ORACLE

APPLICATION EXPRESS



Oracle Application Express: Developing Database Web Applications

Hands-On-Labs Guide

Unit 7: Managing and Customizing Interactive Grids

This exercise includes two hands-on-labs.

Labs HOL 7-1 and HOL 7-2 use the Budget App application.

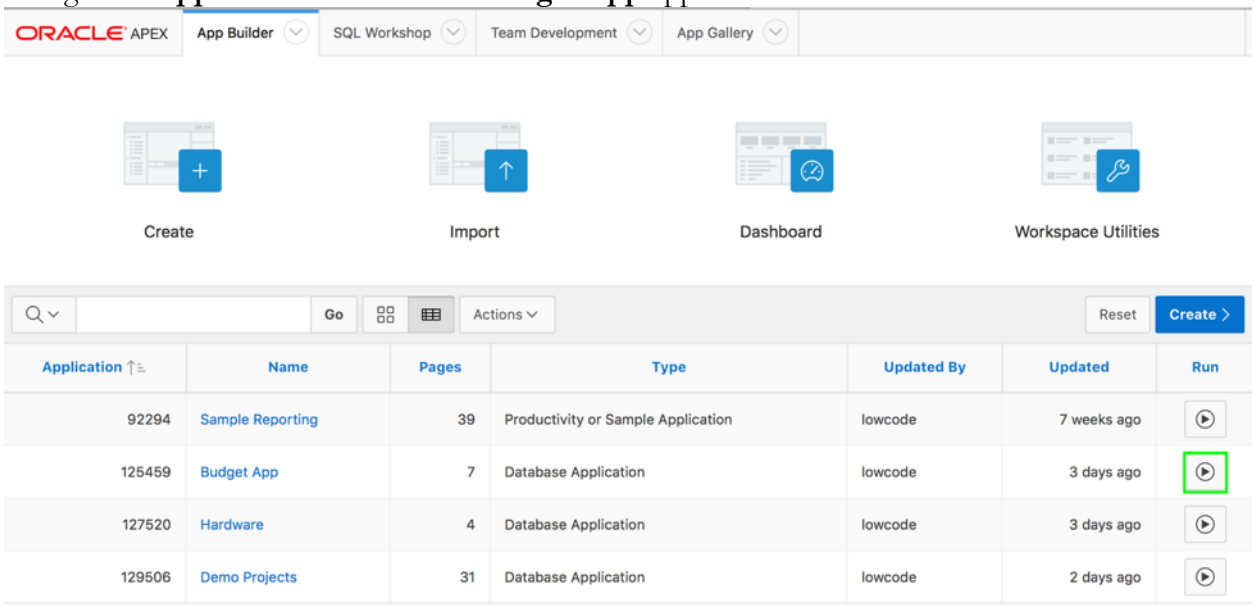
HOL 7-1: Customizing an Interactive Grid as a Developer: In this lab, you customize the Project Budget Interactive Grid for your end users.

HOL 7-2: Customizing an Interactive Grid as an End User: In this lab, you use and customize the display of your Project Budget Interactive Grid.

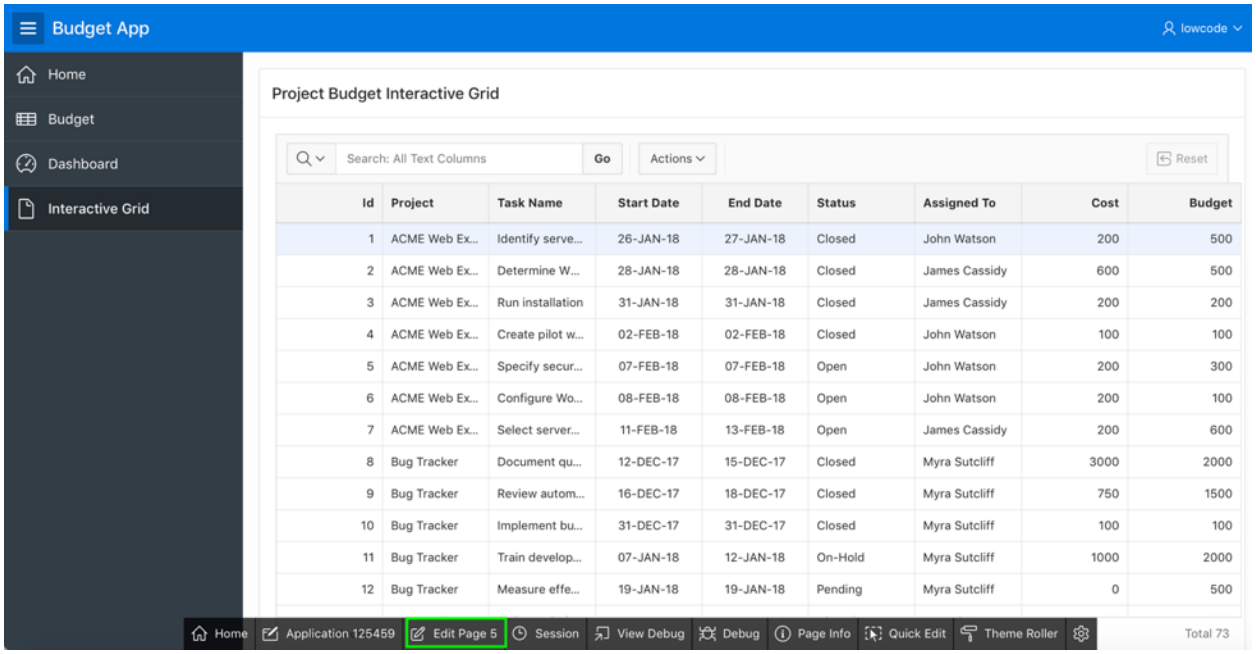
HOL 7-1: Customizing an Interactive Grid as a Developer

This lab uses the Budget App application. In this lab, you customize the interactive grid for end users. You create column groups, set pagination type, and set the report downloadable formats that should be available for end users. You also enable end users to save the report as Public interactive grids and convert a read only interactive grid to an editable interactive grid.

1. Navigate to **App Builder** and run the **Budget App** application.

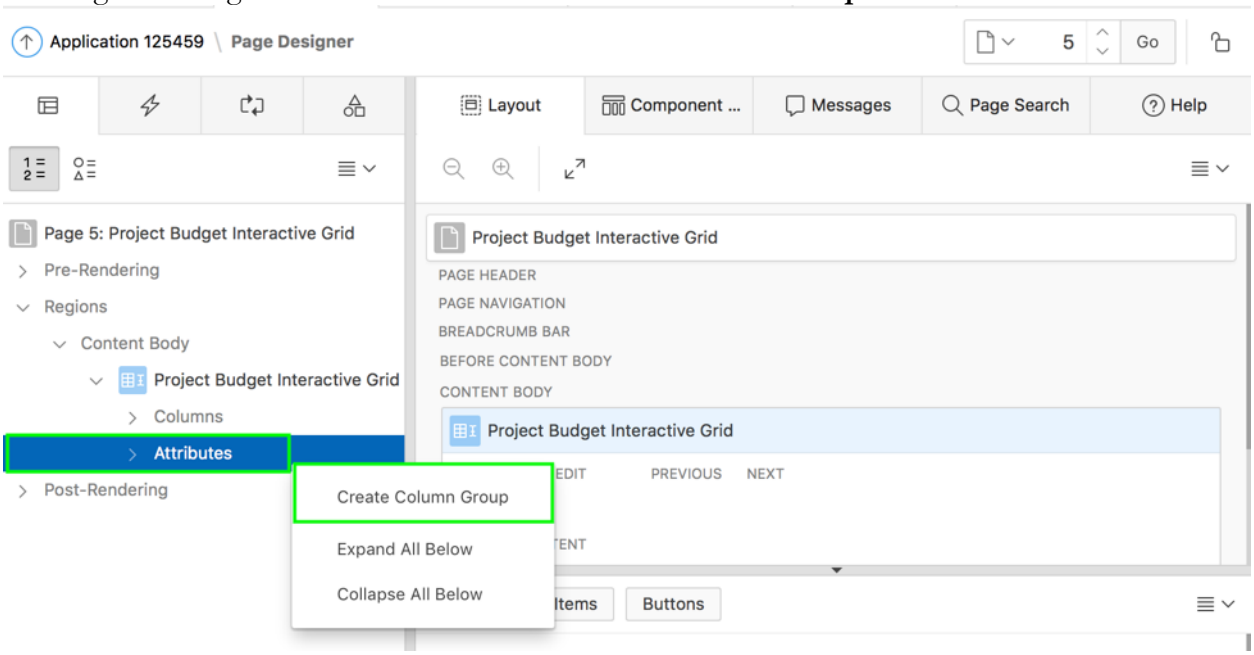


2. In the navigation menu, click **Interactive Grid**. You want to customize the display of this interactive grid for your end users. In the Developer Toolbar, click **Edit Page 5**.

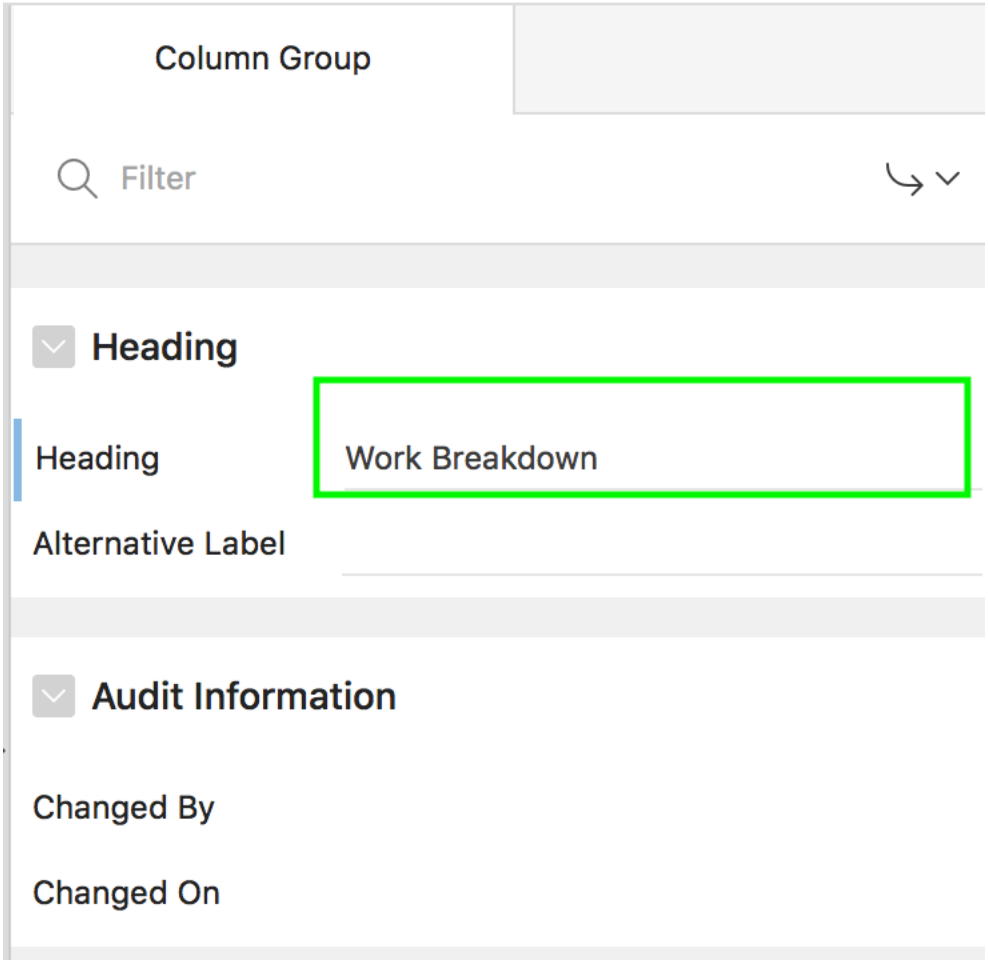


3. Add column group headers to the interactive grid as:
   - Work Breakdown: Project, Task_Name columns
   - Schedule: Start_Date, End_Date columns
   - Project Financing: Cost, Budget columns

a) In the page designer, under Rendering > Regions, navigate to Project Budget Interactive Grid region and right-click **Attributes**. Select Create **Column Group**.



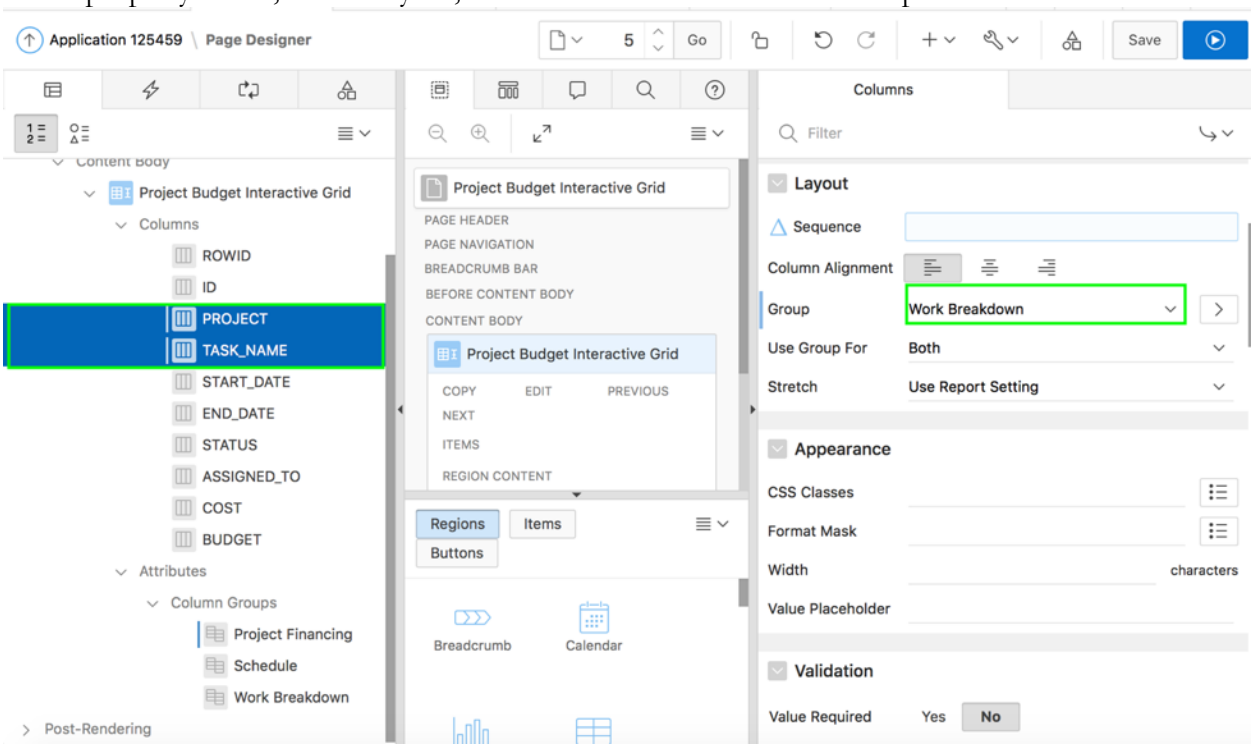
b) In the Property Editor, enter **Work Breakdown** for Heading.



c) Repeat the above two steps a and b to create column groups: **Schedule** and **Project Financing**.

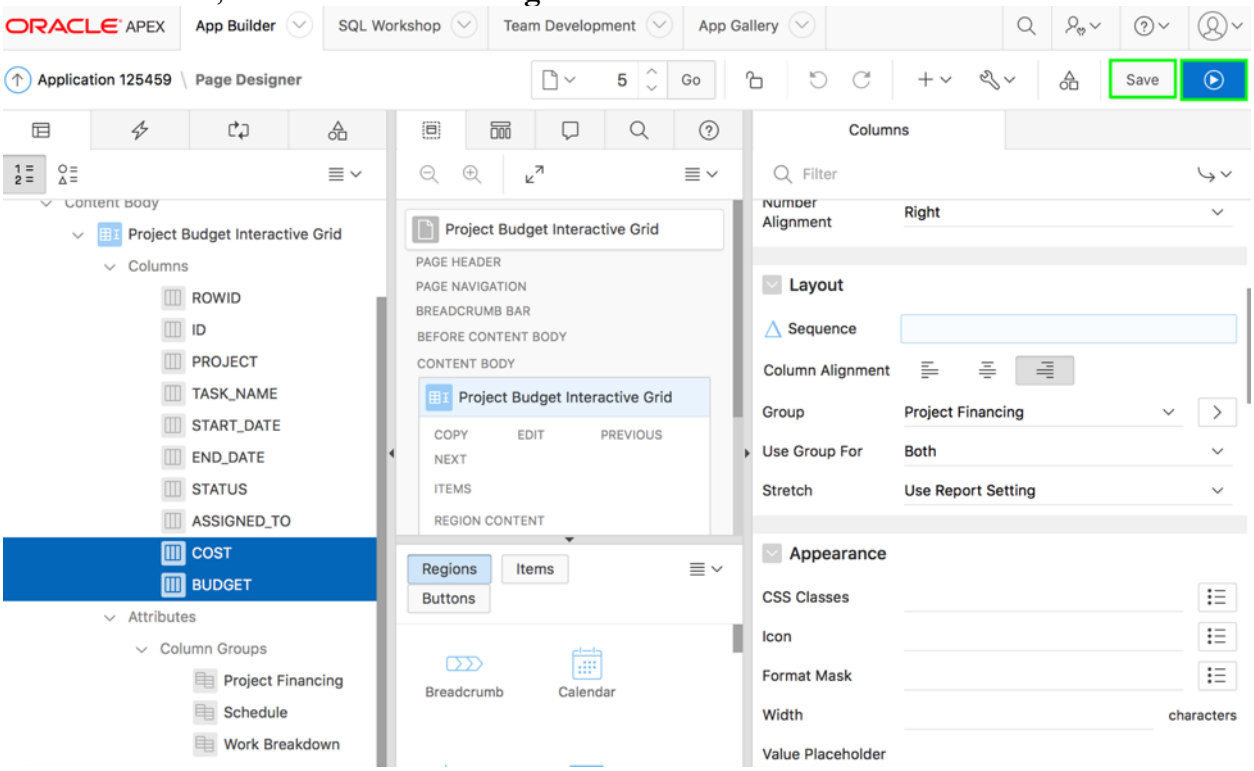
d) Now that you created column groups, you need to assign columns to them. Expand **Columns** and select **Project** and **Task_Name** columns.

e) In the property editor, under Layout, select **Work Breakdown** for Group.

