COMPLETED_DATE (Date)
CREATED (Timestamp_Ltz)
CREATED_BY (Varchar2)

Step 6.2 – Update the Status Item

- In the Property Editor, in the Rendering tree (right pane), select **P8_STATUS_ID**
- In the Property Editor (right pane), enter the following:
 - Identification > Type select **Select List**
 - Label > Label enter **Status**
 - List of values > Type select **SQL Query**
 - SQL Query enter
**select code, id from sample\$project_status
order by display_order**
 - Display Extra Values click **No**
 - Null Display Value enter – **Select Status -**

Step 6.2b – Update the Status Item

The screenshot shows the Oracle APEX App Builder interface for a page named "Maintain Project". The "Page Item" section on the right is configured for a "Select List" item named "P8_STATUS_ID". The "Label" is set to "Status". The "List of Values" section shows a SQL query to select from a sample table:

```
select code, id  
from sample$project_status  
order by display_order
```

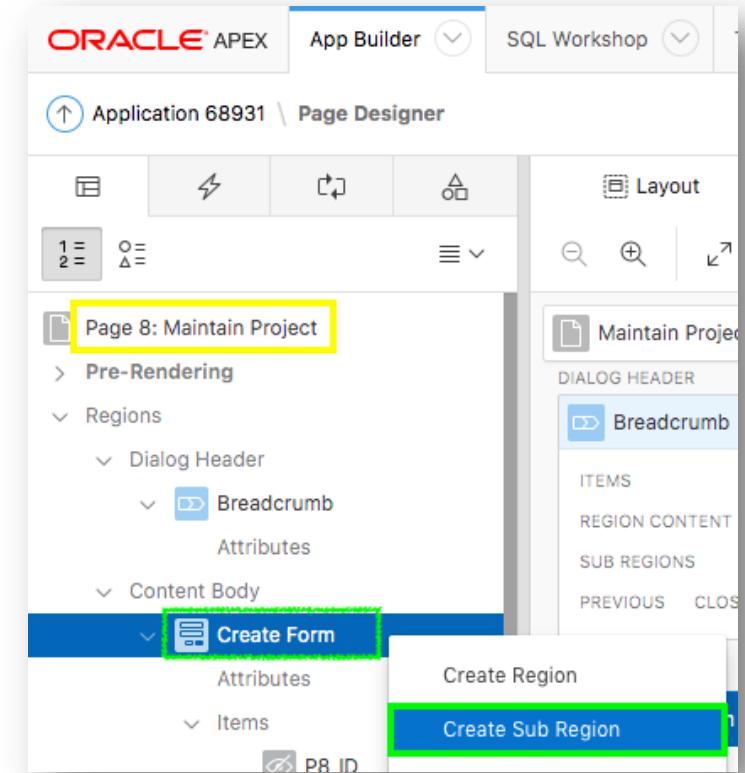
The "Null Display Value" is set to "- Select Status -". The "Type" is set to "SQL Query".

In the left sidebar, the "Content Body" region contains a "Create Form" with items "P8_ID" and "P8_STATUS_ID". The "Buttons" section includes "CANCEL" and "DELETE" buttons.

Step 6.3 – Create the Audit Details Region

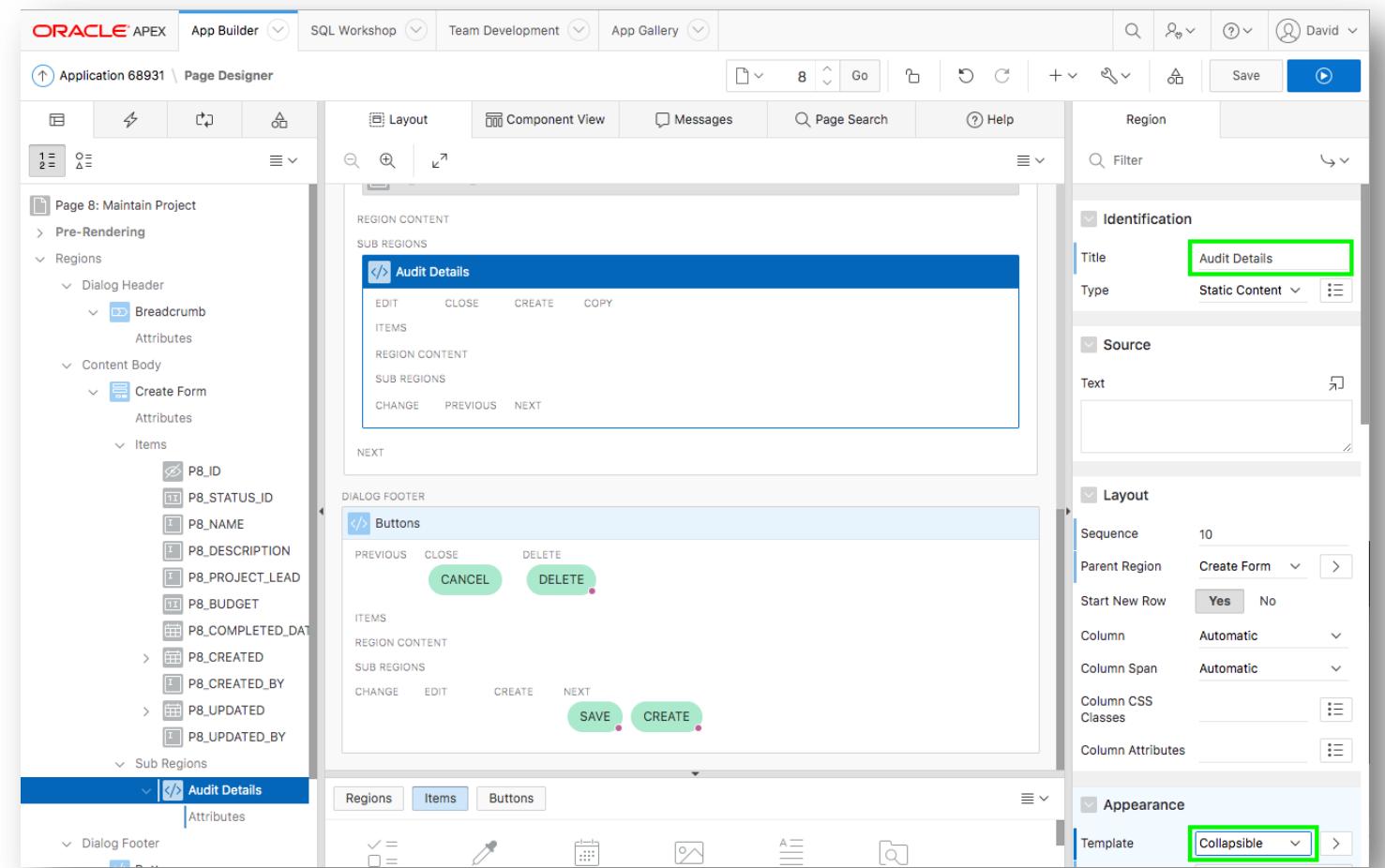
The Created, Created By, Updated, and Updated By columns should be moved into a collapsible region and made display only as they maintained by a trigger on the table.

