

ORACLE®

Oracle APEX Hands-On Lab

Creating an App from a Spreadsheet
for Oracle Autonomous Cloud Service

July, 2019 (v19.1.3)

Step Up to
Modern Cloud
Development



Overview

This lab walks you through uploading a spreadsheet into an Oracle database table, and then creating an application based on this new table. You will then play with the Interactive Report and improve the attached form. Lastly, you will add a Calendar page and then link it to the existing form page.

Rather than trying to email a spreadsheet to gather information from different people, simply create an app in minutes, and email the URL. This single source-of-truth, multi-user, secured, scalable app is so much better than having 20 (incomplete) spreadsheets!

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>

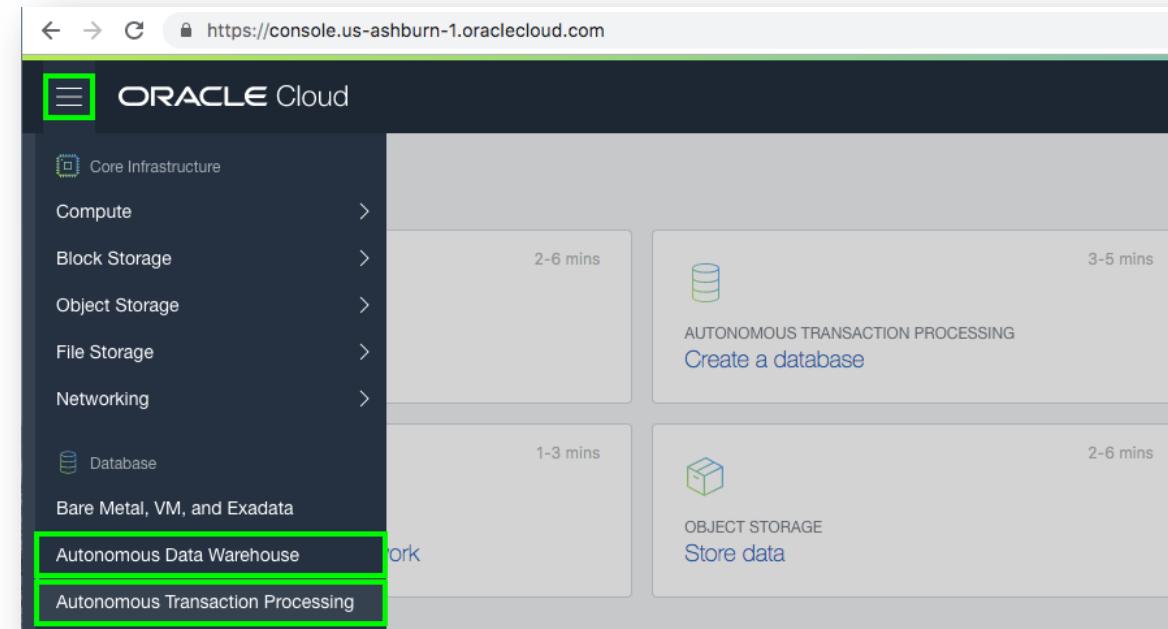
Getting Started

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 displayed. To the right, there's a "Service Console" button highlighted with a green border. The "General Information" section shows "Database Name: dpeake" and "Workload Type: Transaction Processing".

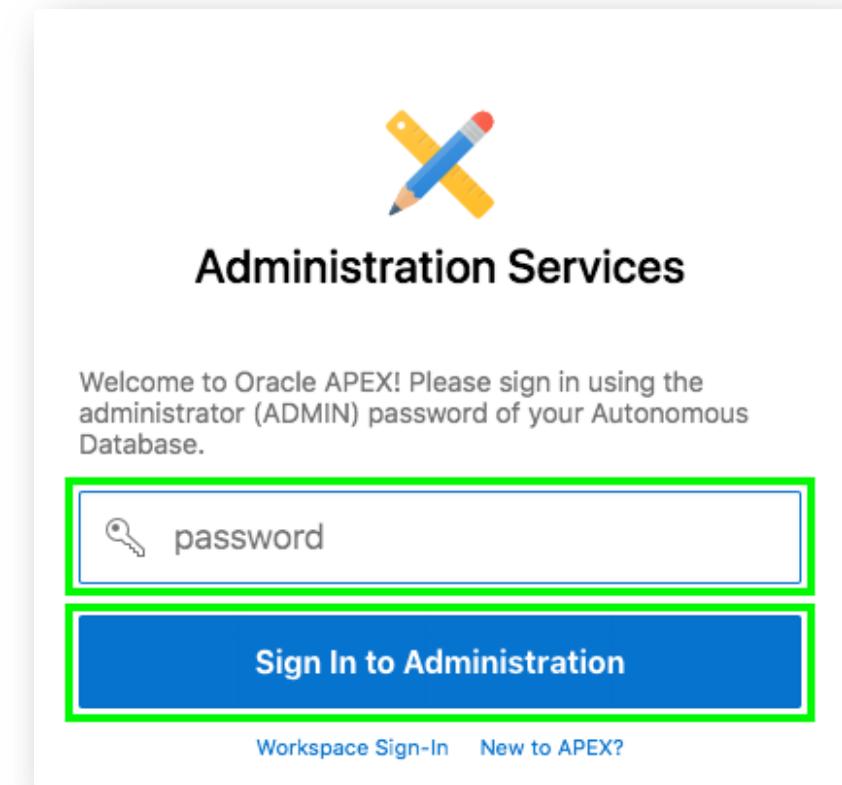
Step 1.1c – Accessing APEX

- 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, **Development**, and DATABASE DPEAKE. The Development link is highlighted with a green box. The main content area has four cards. The first card, titled "APEX", is also highlighted with a green box. It contains the text: "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." The other three cards are: "SQL Developer Web" (describing Oracle SQL Developer Web), "OML Notebooks" (describing Oracle Machine Learning Notebooks), and "Download Oracle Instant Client" (describing the Oracle Instant Client tools). Each card has an information icon (i) in the top right corner.