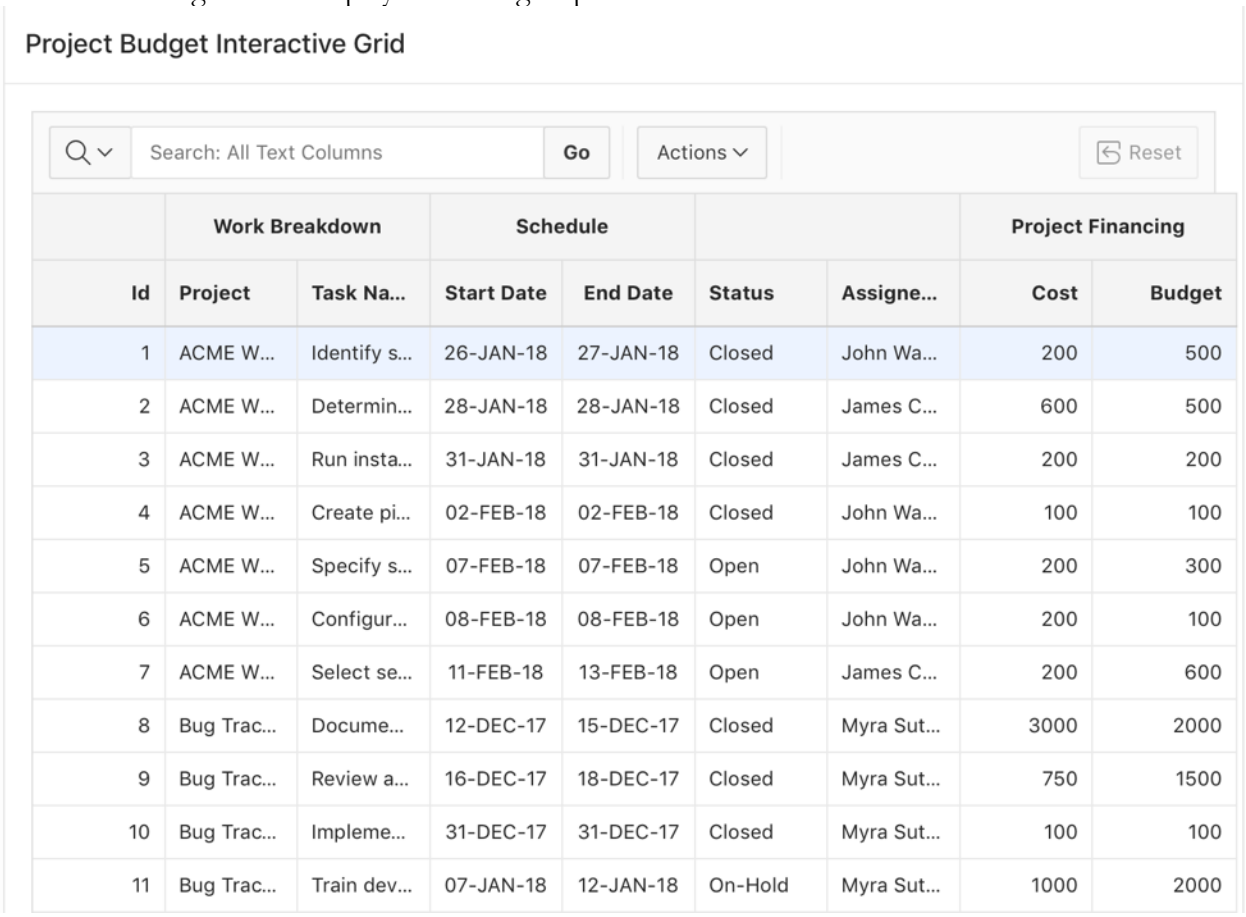


f) Then, select Start_Date and End_Date columns. In the property editor, under Layout, select **Schedule** for Group.

g) Finally, select Cost, and Budget columns. In the property editor, under Layout, select **Project Financing** for Group.
Click **Save**. Then, click **Save and Run Page**.



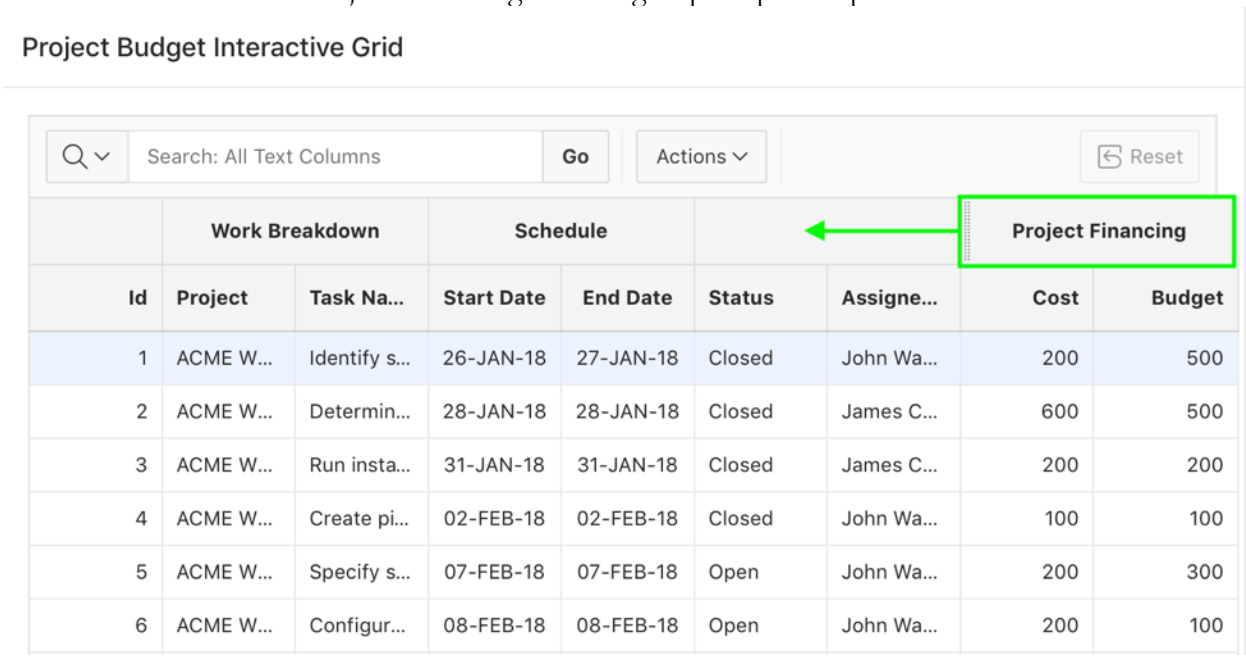
h) The interactive grid now displays column groups.



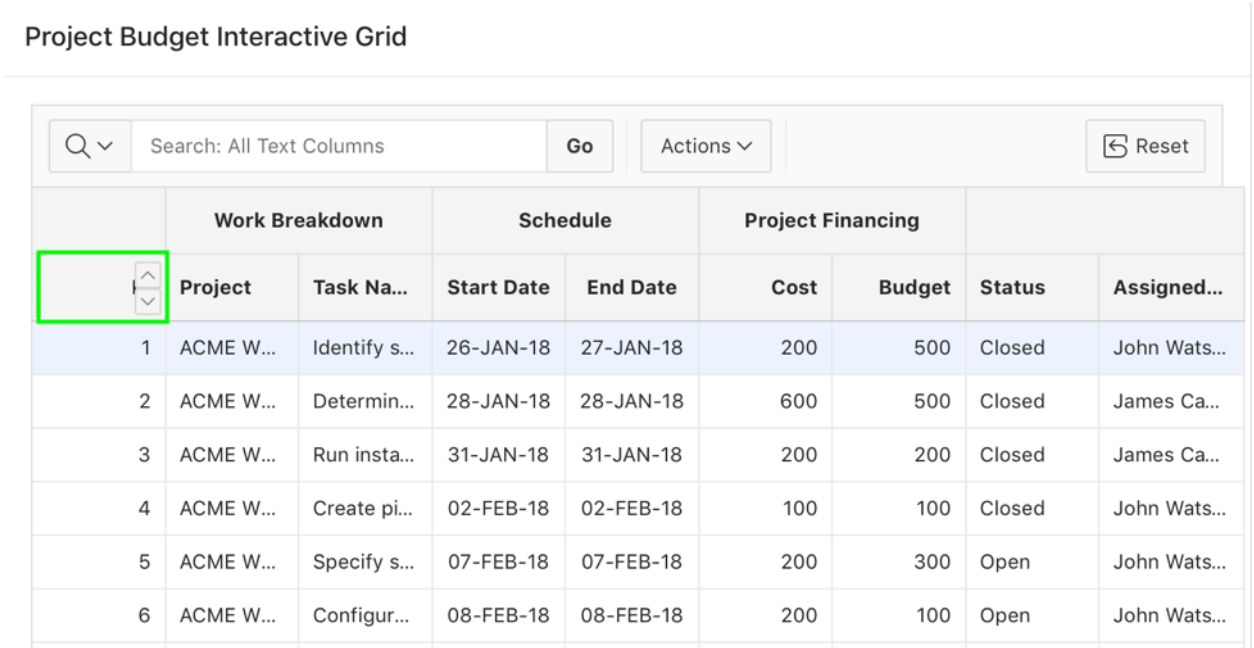
	Work Breakdown		Schedule				Project Financing	
Id	Project	Task Na...	Start Date	End Date	Status	Assigne...	Cost	Budget
1	ACME W...	Identify s...	26-JAN-18	27-JAN-18	Closed	John Wa...	200	500
2	ACME W...	Determin...	28-JAN-18	28-JAN-18	Closed	James C...	600	500
3	ACME W...	Run insta...	31-JAN-18	31-JAN-18	Closed	James C...	200	200
4	ACME W...	Create pi...	02-FEB-18	02-FEB-18	Closed	John Wa...	100	100
5	ACME W...	Specify s...	07-FEB-18	07-FEB-18	Open	John Wa...	200	300
6	ACME W...	Configur...	08-FEB-18	08-FEB-18	Open	John Wa...	200	100
7	ACME W...	Select se...	11-FEB-18	13-FEB-18	Open	James C...	200	600
8	Bug Trac...	Docume...	12-DEC-17	15-DEC-17	Closed	Myra Sut...	3000	2000
9	Bug Trac...	Review a...	16-DEC-17	18-DEC-17	Closed	Myra Sut...	750	1500
10	Bug Trac...	Impleme...	31-DEC-17	31-DEC-17	Closed	Myra Sut...	100	100
11	Bug Trac...	Train dev...	07-JAN-18	12-JAN-18	On-Hold	Myra Sut...	1000	2000

4. Rearrange the columns in the interactive grid. You want to display the column groups Work Breakdown, Schedule, and Project Financing display in order followed by Status and Assigned To.
   a) Hover the mouse over the Project Financing column group header to display the drag handle. Your mouse cursor also changes when it comes into contact with the drag handle. Click and hold the drag handle.
   b) Then, drag the column group to the Status column location. The heading shifts out of place in the row. The Project Financing column group should be followed by the Status column.

Release the mouse. The Project Financing column group drops into place.

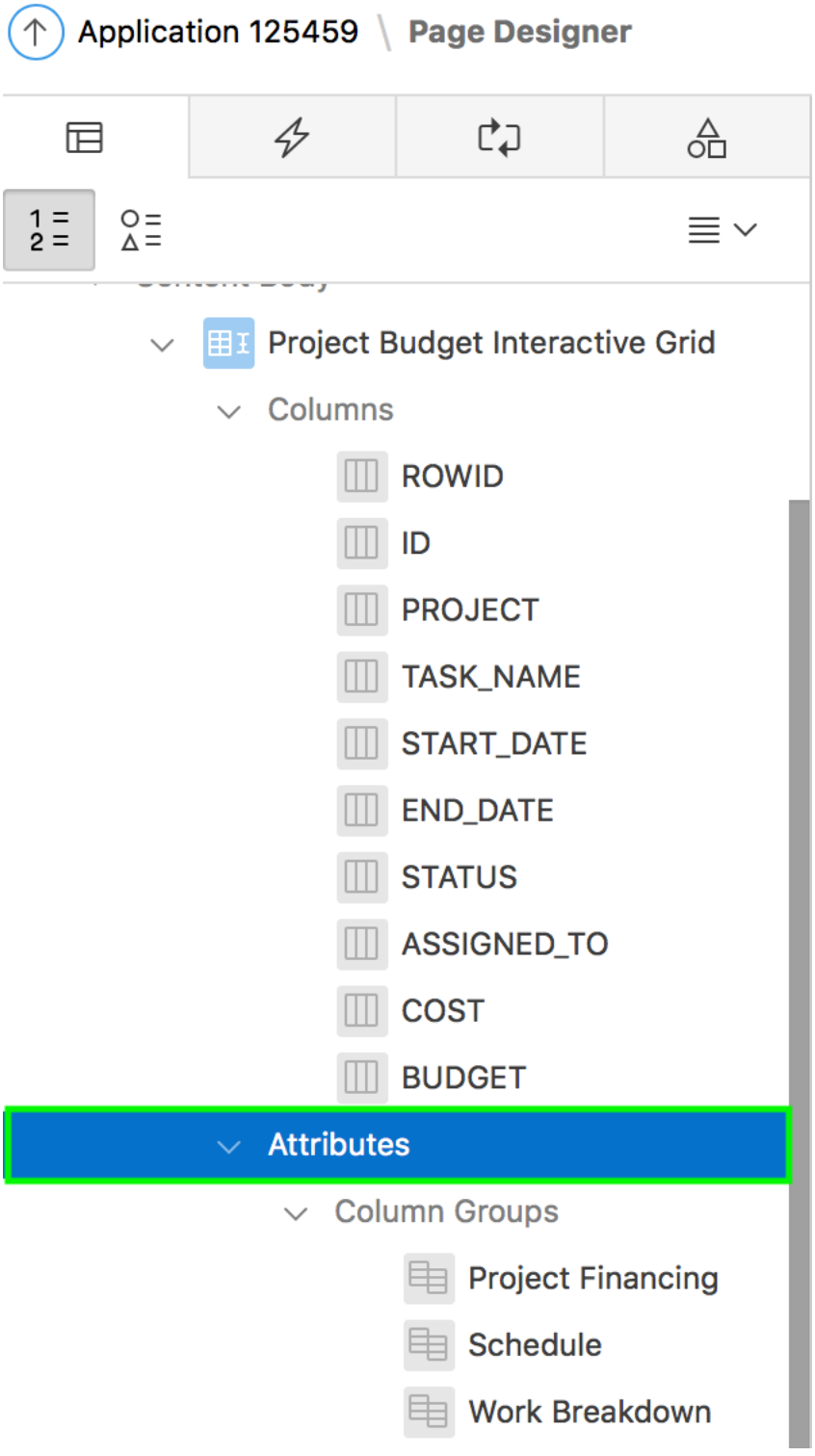


5. Resize the width of the **Id** column. Click and hold the edge of the column heading and adjust with the mouse.

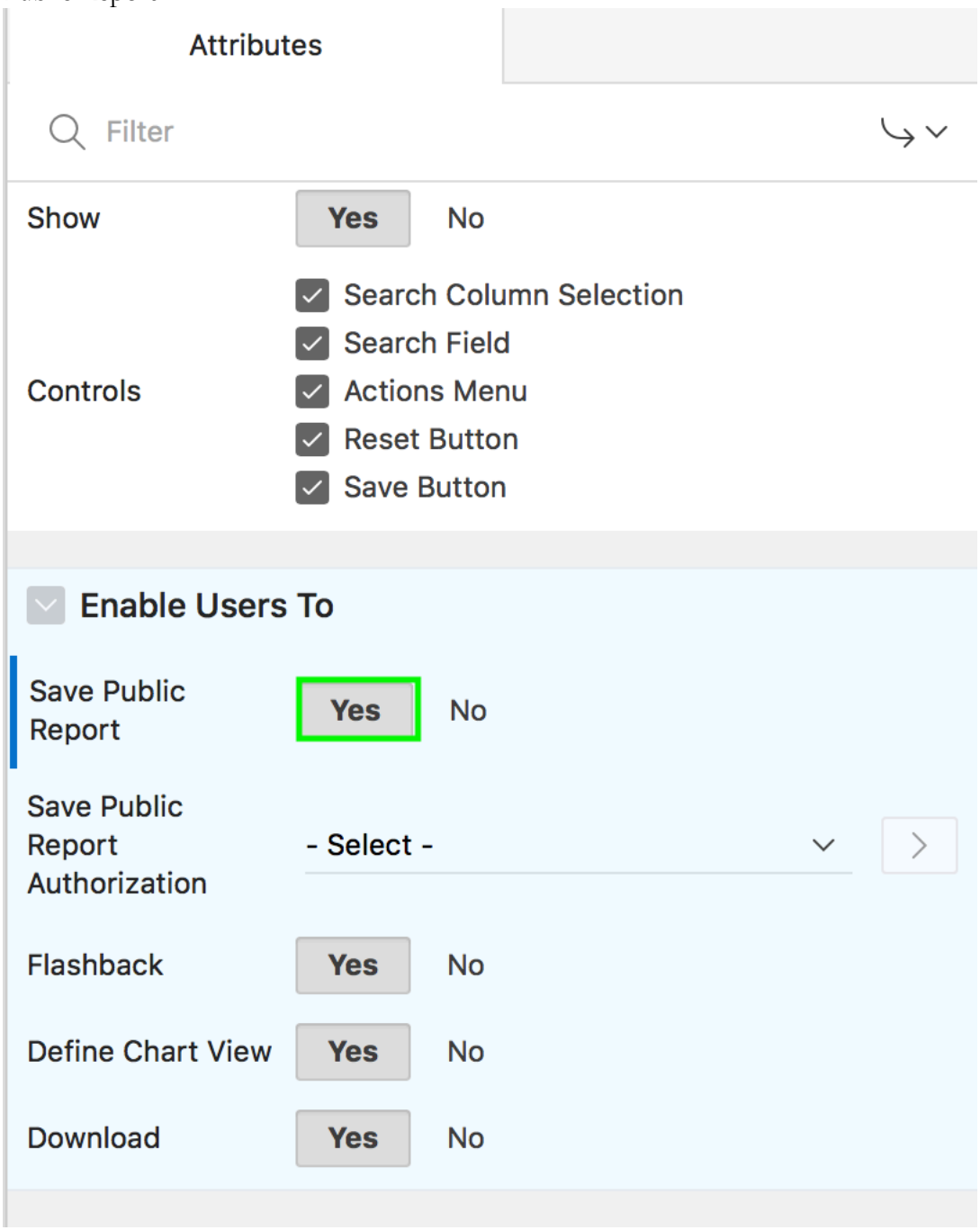


6. You want to ensure that end users can save Public interactive grids. You want to exclude HTML from the download formats available to end users. In the Developer Toolbar, click **Edit Page <*n*>**.