- In Page Designer, right-click on **Create Form**
- Click **Create Sub Region**



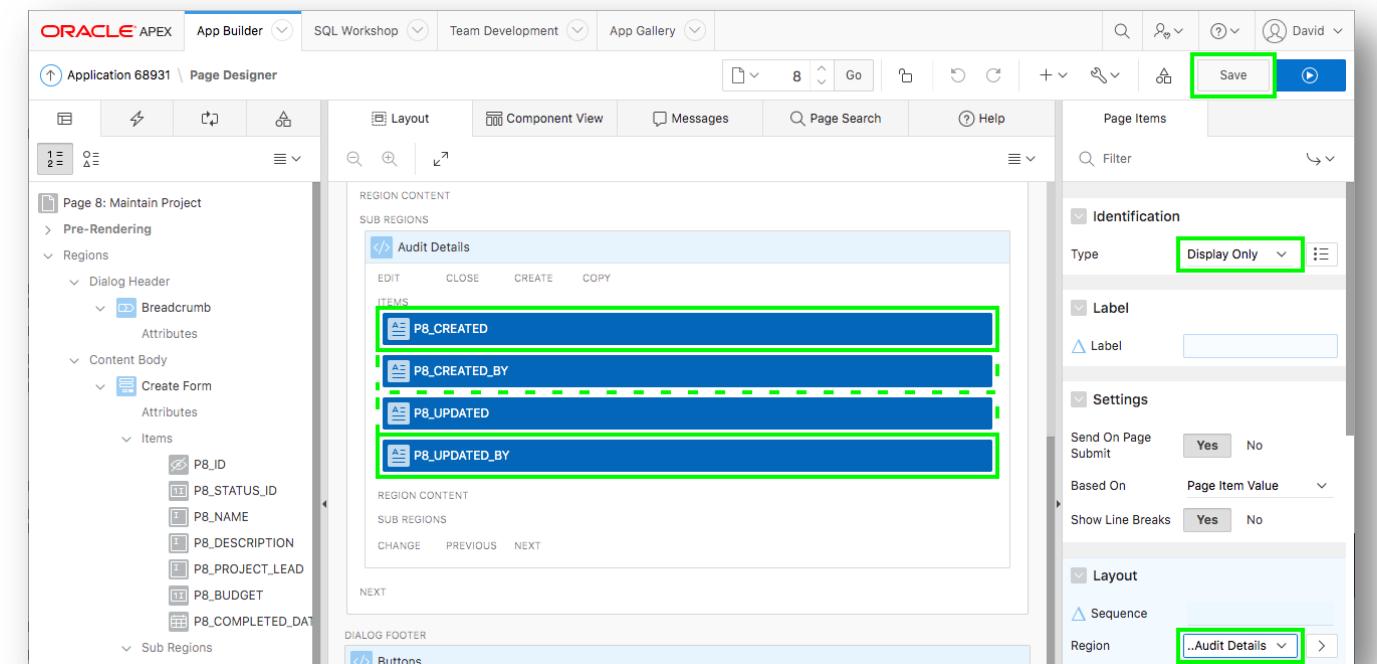
Step 6.3b – Create the Audit Details Region

- In the Property Editor (right pane), enter the following:
 - Identification > Name enter **Audit Details**
 - Appearance > Template select **Collapsible**