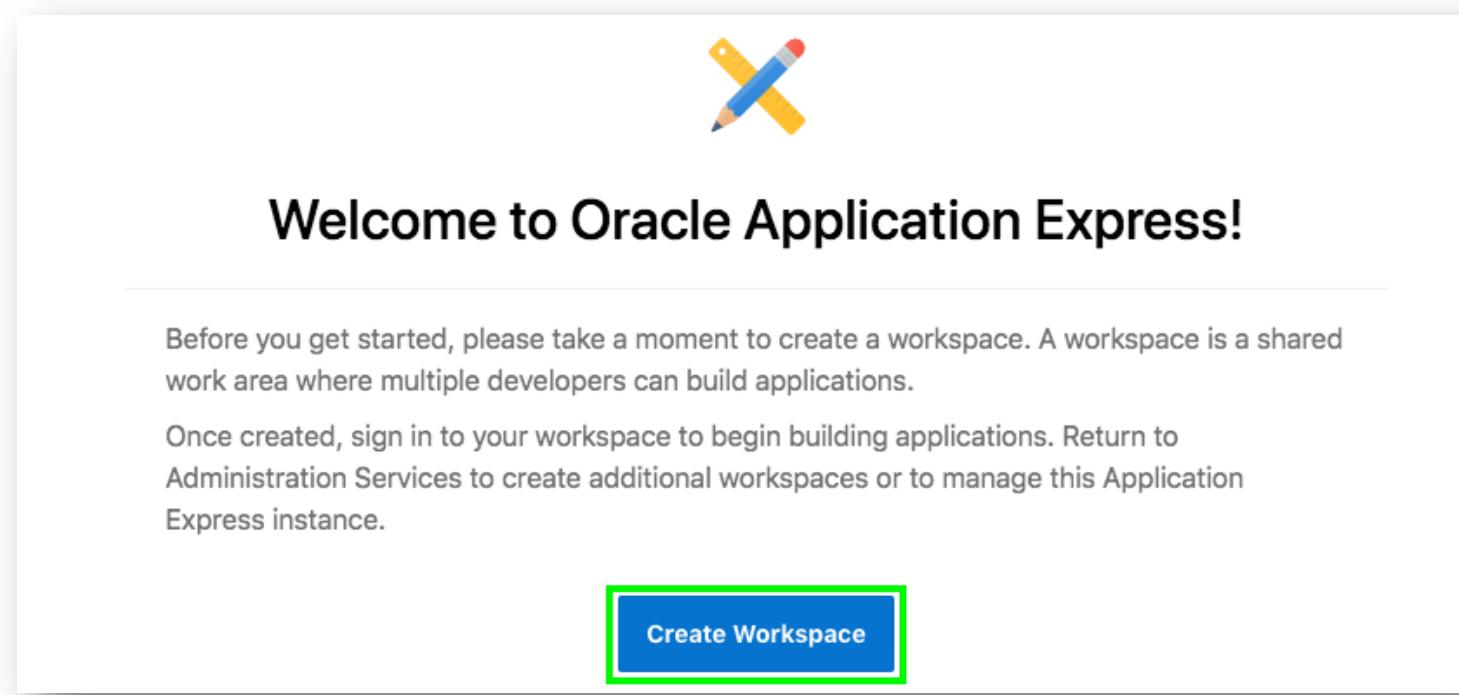
Step 1.2 – Creating a Workspace

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



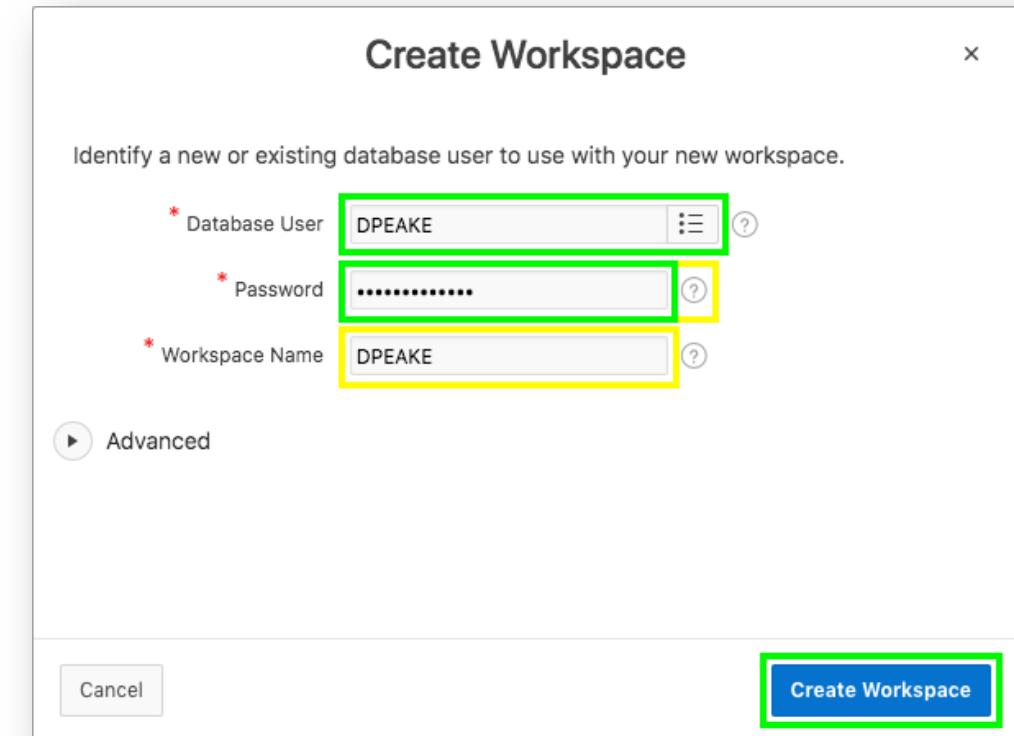
Step 1.2b – Creating a Workspace

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



Step 1.2c – Creating a Workspace

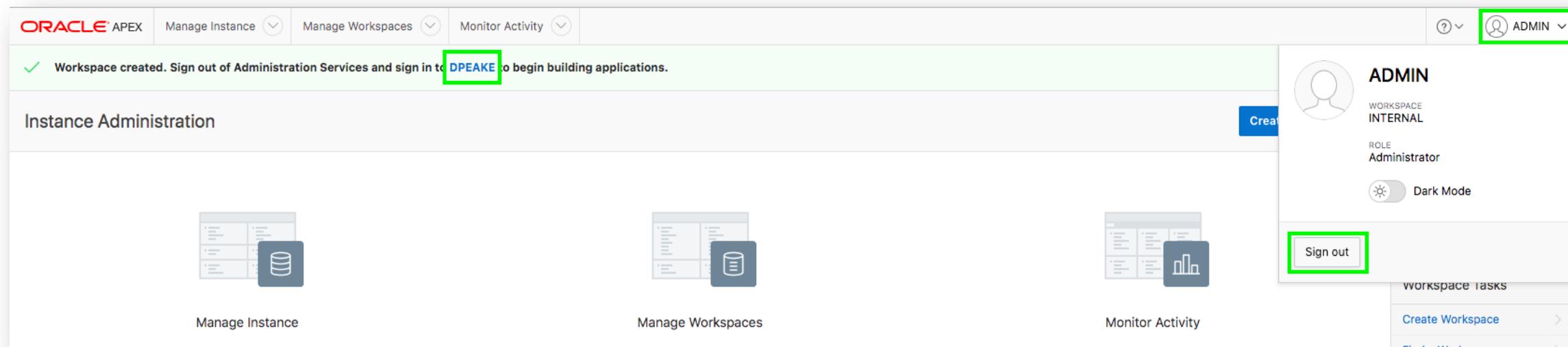
- For Database User enter an appropriate name
- Enter a Password {Click the ? Icon to see password complexity rules}
- Click **Create Workspace**



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

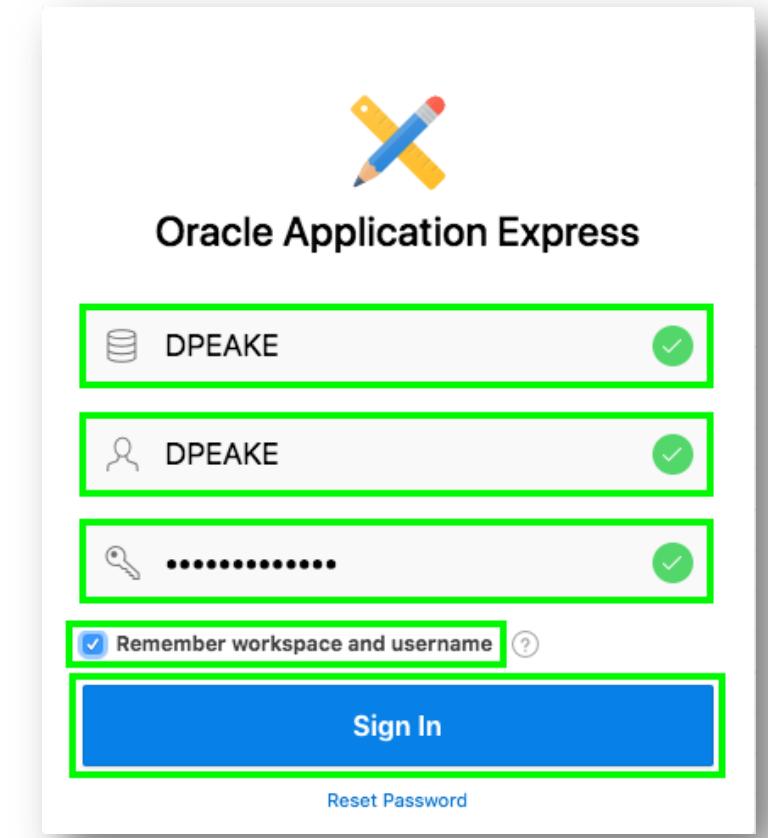
Step 1.3 – Log into your New Workspace

- 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**



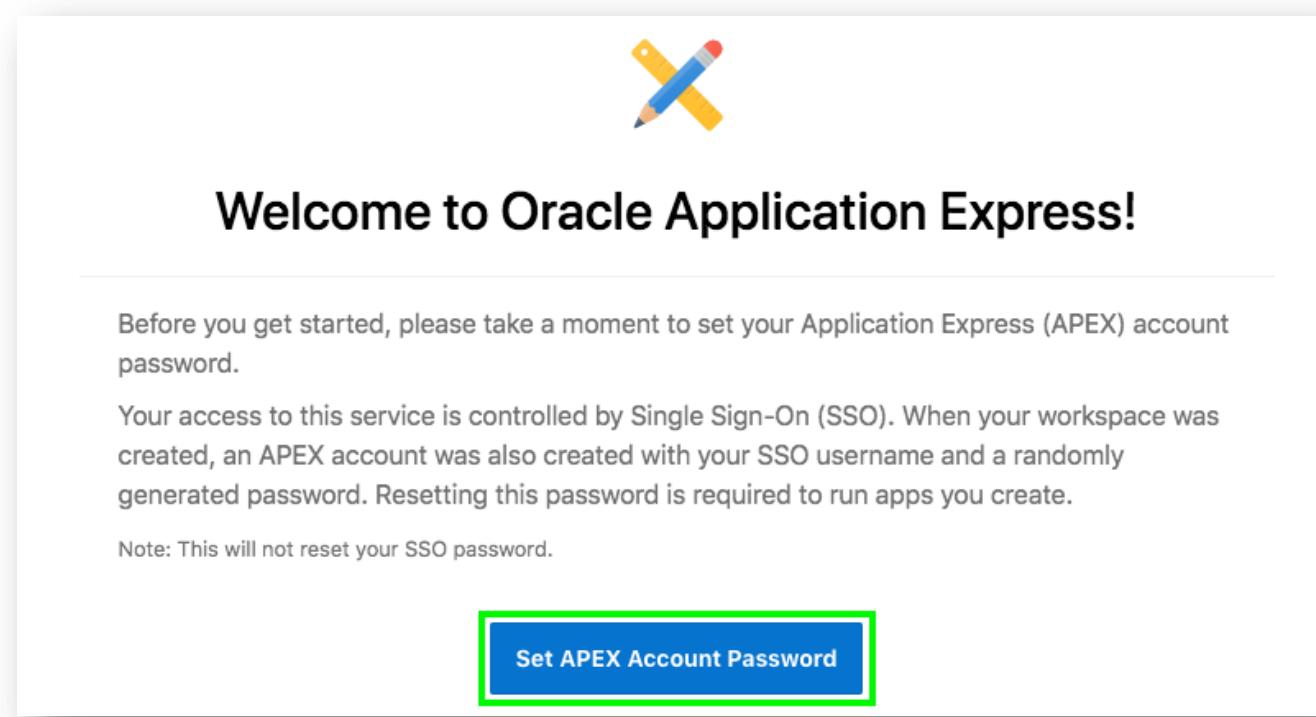
Step 1.3b – Log into your New Workspace

- 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**

Edit Profile

Profile Details

Workspace: DPEAKE

Username: DPEAKE

* Email Address: david.peake@oracle.com

First Name: David

Last Name: Peake

Profile Photo

Your profile photo personalizes your activity by showing up in the Top Users list. Add, change, or remove your photo.

Photo: Choose File No file chosen

Password (For authentication against workspace user account repository only)

If you wish to change your password, enter a new password. Otherwise, leave the password columns null and the current password will not be changed.

Enter New Password: [REDACTED]

Confirm Password: [REDACTED]

