



## **Oracle Application Express: Developing Database Web Applications**

### **Hands-On-Labs Guide**

#### Unit 7: Managing and Customizing Interactive Grids

This exercise includes six hands-on-labs.

Labs HOL 7-1 through HOL 7-4 use the Demo Projects application.

Labs HOL 7-5 and HOL 7-6 use the Budget App application.

**HOL 7-1: Customizing the Team Members Interactive Grid:** In this lab, you modify the source query, and customize the Demo Proj Team Members interactive grid.

**HOL 7-2: Customizing the Projects Interactive Grid:** In this lab, as a developer, you modify the source query, create a new column link, and customize the display of the Demo Projects interactive grid.

**HOL 7-3: Customizing the Milestones Interactive Grid:** In this lab, you modify the source query, and customize the Demo Proj Milestones interactive grid.

**HOL 7-4: Customizing the Tasks Interactive Grid:** In this lab, you customize the display of the Demo Proj Tasks interactive grid.

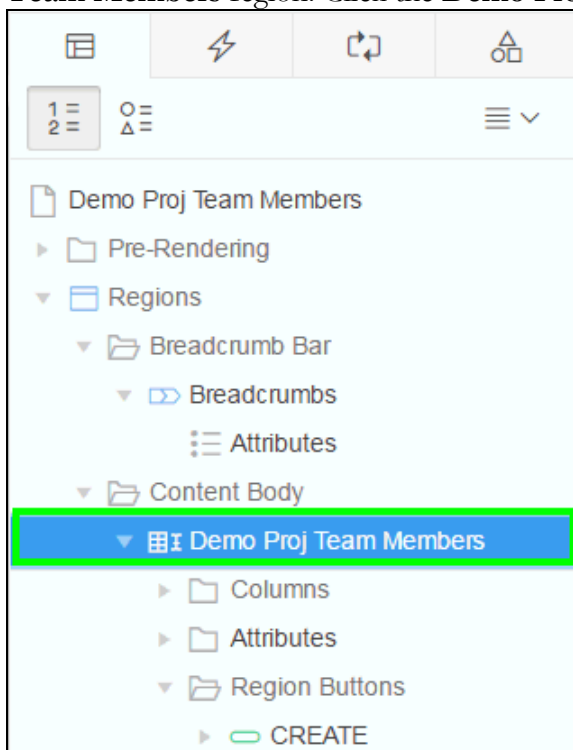
**HOL 7-5: Customizing an Interactive Grid as a Developer:** In this lab, you customize the Project Budget Interactive Grid for your end users.

**HOL 7-6: Customizing an Interactive Grid as an End User:** In this lab, you use and customize the display of your Project Budget Interactive Grid.

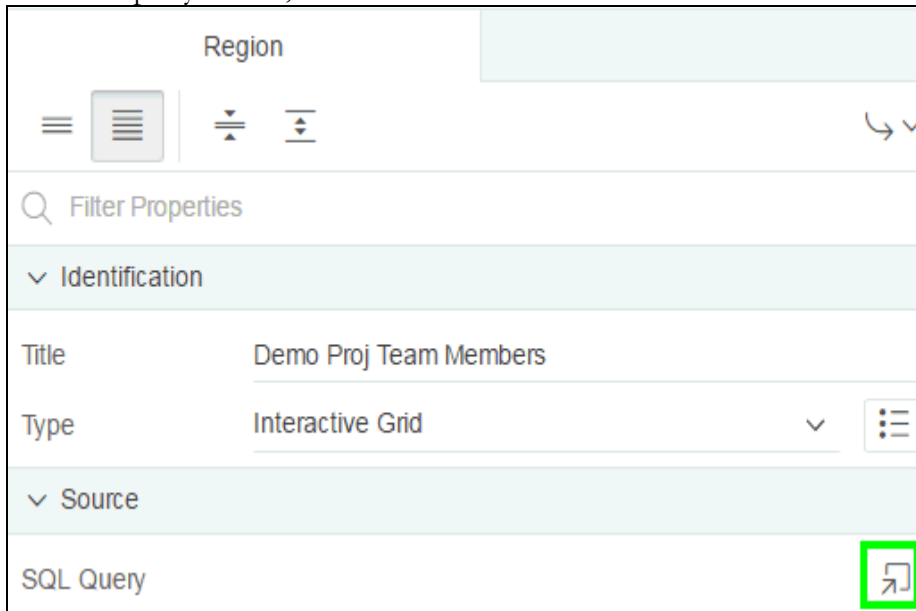
## HOL 7-1: Customizing the Team Members Interactive Grid

Developers can modify the SQL source query of an interactive grid. In this lab, you modify the source query of the Demo Proj Team Members interactive grid. Then, you hide columns that you do not want to be displayed in the interactive grid. Finally, you save the default settings of the interactive grid.

1. Navigate to **App Builder** and run the **Demo Projects** application.
2. In the navigation menu, select **Demo Proj Team Members**. In the Developer Toolbar, click **Edit Page 2**.
3. The report shows all of the columns in the table and some of those columns (such as those associated with the image), should not be included in the report. Remove columns from the report by updating the SQL Source for the region. In the Rendering tree, locate the **Demo Proj Team Members** region. Click the **Demo Proj Team Members** region.



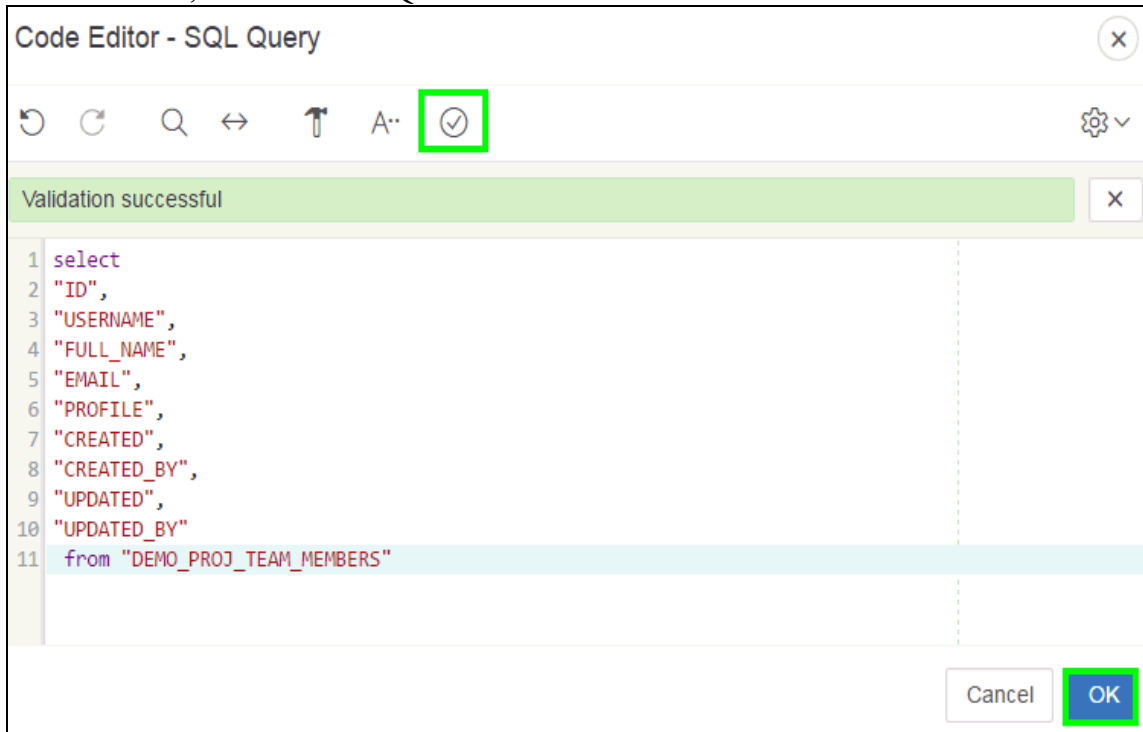
4. In the Property Editor, click **Code Editor**.