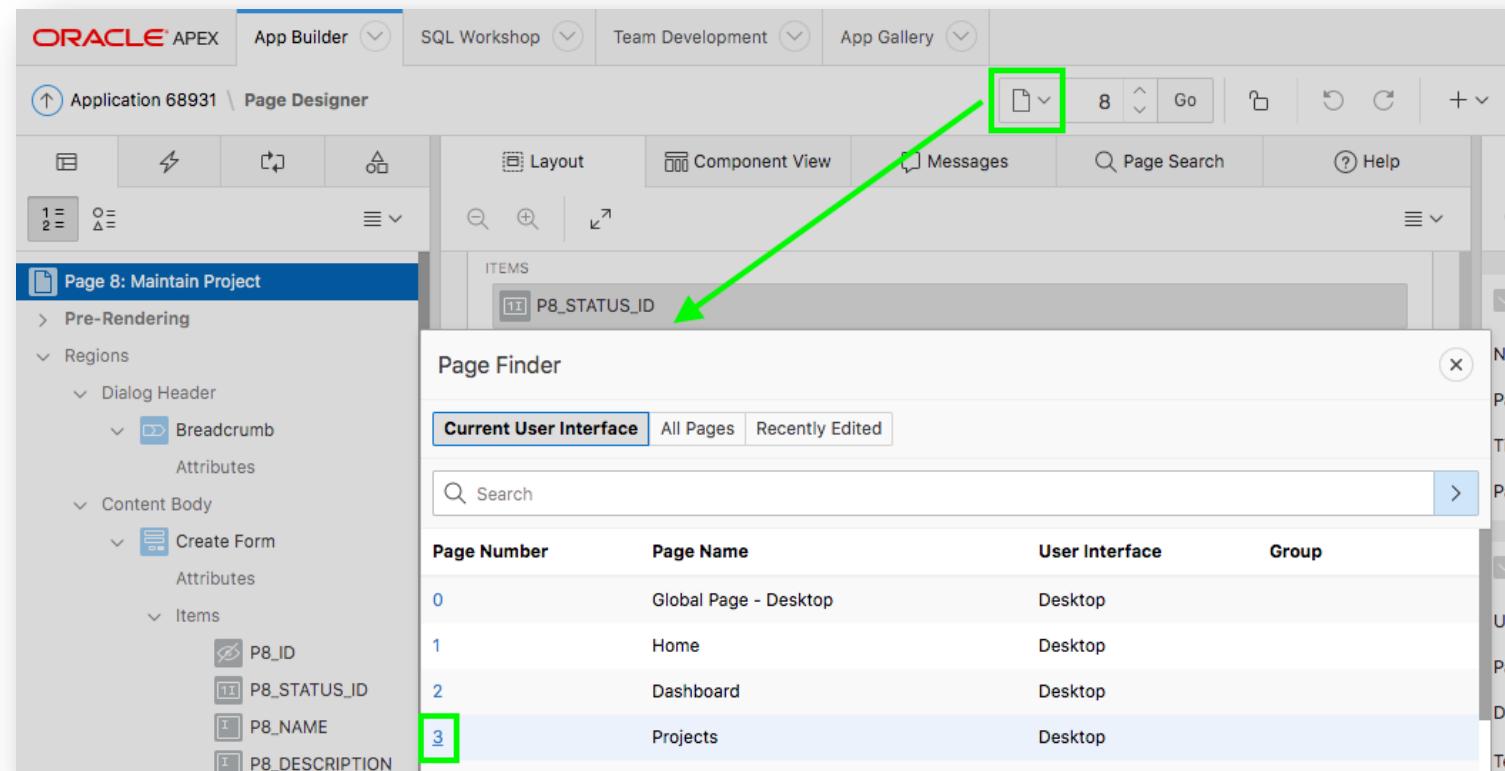
Step 6.4 – Move the audit columns

- In Layout (center pane), select **P8_CREATED**
- Hold the **<Shift>** key and click **P8_CREATED_BY**, click **P8_UPDATED**, and click **P8_UPDATED_BY**
- In the Property Editor (right pane), enter the following:
 - Identification > Type
select **Display Only**
 - Layout > Region
select **..Audit Details**
- Click **Save**



Step 6.5 – Link to Projects Page

- In the Application Toolbar, click the page selector in front of the page number (8)
- Click 3, for the Projects page



Step 6.5b – Link to Projects Page

- In the Rendering tree (left pane), select **Projects**
- In the Property Editor (right pane), click **Code Editor**
- For the CARD_LINK selection, input the following:
`apex_util.prepare_url('f?p='||:APP_ID||':8'||:APP_SESSION||'::::P8_ID:'||id)`
CARD_LINK,

{*f?p=* is the call to an APEX page;

:APP_ID is the Application Id;

8 is the target page (Project form page);

:APP_SESSION is the current user's session;

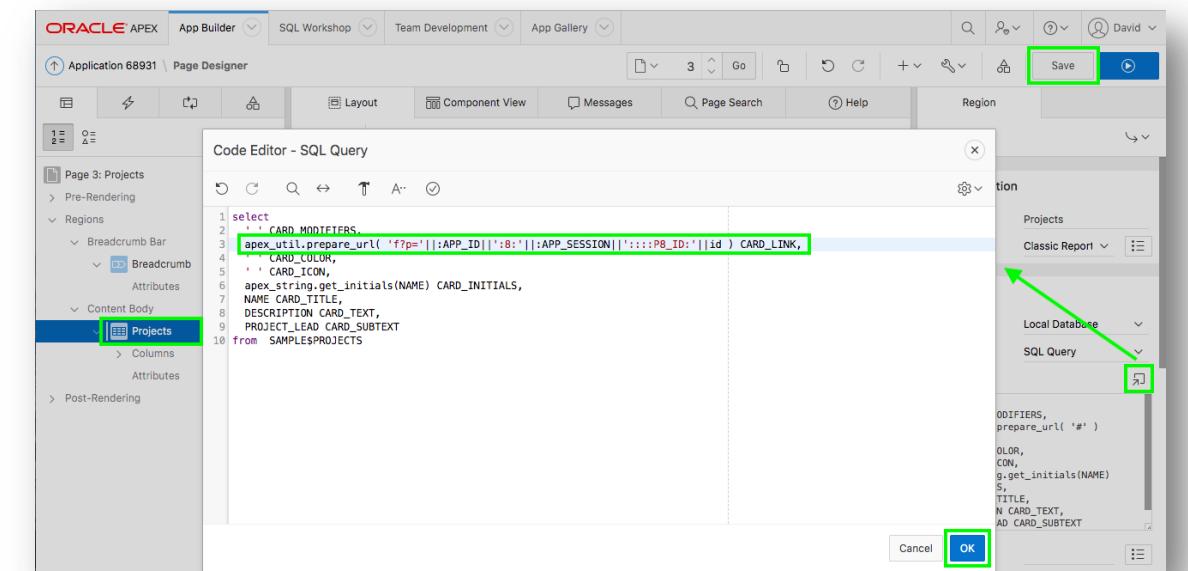
P8_ID is an item on the target page;