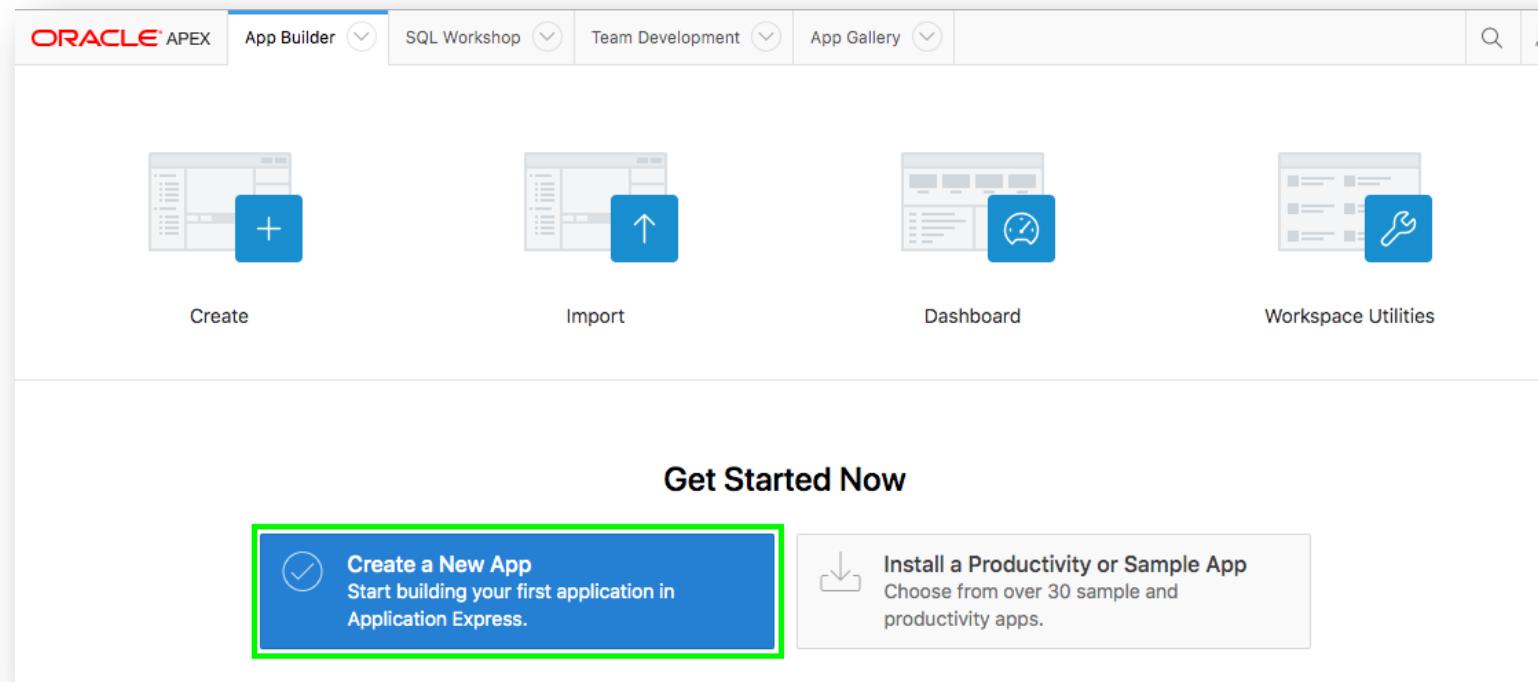
Cancel Apply Changes

Building your first app

Creating an App from a Spreadsheet

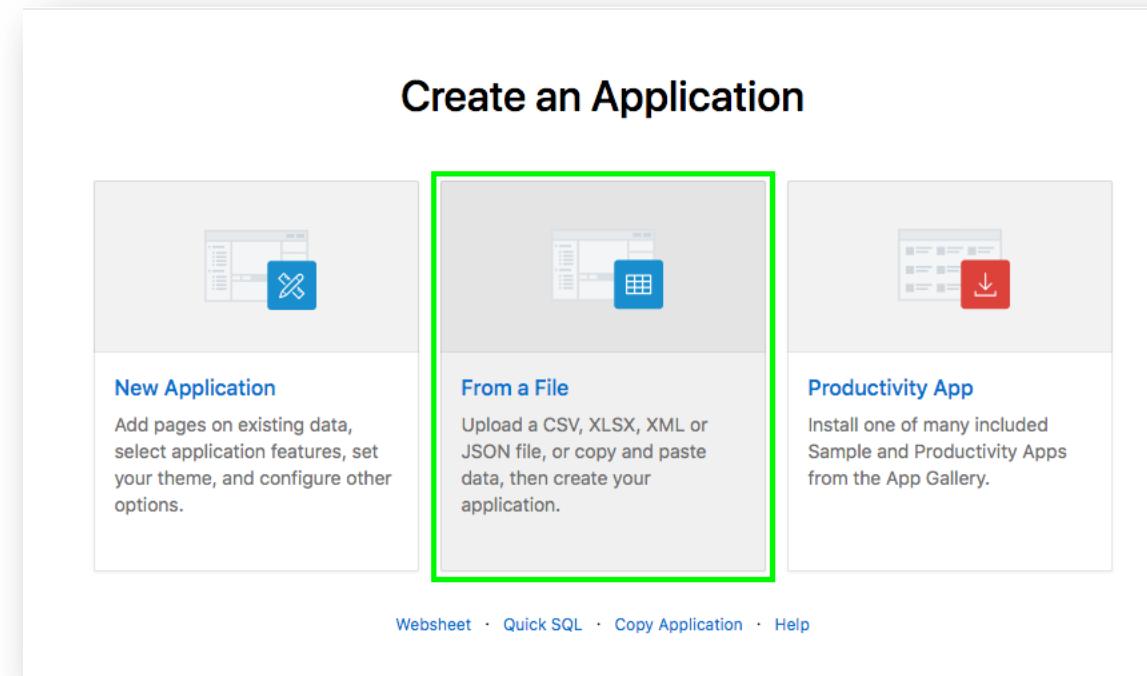
Step 2.1 – Logging In

- Log into your workspace
- Click App Builder
- Click Create a New App



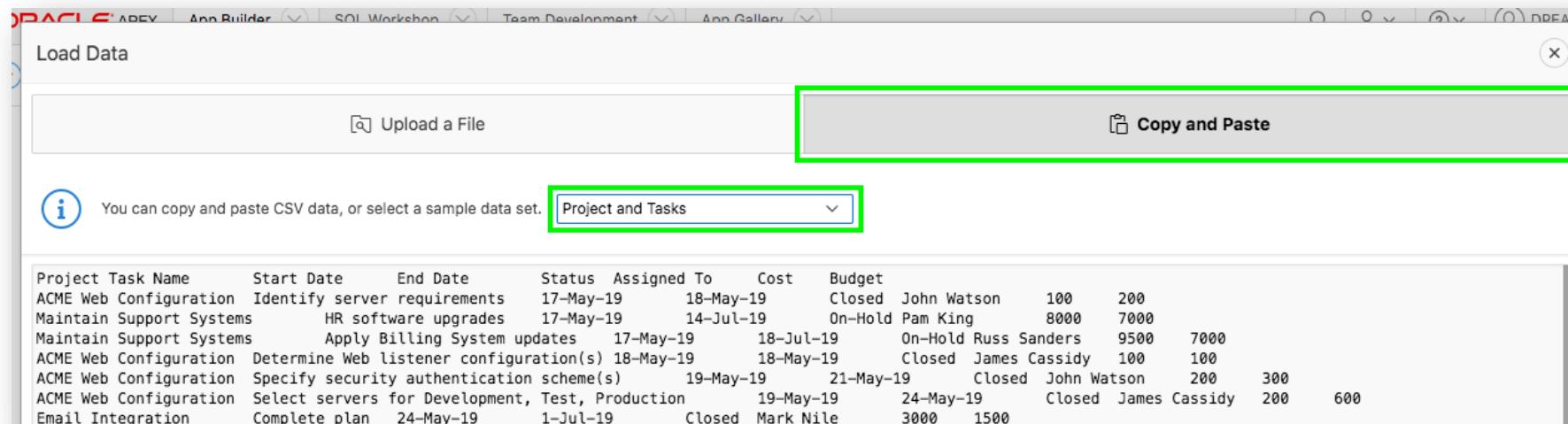
Step 2.2 – Selecting App Type

- Click From a File



Step 2.3 – Loading Sample Data

- Click Copy and Paste
- For Sample Data Set select Project and Tasks



- Click Next

Step 2.4 – Naming the Table

- Enter Table Name {SPREADSHEET}
- Click Load Data

Load Data

Pasted Data

Settings

Column Headers First line contains headers Column Delimiter , ; | # Enclosed By None " ' File Encoding Unicode UTF-8

Preview

i Parsed first 74 rows to sample the column types. The preview below only displays the first 8 columns and 5 rows. To view the full preview, configure data load settings, and set which columns to load, please click **Configure** button.

1	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
2	ACME Web Configuration	Identify server requirements	17-May-19	18-May-19	Closed	John Watson	100	200
3	Maintain Support Systems	HR software upgrades	17-May-19	14-Jul-19	On-Hold	Pam King	8000	7000
4	Maintain Support Systems	Apply Billing System updates	17-May-19	18-Jul-19	On-Hold	Russ Sanders	9500	7000
5	ACME Web Configuration	Determine Web listener configuration(s)	18-May-19	18-May-19	Closed	James Cassidy	100	100

Load to Table

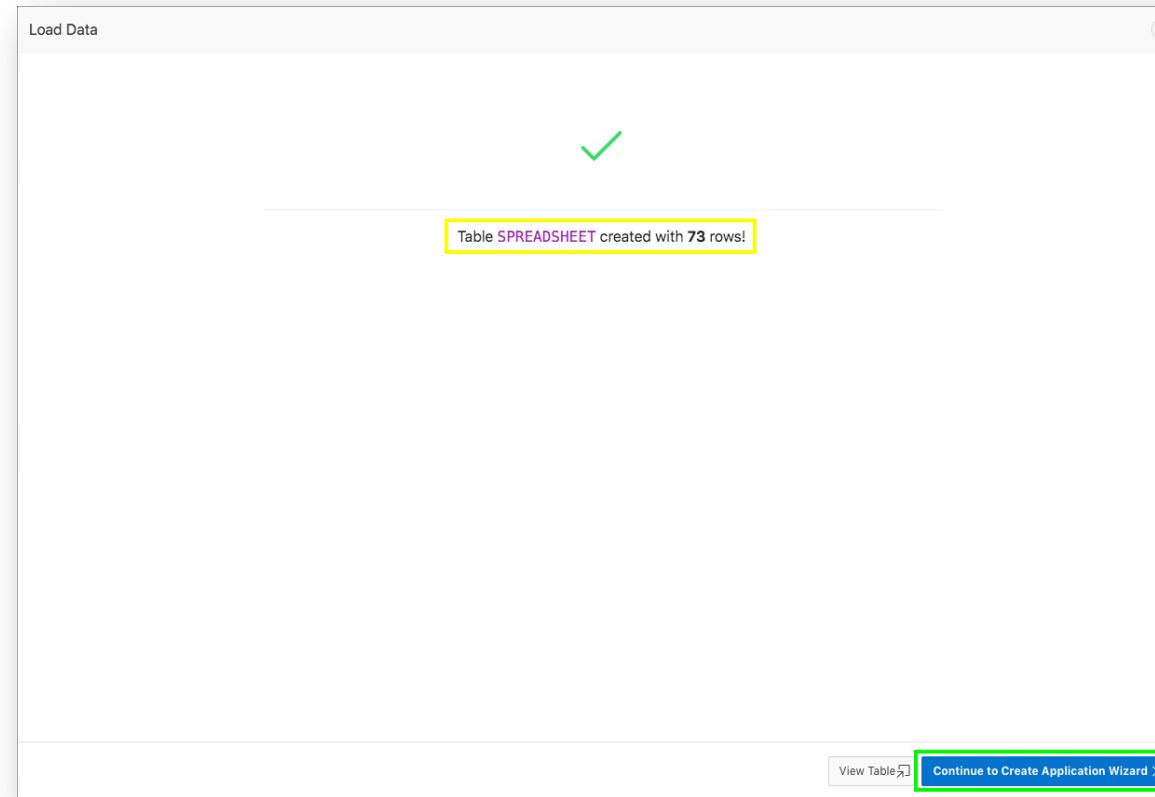
* Table Owner * Table Name * Error Table Name

Primary Keys Identity Column Use Column Data Types

< Cancel Load Data

Step 2.5 – Verifying Records Loaded

- Check that 73 rows are loaded
- Click **Continue to Create Application Wizard**



Step 2.6 – Naming the App

- Enter Name
{App from a Spreadsheet}
- Next to Features,
click Check All

Create an Application

Name: App from a Spreadsheet

Appearance: Vita, Side Menu

Pages:

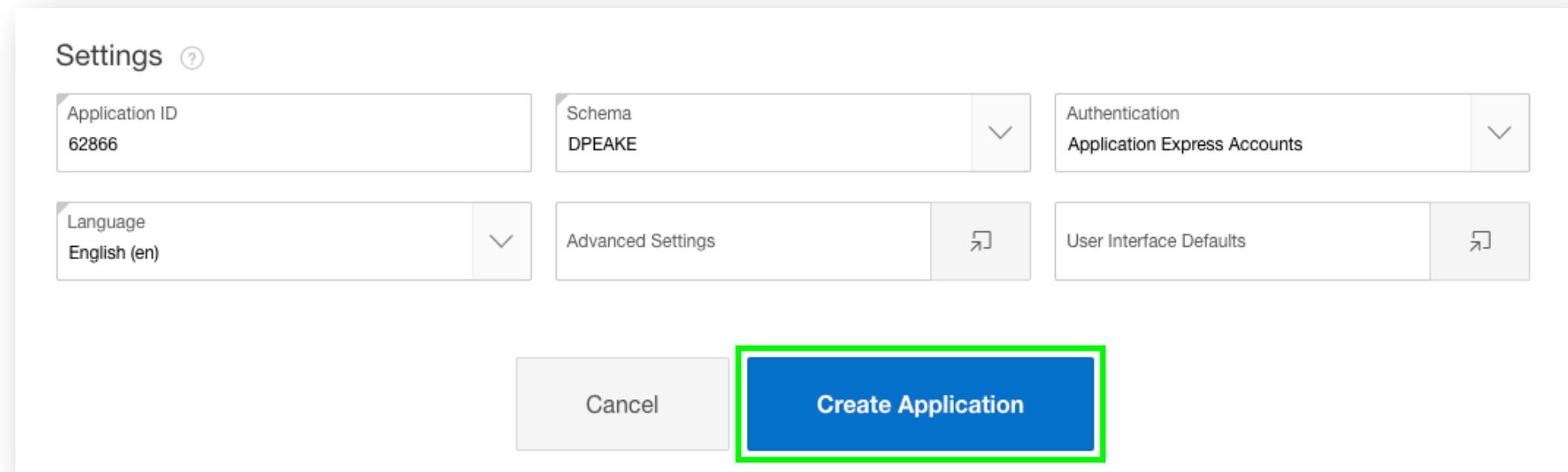
- + Add Page
- Home: Blank
- Spreadsheet: Interactive Report with Form (spreadsheet)
- Dashboard: Dashboard

Features:

- About Page: Add about this application page
- Configuration Options: Enable or disable application features
- Access Control: Enable role-based user authorization
- Feedback: Allow users to provide feedback
- Activity Reporting: Include user activity and error reports
- Theme Style Selection: Update default application look and feel

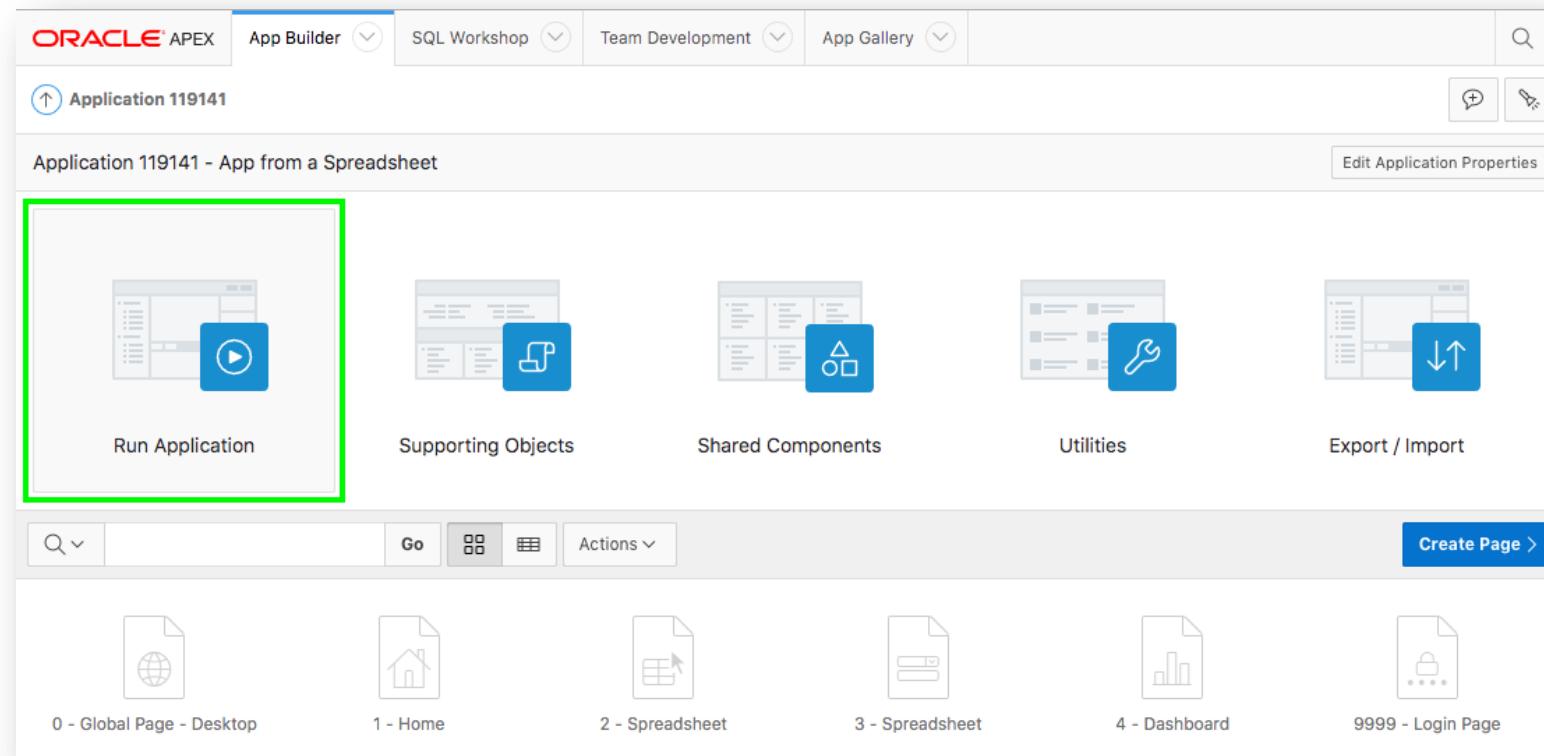
Step 2.7 – Create Application

- Click Create Application



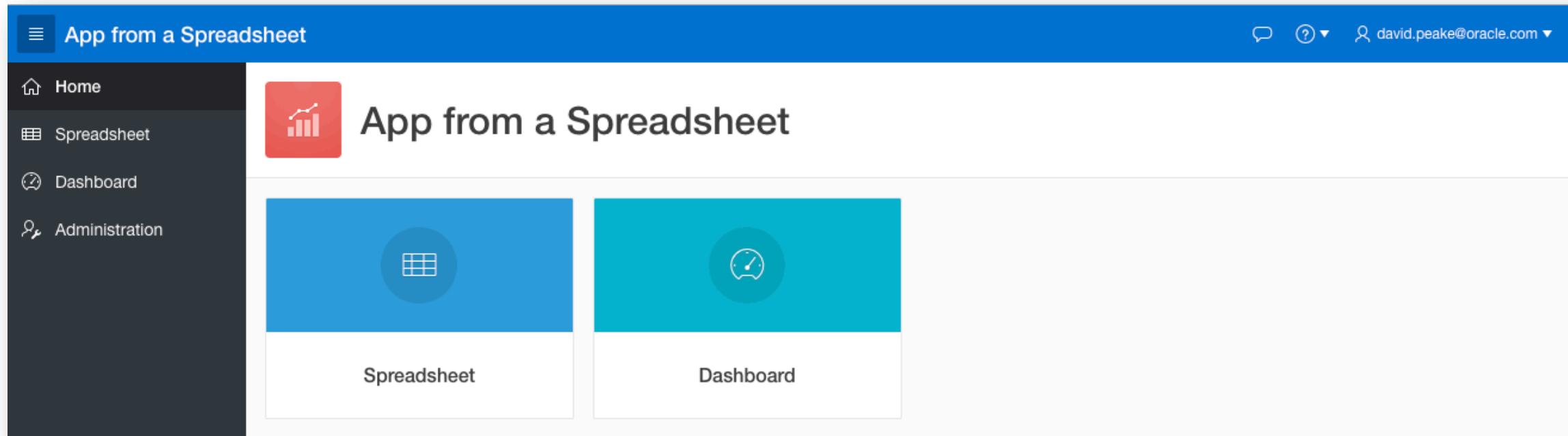
Step 2.8 – App in Page Designer

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



Step 2.9 – Runtime App

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



Using the Runtime Environment Improving the Report and Form

Step 3.1 – Sort the Interactive Report

- Click Spreadsheet
- Click Actions, select Data, select Sort
- For 1, select Start Date; For 2, select End Date; click Apply

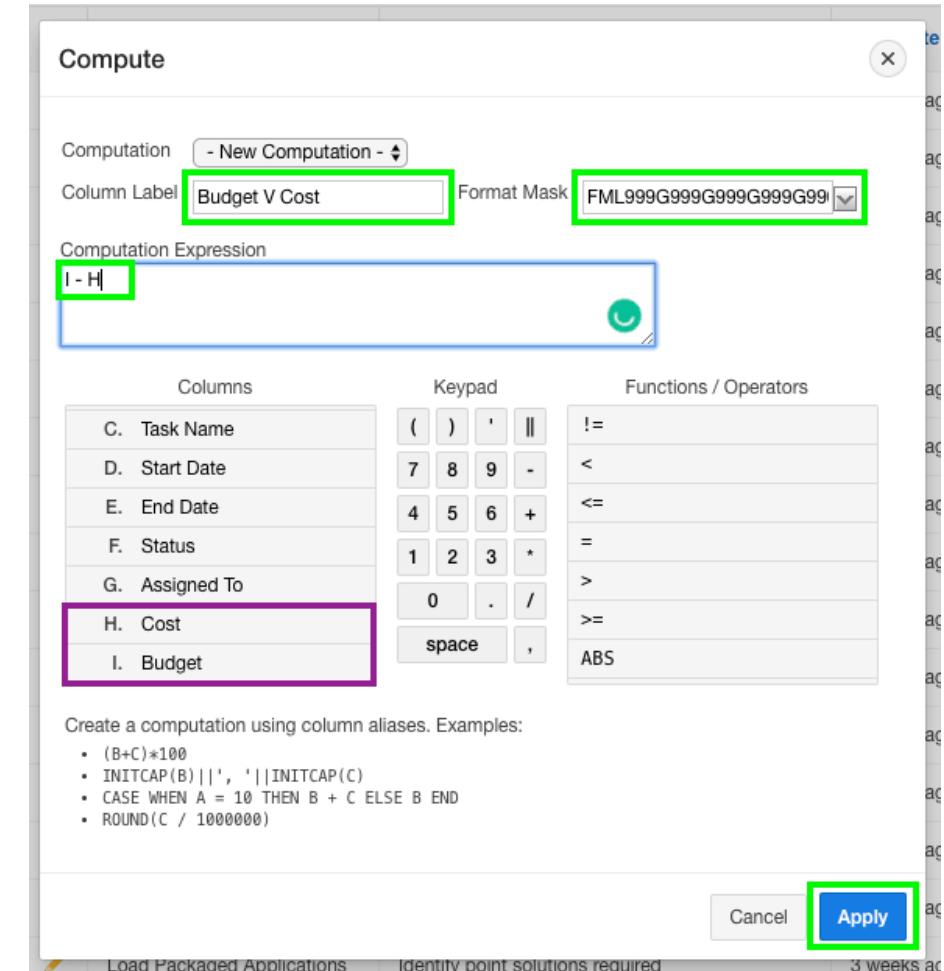
The screenshot shows the Oracle Application Express interface. The top navigation bar has a blue header with the text "App from a Spreadsheet". Below it is a dark sidebar with menu items: Home, Spreadsheet (which is highlighted with a green box), Dashboard, and Administration. The main content area is titled "Spreadsheet". It contains a search bar with a magnifying glass icon and a "Go" button, followed by an "Actions" dropdown menu with a "Sort" option highlighted with a green box. Below this is a table with two rows of data. The first row has columns for Project (ACME Web Configuration), Task Name (Identify server requi...), Start Date (7 weeks ago), and End Date (7 weeks ago). The second row has columns for Project (ACME Web Configuration), Task Name (Determine Web list...), Start Date (7 weeks ago), and End Date (7 weeks ago). A "Data" dropdown menu is open over the second row, with the "Sort" option also highlighted with a green box.