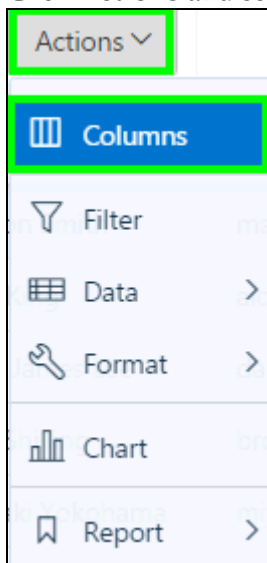
5. In the Code Editor, replace the existing SQL with copy and paste of the following:

```
select
  "ID",
  "USERNAME",
  "FULL_NAME",
  "EMAIL",
  "PROFILE",
  "CREATED",
  "CREATED_BY",
  "UPDATED",
  "UPDATED_BY"
  from "DEMO_PROJ_TEAM_MEMBERS"
```

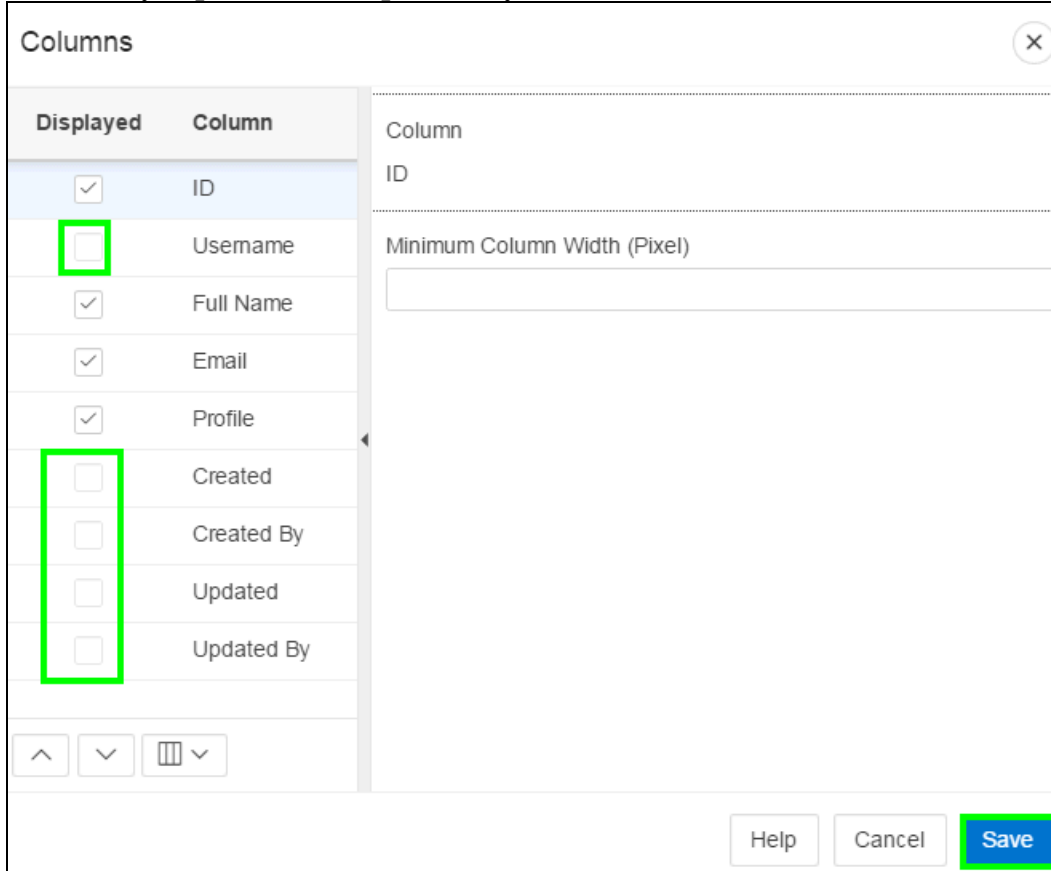
- Click **Validate**, to ensure the SQL statement is valid. Click **OK**.



- Click **Save**. Then, click **Save and Run Page** to access the runtime application.
- Some of the report columns should be included in the report, but not visible by default. That way, if users want to review that information, they can manipulate the Interactive Grid and make the columns visible. To change what columns are displayed in the Interactive Grid by default, you must alter the report in the runtime environment and then save the grid. Click **Actions** and select **Columns**.



9. In the Columns dialog, under Displayed, deselect the check boxes for **Username**, **Created**, **Created By**, **Updated**, and **Updated By**. Then, click **Save**.
















The screenshot shows the 'Columns' dialog box in Oracle APEX. The dialog has a title bar with a close button (X). The main area is divided into two panes. The left pane is a table with two columns: 'Displayed' and 'Column'. The right pane shows the configuration for the selected column, 'ID', with a 'Minimum Column Width (Pixel)' input field.

Displayed	Column
<input checked="" type="checkbox"/>	ID
<input type="checkbox"/>	Username
<input checked="" type="checkbox"/>	Full Name
<input checked="" type="checkbox"/>	Email
<input checked="" type="checkbox"/>	Profile
<input type="checkbox"/>	Created
<input type="checkbox"/>	Created By
<input type="checkbox"/>	Updated
<input type="checkbox"/>	Updated By

At the bottom of the dialog, there are three buttons: 'Help', 'Cancel', and 'Save'. The 'Save' button is highlighted with a blue background.

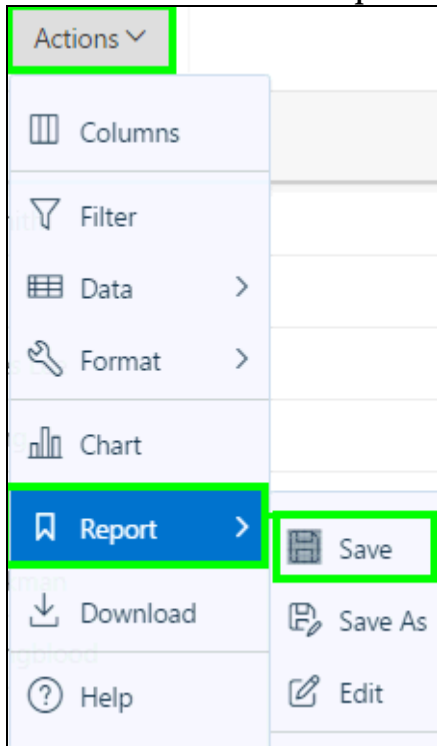
10. The interactive grid now does not display the columns that you deselected in the previous step.

	Full Name	Email	Profile
	Madison Smith	madison.smith@email.com	Mady to my friends - I love being creative and com...
	Tyson King	alonso.king@email.com	No problem too big, no problem too small!
	Daniel James Lee	daniel.lee@email.com	I am a DJ, I am what I say. If you ask me a question...
	Brock Shilling	brock.shilling@email.com	I am your man! Let me solve that for you.
	Miyazaki Yokohama	miyazaki.yokohama@email.com	My motto is to lead by example. I run a tight ship ...
	Bernard Jackman	bernard.jackman@email.com	I am a great believer in the fact there is no "I" in TE...
	Harold Youngblood	harold.youngblood@email.com	Providing I have my soy latte, falafel, and my MacB...
	Chaitanya	-	I'm the one who ran this data script to populate th...
	Lucille Beattie	lucy.beattie@email.com	I have extensive experience running development ...
	Nina Herschel	nina.herschel@email.com	I'm a consumate team player who likes to explore ...
	Tameka Hall	tamika.hall@email.com	I am all business and thrive on developing the low...
	Eva Jelinek	eva.jelinek@email.com	I will tell you directly what I think and expect you t...
	Mei Yu	mei.yu@email.com	I have extensive experience in all aspects of applica...