id is the primary key from the Projects table

}

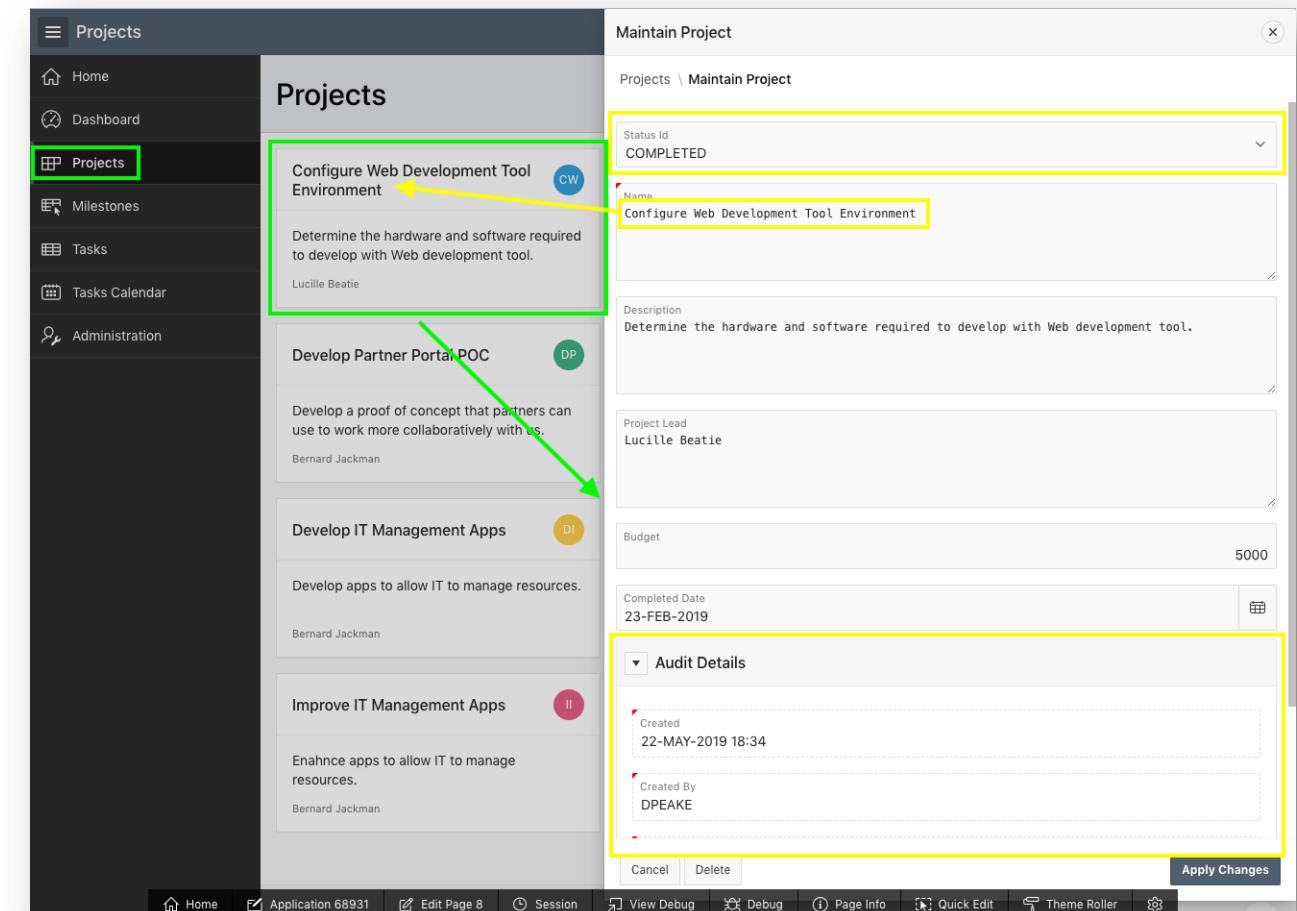
- Click **OK**

- Click **Save**



Step 6.6 – Test the Project Pages

- In the runtime environment, within the Navigation Menu (left-side) click **Projects**
- Click a card record to display the corresponding record in the form page
- Make changes and click **Apply Changes**, or click **Cancel**



Improving Usability Updating the Task Pages

Step 7.1 – Improving the Report

- In the runtime environment, within the Navigation Menu, click **Tasks**
- In the Develop Toolbar (bottom of the screen), click **Edit Page 5**

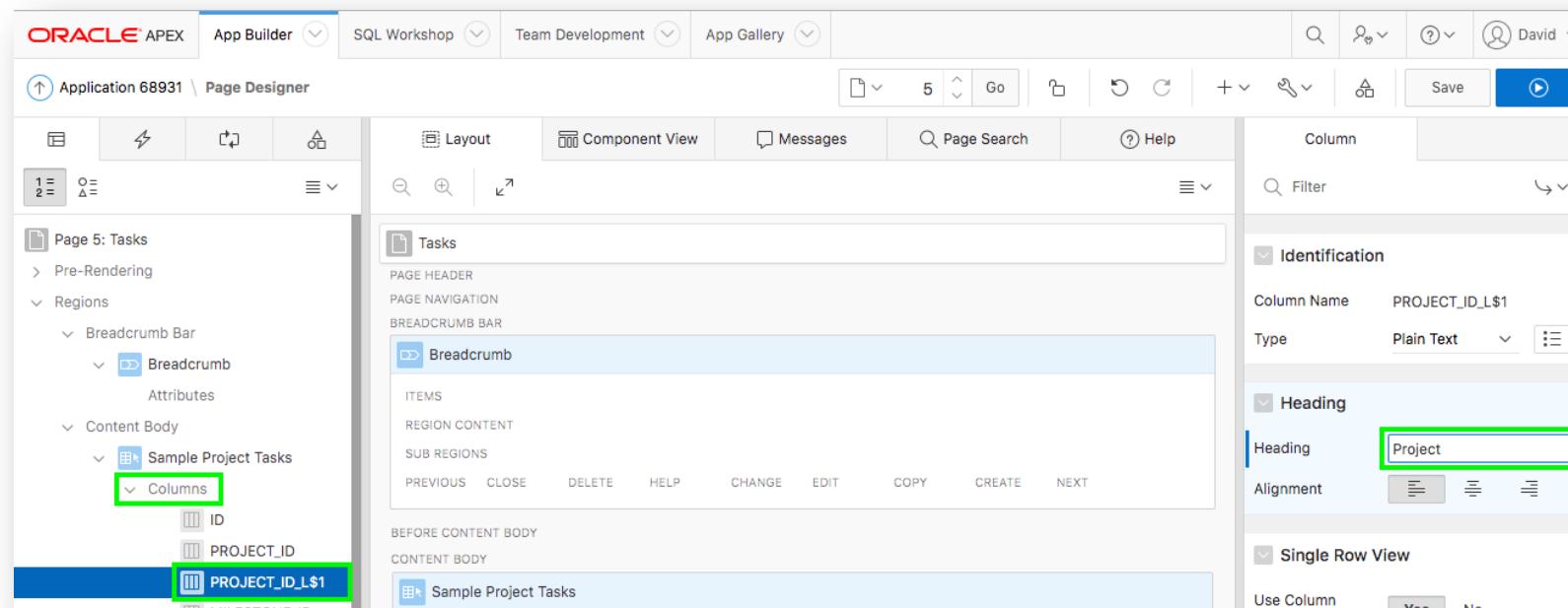
The screenshot shows the Oracle Application Development Environment (ADE) interface. On the left, a navigation menu is visible with the following items: Home, Dashboard, Projects, Milestones, Tasks (which is highlighted with a green box), Tasks Calendar, and Administration. The main content area is titled "Tasks". It features a search bar with a dropdown menu, a "Go" button, and an "Actions" dropdown. Below the search bar is a toolbar with "Reset" and "Create" buttons. A table lists six tasks:

Project Id	Milestone Id	Name	Description	Assignee	Start Date	End Date	Cost	Is Complete
Configure Web Development Tool Environment	-	Define Workspaces	Define workspaces needed for different application development teams. It is important that access be granted to the necessary schemas and/or new schemas created as appropriate. Then export these workspaces and import them into QA and Production environments.	Mei Yu	23-FEB-2019	23-FEB-2019	500	Y
Configure Web Development Tool 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	23-FEB-2019	23-FEB-2019	250	N
Configure Web Development Tool 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	19-FEB-2019	20-FEB-2019	2,000	Y
Configure Web Development Tool 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	21-FEB-2019	21-FEB-2019	1,000	Y
Configure Web Development Tool Environment	-	Configure Web Listeners	Configure the three Web Listeners for Web development tool to support the Dev, QA, and Prod environments.	Harold Youngblood	21-FEB-2019	21-FEB-2019	500	Y
Configure Web Development Tool Environment	-	Configure Web development tool Instance Administration Settings	Set the appropriate security and configuration settings for the development instance using specified tools. Also set instance settings for QA and Production using the available APIs.	Bernard Jackman	22-FEB-2019	22-FEB-2019	500	Y

At the bottom of the screen, the Develop Toolbar is visible with various icons and buttons. The "Edit Page 5" button is highlighted with a green box. Other buttons include Home, Application 68931, Session, View Debug, Debug, Page Info, Quick Edit, Theme Roller, and Help.