The screenshot shows the "Sort" dialog box. It lists six items, each consisting of a column name, direction, and null sorting options. Item 1 is "Start Date" with "Ascending" direction and "Default" null sorting. Item 2 is "End Date" with "Ascending" direction and "Default" null sorting. Items 3 through 6 are "- Select Column -" with "Ascending" direction and "Default" null sorting. At the bottom right of the dialog box is a "Cancel" button and an "Apply" button, which is highlighted with a green box.

Column	Direction	Null Sorting
1 Start Date	Ascending	Default
2 End Date	Ascending	Default
3 - Select Column -	Ascending	Default
4 - Select Column -	Ascending	Default
5 - Select Column -	Ascending	Default
6 - Select Column -	Ascending	Default

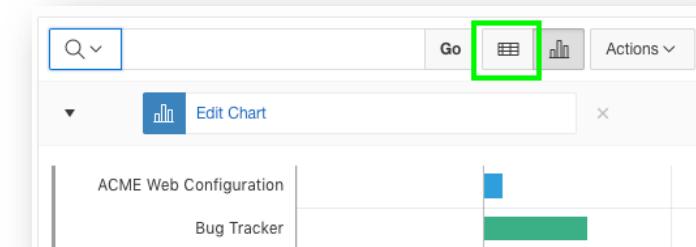
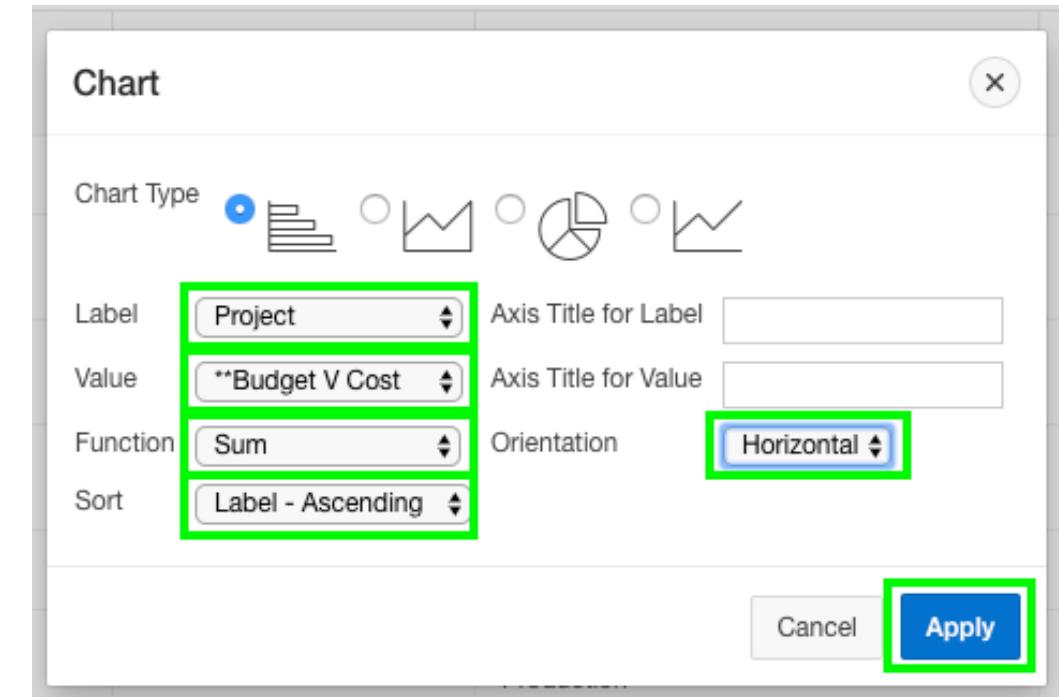
Step 3.2 – Add a Computation

- Click Actions, select Data, select Compute
- Column Label enter Budget V Cost
- Format Mask select \$5,234.10
- Computation Expression enter I – H
- Click Apply

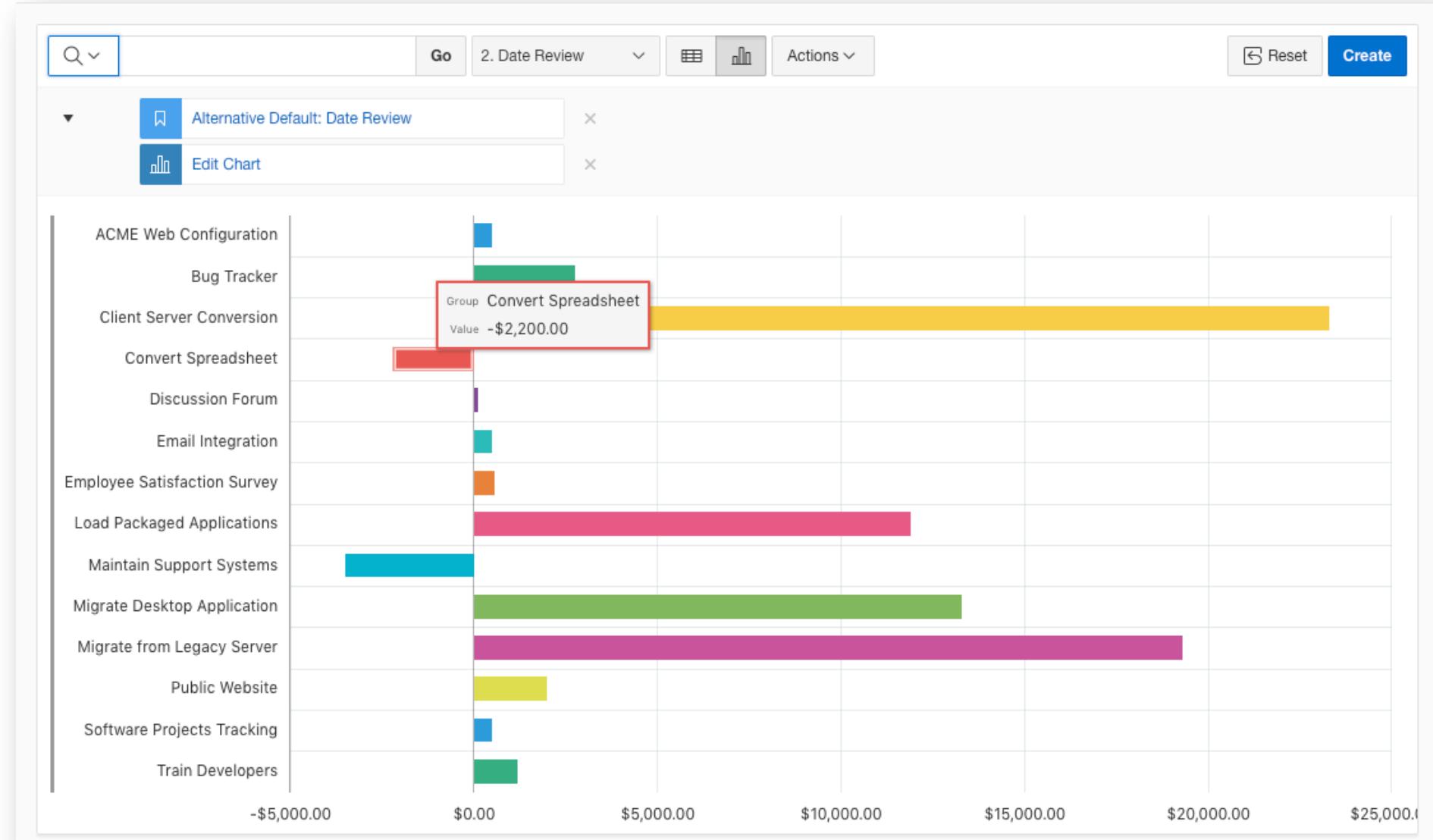


Step 3.3 – Add a Chart

- Click Actions, select Chart
- Label select Project
- Value select **Budget V Cost
- Function select Sum
- Sort select Label – Ascending
- Orientation select Horizontal
- Click Apply