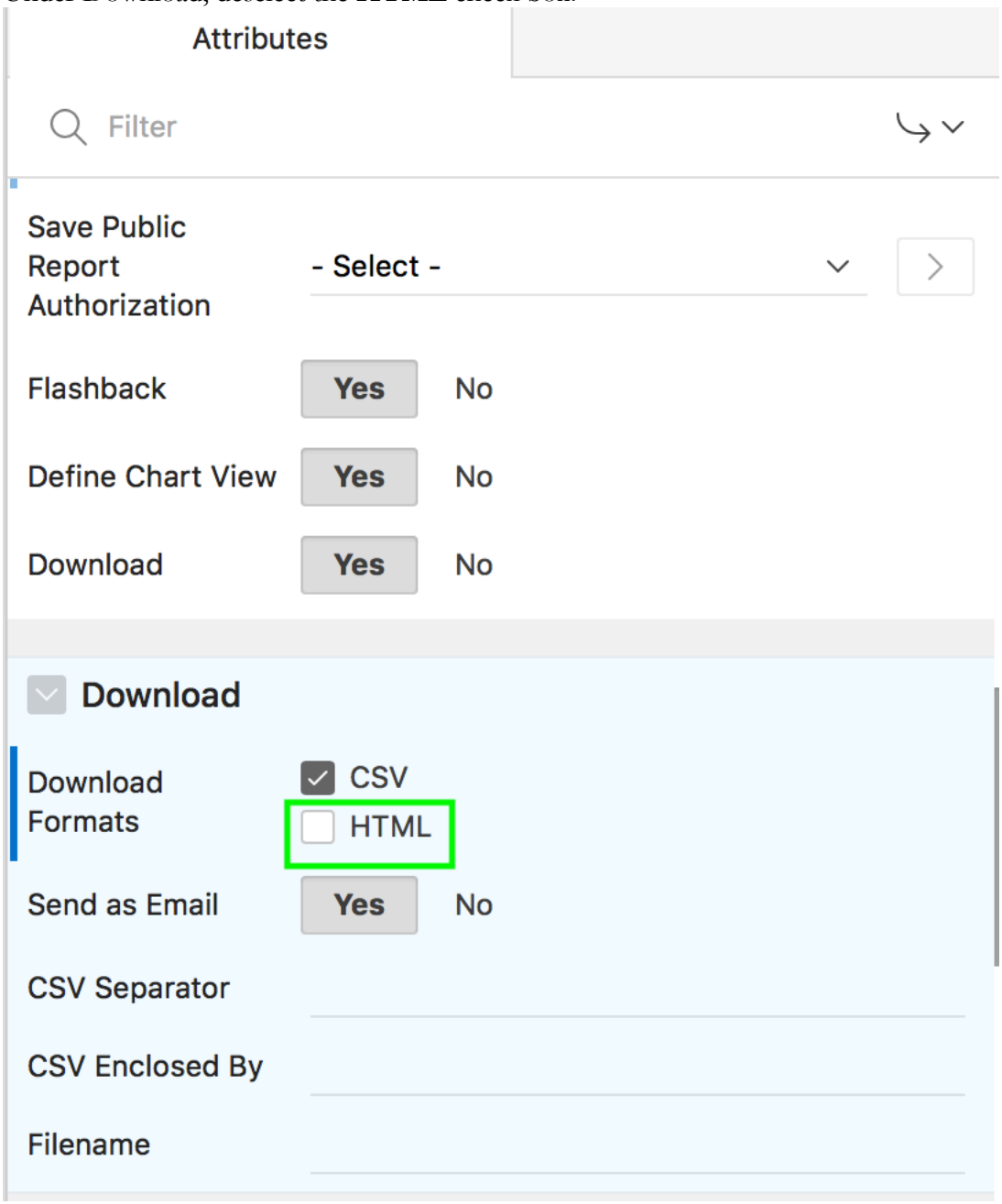
a) Under Rendering, select **Attributes** under the Project Budget Interactive Grid region.



b) In the property editor, under Attributes, navigate to Enable Users To. Select **Yes** for Save Public Report.

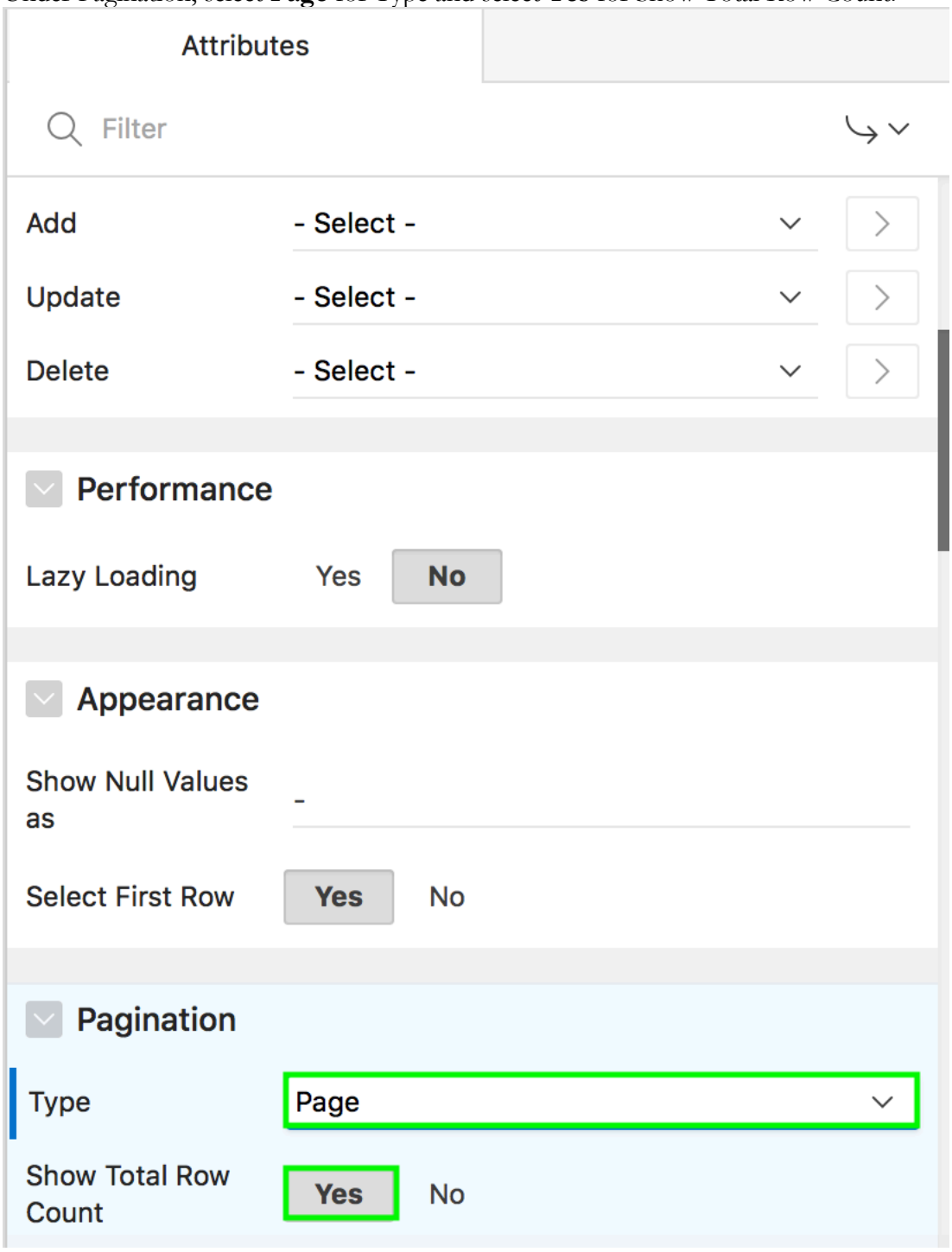


c) Under Download, deselect the **HTML** check box.



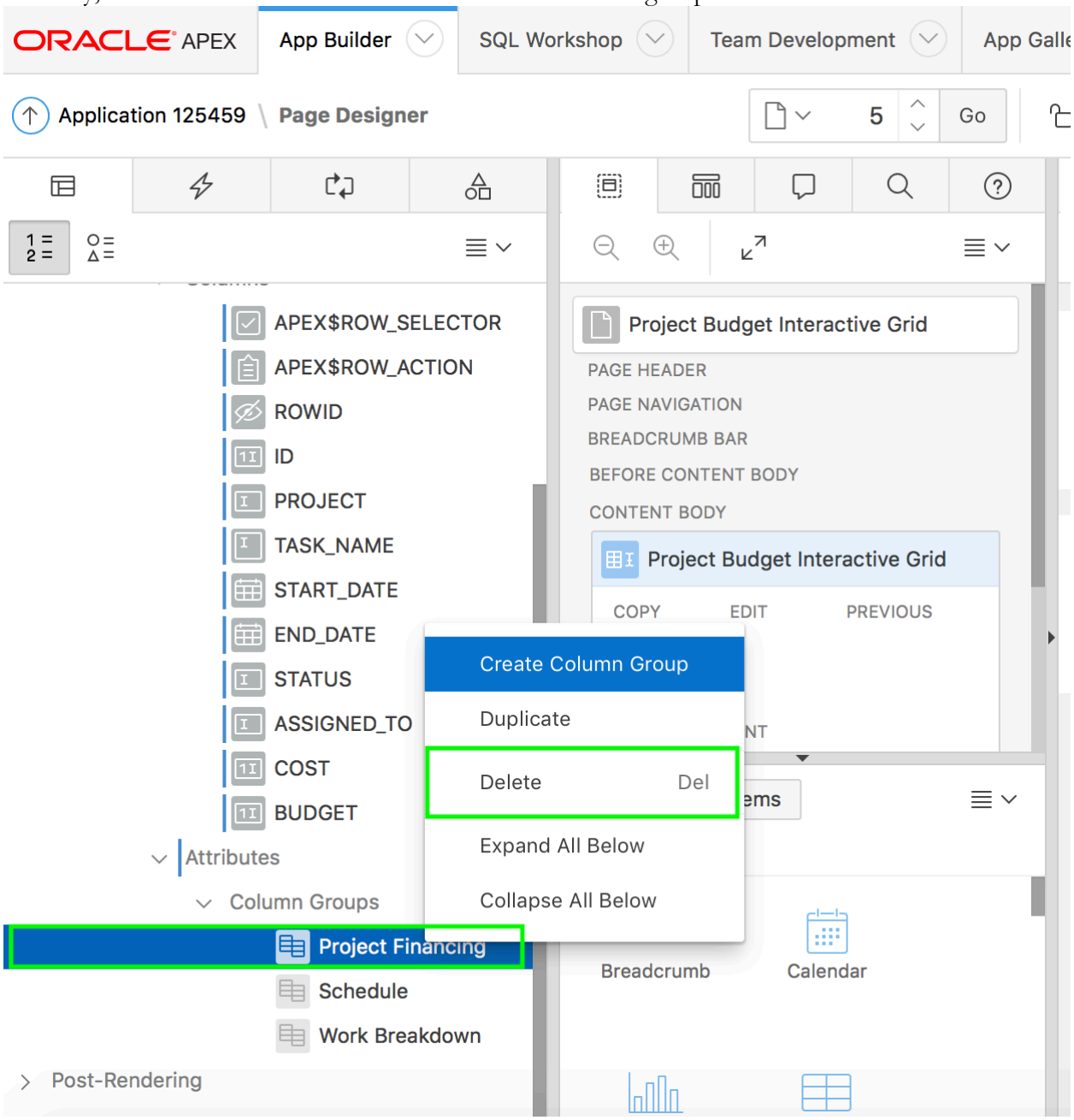
7. Convert this read only interactive grid in to an editable interactive grid. Then, reset the pagination as Page type displaying the total row count.
   a) Under Rendering, select **Attributes** under the Project Budget Interactive Grid region.
   b) In the property editor, navigate to Edit. For Enabled, select **Yes**.

c) Under Pagination, select **Page** for Type and select **Yes** for Show Total Row Count.

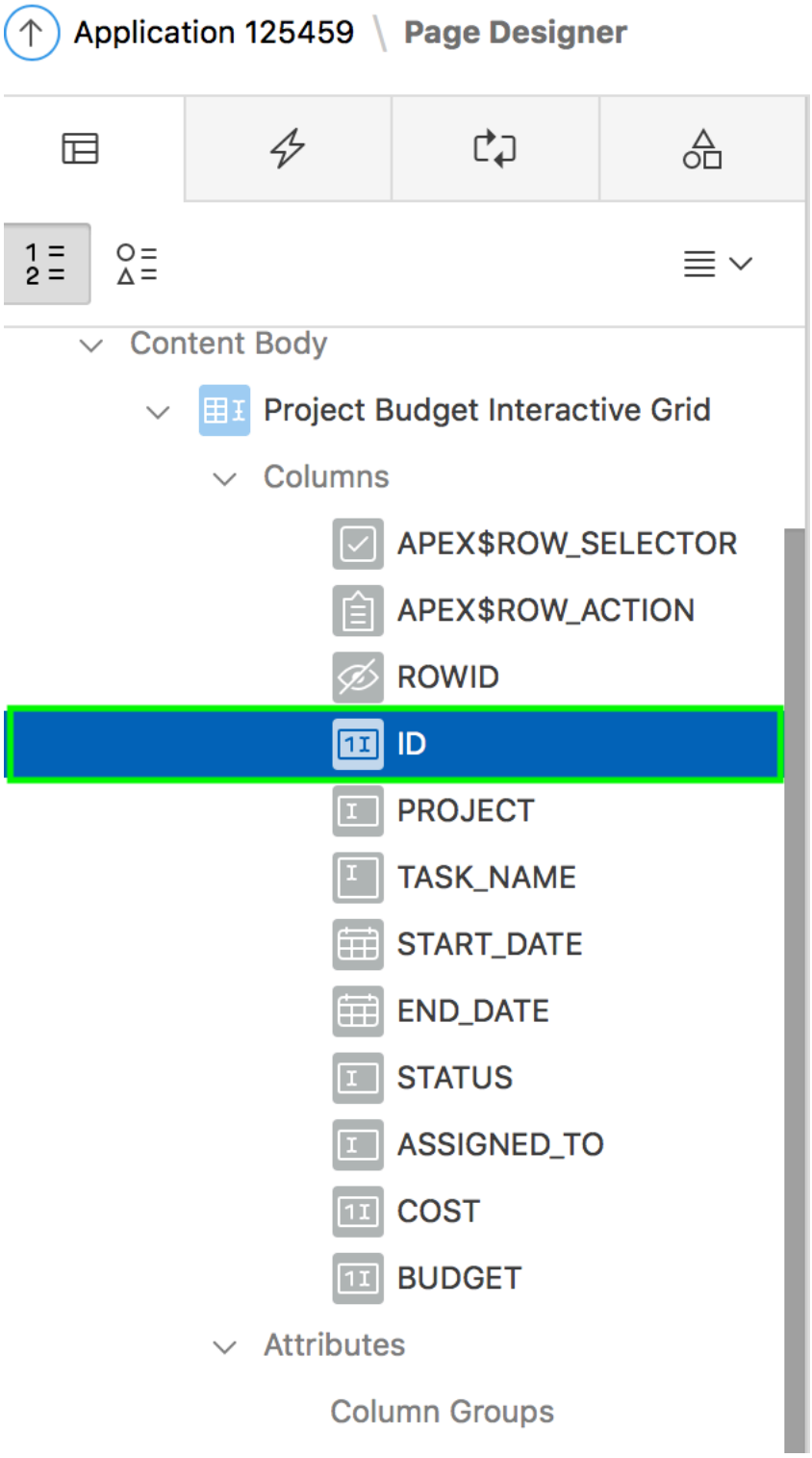


8. Delete the column groups in the interactive grid. Under Rendering > Project Budget Interactive Grid > Attributes, expand Column Groups. Right-click **Project Financing** and click **Delete**.

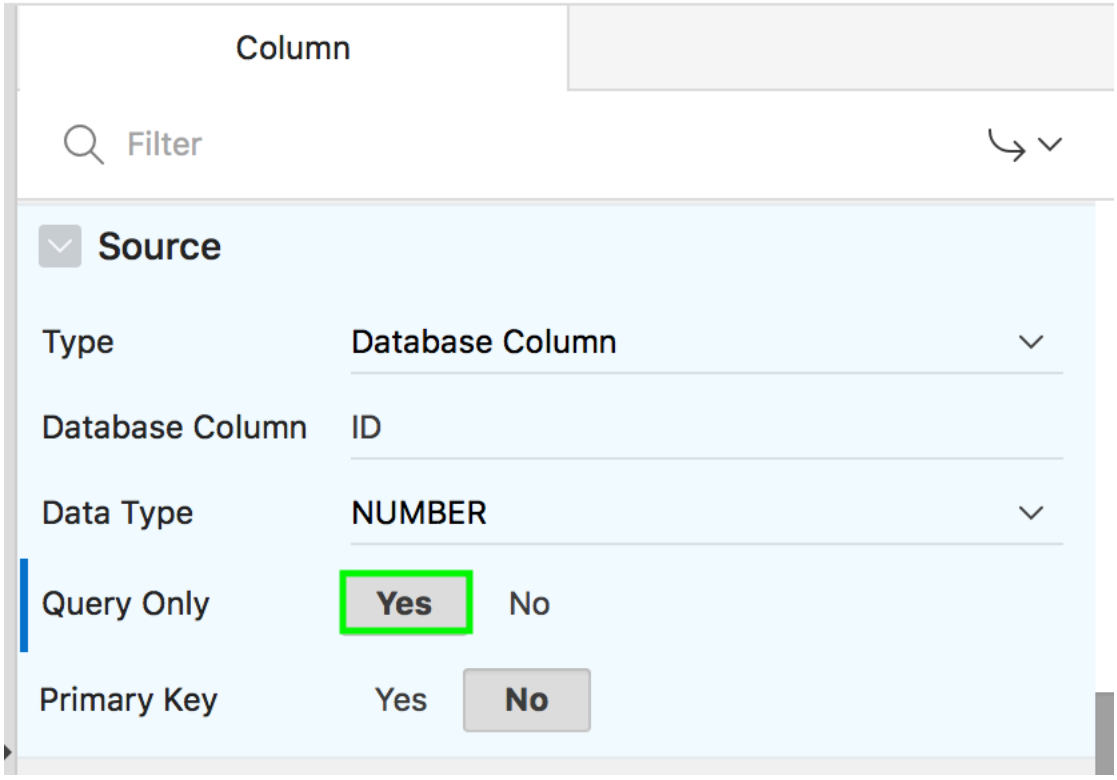
Similarly, delete the Schedule and Work Breakdown column groups.