Step 7.1b – Improving the Report

- In Page Designer, within the Rendering tree (left panel), under Sample Project Tasks region, click **Columns**
- Click **PROJECT_ID_L\$1**
- In the Property Editor (right pane), for Heading enter **Project**



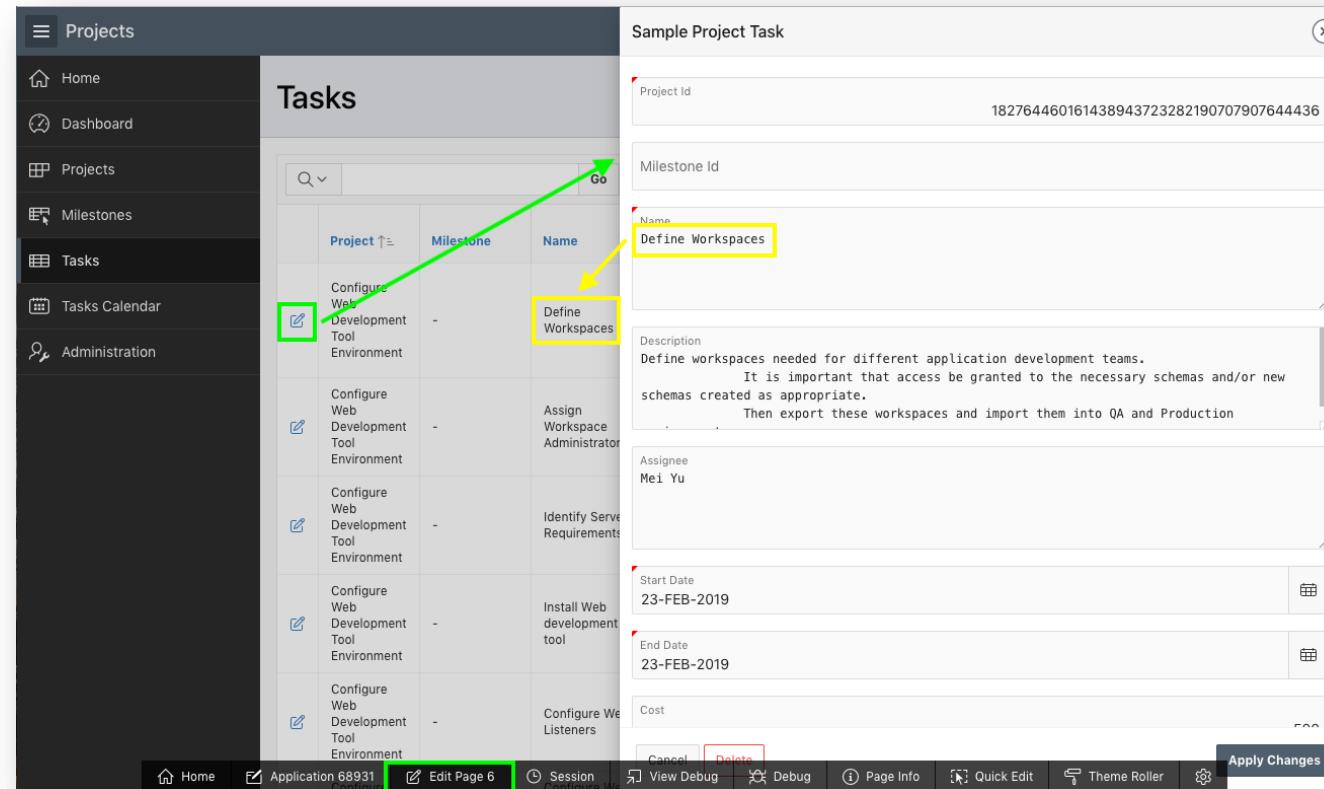
Step 7.1c – Improving the Report

- In the Rendering tree (left panel), click **MILESTONE_ID_L\$1**
- In the Property Editor (right pane), for Heading enter **Milestone**
- In the Rendering tree (left panel), click **IS_COMPLETE_YN**
- In the Property Editor (right pane), for Heading enter **Complete?**
- Click **Save**

Project	Milestone	Name	Description	Assignee	Start Date	End Date	Cost	Complete?
Configure Web Development Tool Environment	-	Define Workspaces	Define workspaces needed for different application development teams. It is important that access be granted to the necessary schemas and/or new schemas created as appropriate. Then export these workspaces and import them into QA and Production environments.	Mei Yu	23-FEB-2019	23-FEB-2019	500	Y

Step 7.2 – Adding Select Lists

- In the runtime environment, click the edit icon for a Task
- In the Develop Toolbar (bottom of the screen), click **Edit Page 6**



Step 7.2b – Adding Select Lists

- In Page Designer, within the Rendering tree (left panel), click **P6_PROJECT_ID**
- In the Property Editor (right pane), enter the following:
 - Identification > Type select **Select List**
 - Label > Label enter **Project**
 - List of values > Type select **SQL Query**
 - SQL Query enter
**select name, id from sample\$projects
order by 1**
 - Display Extra Values click **No**
 - Null Display Value enter – **Select Project -**

Step 7.2c – Adding Select Lists

The screenshot shows the Oracle APEX App Builder interface for a page named "Sample Project Task". The left sidebar displays the page structure with regions like "Content Body" and "Dialog Footer". In the "Content Body" region, there is a "Sample Project Task" item which contains several items: "P6_PROJECT_ID", "P6_MILESTONE_ID", and "P6_NAME". The "P6_PROJECT_ID" item is highlighted with a red box. The right panel shows the configuration for this item under the "Identification" section. The "Name" is set to "P6_PROJECT_ID", the "Type" is set to "Select List" (highlighted with a green box), and the "Label" is "Project" (also highlighted with a green box). Below this, the "List of Values" section is configured with "SQL Query" selected (highlighted with a green box) and the query: `select name, id from sample$projects order by 1`. The "Display Extra Values" option is set to "No" (highlighted with a green box). The "Null Display Value" is set to "- Select Project -" (highlighted with a green box). At the bottom of the configuration panel, there are tabs for "Regions", "Items" (which is selected), and "Buttons".