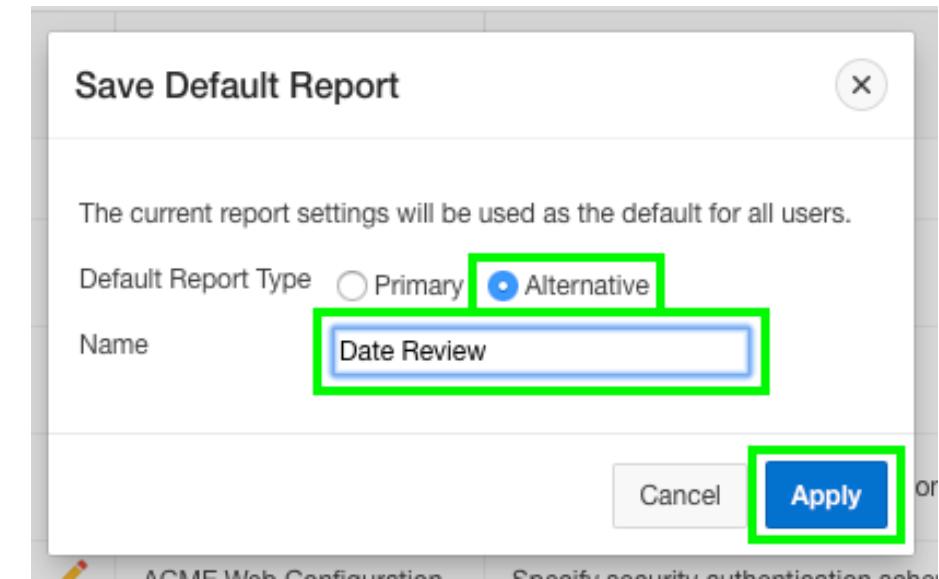
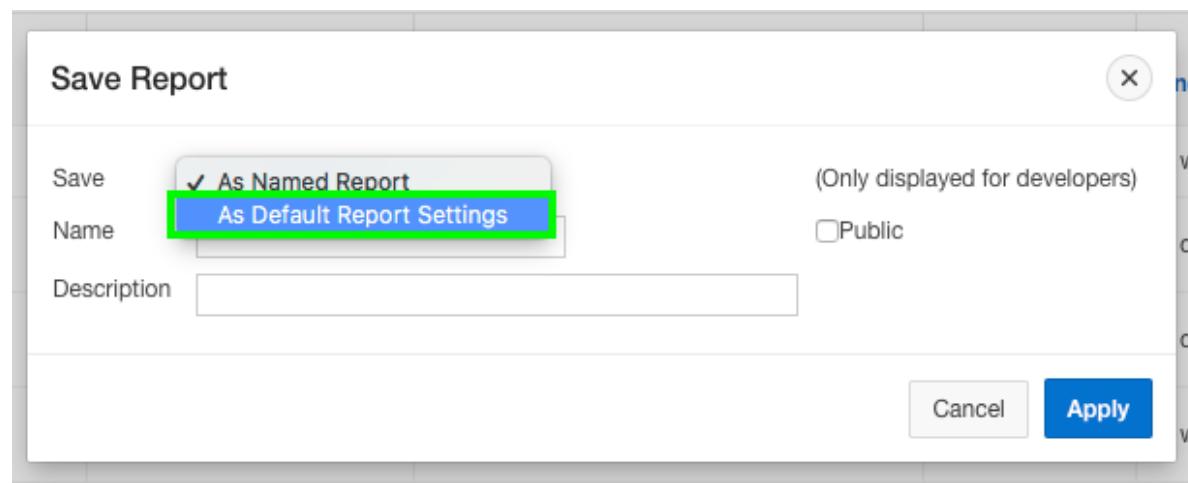


Step 3.3b – Add a Chart



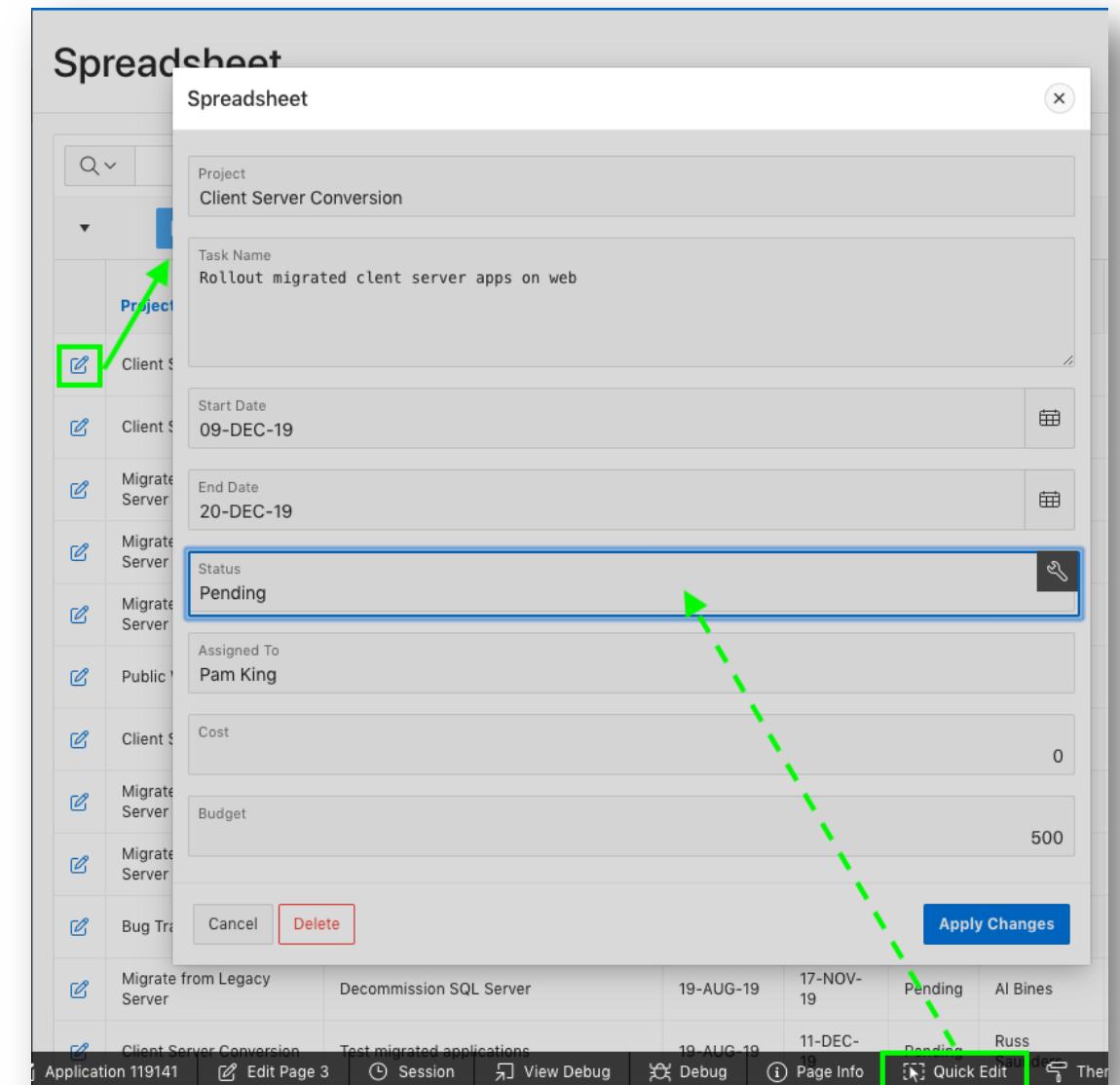
Step 3.4 – Save Report

- Click Actions, select Report, select Save Report
- For Save, select As Default Report Settings
- Default Report Type, select Alternative
- Name, enter Date Review
- Click Apply



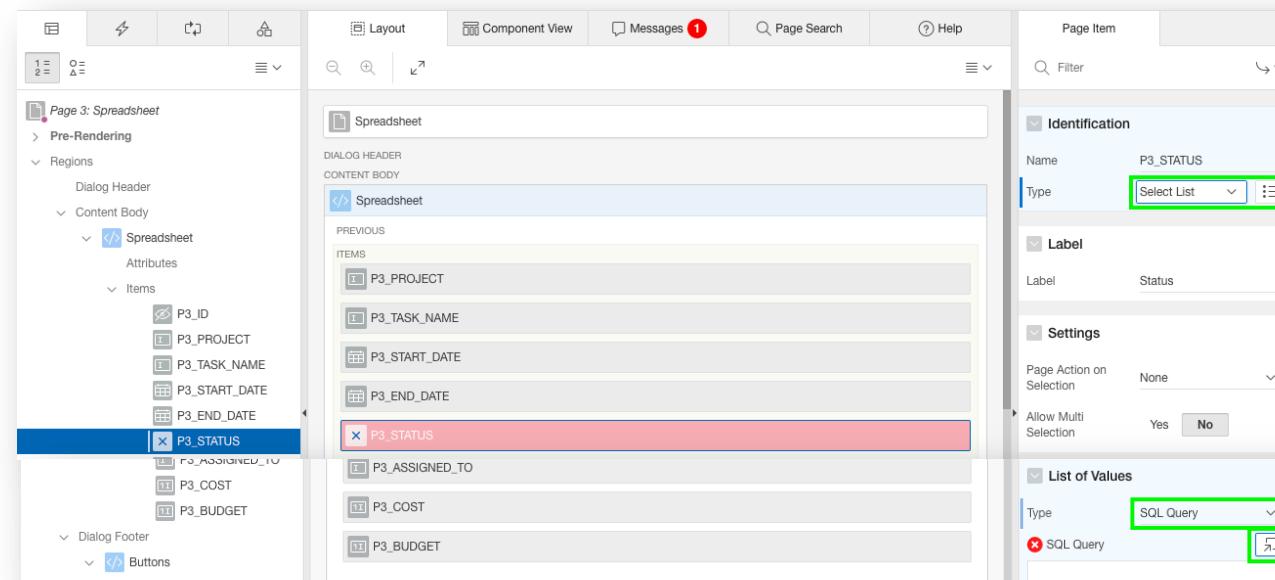
Step 3.5 – Restrict the Status

- In the runtime environment, click the edit icon on a record
- A modal page will be displayed
- In the Developer Toolbar, click **Quick Edit**
- Hover over the **Status** item (until a blue outline appears) and click the mouse
- Page Designer displays with focus on the Status item



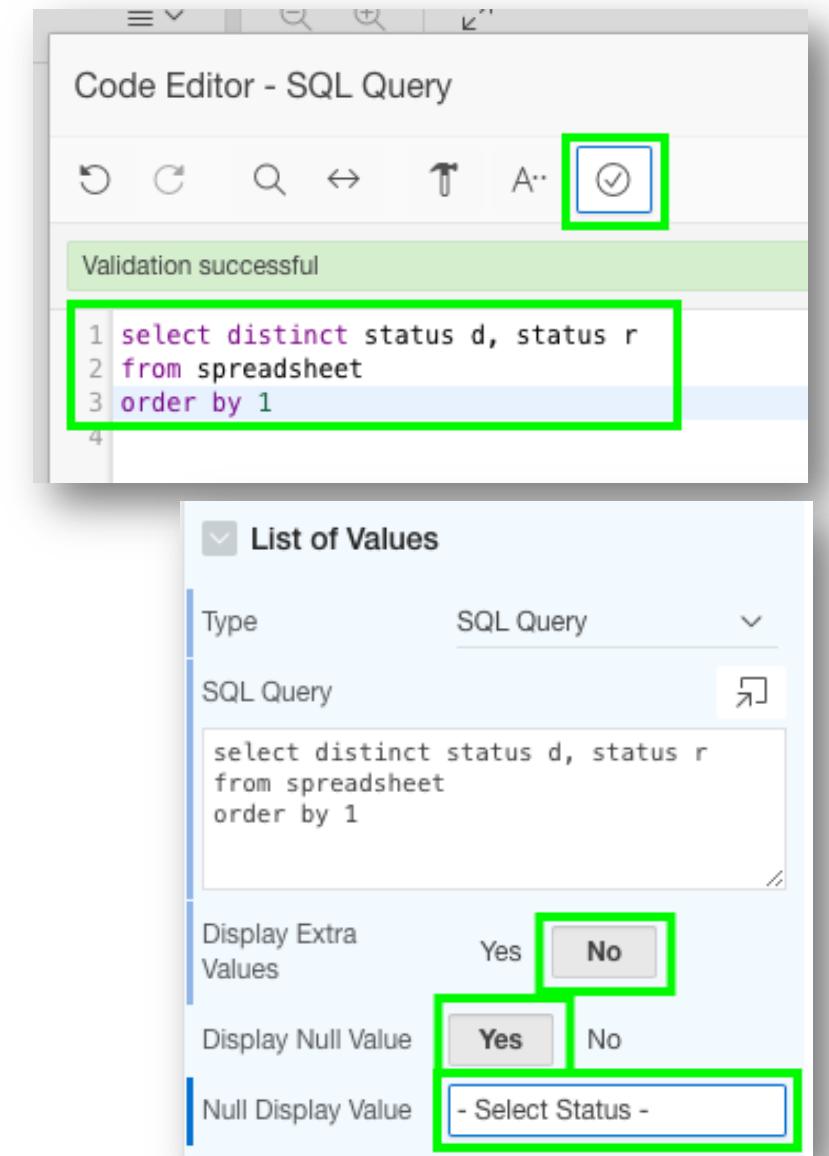
Step 3.5b – Restrict the Status

- In Page Designer, within the Property Editor (right pane), for Type select **Select List**
- Under List of Values, for Type select **SQL Query**
- Next to SQL Query, click **Code Editor**