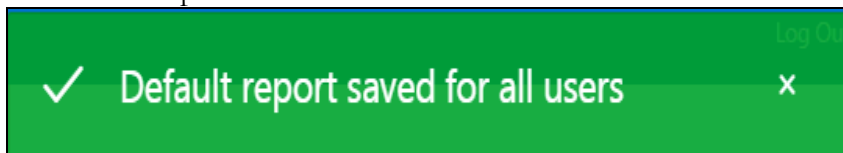
11. To keep the changes you just made, you must save the report. If you were to log out and log back into the runtime environment, or another user runs the report, then the columns you just removed would be visible again.

A Primary interactive grid displays to all users. Only the developer who creates an interactive grid can save a new Primary interactive grid, rename it, or delete it.

Click **Actions** and select **Report > Save**.



12. The default report is now saved for all users.



## HOL 7-2: Customizing the Projects Interactive Grid

In this lab, you update the report source query and remove the column link defined on the ID column. Then, you customize the interactive grid by hiding the columns that need not be displayed, and creating an aggregation on the Tasks column. You save these customizations for all the users. Navigating back to the page designer, you define a column link on the NAME column.

1. If you are in the application runtime environment, click **Demo Projects** in the navigation menu. Then, in the Developer Toolbar, click **Edit Page 4**.

The screenshot shows the Oracle APEX application runtime environment. On the left, a dark blue navigation menu contains several items, with 'Demo Projects' highlighted by a green rectangular box. The main content area is titled 'Demo Projects' and features a table with the following data:

	Project Le...	Name	Description	Status Cd	Complete...	Created	Created By	Updated	Updated ...
	13	Develop P...	Develop a ...	IN-PROGR...	-	08-FEB-17 ...	CHAITANYA	08-FEB-17 ...	CHAITANYA
	1	Develop Pr...	Develop th...	ASSIGNED	-	08-FEB-17 ...	CHAITANYA	08-FEB-17 ...	CHAITANYA
	13	Configure ...	Determine...	COMPLETE...	12-JAN-17	08-FEB-17 ...	CHAITANYA	08-FEB-17 ...	CHAITANYA
	1	Train Deve...	Ensure all ...	COMPLETE...	27-JAN-17	08-FEB-17 ...	CHAITANYA	08-FEB-17 ...	CHAITANYA
	10	Migrate Le...	Move the ...	IN-PROGR...	-	08-FEB-17 ...	CHAITANYA	08-FEB-17 ...	CHAITANYA

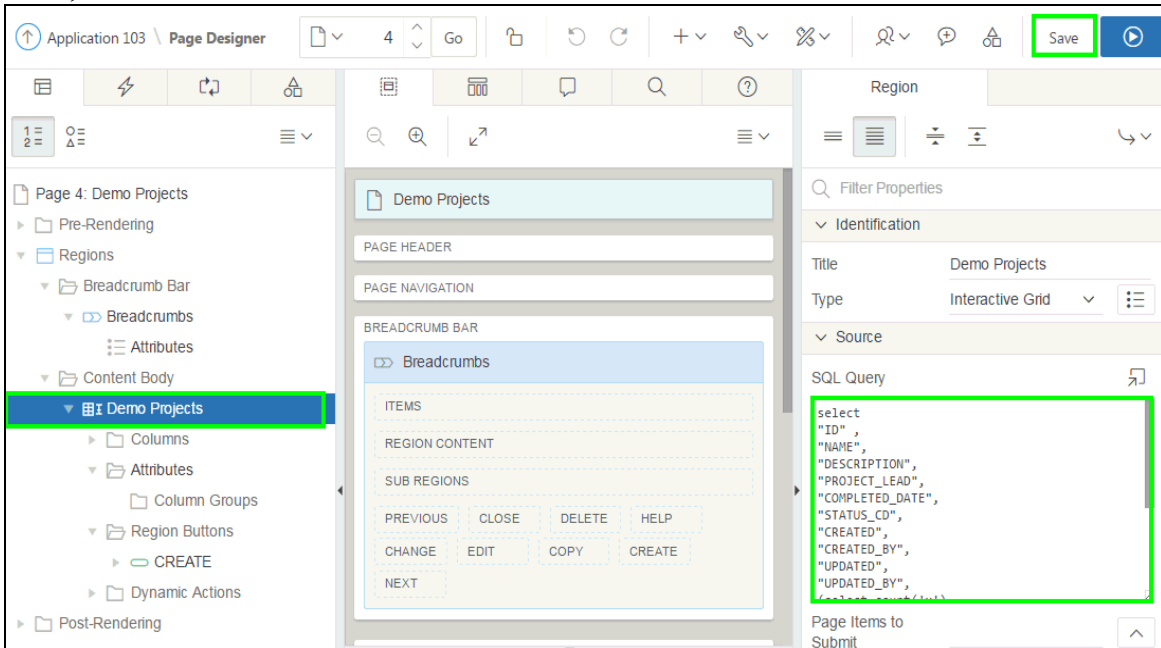
At the bottom of the page, the developer toolbar is visible, with the 'Edit Page 4' button highlighted by a green rectangular box.

2. Modify the existing Demo Projects Interactive Grid (Page 4) and update the SQL Query associated with the report to add summations for milestones and tasks. Under **Rendering > Regions**, click the **Demo Projects** region.
3. In the Property Editor, click the **Code Editor: SQL Query** button, and copy and paste the following SQL:

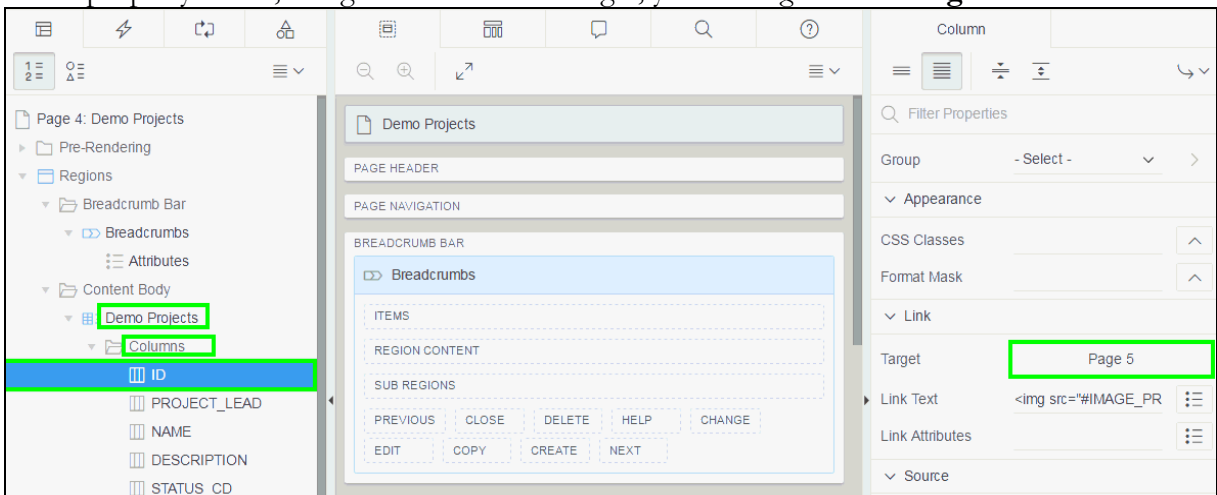
```
select
  "ID" ,
  "NAME",
  "DESCRIPTION",
  "PROJECT_LEAD",
  "COMPLETED_DATE",
  "STATUS_CD",
  "CREATED",
  "CREATED_BY",
  "UPDATED",
```

```
"UPDATED_BY",
(select count('x')
 from demo_proj_milestones m
 where m.project_id = p.id
 ) milestones,
(select count('x')
 from demo_proj_tasks t
 where t.project_id = p.id
 ) tasks
from "DEMO PROJECTS" p
```