9. You want to exclude the ID column from DML operations. Under Page Rendering > Project Budget Interactive Grid, expand Columns and select **ID**.



10. In the Property Editor, scroll down to Source. For Query Only, select **Yes**.

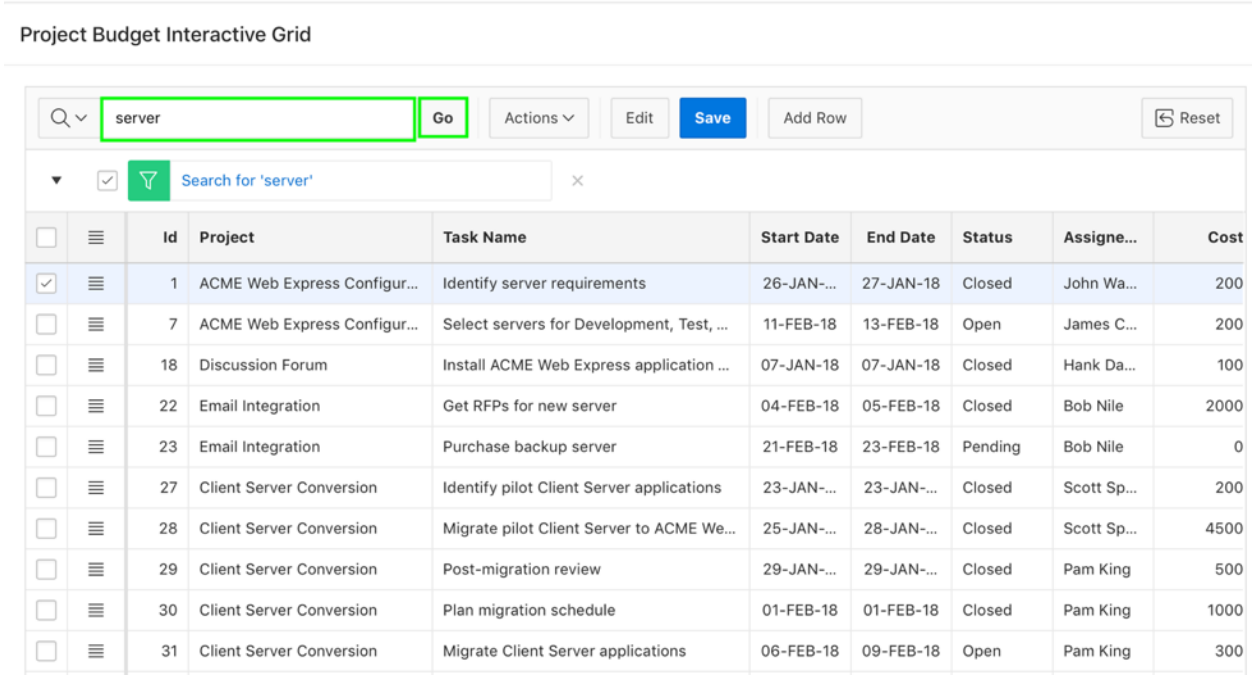


11. Click **Save**. Then, click **Save and Run Page**.

HOL 7-2: Customizing an Interactive Grid as an End User

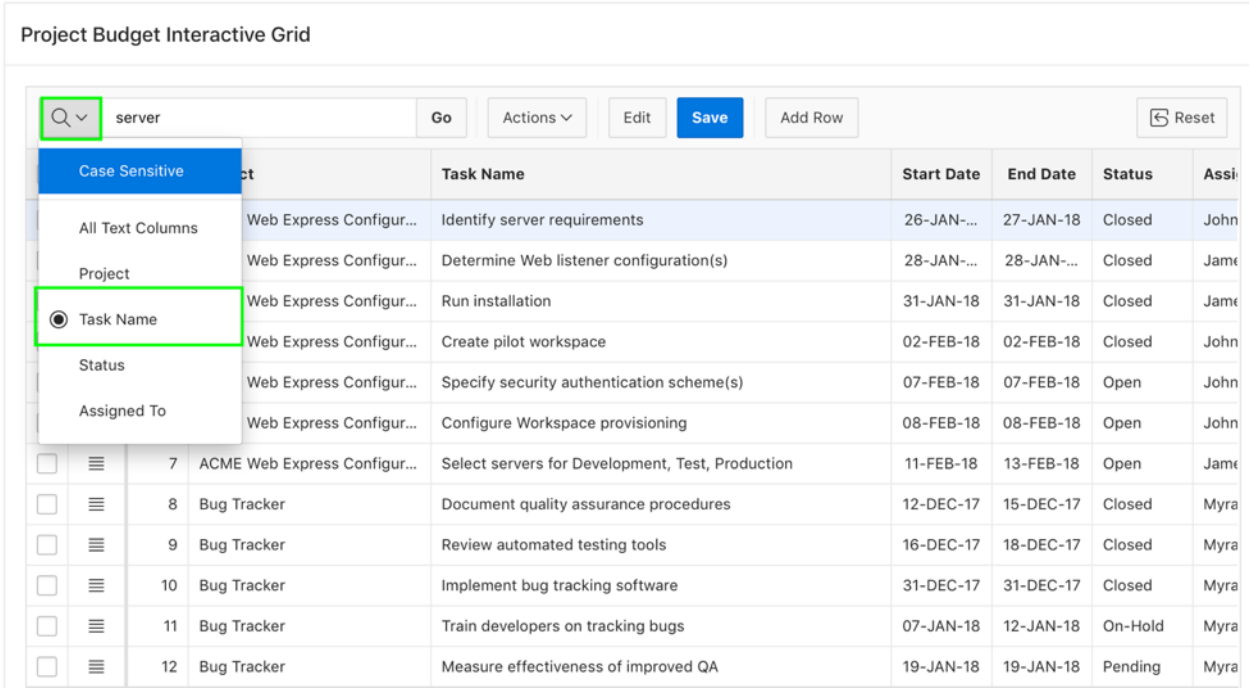
In this lab, you use and customize the display of your interactive grid. You also edit an editable interactive grid.

1. Notice that the interactive grid is editable now. You see the Edit, Save, and Add Row buttons. Also, the pagination type that you have set is displayed now. Perform a non-case-sensitive search for 'server' on the entire interactive grid. To do this, enter **server** in the search bar text area and click **Go**.

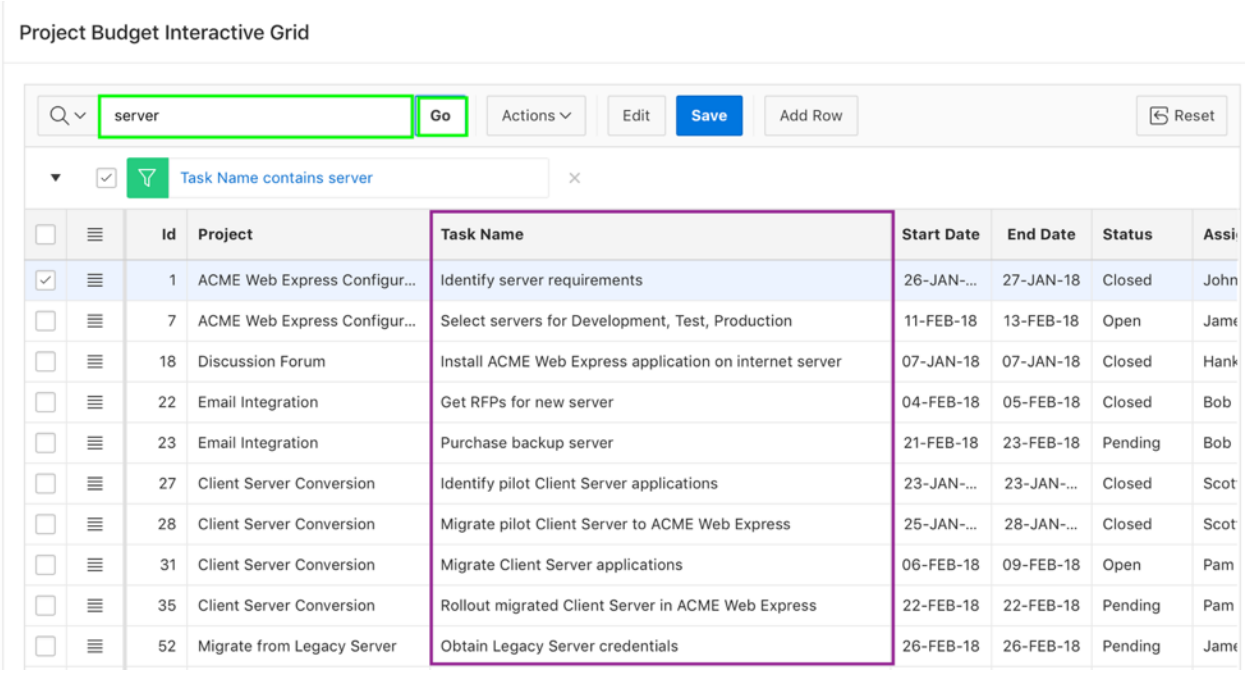


Id	Project	Task Name	Start Date	End Date	Status	Assigne...	Cost
1	ACME Web Express Configur...	Identify server requirements	26-JAN-...	27-JAN-18	Closed	John Wa...	200
7	ACME Web Express Configur...	Select servers for Development, Test, ...	11-FEB-18	13-FEB-18	Open	James C...	200
18	Discussion Forum	Install ACME Web Express application ...	07-JAN-18	07-JAN-18	Closed	Hank Da...	100
22	Email Integration	Get RFPs for new server	04-FEB-18	05-FEB-18	Closed	Bob Nile	2000
23	Email Integration	Purchase backup server	21-FEB-18	23-FEB-18	Pending	Bob Nile	0
27	Client Server Conversion	Identify pilot Client Server applications	23-JAN-...	23-JAN-...	Closed	Scott Sp...	200
28	Client Server Conversion	Migrate pilot Client Server to ACME We...	25-JAN-...	28-JAN-...	Closed	Scott Sp...	4500
29	Client Server Conversion	Post-migration review	29-JAN-...	29-JAN-...	Closed	Pam King	500
30	Client Server Conversion	Plan migration schedule	01-FEB-18	01-FEB-18	Closed	Pam King	1000
31	Client Server Conversion	Migrate Client Server applications	06-FEB-18	09-FEB-18	Open	Pam King	300

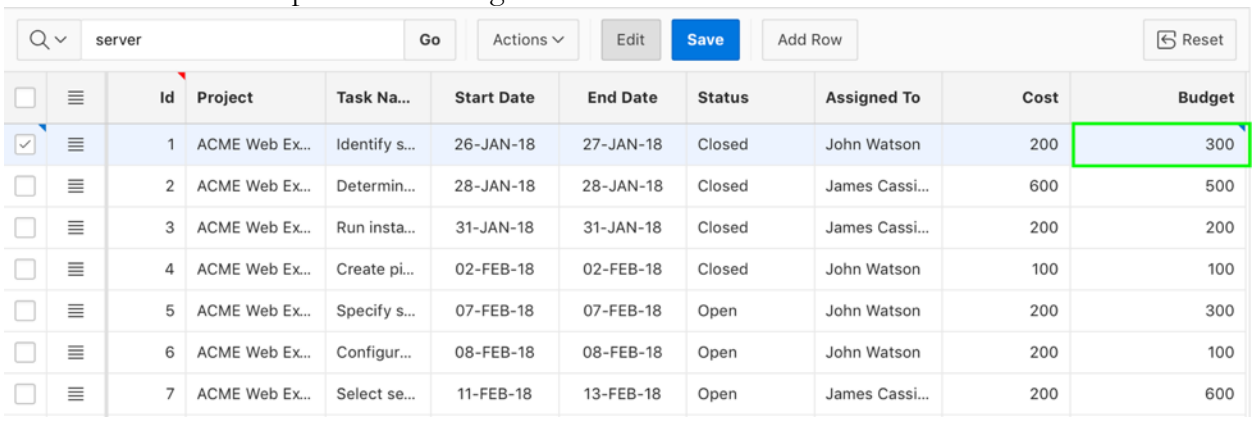
2. Remove the filter by clicking the **X** icon.
Now, in the search bar, click the magnifying glass and select **Task Name** column.



3. Enter **server** in the text area and click **Go**. Notice that the search is now restricted only to the Task Name column.

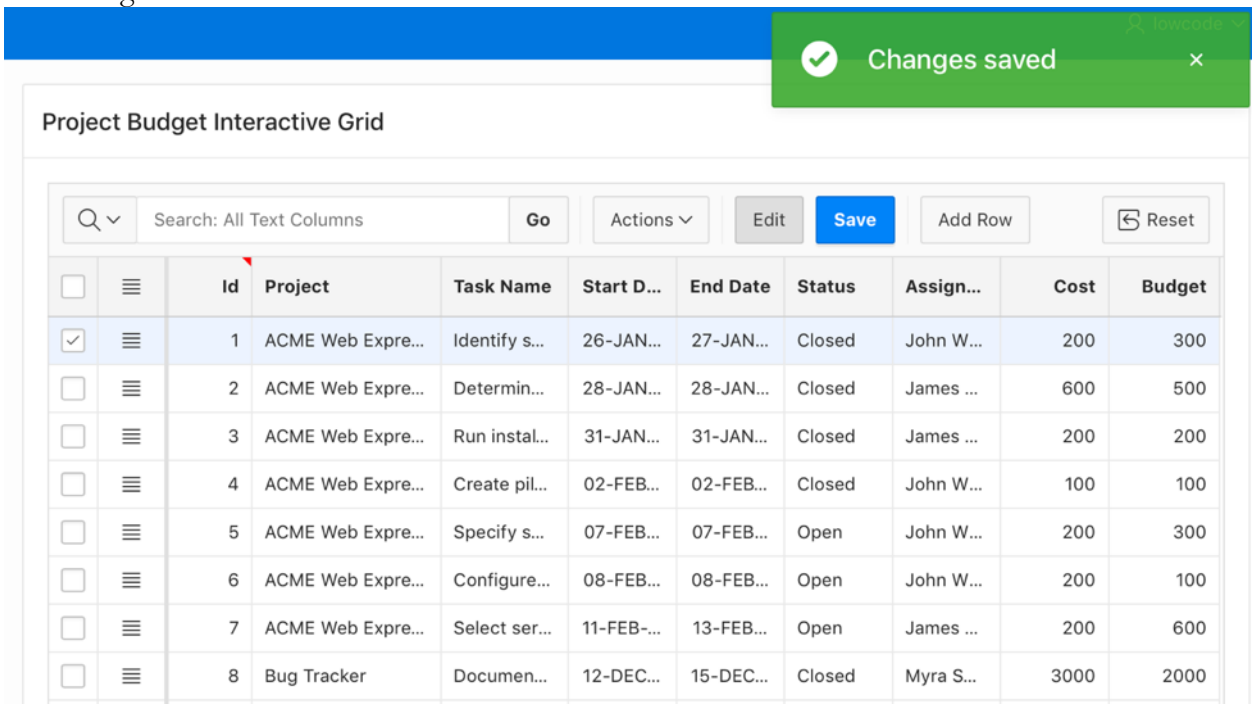


4. Remove the filter by clicking the **X** icon. You want to update the budget for the Project with Id 1. Click the field and replace the existing value with **300**.