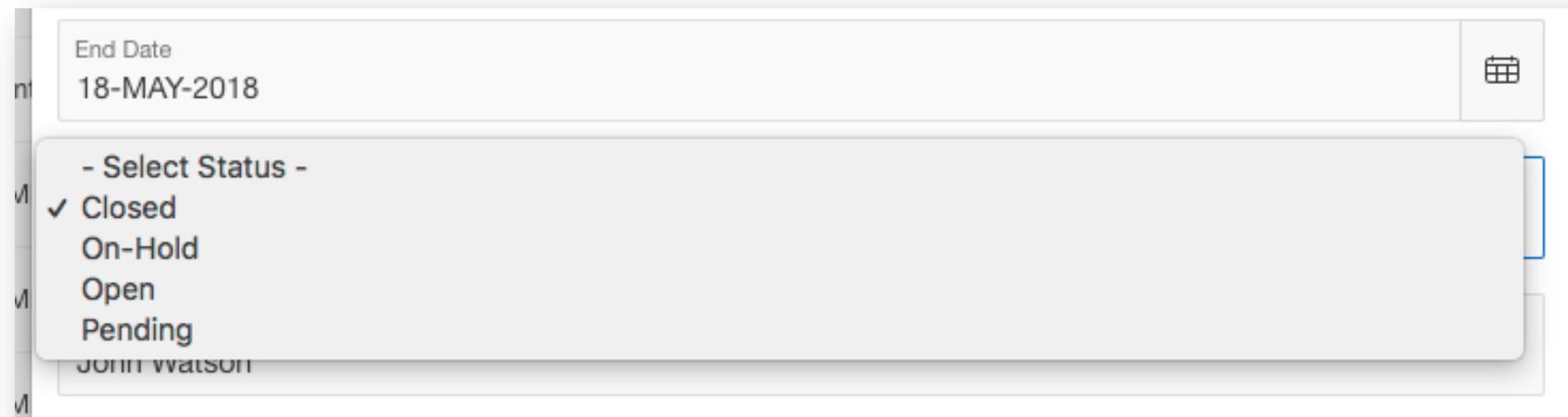
Step 3.5c – Restrict the Status

- Within the Code Editor, enter the following:
select distinct status d, status r
from spreadsheet
order by 1
- Click **Validate**
- Click **OK**
- Display Extra Values, select **No**
- Null Value Display, enter - **Select Status** -
- Click **Save** (In the toolbar - top right)



Step 3.6 – Run the App

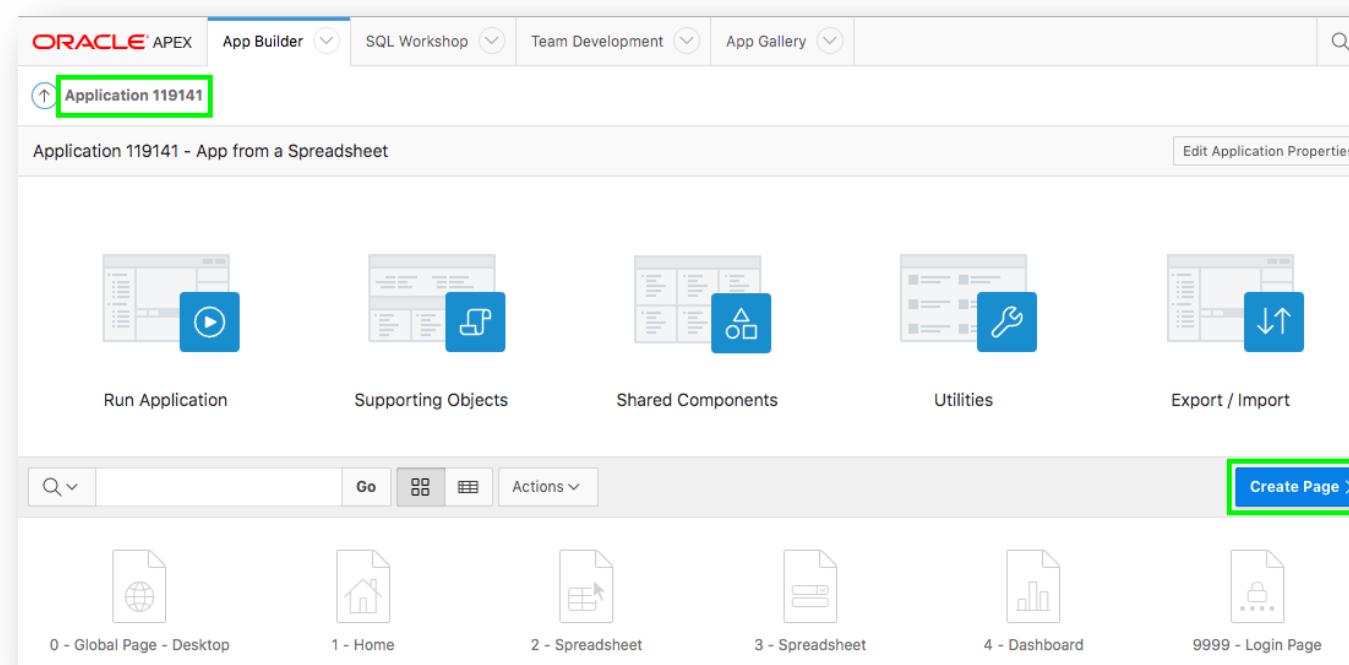
- Navigate back to the runtime environment
- Refresh the browser
- Edit a record
- Click **Status**



Using the Runtime Environment Adding a Calendar

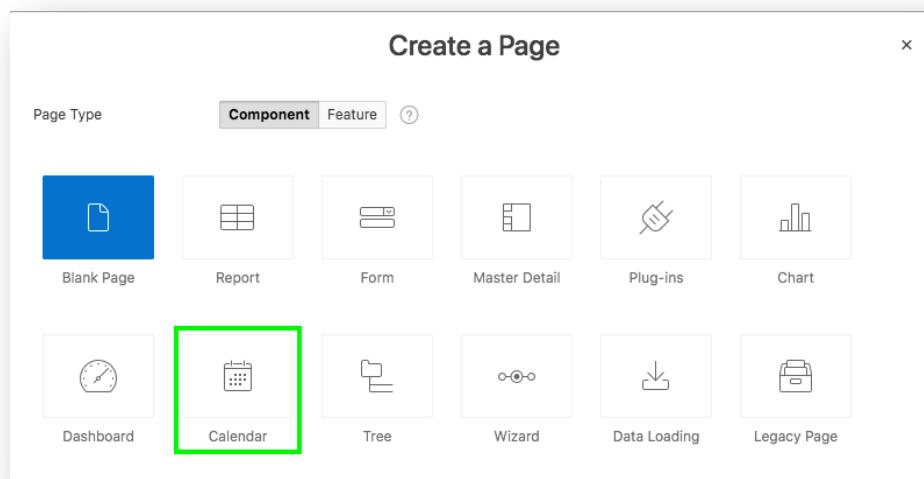
Step 4.1 – Add a Calendar

- Navigate back to the development environment
- In App Builder, navigate to the App Home Page
- Click **Create Page**



Step 4.1b – Add a Calendar

- Click Calendar

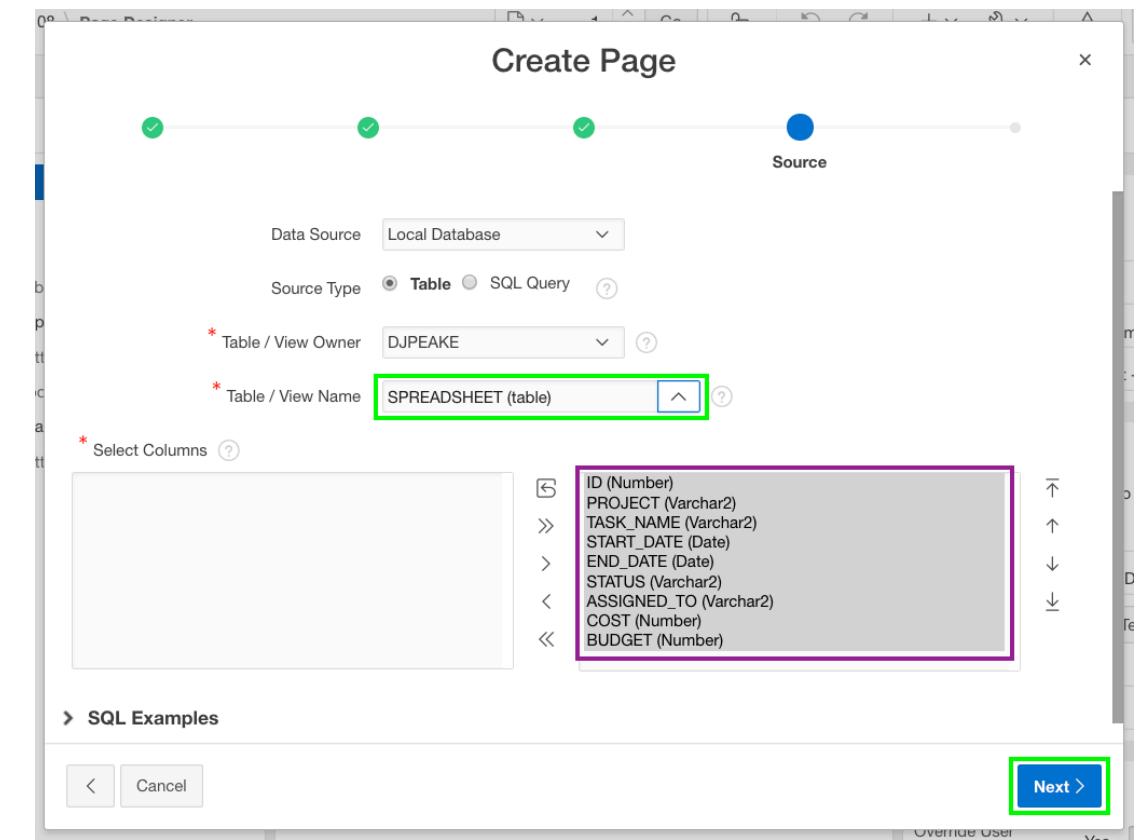
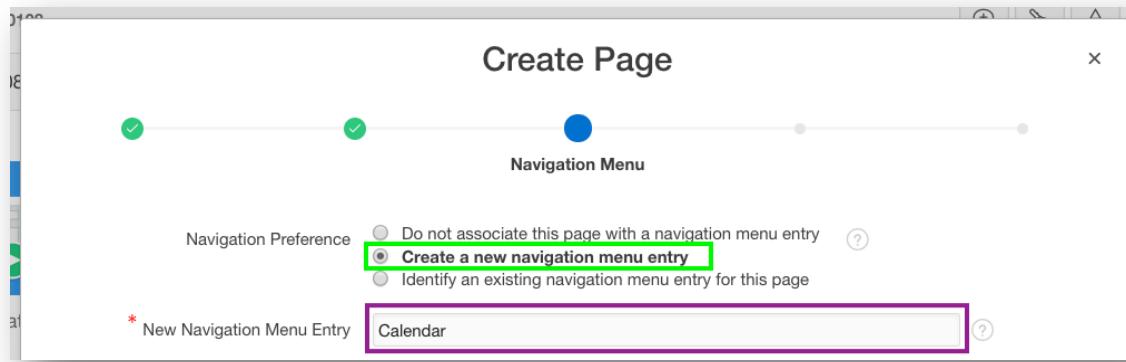