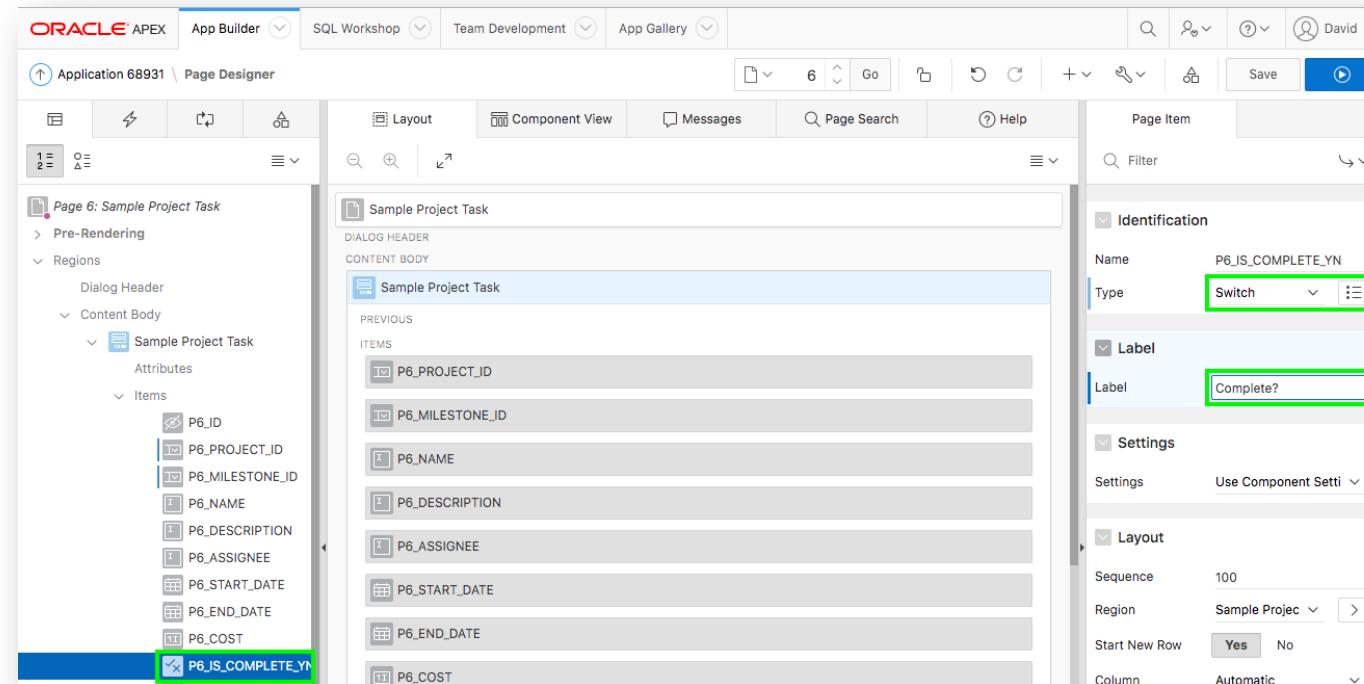
Step 7.2d – Adding Select Lists

- In Page Designer, within the Rendering tree (left panel), click **P6_MILESTONE_ID**
- In the Property Editor (right pane), enter the following:
 - Identification > Type select **Select List**
 - Label > Label enter **Milestone**
 - List of values > Type select **SQL Query**
 - SQL Query enter

```
select name, id from sample$project_milestones
order by 1
```
 - Display Extra Values click **No**
 - Null Display Value enter – **Select Milestone -**

Step 7.3 – Updating Is Complete

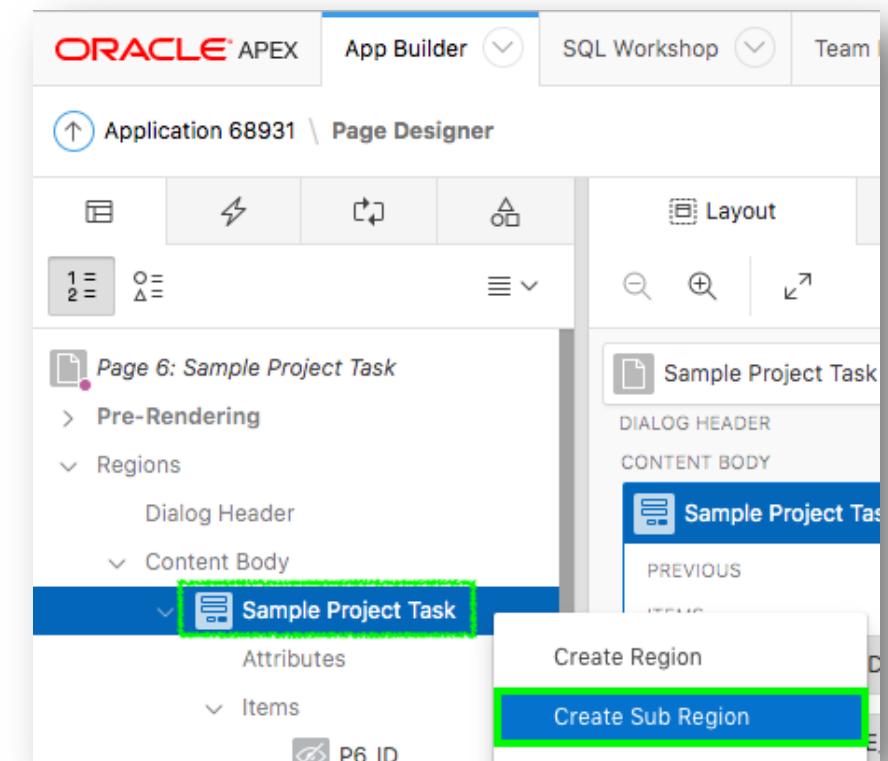
- In the Rendering tree (left panel), click P6_IS_COMPLETE_YN
- In the Property Editor (right pane), enter the following:
 - Identification > Type select **Switch**
 - Label > Label enter **Complete?**