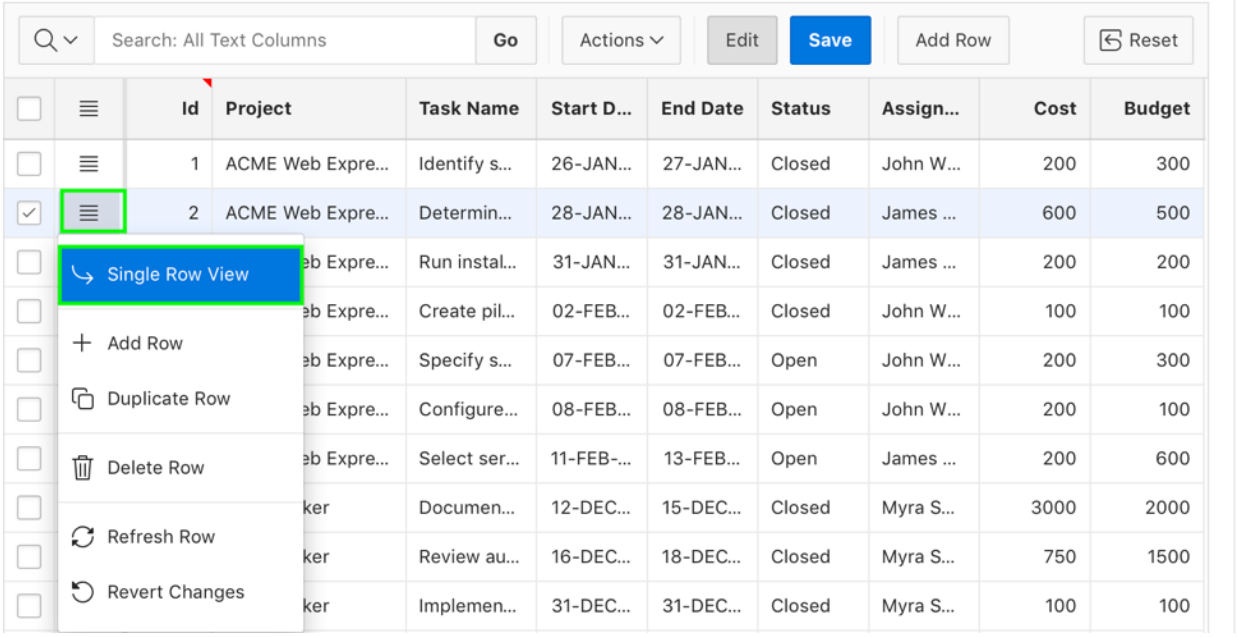
Id	Project	Task Na...	Start Date	End Date	Status	Assigned To	Cost	Budget
1	ACME Web Ex...	Identify s...	26-JAN-18	27-JAN-18	Closed	John Watson	200	300
2	ACME Web Ex...	Determin...	28-JAN-18	28-JAN-18	Closed	James Cassi...	600	500
3	ACME Web Ex...	Run insta...	31-JAN-18	31-JAN-18	Closed	James Cassi...	200	200
4	ACME Web Ex...	Create pi...	02-FEB-18	02-FEB-18	Closed	John Watson	100	100
5	ACME Web Ex...	Specify s...	07-FEB-18	07-FEB-18	Open	John Watson	200	300
6	ACME Web Ex...	Configur...	08-FEB-18	08-FEB-18	Open	John Watson	200	100
7	ACME Web Ex...	Select se...	11-FEB-18	13-FEB-18	Open	James Cassi...	200	600

5. The changes are not saved yet. Click the **Save** button.
The changes are saved now.

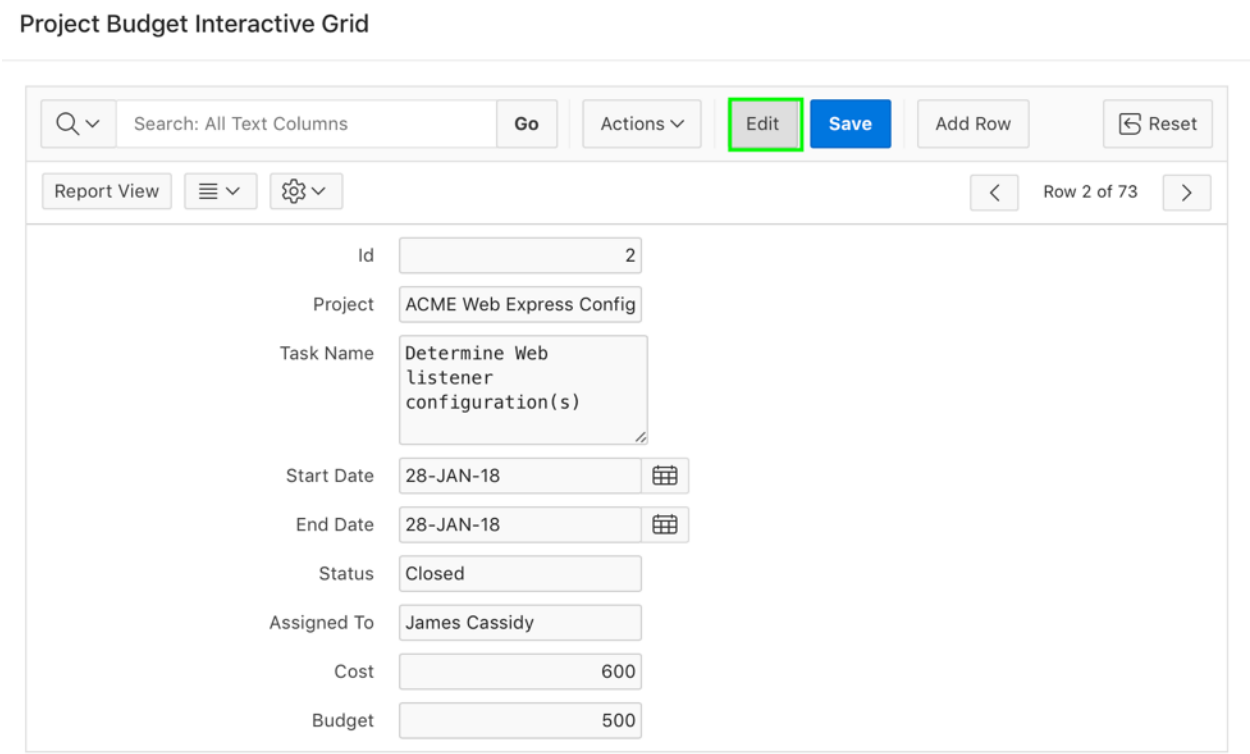


Id	Project	Task Name	Start D...	End Date	Status	Assign...	Cost	Budget
1	ACME Web Expre...	Identify s...	26-JAN...	27-JAN...	Closed	John W...	200	300
2	ACME Web Expre...	Determin...	28-JAN...	28-JAN...	Closed	James ...	600	500
3	ACME Web Expre...	Run instal...	31-JAN...	31-JAN...	Closed	James ...	200	200
4	ACME Web Expre...	Create pil...	02-FEB...	02-FEB...	Closed	John W...	100	100
5	ACME Web Expre...	Specify s...	07-FEB...	07-FEB...	Open	John W...	200	300
6	ACME Web Expre...	Configure...	08-FEB...	08-FEB...	Open	John W...	200	100
7	ACME Web Expre...	Select ser...	11-FEB-...	13-FEB...	Open	James ...	200	600
8	Bug Tracker	Documen...	12-DEC...	15-DEC...	Closed	Myra S...	3000	2000

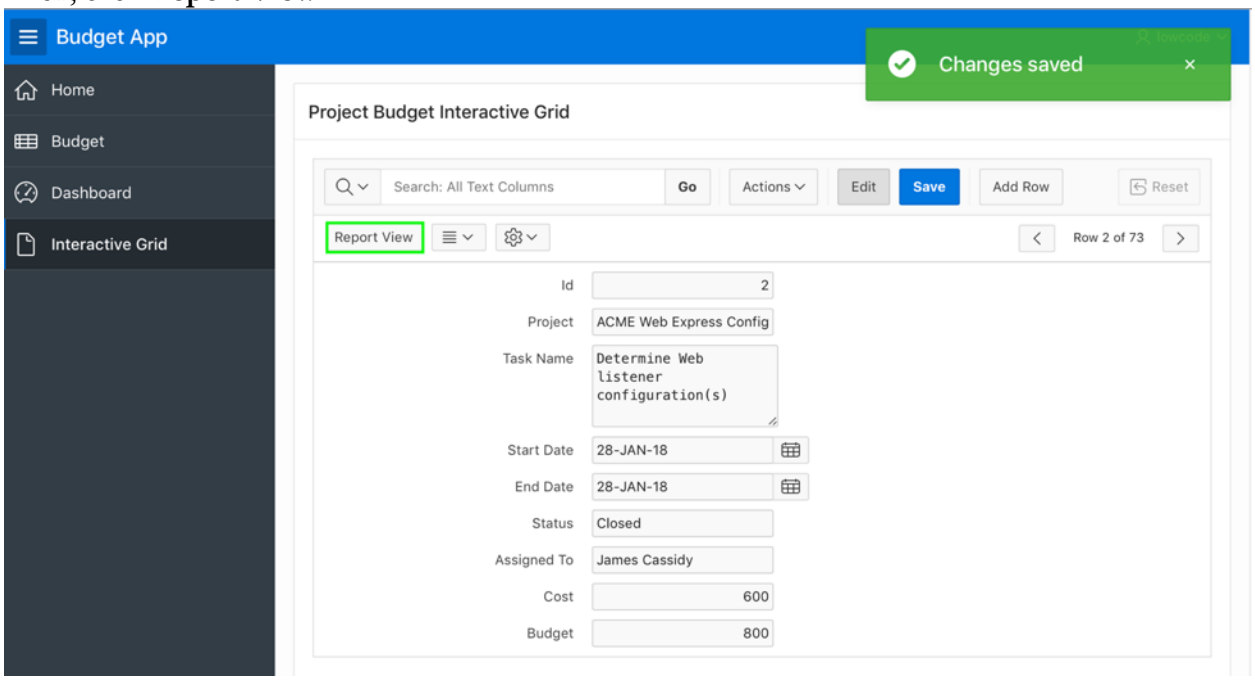
6. You want to update another row. This time, click the row header for the project with Id 2 and select **Single Row View**.



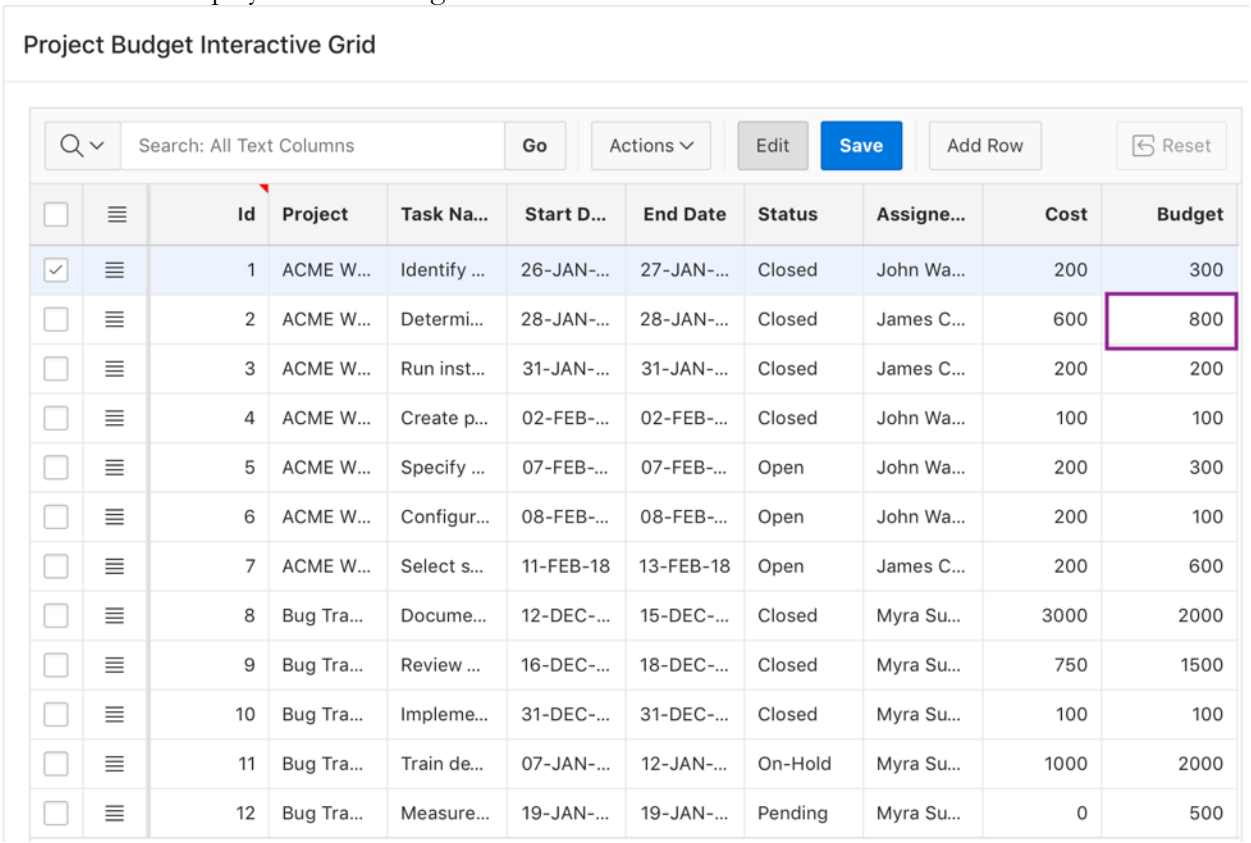
7. You are now in the single row view of the project with Id 2. Click **Edit**.



8. Replace the existing value for Budget with **800** and click **Save**.
Then, click **Report View**.

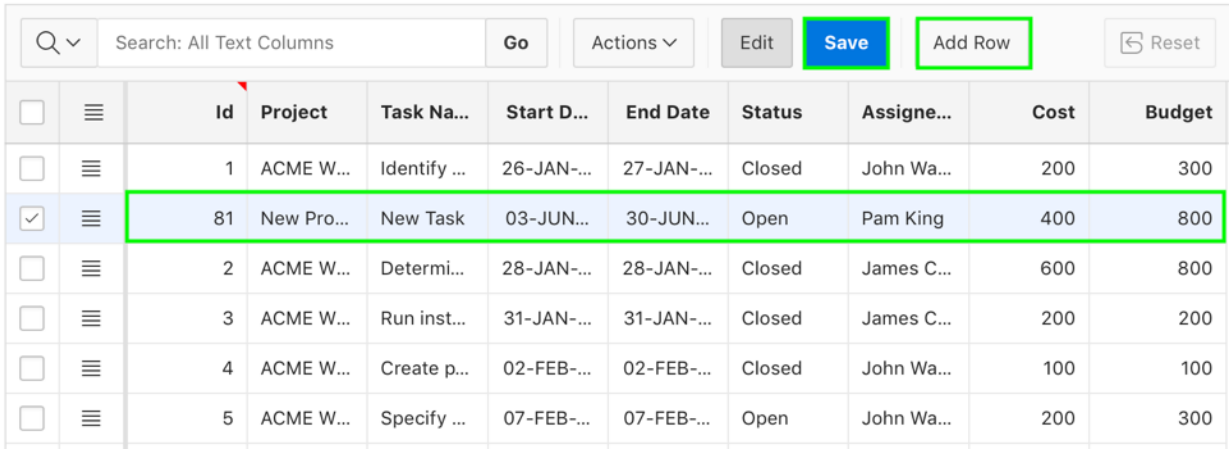


9. The row now displays 800 for Budget.



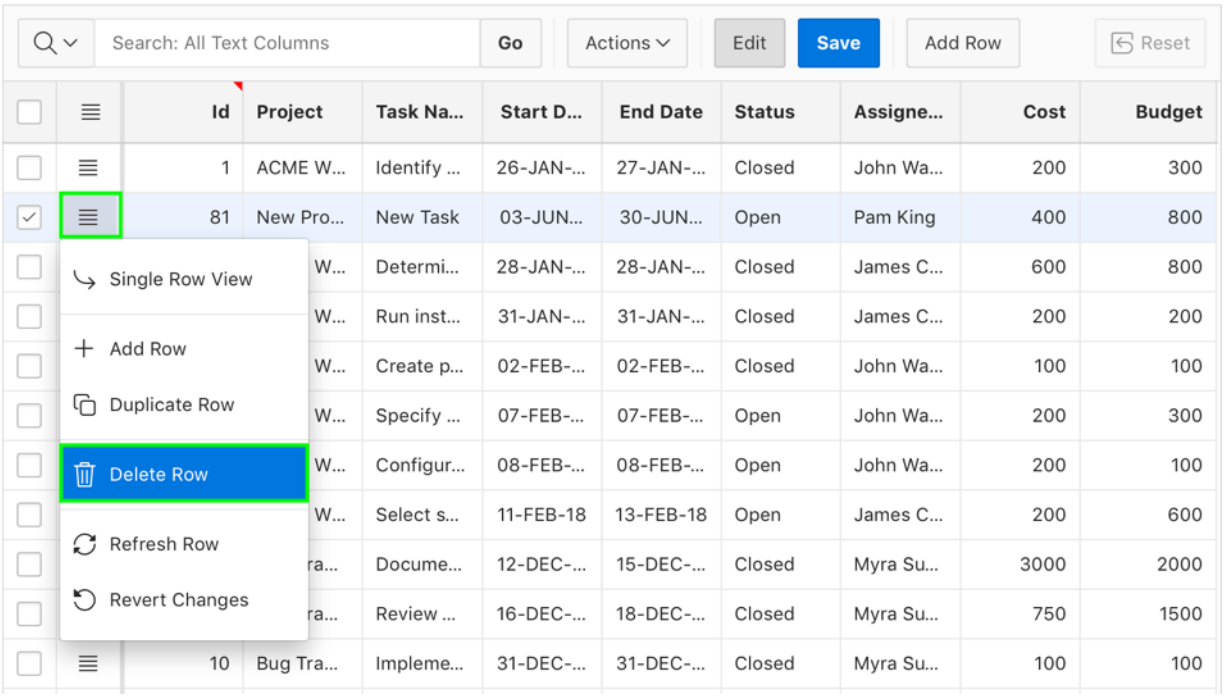
Id	Project	Task Na...	Start D...	End Date	Status	Assigne...	Cost	Budget
1	ACME W...	Identify ...	26-JAN-...	27-JAN-...	Closed	John Wa...	200	300
2	ACME W...	Determi...	28-JAN-...	28-JAN-...	Closed	James C...	600	800
3	ACME W...	Run inst...	31-JAN-...	31-JAN-...	Closed	James C...	200	200
4	ACME W...	Create p...	02-FEB-...	02-FEB-...	Closed	John Wa...	100	100
5	ACME W...	Specify ...	07-FEB-...	07-FEB-...	Open	John Wa...	200	300
6	ACME W...	Configur...	08-FEB-...	08-FEB-...	Open	John Wa...	200	100
7	ACME W...	Select s...	11-FEB-18	13-FEB-18	Open	James C...	200	600
8	Bug Tra...	Docume...	12-DEC-...	15-DEC-...	Closed	Myra Su...	3000	2000
9	Bug Tra...	Review ...	16-DEC-...	18-DEC-...	Closed	Myra Su...	750	1500
10	Bug Tra...	Impleme...	31-DEC-...	31-DEC-...	Closed	Myra Su...	100	100
11	Bug Tra...	Train de...	07-JAN-...	12-JAN-...	On-Hold	Myra Su...	1000	2000
12	Bug Tra...	Measure...	19-JAN-...	19-JAN-...	Pending	Myra Su...	0	500