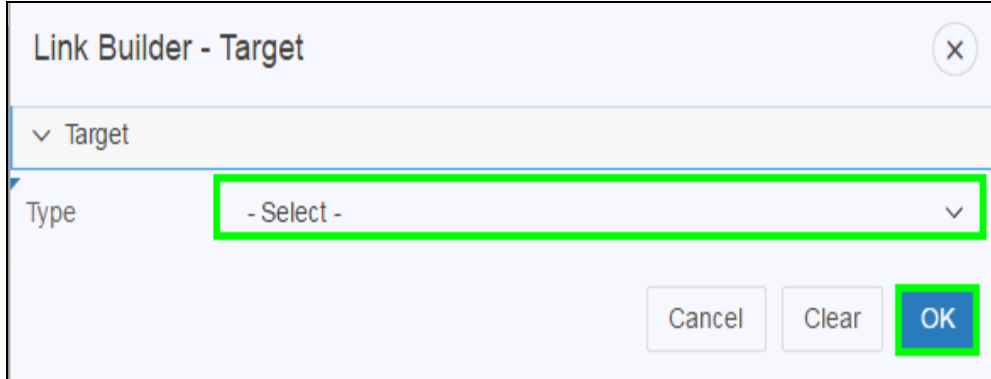
Then, click **OK**.



- Under Rendering > Regions > Demo Projects, expand the **Columns** node. A column link to Page 5 is defined on the ID column. Select ID. In the property editor, navigate to Link. For Target, you see *Page 5*. Click **Page 5**.



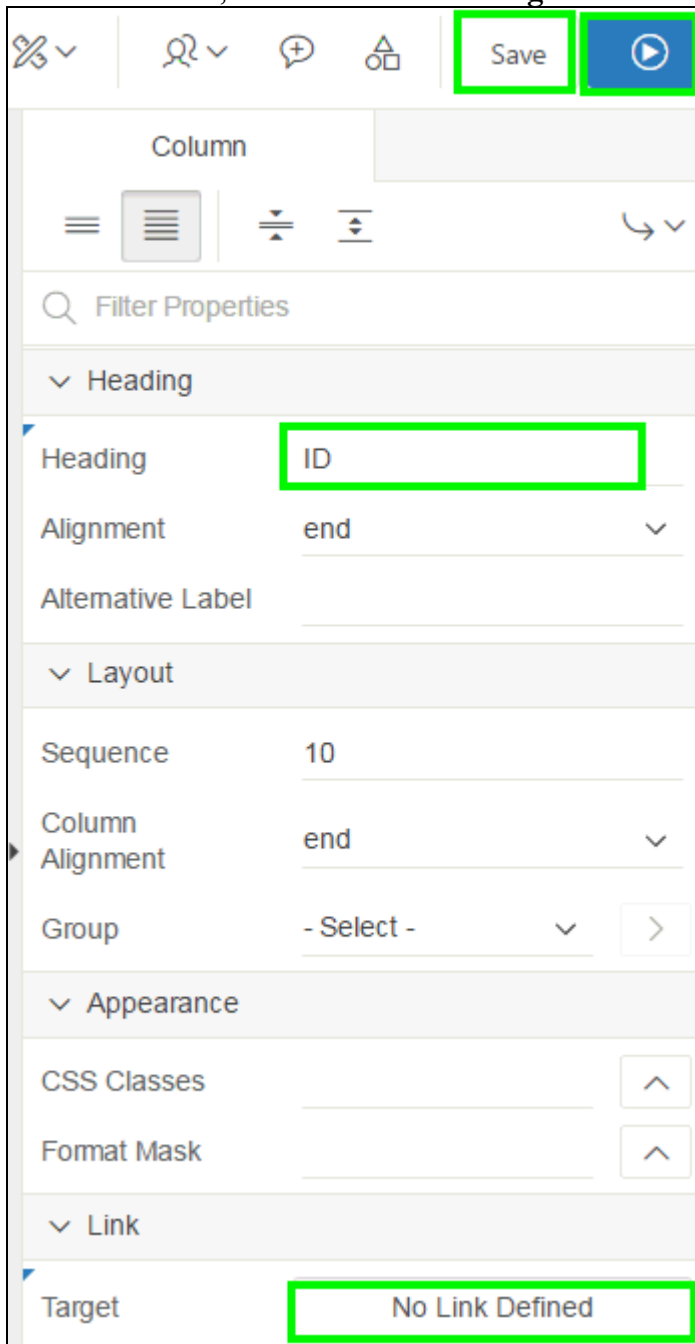
- The Link Builder - Target dialog appears. For Type, you see *Page in this application*. Remove this selection. Click **OK**.



The screenshot shows a dialog box titled "Link Builder - Target". It features a close button in the top right corner. Below the title bar, there is a section labeled "Target" with a dropdown arrow. Underneath, there is a "Type" label and a dropdown menu currently showing "- Select -". At the bottom right, there are three buttons: "Cancel", "Clear", and "OK".

- In the property editor, under Link > Target, you see *No Link Defined*. Navigate to Heading and enter **ID**.

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



The screenshot shows the Oracle APEX Column Properties dialog box. The 'Save' button and the 'Save and Run Page' button (represented by a play icon) are highlighted in green. The 'ID' field is highlighted in green, and the 'Target' field is highlighted in green with the value 'No Link Defined'.

Column	
Heading	ID
Alignment	end
Alternative Label	
Layout	
Sequence	10
Column Alignment	end
Group	- Select -
Appearance	
CSS Classes	
Format Mask	
Link	
Target	No Link Defined

7. You are now in the application runtime environment. Click **Actions > Columns**.

The screenshot shows a table with the following columns: ID, Project..., Name, Descrip..., Stati..., Created, Created..., Updated, Update..., Milesto..., and Tasks. The 'Actions' menu is open, and the 'Columns' option is highlighted. The table contains 5 rows of data. The 'Columns' dialog is also visible, showing the 'Displayed' and 'Column' columns.

ID	Project ...	Name	Descrip...	Stati...	Created	Created...	Updated	Update...	Milesto...	Tasks
4	13	Develop ...	Develop ...	IN-P	08-FEB-1...	CHAITAN...	08-FEB-...	CHAITA...	2	7
5	1	Develop ...	Develop ...	ASSI	08-FEB-1...	CHAITAN...	08-FEB-...	CHAITA...	5	17
1	13	Configur...	Determi...	COM	08-FEB-1...	CHAITAN...	08-FEB-...	CHAITA...	0	6
2	1	Train De...	Ensure a...	COM	08-FEB-1...	CHAITAN...	08-FEB-...	CHAITA...	2	6
3	10	Migrate ...	Move th...	IN-P	08-FEB-1...	CHAITAN...	08-FEB-...	CHAITA...	3	9

8. In the Columns dialog, under Displayed, deselect **ID**, **Description**, **Created**, **Created By**, **Updated**, and **Updated By** columns.
9. Under Column, select **Project Lead** and click the **move down** arrow. Then, click **Save**.