Step 7.4 – Create the Audit Details Region

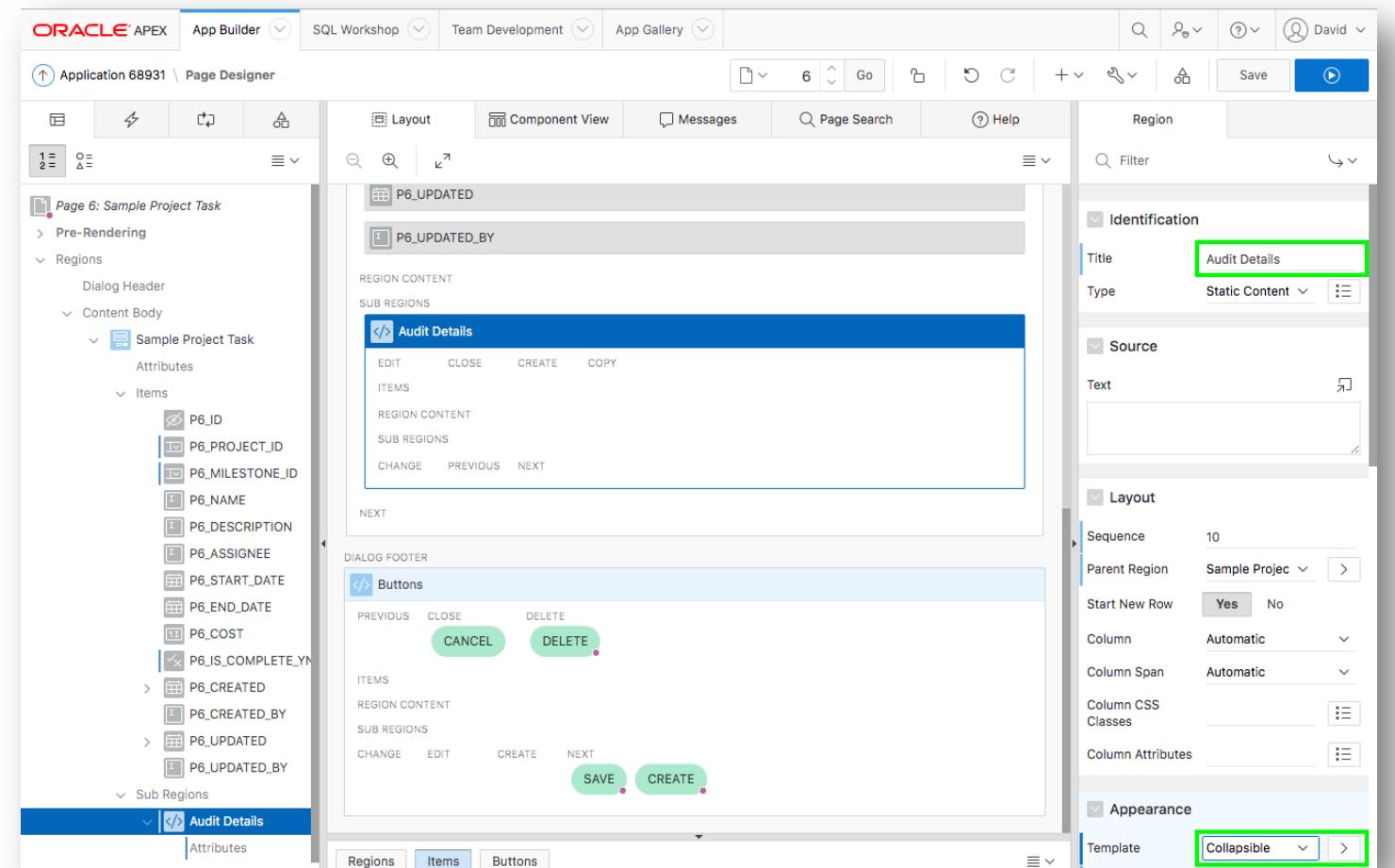
The Created, Created By, Updated, and Updated By columns should be moved into a collapsible region and made display only as they maintained by a trigger on the table.

- Right-click on **Sample Project Tasks**
- Click **Create Sub Region**



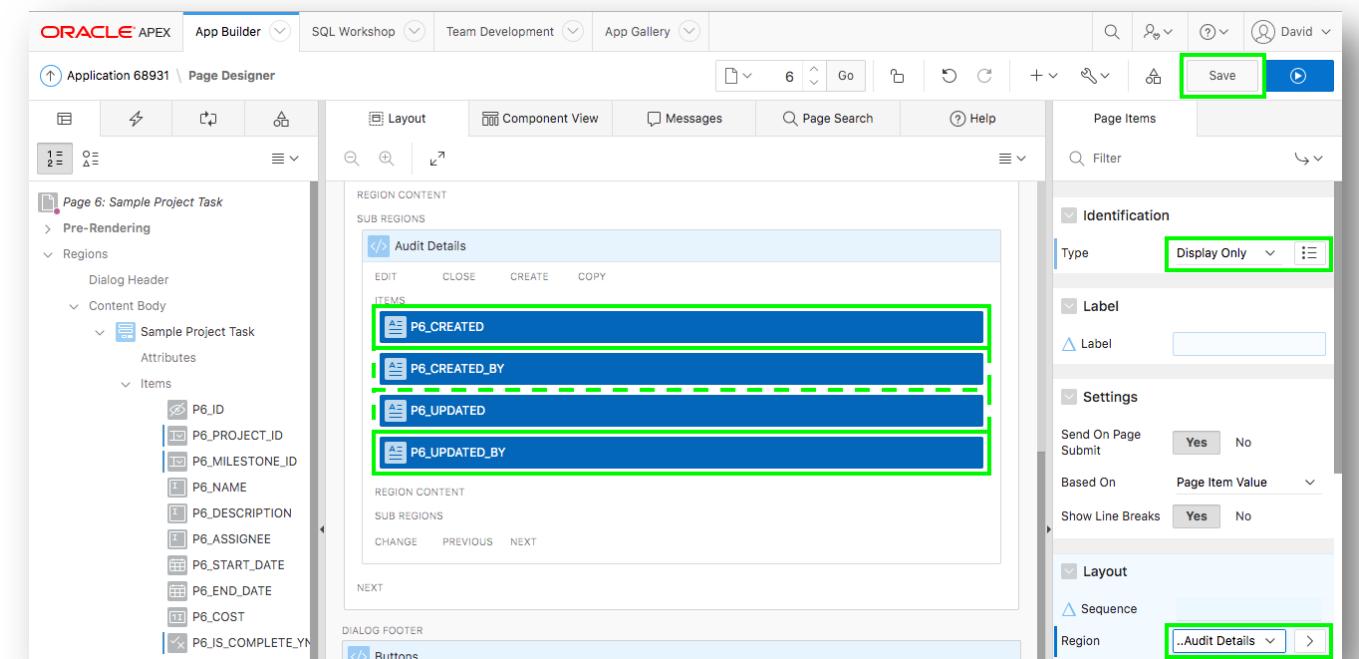
Step 7.4b – Create the Audit Details Region

- In the Property Editor (right pane), enter the following:
 - Identification > Name enter **Audit Details**
 - Appearance > Template select **Collapsible**



Step 7.5 – Move the audit columns

- In Layout (center pane), select P6_CREATED
- Hold the <Shift> key and click P6_CREATED_BY, click P6_UPDATED, and click P6_UPDATED_BY
- In the Property Editor (right pane), enter the following:
 - Identification > Type
select **Display Only**
 - Layout > Region
select ..Audit Details
- Click Save



Step 7.6 – Review the Page

- Navigate back to the runtime environment, and refresh the browser
- Click the edit icon for a Task

Note: The date items include a date picker and the numeric item (Cost) gives an error when saving if non-numeric values are entered

The screenshot shows a modal dialog titled "Sample Project Task". The dialog contains the following fields:

- Project:** Configure Web Development Tool Environment
- Milestone:** - Select Milestone -
- Name:** Define Workspaces
- Description:** Define workspaces needed for different application development teams.
It is important that access be granted to the necessary schemas and/or new schemas created as appropriate.
Then export these workspaces and import them into QA and Production
- Assignee:** Mei Yu
- Start Date:** 23-FEB-2019
- End Date:** 23-FEB-2019
- Cost:** 500
- Complete?** Yes (selected)
- Audit Details:** (This section is collapsed, indicated by a minus sign)

At the bottom of the dialog are buttons for **Cancel**, **Delete** (highlighted with a red border), and **Apply Changes**.