- Page Name, enter **Calendar**
- Breadcrumb, select **Breadcrumb**
- Click **Next**

The screenshot shows the 'Create Page' dialog at the 'Page Attributes' step. The 'Region Type' is set to 'Calendar'. The 'Page Number' is 6, and the 'Page Name' is 'Calendar', which is highlighted with a green border. The 'Page Mode' is 'Normal', 'Page Group' is '- Select Page Group -', 'Breadcrumb' is 'Breadcrumb' (highlighted with a green border), 'Parent Entry' is 'No parent entry', and 'Entry Name' is 'Calendar'. The 'Next >' button is highlighted with a green border.

Step 4.1c – Add a Calendar

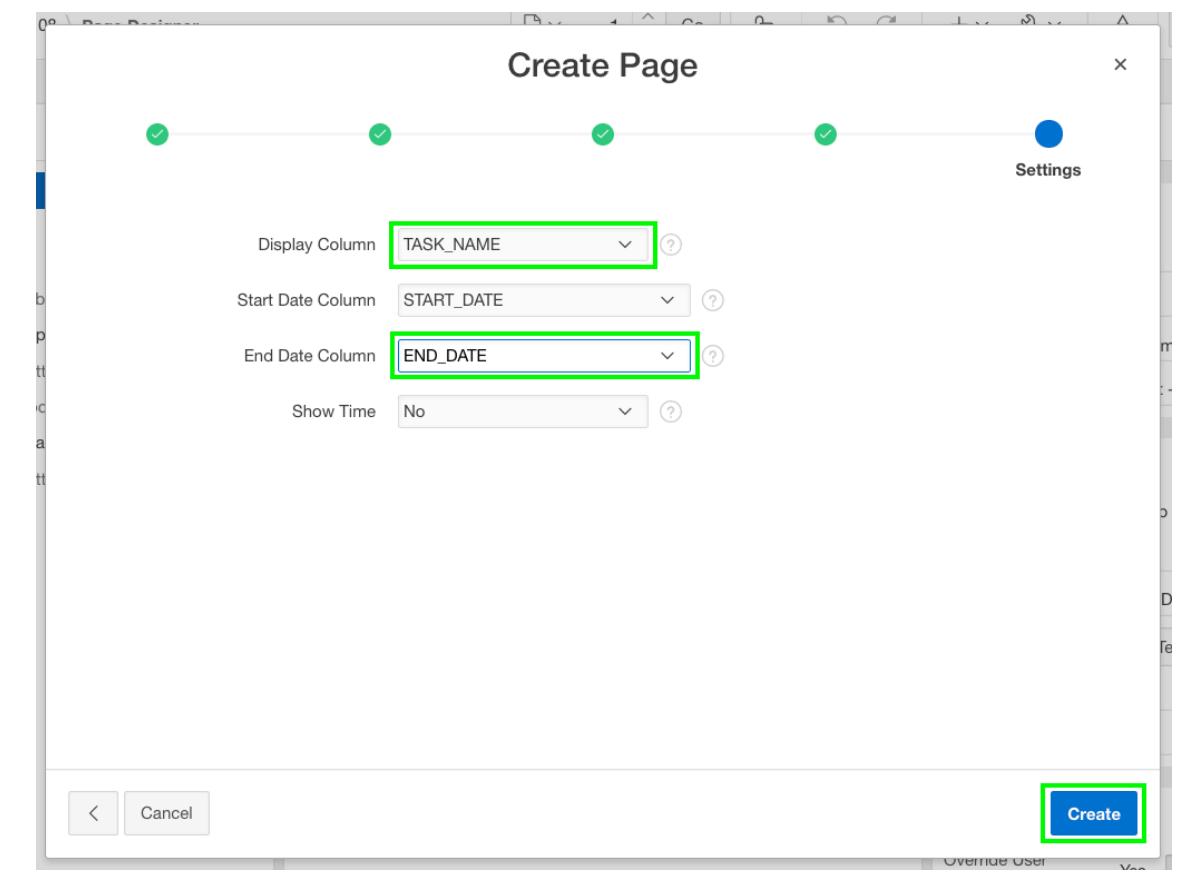
- Navigation Preference, click Create a new navigation menu entry
- Click Next



- Table / View Name, select SPREADSHEET (table)
- Click Next

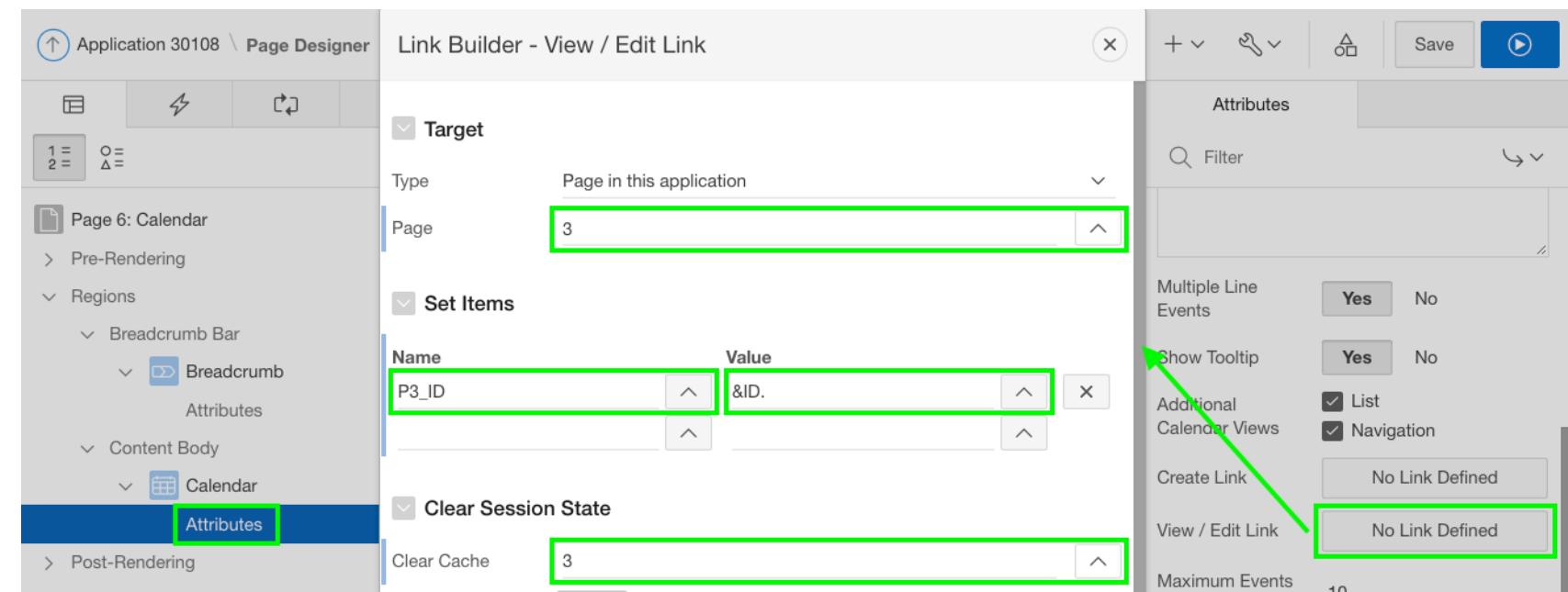
Step 4.1d – Add a Calendar

- Display Column, select **TASK_NAME**
- End Date Column, select **END_DATE**
- Click **Create**



Step 4.2 – Link the Calendar to the Update Form

- In the Rendering tab, under Calendar, click Attributes
- In the Property Editor (right pane), click View / Edit Link
- Page, select 3
- Set Items – Name, select P3_ID; Value, select &ID.
- Clear Cache, enter 3
- Click OK
- Click Save and Run



Step 4.2b – Link the Calendar to the Update Form

The screenshot shows the Oracle App from a Spreadsheet interface. On the left, the 'Calendar' module is displayed, featuring a calendar view for June 2018. A green arrow points from the 'Customize solutions' task in the calendar list to the 'Customize solutions' task in the 'Task Name' field of the 'Spreadsheet' module on the right. The 'Spreadsheet' module contains fields for Project, Task Name, Start Date, End Date, Status, Assigned To, Cost, and Budget, along with 'Cancel', 'Delete', and 'Apply Changes' buttons.

App from a Spreadsheet

Calendar

Task Name: Customize solutions

Start Date: 23-JUN-2018

End Date: 18-SEP-2018

Status: Open

Assigned To: John Watson

Cost: 1500

Budget: 4000

Cancel Delete Apply Changes

*Note:
You may need to
navigate to the
month of May
to see calendar
entries.*

Learn More Useful Links

Useful Links

- APEX on Autonomous
- APEX Collateral
- Tutorials
- Community
- External Site + Slack

<https://apex.oracle.com/autonomous>

<https://apex.oracle.com>

<https://apex.oracle.com/en/learn/tutorials>

<https://apex.oracle.com/community>

<http://apex.world>

ORACLE®