10. Click **Add Row**. Enter values for all the columns.
Click **Save**.



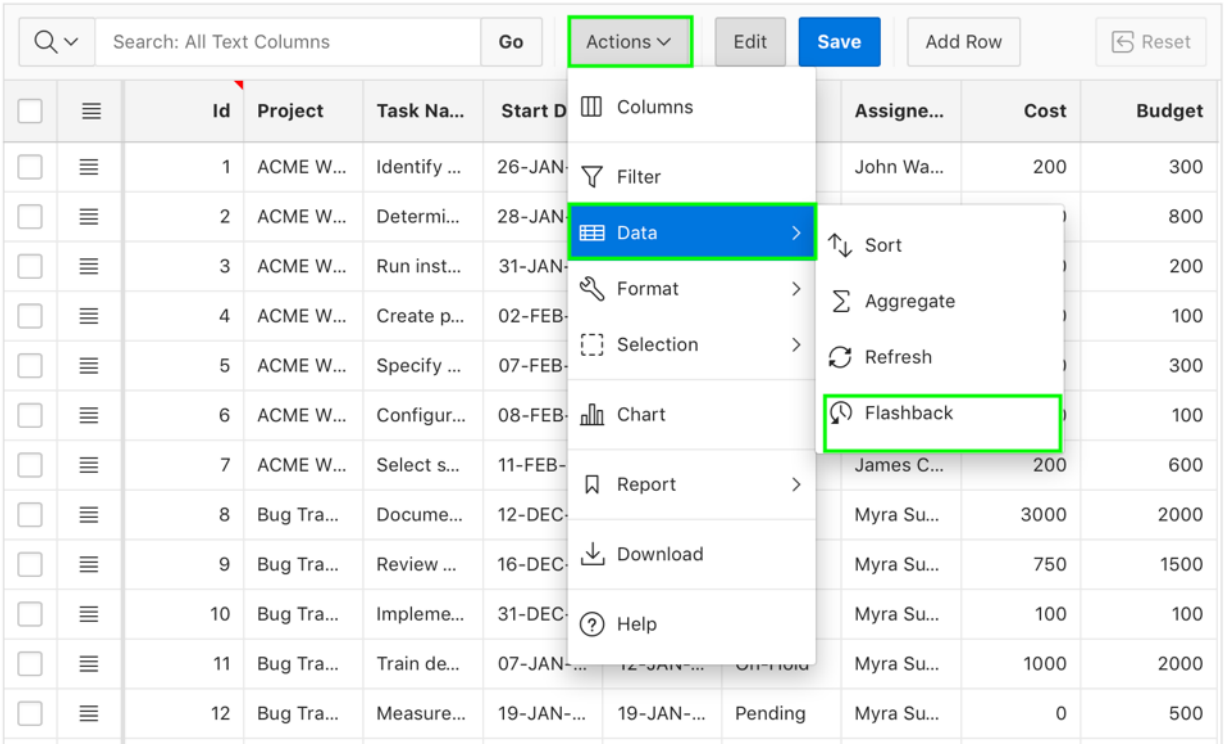
Id	Project	Task Na...	Start D...	End Date	Status	Assigne...	Cost	Budget
1	ACME W...	Identify ...	26-JAN-...	27-JAN-...	Closed	John Wa...	200	300
81	New Pro...	New Task	03-JUN...	30-JUN...	Open	Pam King	400	800
2	ACME W...	Determi...	28-JAN-...	28-JAN-...	Closed	James C...	600	800
3	ACME W...	Run inst...	31-JAN-...	31-JAN-...	Closed	James C...	200	200
4	ACME W...	Create p...	02-FEB-...	02-FEB-...	Closed	John Wa...	100	100
5	ACME W...	Specify ...	07-FEB-...	07-FEB-...	Open	John Wa...	200	300

11. Click the row header for the row that you just added and select **Delete Row**.
Then, click **Save**.

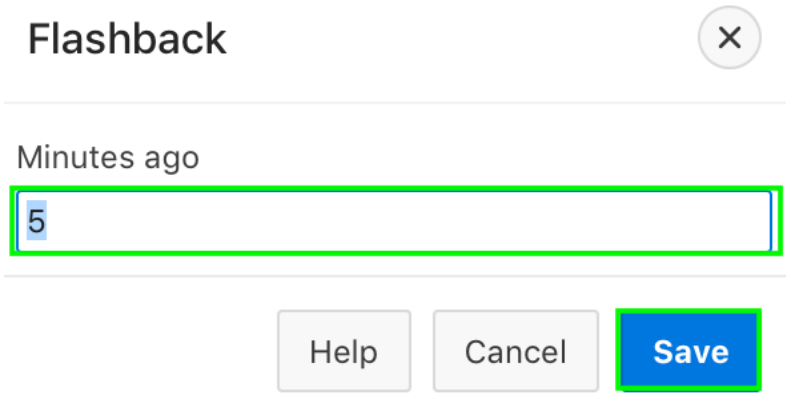


Id	Project	Task Na...	Start D...	End Date	Status	Assigne...	Cost	Budget
1	ACME W...	Identify ...	26-JAN-...	27-JAN-...	Closed	John Wa...	200	300
81	New Pro...	New Task	03-JUN...	30-JUN...	Open	Pam King	400	800
	W...	Determi...	28-JAN-...	28-JAN-...	Closed	James C...	600	800
	W...	Run inst...	31-JAN-...	31-JAN-...	Closed	James C...	200	200
	W...	Create p...	02-FEB-...	02-FEB-...	Closed	John Wa...	100	100
	W...	Specify ...	07-FEB-...	07-FEB-...	Open	John Wa...	200	300
	W...	Configur...	08-FEB-...	08-FEB-...	Open	John Wa...	200	100
	W...	Select s...	11-FEB-18	13-FEB-18	Open	James C...	200	600
	ra...	Docume...	12-DEC-...	15-DEC-...	Closed	Myra Su...	3000	2000
	ra...	Review ...	16-DEC-...	18-DEC-...	Closed	Myra Su...	750	1500
10	Bug Tra...	Impleme...	31-DEC-...	31-DEC-...	Closed	Myra Su...	100	100

12. You want to review the data that existed few minutes ago. Select **Actions > Data > Flashback**.

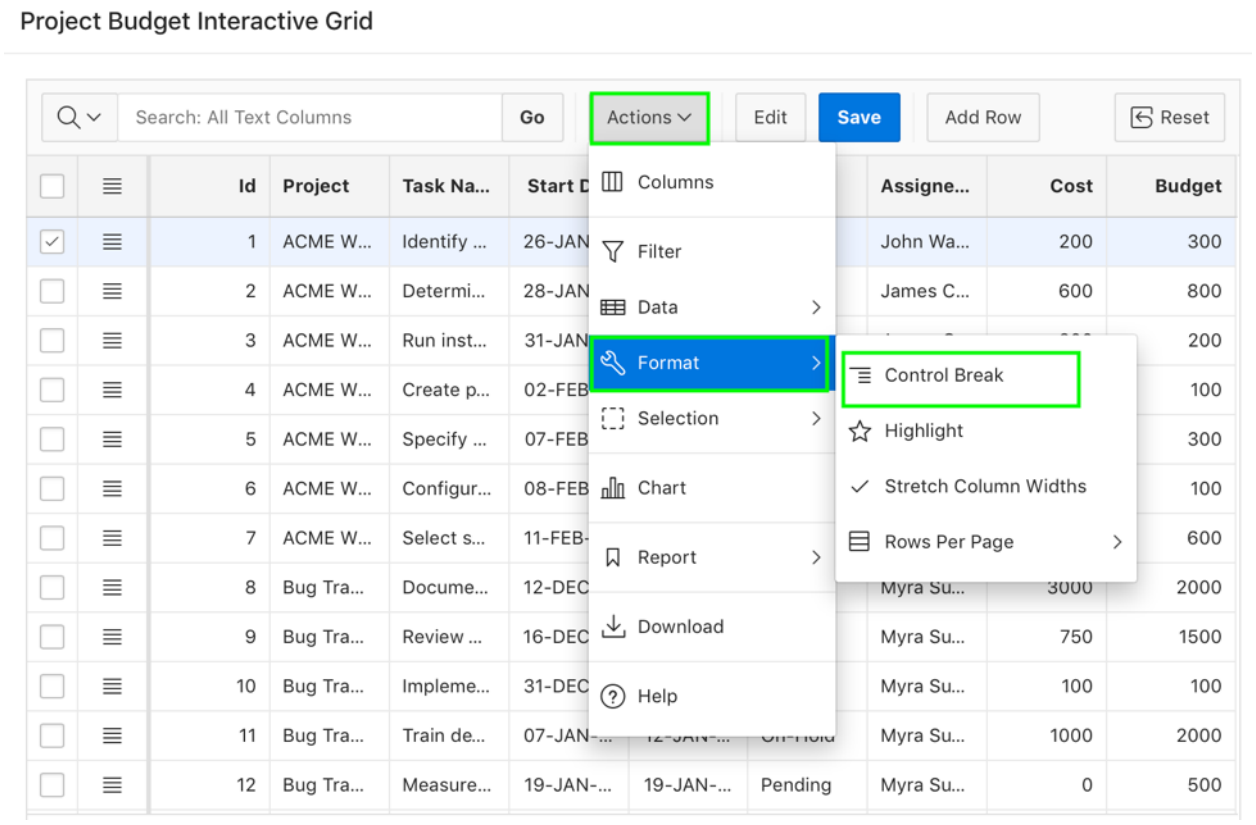


13. Enter **5** for Minutes ago and click **Save**.



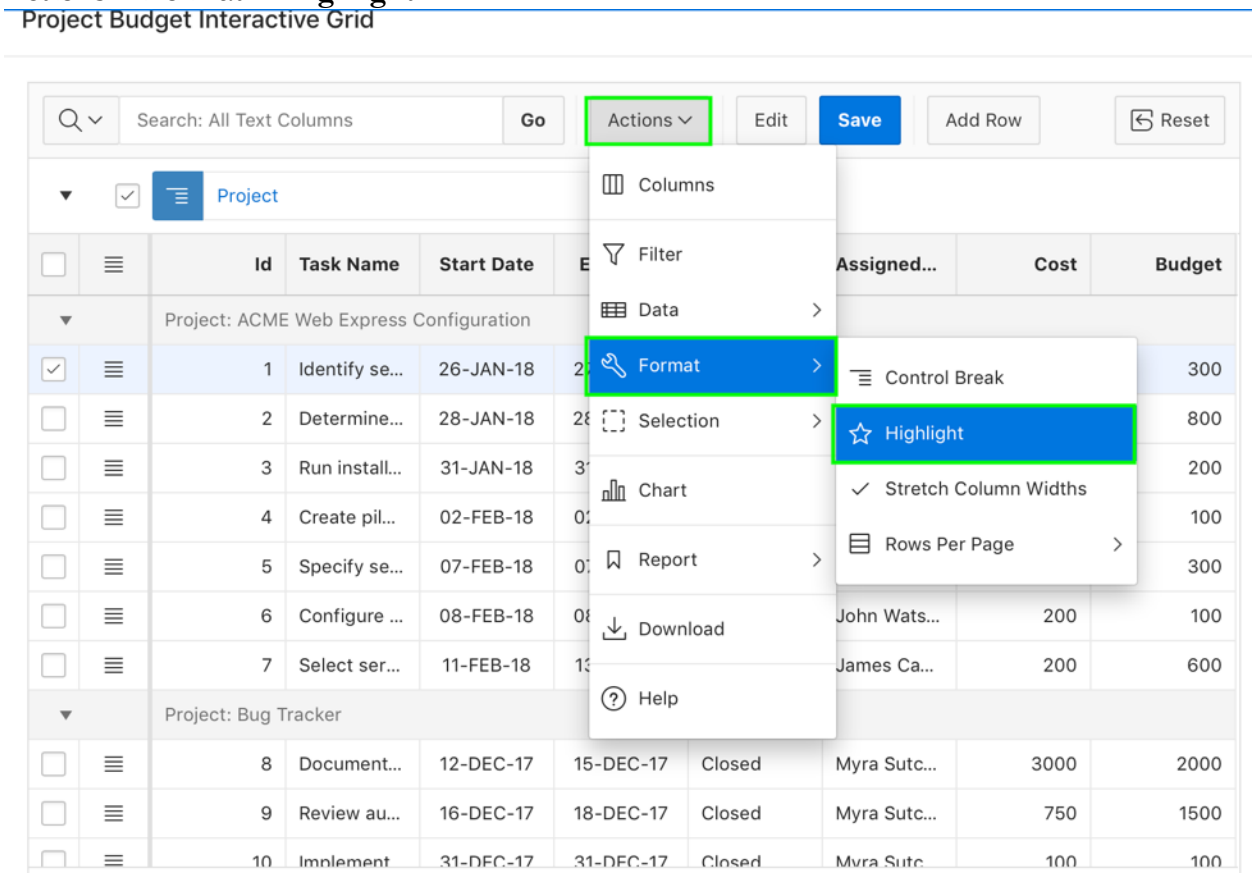
14. Notice the budget values for projects with Id's 1 and 2.
Click **X** to remove flashback.

15. You want to create a control break on the Project column. Click **Actions > Format > Control Break**.



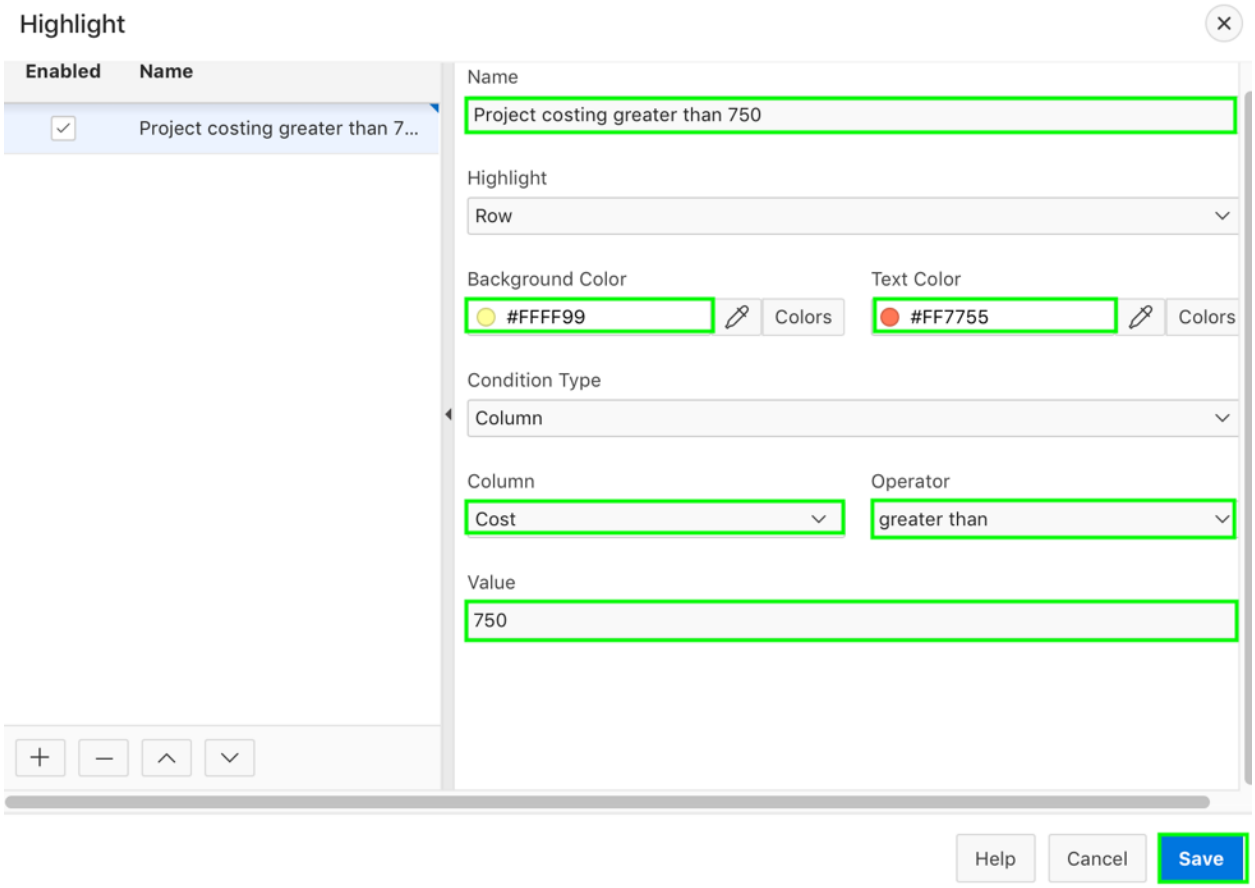
16. In the Control Break dialog, enter **Project** for Column and click **Save**.

17. The control break is now applied. You want to highlight rows that meet a condition. Select **Actions > Format > Highlight**.