The 'Columns' dialog box is shown with the following columns: Displayed and Column. The 'Displayed' column has checkboxes for 'ID', 'Project Lead', 'Name', 'Description', 'Status Cd', 'Completed Date', 'Created', 'Created By', 'Updated', and 'Updated By'. The 'Column' column has a dropdown menu with 'Project Lead' selected. The 'Move down' arrow is highlighted. The dialog also includes a 'Minimum Column Width (Pixel)' field and buttons for 'Help', 'Cancel', and 'Save'.

10. The Demo Projects interactive grid should now look like:

Name	Project Lead	Status Cd	Completed Date	Milestones	Tasks
Develop Partner Portal P...	13	IN-PROGRESS	-	2	7
Develop Production Par...	1	ASSIGNED	-	5	17
Configure Web Develop...	13	COMPLETED	12-JAN-17	0	6
Train Developers on We...	1	COMPLETED	27-JAN-17	2	6
Migrate Legacy Applicat...	10	IN-PROGRESS	-	3	9
					Total 5

11. You want to define aggregations on the Milestones and Tasks columns. Select **Actions > Data > Aggregate**.

Name	Project Lead	Status Cd	Completed Date	Milestones	Tasks
Develop Partner Portal P...	13	IN-PROGRESS	-	2	7
Develop Production Par...	1	ASSIGNED	-	5	17
Configure Web Develop...	13	COMPLETED	12-JAN-17	0	6
Train Developers on We...	1	COMPLETED	27-JAN-17	2	6
Migrate Legacy Applicat...	10	IN-PROGRESS	-	3	9
					Total 5

12. In the Aggregation dialog

- Click the Add (+) button.
- For column, select **Milestones**, for Aggregation, select **Sum**, and select the **Show Overall Value** checkbox.
- Click the **Add (+)** button again.
- For Column, select **Tasks**, select **Sum for Aggregation**, and select the **Show Overall Value** checkbox.

e) Click **Save**.

The screenshot shows the 'Aggregation' dialog box in Oracle APEX. It features a table with the following data:

Enabled	Column	Aggre...
<input checked="" type="checkbox"/>	ID	Sum
<input checked="" type="checkbox"/>	Milesto...	Sum
<input checked="" type="checkbox"/>	Tasks	Sum

Below the table, the 'Column' field is set to 'Tasks', the 'Aggregation' field is set to 'Sum', and the 'Show Overall Value' checkbox is checked. The 'Save' button is highlighted in blue.

13. You want to save the changes made to the primary interactive grid. **Select Actions > Report > Save**. The default report is now saved for all users.
14. Navigate to page designer. In the Developer Toolbar, click **Edit Page 4**.
15. You want to define a column link on the NAME column. Under Rendering > Regions > Demo Projects region, expand the **Columns** node. Select **NAME**.

16. In the property editor, under Identification, select **Link** for Type. Under Link > Target, click **No Link Defined**.

The image shows the Oracle APEX property editor for a column named "NAME". The editor is organized into several sections:

- Identification:** Column Name is "NAME". Type is set to "Link" (highlighted with a green box).
- Heading:** Heading is "Name". Alignment is "start". Alternative Label is empty.
- Layout:** Sequence is "30". Column Alignment is "start". Group is "- Select -".
- Appearance:** CSS Classes and Format Mask are empty.
- Link:** Target is set to "No Link Defined" (highlighted with a green box).

17. In the Link Builder – Target dialog:

- Page - enter 5
- Name - select **P5\_ID**
- Value - select **#ID#**
- Clear Cache - enter 5

Click **OK**.

Link Builder - Target

Target

Type Page in this application

Page 5

Set Items

Name	Value
P5_ID	&ID.

Clear Session State

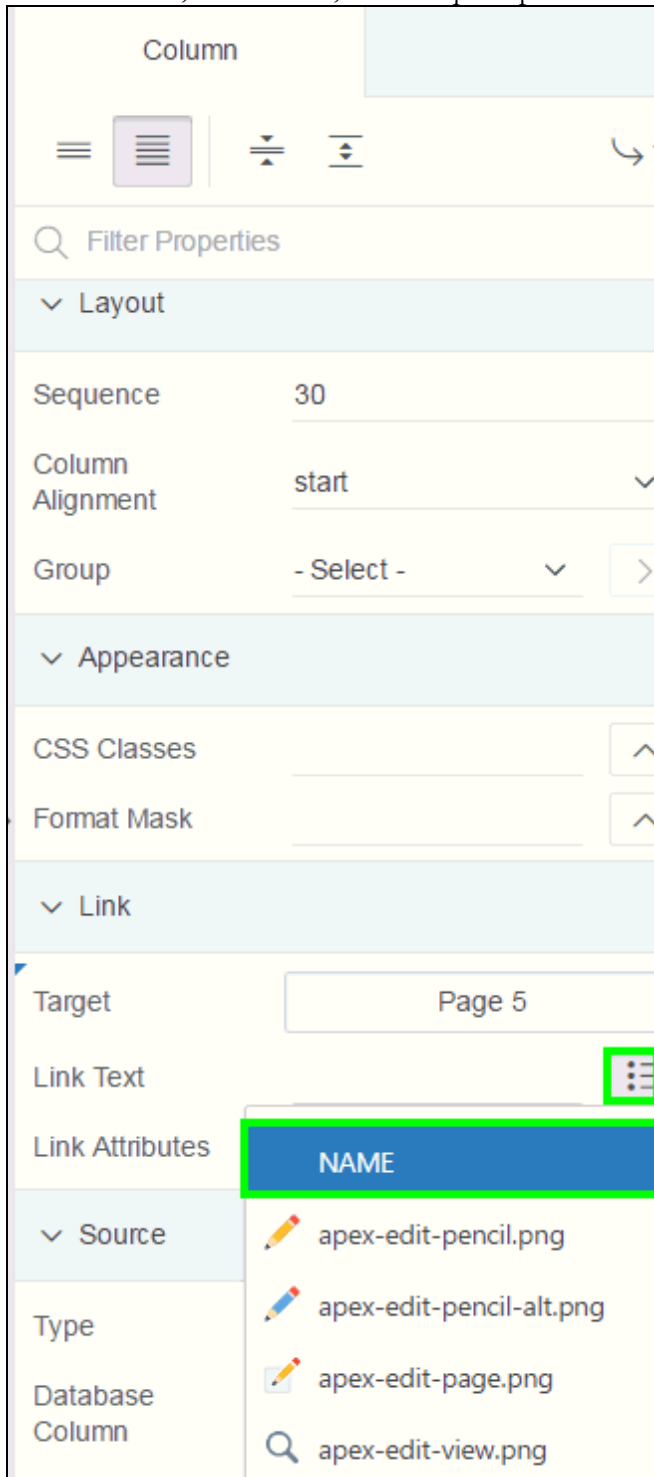
Clear Cache 5

Reset Pagination Yes No

Advanced

Cancel Clear OK

18. For Link Text, under Link, use the quick pick to select **NAME**.



The screenshot shows the 'Column' properties dialog box in Oracle APEX. The 'Link' section is expanded, and the 'Link Text' field has a quick pick menu open. The 'NAME' option is highlighted in blue. The 'Link Attributes' field is also visible, and the 'Source' section is expanded, showing a list of image files.