Linking pages

Link the Calendar to the Tasks Form Page

Step 8.1 – Adding a Link

- In the runtime environment, within the Navigation Menu, click **Tasks Calendar**
- Clicking on any entry simply displays the event details

The screenshot shows the Oracle Project Management application interface. The top navigation bar includes a 'Projects' icon, a search bar, and user information. The left sidebar has a dark background with white icons and text for 'Home', 'Dashboard', 'Projects', 'Milestones', 'Tasks', and 'Tasks Calendar'. The 'Tasks Calendar' item is highlighted with a green rectangular box. The main content area is titled 'Tasks Calendar' and shows a calendar for 'May 2019'. The days of the week are labeled from Sunday to Saturday. Specific tasks are listed for each day. On May 7, a task titled 'Design Bug Tracker Look and Feel' is listed, and a yellow rectangular box highlights this entry. When clicked, it expands to show more details: 'Define external bug data feeds' and the date 'May 1 - 2, 2019'. Other tasks visible include 'Define Admin Screens for Customer Success App' (May 28), 'Design production screens for revised IT Management apps' (May 29), 'Create New Tables' (May 11), and 'Monitor IT Staff on IT Management Apps' (May 10).

Step 8.1b – Adding a Link

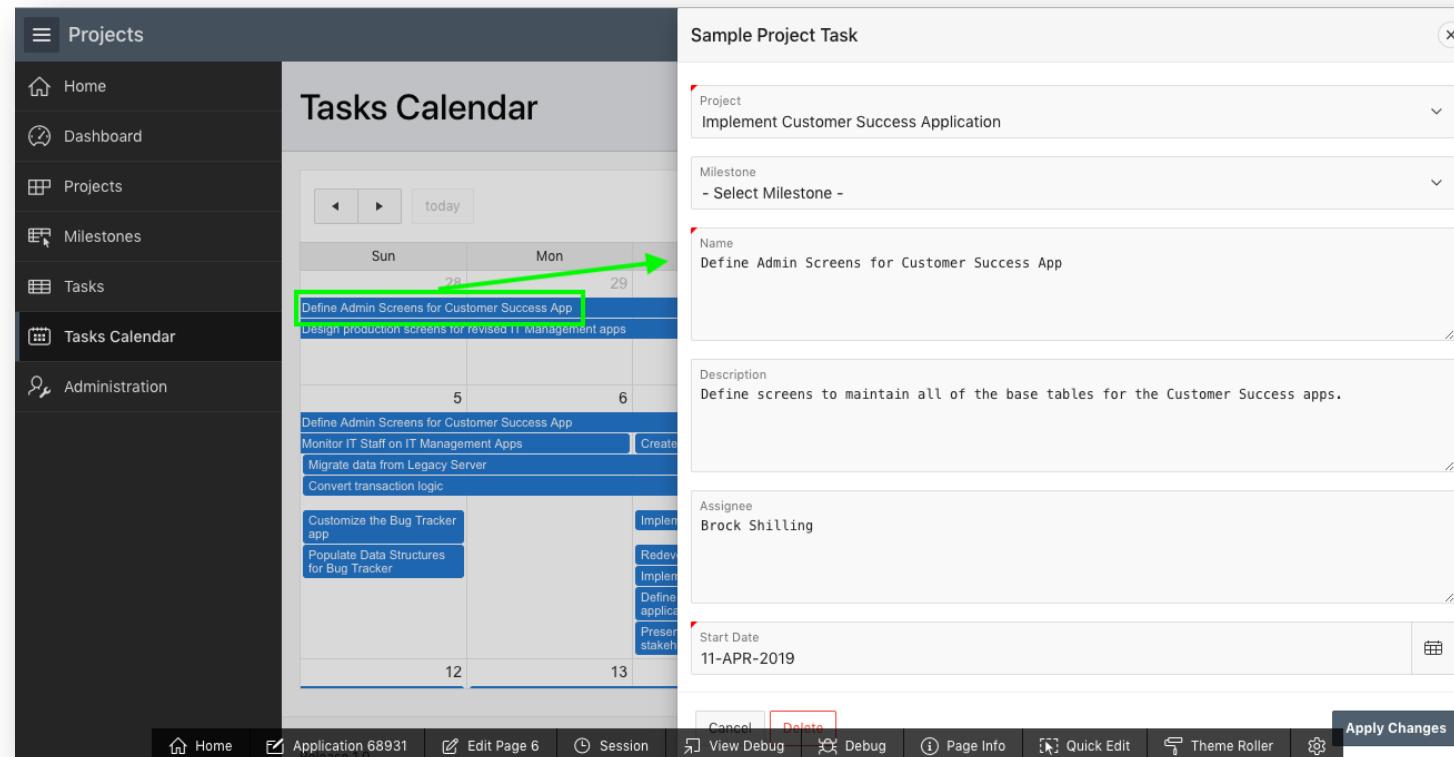
- In the Developer Toolbar (bottom of page), click **Edit Page 7**
- In Page Designer, within the Rendering tree (left pane), under **Tasks Calendar** region, click **Attributes**
- For Settings > View / Edit Link click **No Link Defined**
- In the Link Builder, enter the following:
 - Target > Page select **6**
 - Set Items > Name select **P6_ID**
 - Set Items > Value select **ID {Returns &ID.}**
 - Clear Cache enter **6**
- Click **OK**
- Click **Save**

Step 8.1c – Adding a Link

The screenshot shows the Oracle APEX App Builder interface. On the left, the navigation pane displays the application structure for "Page 7: Tasks Calendar". The "Attributes" tab is selected. In the center, the "Link Builder - View / Edit Link" dialog is open. The "Target" section shows "Type: Page in this application" and "Page: 6". The "Set Items" section contains a table with one row: Name "P6_ID" and Value "&ID.". The "Clear Session State" section has a checked checkbox for "Clear Cache" with value "6". At the bottom right of the dialog are "Cancel", "Clear", and "OK" buttons, with "OK" highlighted by a green box. On the far right, the "Attributes" panel shows settings for the "Tasks Calendar" item, including "Display Column: NAME", "Start Date Column: START_DATE", and "End Date Column: END_DATE". The "Create Link" and "View / Edit Link" fields both show "No Link Defined". The top right corner of the APEX interface shows a user profile for "David".

Step 8.2 – Run the Application

- Navigate back to the runtime environment, and refresh the browser
- Click a calendar entry



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