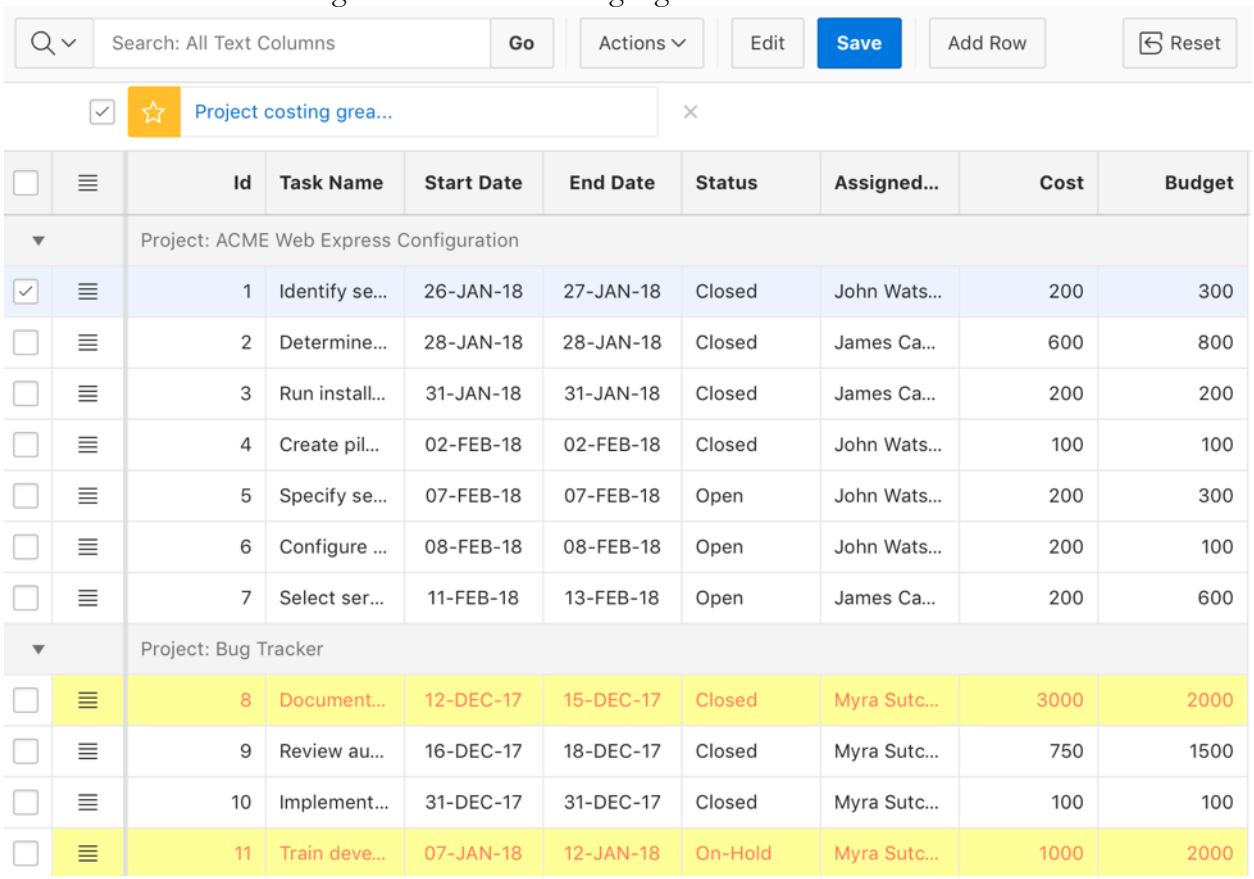


18. In the Highlight dialog:
    - Name: Project costing greater than 750
    - Background Color: Click **Colors** and select **Yellow**.
    - Text Color: Click **Colors** and select **Red**.
    - Column: Select **Cost**
    - Operator: Select **greater than**
    - Value: Enter **750**

Click **Save**.

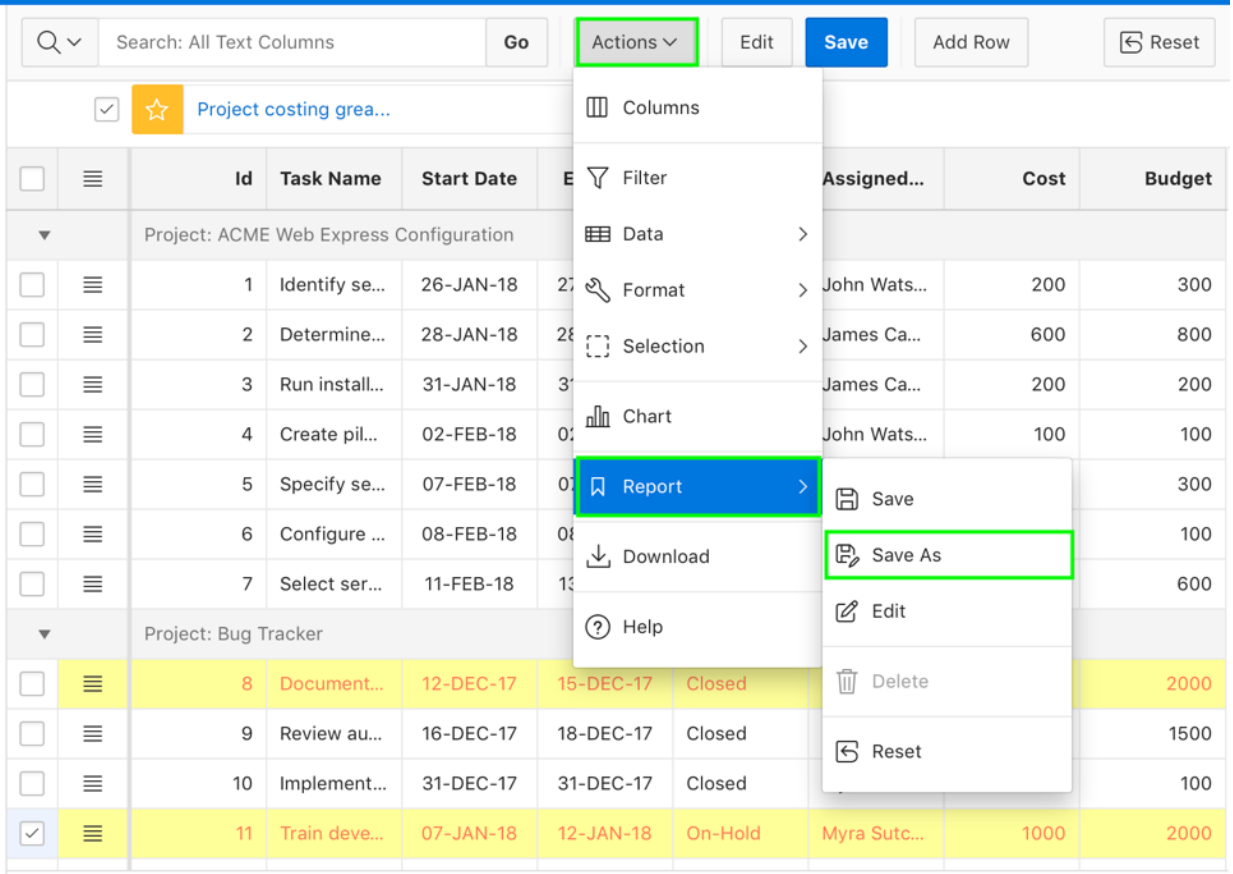

Highlight
Enabled
Name
Project costing greater than 7...
Name
Project costing greater than 750
Highlight
Row
Background Color
#FFFF99
Colors
Text Color
#FF7755
Colors
Condition Type
Column
Column
Cost
Operator
greater than
Value
750
Help
Cancel
Save

19. Notice the rows with cost greater than 750 are highlighted.



	Id	Task Name	Start Date	End Date	Status	Assigned...	Cost	Budget
Project: ACME Web Express Configuration								
	1	Identify se...	26-JAN-18	27-JAN-18	Closed	John Wats...	200	300
	2	Determine...	28-JAN-18	28-JAN-18	Closed	James Ca...	600	800
	3	Run install...	31-JAN-18	31-JAN-18	Closed	James Ca...	200	200
	4	Create pil...	02-FEB-18	02-FEB-18	Closed	John Wats...	100	100
	5	Specify se...	07-FEB-18	07-FEB-18	Open	John Wats...	200	300
	6	Configure ...	08-FEB-18	08-FEB-18	Open	John Wats...	200	100
	7	Select ser...	11-FEB-18	13-FEB-18	Open	James Ca...	200	600
Project: Bug Tracker								
	8	Document...	12-DEC-17	15-DEC-17	Closed	Myra Sutc...	3000	2000
	9	Review au...	16-DEC-17	18-DEC-17	Closed	Myra Sutc...	750	1500
	10	Implement...	31-DEC-17	31-DEC-17	Closed	Myra Sutc...	100	100
	11	Train deve...	07-JAN-18	12-JAN-18	On-Hold	Myra Sutc...	1000	2000

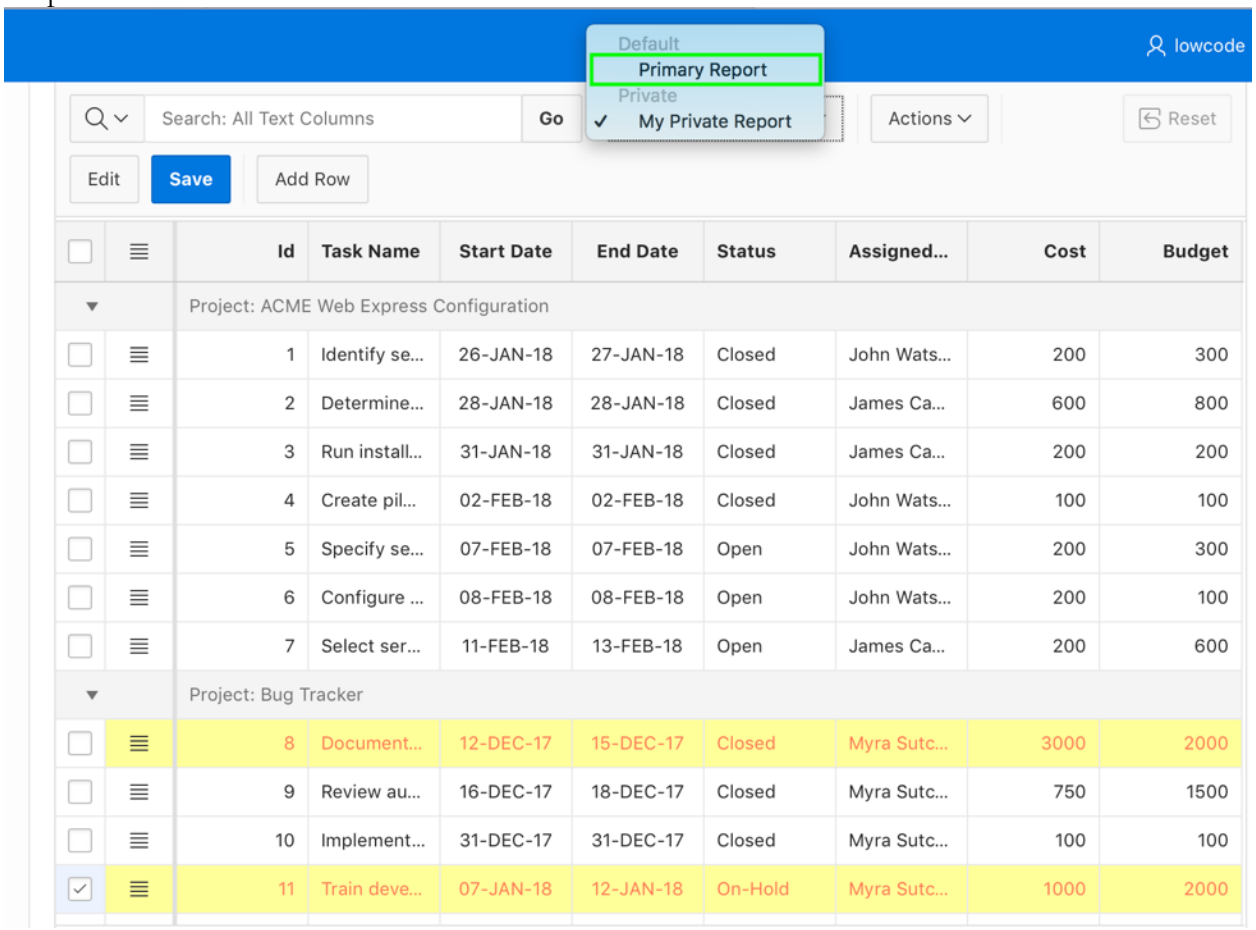
20. You want to save the changes made to the interactive grid. Select **Actions > Report > Save As**.



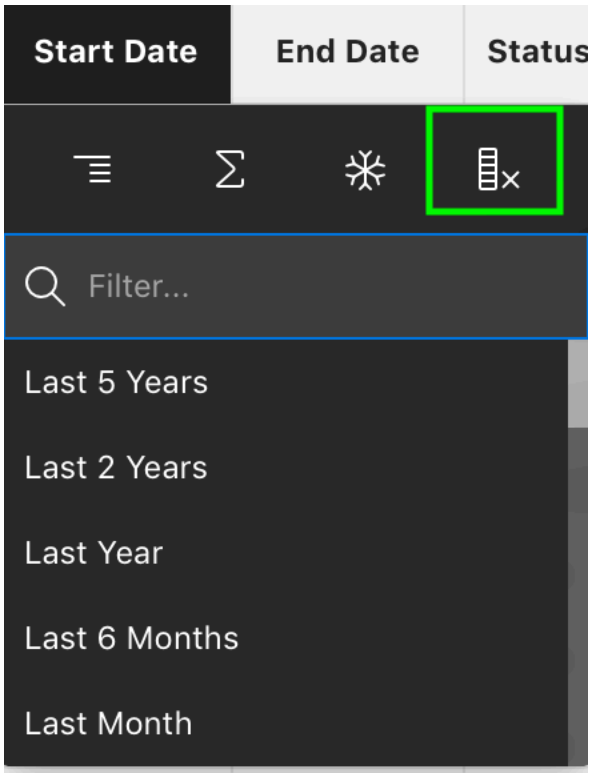
21. In the Report – Save As dialog, select **Private** for Type. Enter **My Private Report** for Name. Click **Save**.

22. Notice that the Primary interactive grid and the interactive grid you saved now are available in the Reports drop down list.
You want to return back to the Primary interactive grid. Click **Primary Report** in the Reports

drop down list.



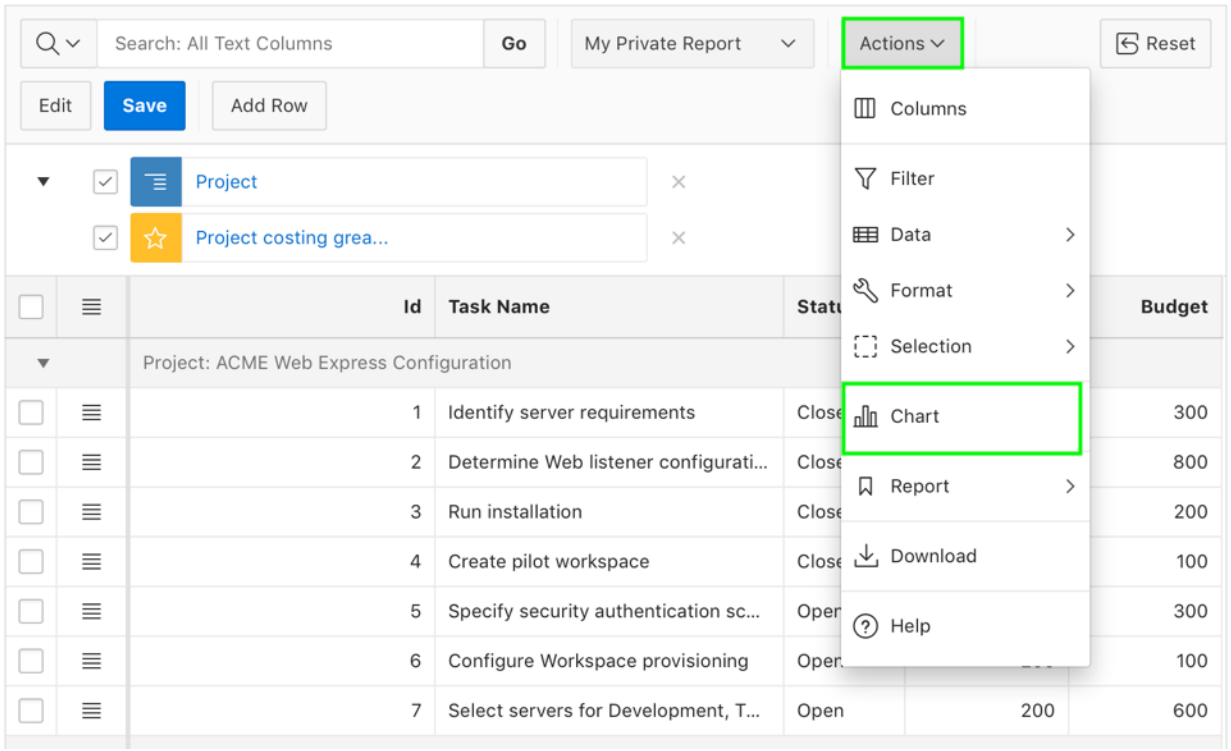
23. You want to make few more customizations and save the interactive grid as another Private report. You do not want the Start Date, End Date, and Assigned To columns to be displayed in the report.
Click the **Start Date** column header and then click **Hide**.



Repeat this step for the **End Date** and **Assigned To** columns.

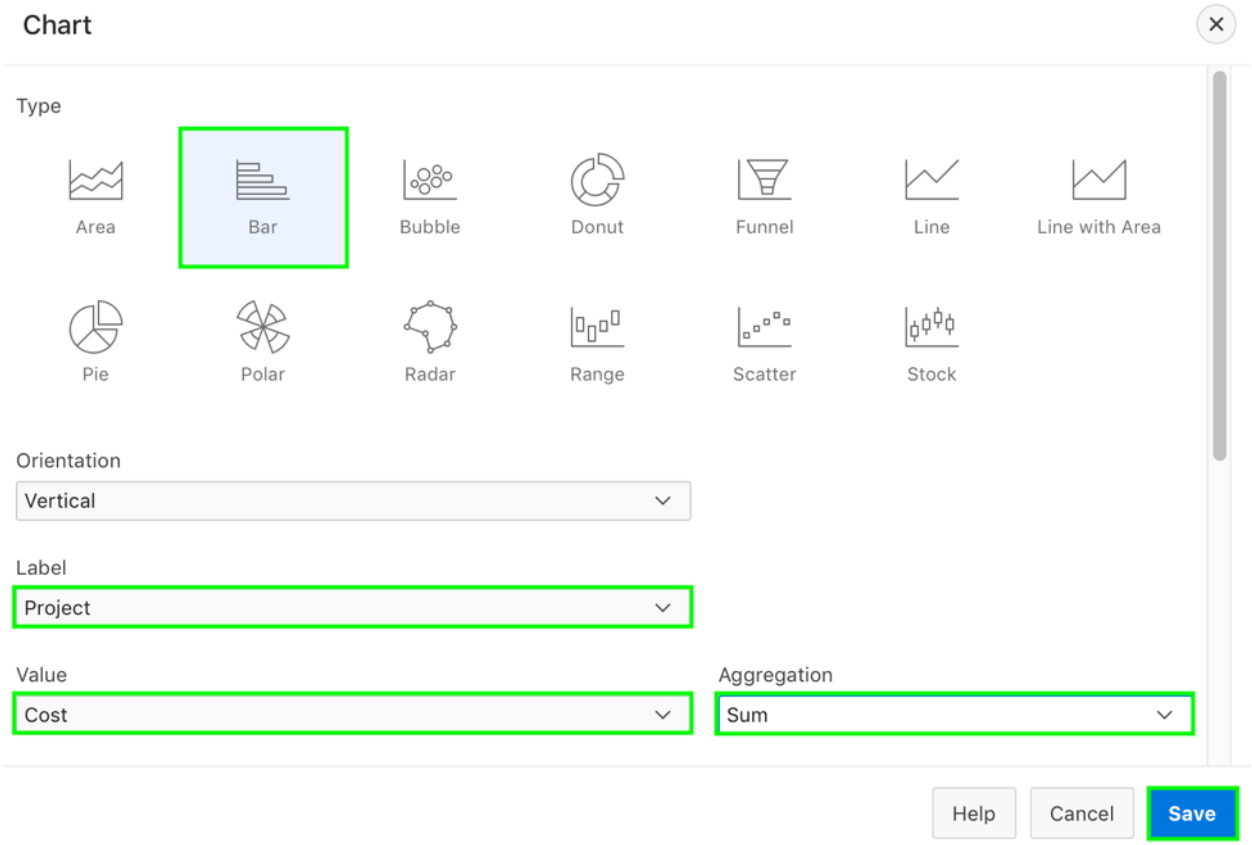
24. Resize the columns' width using the mouse.