Property	Value
Sequence	30
Column Alignment	start
Group	- Select -
Target	Page 5
Link Text	NAME
Link Attributes	
Source	apex-edit-pencil.png
Type	apex-edit-pencil-alt.png
Database Column	apex-edit-page.png
	apex-edit-view.png

19. Click **Save**. Then, click **Save and Run Page**. The Demo Projects interactive grid might now look like:

Q Search: All Text Columns Go Actions

Reset

$\Sigma$  Sum (Milestones) ×  
  $\Sigma$  Sum (Tasks) ×

	Name	Project Lead	Status Cd	Completed Date	Milestones	Tasks
	<a href="#">Develop Partner Portal POC</a>	13	IN-PROGRESS	-	2	7
	<a href="#">Develop Production Partner Portal</a>	1	ASSIGNED	-	5	17
	<a href="#">Configure Web Development Too...</a>	13	COMPLETED	12-JAN-17	0	6
	<a href="#">Train Developers on Web develop...</a>	1	COMPLETED	27-JAN-17	2	6
	<a href="#">Migrate Legacy Applications</a>	10	IN-PROGRESS	-	3	9
Over...					12	45

Total 5

### HOL 7-3 Customizing the Milestones Interactive Grid

In this lab, you modify the interactive grid source query. Then, you customize the interactive grid by hiding columns that need not be displayed, and sorting the interactive grid on the Due Date column. You also create an aggregation on the Tasks column and save the customizations made to the Primary interactive grid.

1. You are in the application runtime environment. In the navigation menu, click **Demo Proj Milestones**. In the Developer Toolbar, click **Edit Page 6**.
2. Modify the existing Milestones Interactive Grid and update the SQL Query associated with the grid to add a new column. Under **Rendering > Regions**, click the **Demo Proj Milestones** region.
3. In the Property Editor, click the **Code Editor: SQL Query** button, and copy and paste the following SQL:

```
select
  "ID" ,
  "PROJECT_ID",
  "NAME",
  "DESCRIPTION",
  "DUE_DATE",
  "CREATED",
  "CREATED_BY",
  "UPDATED",
  "UPDATED_BY",
  (select count('x')
   from demo_proj_tasks t
   where t.milestone_id = m.id
  ) tasks
from "DEMO PROJ MILESTONES" m
```

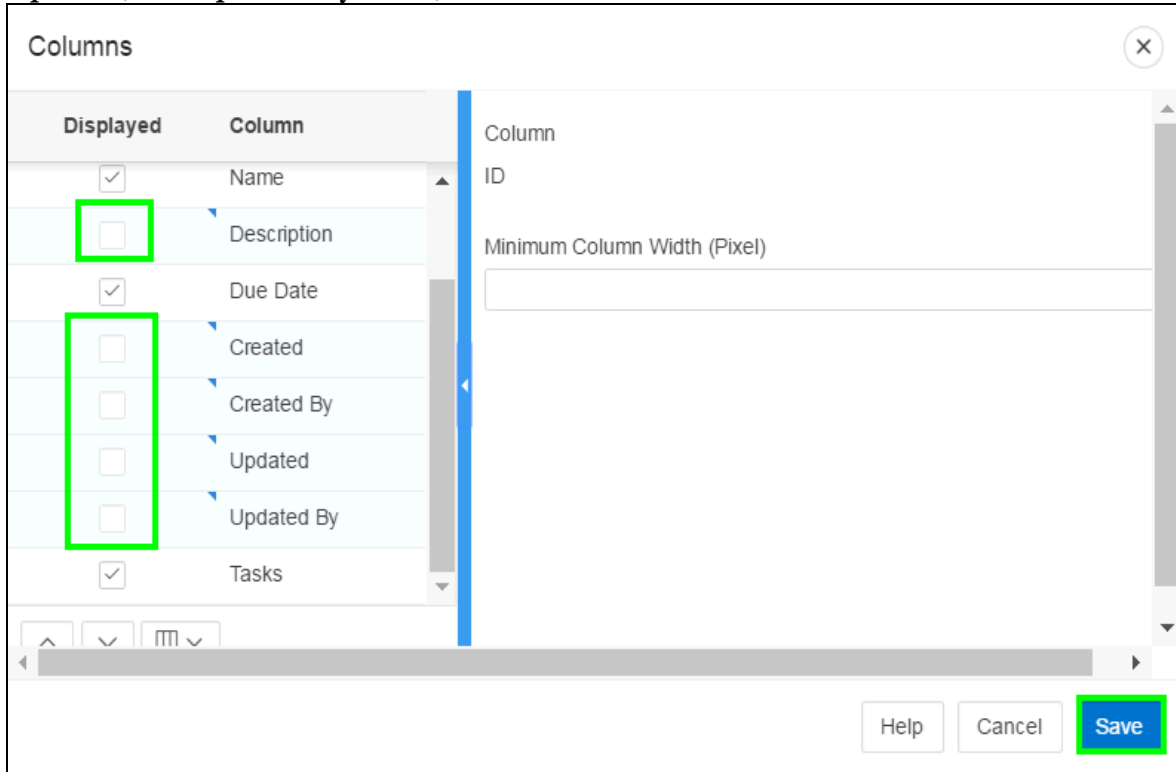
Click **OK**.

The screenshot shows the Oracle APEX Page Designer interface. The left-hand navigation pane is expanded to 'Page 6: Demo Proj Milestones' > 'Regions' > 'Demo Proj Milestones'. The main workspace displays the 'Demo Proj Milestones' region with its layout components: PAGE HEADER, PAGE NAVIGATION, BREADCRUMB BAR, ITEMS, REGION CONTENT, SUB REGIONS, and a set of buttons (PREVIOUS, CLOSE, DELETE, HELP, CHANGE, EDIT, COPY, CREATE, NEXT). On the right, the 'Region' properties panel is open, showing the 'Source' section with the 'SQL Query' field highlighted in green. The SQL query in this field is:











```
"DESCRIPTION",
"DUE_DATE",
"CREATED",
"CREATED_BY",
"UPDATED",
"UPDATED_BY",
(select count('x')
 from demo_proj_tasks t
 where t.milestone_id = m.id
 ) tasks
from "DEMO PROJ MILESTONES" m
```

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

5. Reconfigure which columns are displayed by default in the Interactive Grid. In the Interactive Grid runtime window, click **Actions** and select **Columns**.
6. In the Columns dialog, under Displayed, deselect **Description**, **Created**, **Created By**, **Updated**, and **Updated By**. Then, click **Save**.



7. Sort the interactive grid by Due Date in ascending order. Click the **Due Date** column and in the column heading, click the **Sort Ascending** button.

		Project Id	Name	Due Date
		3	Redevelop HR Applications	04-FEB-17
		3	Redevelop Project Tracking A...	10-FEB-17
		4	Define Requirements	13-FEB-17
		4	Build Proof-of-Concept	20-FEB-17
		5	Define Production App Scope	21-FEB-17
		5	Build Phase 1 of Production P...	28-FEB-17
		5	Perform Beta testing with sele..	08-MAR-17
		5	Complete Phase 1 Developme...	04-APR-17
		5	Roll out Phase 1 of Partner Po...	08-APR-17
		2	Train the Trainers	18-JAN-17

8. Make the interactive grid functional by adding an aggregation. Create an aggregation on the Tasks column.
- Click the **Actions** menu and select **Data > Aggregate**. In the Aggregation dialog, click the Add button (+).

- b) Select **Tasks** for Column, and **Sum** for Aggregation. Select the **Show Overall Value** checkbox and Click **Save**.

The screenshot shows the 'Aggregation' dialog box in Oracle APEX. The dialog has a title bar with a close button (X). Below the title bar is a table with the following columns: 'Enabled', 'Column', and 'Aggre...'. The table contains two rows: one for 'ID' with 'Sum' aggregation, and one for 'Tasks' with 'Sum' aggregation. The 'Tasks' row is selected. Below the table is a scrollable list of columns, with a '+' button highlighted. To the right of the table are three sections: 'Column' with a dropdown menu set to 'Tasks', 'Aggregation' with a dropdown menu set to 'Sum', and 'Tooltip' with an empty text box. Below these is a 'Show Overall Value' checkbox, which is checked. At the bottom right are three buttons: 'Help', 'Cancel', and 'Save' (highlighted).

Enabled	Column	Aggre...
<input type="checkbox"/>	ID	Sum
<input checked="" type="checkbox"/>	Tasks	Sum

Column: Tasks

Aggregation: Sum

Tooltip:

Show Overall Value:

Buttons: Help, Cancel, Save

9. You want to save the changes made to the primary interactive grid. **Select Actions > Report > Save**. The default report is now saved for all users.

## HOL 7-4 Customizing the Tasks Interactive Grid

In this lab, you reconfigure which columns are displayed by default in the Demo Proj Tasks interactive grid. Then, you create control break on two columns, and sort the rows in the ascending order of Start Date. Finally, you save the default report for all users.

1. You are in the application runtime environment. In the navigation menu, click **Demo Proj Tasks**. In the Developer Toolbar, click **Edit Page 8**.
2. Reconfigure which columns are displayed by default in the Interactive Grid. Click **Actions > Columns**.
3. In the Columns dialog, under Displayed, deselect **ID**, **Description**, **Created**, **Created By**, **Updated**, and **Updated By**. Then, click **Save**.

Displayed	Column
<input checked="" type="checkbox"/>	Assignee
<input checked="" type="checkbox"/>	Name
<input type="checkbox"/>	Description
<input checked="" type="checkbox"/>	Start Date
<input checked="" type="checkbox"/>	End Date
<input checked="" type="checkbox"/>	Is Complete Yn
<input type="checkbox"/>	Created
<input type="checkbox"/>	Created By
<input type="checkbox"/>	Updated
<input type="checkbox"/>	Updated By

If the displayed columns are not in the following order, make sure to click the up and down buttons to set them accordingly:

- ID
- Assignee

- Name
- Start Date
- End Date
- Is Complete Yn

Click **Save**.

4. Group the records by project and milestones.

a) Select **Actions > Format > Control Break**.

Project Id	Assignee	Name	Start Date	End Date	Is Complete Yn
2	6	Prepare Course Outline	08-JAN-17	12-JAN-17	Y
2	6	Write Training Guide	13-JAN-17	15-JAN-17	N
2		Develop Training Exer...	09-JAN-17	15-JAN-17	Y
2		Conduct Train-the-Tra...	16-JAN-17	18-JAN-17	Y
2	7	Train Developers I	19-JAN-17	21-JAN-17	Y
2	8	Train Developers II	21-JAN-17	23-JAN-17	Y
3	3	Create New Tables	21-JAN-17	21-JAN-17	Y
3	2	Migrate data from Leg...	22-JAN-17	25-JAN-17	Y

b) In the Control Break dialog, click the Add (+) button. For Column, select **Project Id**.

c) Click the Add (+) button again. For Column, select **Milestone Id**.

d) Click **Save**.

Enabled	Column
<input checked="" type="checkbox"/>	Project Id
<input checked="" type="checkbox"/>	Milestone Id

Column: **Milestone Id**

Direction: Ascending

Nulls: Last

Buttons: +, -, ^, v

Buttons: Help, Cancel, **Save**

5. Order the records in the ascending order of start date. Select **Actions > Data > Sort**.

In the Sort dialog, click the Add (+) button.

For Column, select **Start Date** and click **Save**.

Column	Direction
Start Date	Ascending

Column: Start Date

Direction: Ascending

Nulls: Last

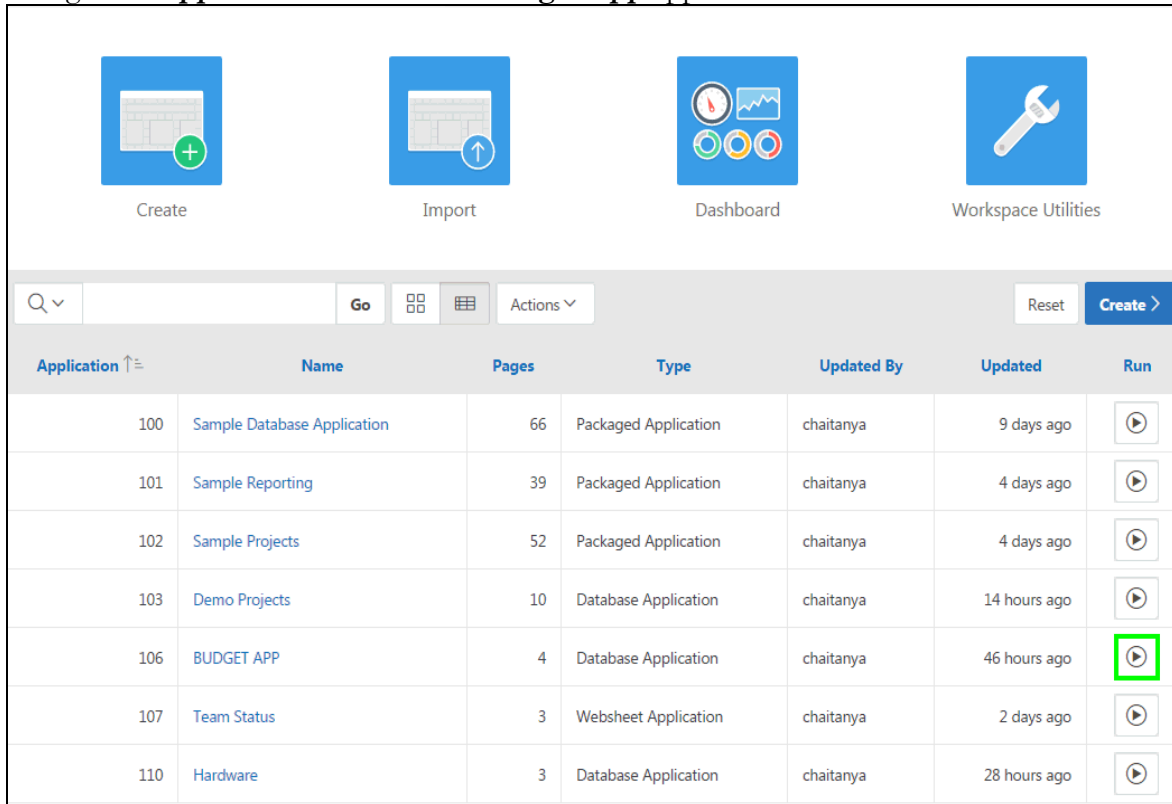
Buttons: +, -, ^, v, Help, Cancel, Save

6. You want to save the changes made to the primary interactive grid. **Select Actions > Report > Save**. The default report is now saved for all users.

## HOL 7-5: 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.



The screenshot shows the Oracle APEX App Builder interface. At the top, there are four main action buttons: 'Create', 'Import', 'Dashboard', and 'Workspace Utilities'. Below these is a search bar and a 'Go' button. The main area displays a table of applications with columns for Application ID, Name, Pages, Type, Updated By, Updated, and Run. The 'BUDGET APP' row is highlighted, and its 'Run' button is circled in green.

Application ↑	Name	Pages	Type	Updated By	Updated	Run
100	Sample Database Application	66	Packaged Application	chaitanya	9 days ago	
101	Sample Reporting	39	Packaged Application	chaitanya	4 days ago	
102	Sample Projects	52	Packaged Application	chaitanya	4 days ago	
103	Demo Projects	10	Database Application	chaitanya	14 hours ago	
106	BUDGET APP	4	Database Application	chaitanya	46 hours ago	
107	Team Status	3	Worksheet Application	chaitanya	2 days ago	
110	Hardware	3	Database Application	chaitanya	28 hours ago	

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 3**.