25. You want to add a chart to the interactive grid. Select **Actions > Chart**.

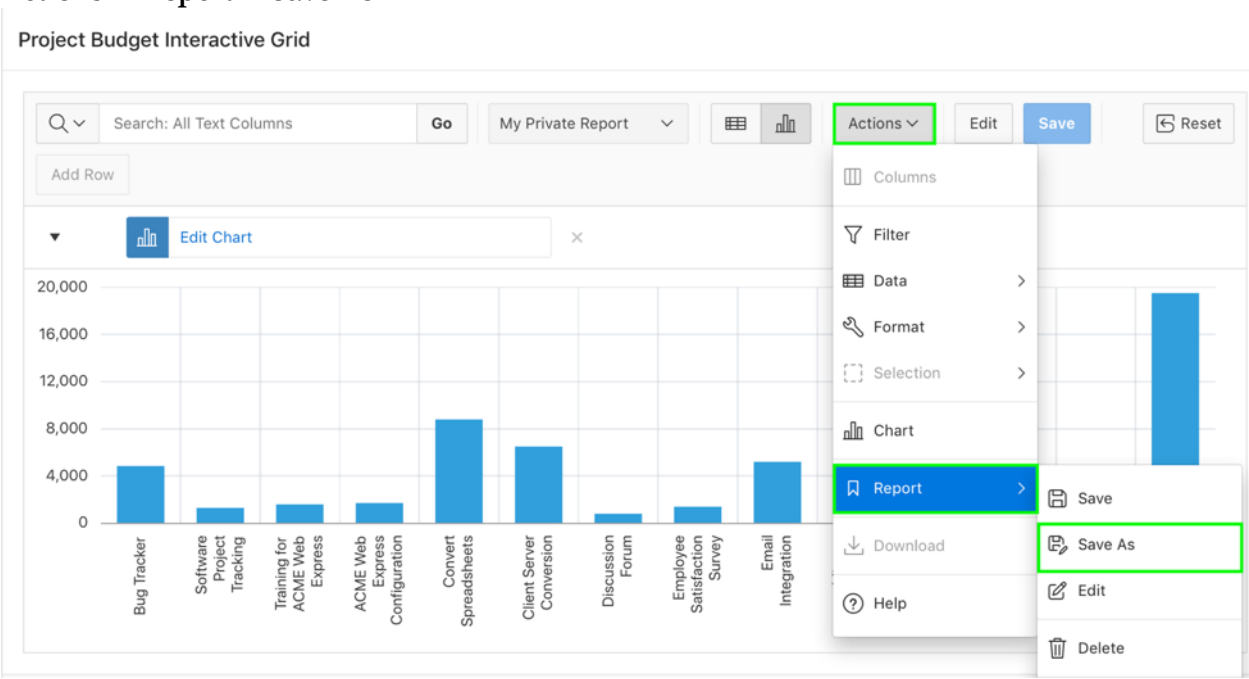


26. In the Chart dialog:
    - Type: Select **Bar**
    - Label: Select **Project**
    - Value: Select **Cost**
    - Aggregation: Select **Sum**

    Click **Save**.

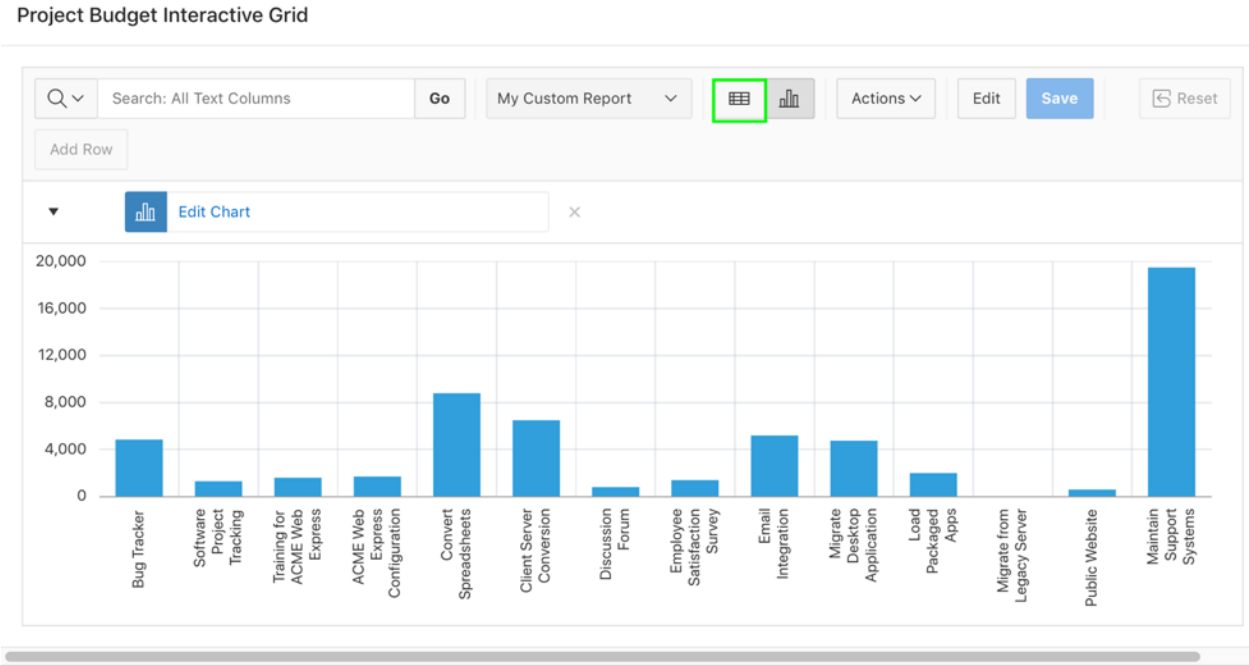


27. The chart is displayed. You want to save the customization made to the interactive grid. Select **Actions > Report > Save As**.

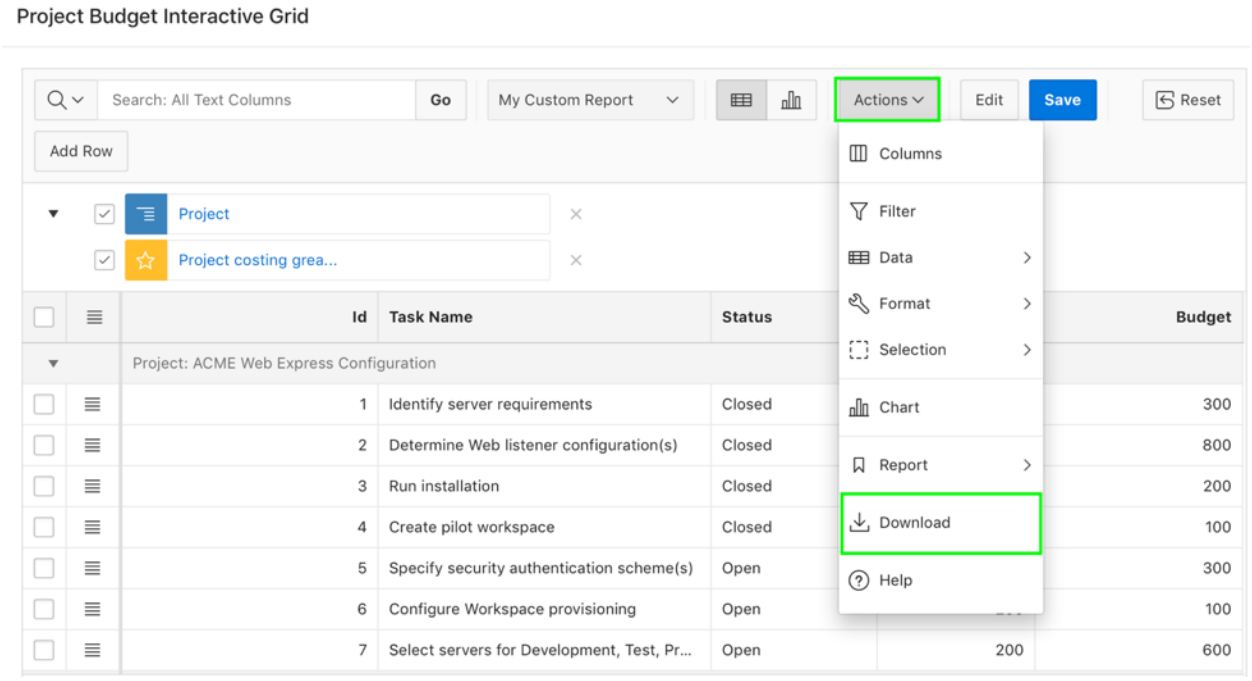


28. In the Report – Save As dialog, select **Private** for Type. Enter **My Custom Report** for Name. Then, click **Save**.

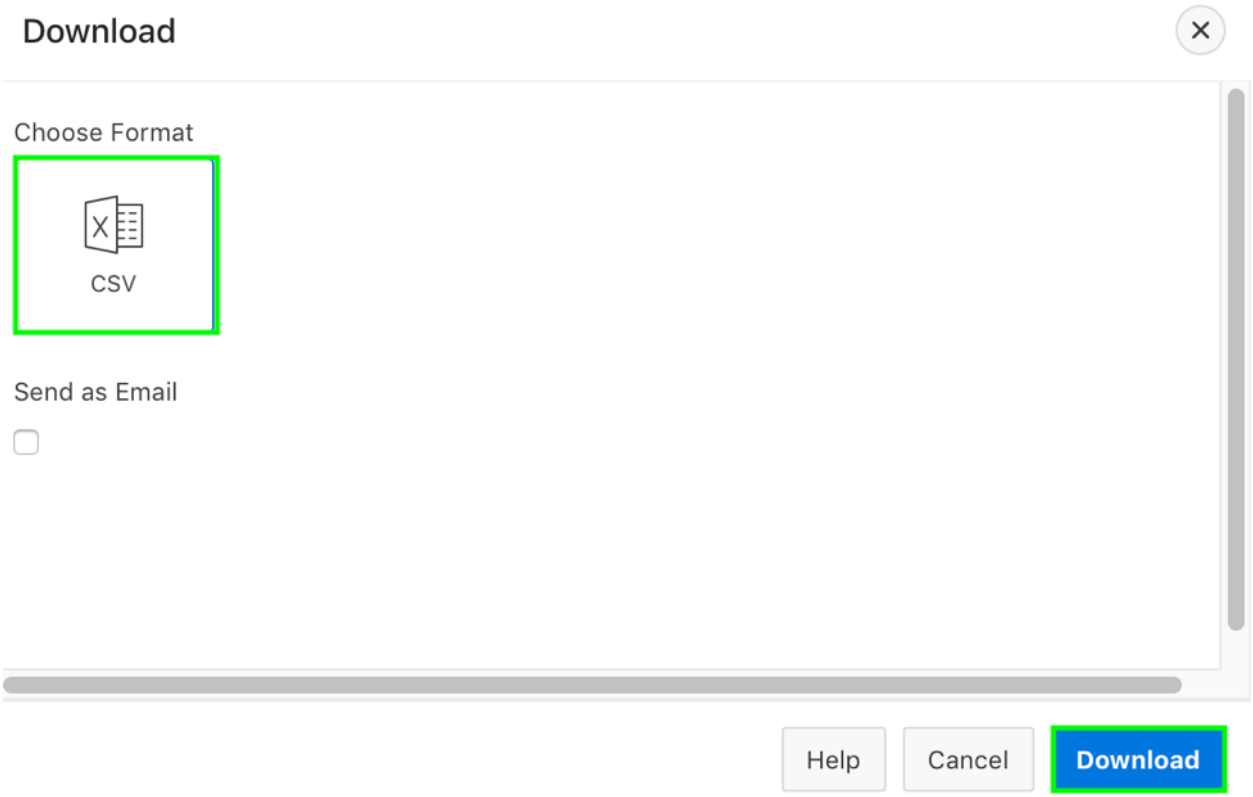
29. The report is now saved under Private in the Reports drop down list. Click the **Grid** icon.



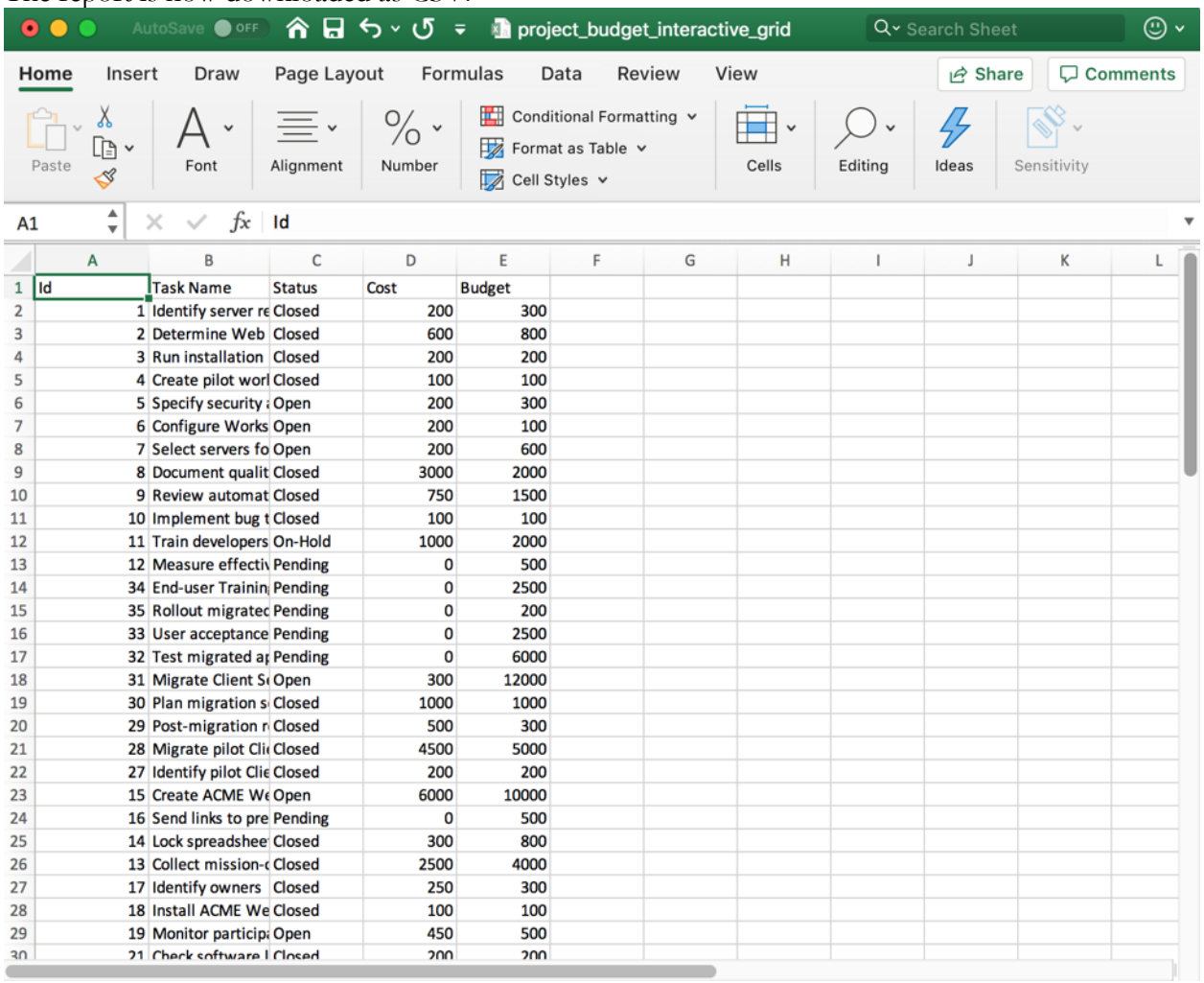
30. You want to download the report. Select **Actions > Download**.



31. Note that the HTML download option is no longer available. Select **CSV** and click **Download**.



32. The report is now downloaded as CSV.



	A	B	C	D	E
1	Id	Task Name	Status	Cost	Budget
2	1	Identify server re	Closed	200	300
3	2	Determine Web	Closed	600	800
4	3	Run installation	Closed	200	200
5	4	Create pilot worl	Closed	100	100
6	5	Specify security a	Open	200	300
7	6	Configure Works	Open	200	100
8	7	Select servers fo	Open	200	600
9	8	Document qualit	Closed	3000	2000
10	9	Review automat	Closed	750	1500
11	10	Implement bug t	Closed	100	100
12	11	Train developers	On-Hold	1000	2000
13	12	Measure effectiv	Pending	0	500
14	34	End-user Trainin	Pending	0	2500
15	35	Rollout migratec	Pending	0	200
16	33	User acceptance	Pending	0	2500
17	32	Test migrated ap	Pending	0	6000
18	31	Migrate Client Se	Open	300	12000
19	30	Plan migration s	Closed	1000	1000
20	29	Post-migration r	Closed	500	300
21	28	Migrate pilot Cli	Closed	4500	5000
22	27	Identify pilot Cli	Closed	200	200
23	15	Create ACME We	Open	6000	10000
24	16	Send links to pre	Pending	0	500
25	14	Lock spreadshee	Closed	300	800
26	13	Collect mission-c	Closed	2500	4000
27	17	Identify owners	Closed	250	300
28	18	Install ACME We	Closed	100	100
29	19	Monitor participa	Open	450	500
30	21	Check software l	Closed	200	200





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