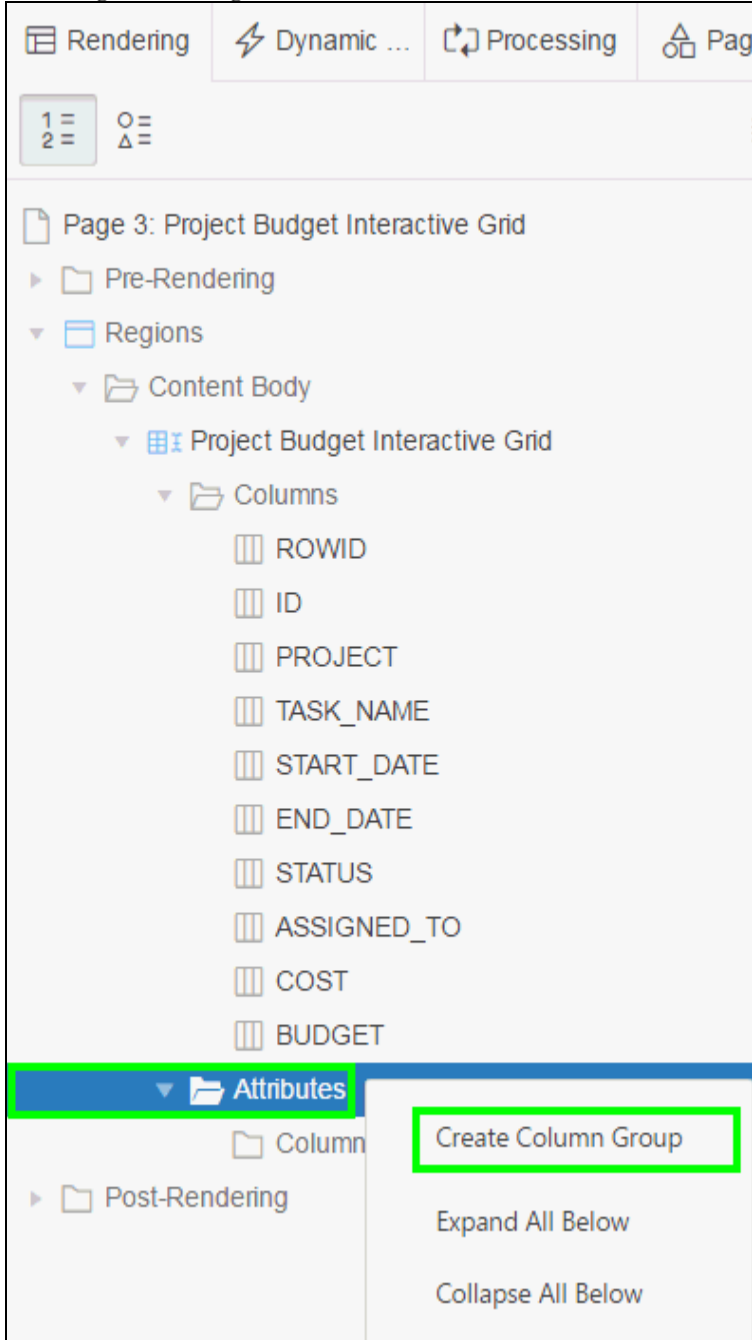
The screenshot displays the Oracle Application Express interface for a 'BUDGET APP'. The main content area shows a table titled 'Project Budget Interactive Grid'. The table has columns for Id, Project, Task Name, Start Date, End Date, Status, Assigned To, Cost, and Budget. The data is as follows:

Id	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
1	ACME Web E...	Create pilot w...	02-FEB-17	02-FEB-17	Closed	John Watson	100	100
2	ACME Web E...	Specify secur...	02-JUL-17	02-JUL-17	Open	John Watson	200	300
3	ACME Web E...	Configure Wo...	02-AUG-17	02-AUG-17	Open	John Watson	200	100
4	Bug Tracker	Document qu...	12-DEC-16	15-DEC-16	Closed	Myra Sutcliff	3000	2000
5	Bug Tracker	Review autom...	16-DEC-16	18-DEC-16	Closed	Myra Sutcliff	750	1500
6	Bug Tracker	Implement b...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliff	100	100
7	Bug Tracker	Train develop...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliff	1000	2000
8	Convert Spre...	Create ACME...	02-MAY-17	02-SEP-17	Open	Pam King	6000	10000
9	Convert Spre...	Send links to ...	02-NOV-17	02-NOV-17	Pending	Pam King	0	500
10	Discussion Fo...	Identify owne...	01-JAN-17	01-JAN-17	Closed	Hank Davis	250	300
11	Discussion Fo...	Install ACME ...	01-JUL-17	01-JUL-17	Closed	Hank Davis	100	100
12	Discussion Fo...	Monitor parti...	02-JUN-17	02-JUL-17	Open	Hank Davis	450	500
13	Email Integra...	Get RFPs for ...	02-APR-17	02-MAY-17	Closed	Bob Nile	2000	1000
14	Employee Sat...	Complete qu...	01-NOV-17	01-DEC-17	Closed	Irene Jones	1200	800
15	Client Server ...	Plan migratio...	02-JAN-17	02-JAN-17	Closed	Pam King	1000	1000

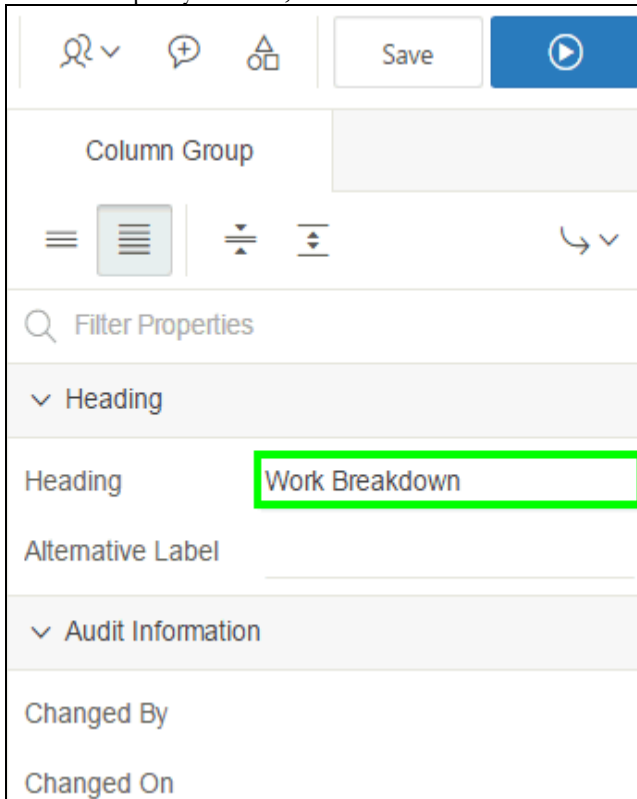
The interface includes a search bar at the top of the grid, a 'Log Out' button in the top right, and a navigation menu on the left with 'Interactive Grid' and 'PROJECT\_BUDGET' options. The bottom status bar shows 'Home', 'Application 106', 'Edit Page 3', 'Session', 'View Debug', 'Debug', 'Show Layout Columns', 'Quick Edit', 'Theme Roller', and 'Total 35'.

- You want to customize the display of this interactive grid for end users. 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.



The screenshot shows the Oracle APEX Property Editor interface. At the top, there are icons for search, help, and undo, along with 'Save' and 'Apply' buttons. Below this is a 'Column Group' section with a text input field. Underneath are icons for list, expand, and collapse, and a refresh icon. A search bar labeled 'Filter Properties' is present. The 'Heading' property is expanded, showing a text input field containing 'Work Breakdown', which is highlighted with a green border. Below this are 'Alternative Label', 'Audit Information', 'Changed By', and 'Changed On' sections.

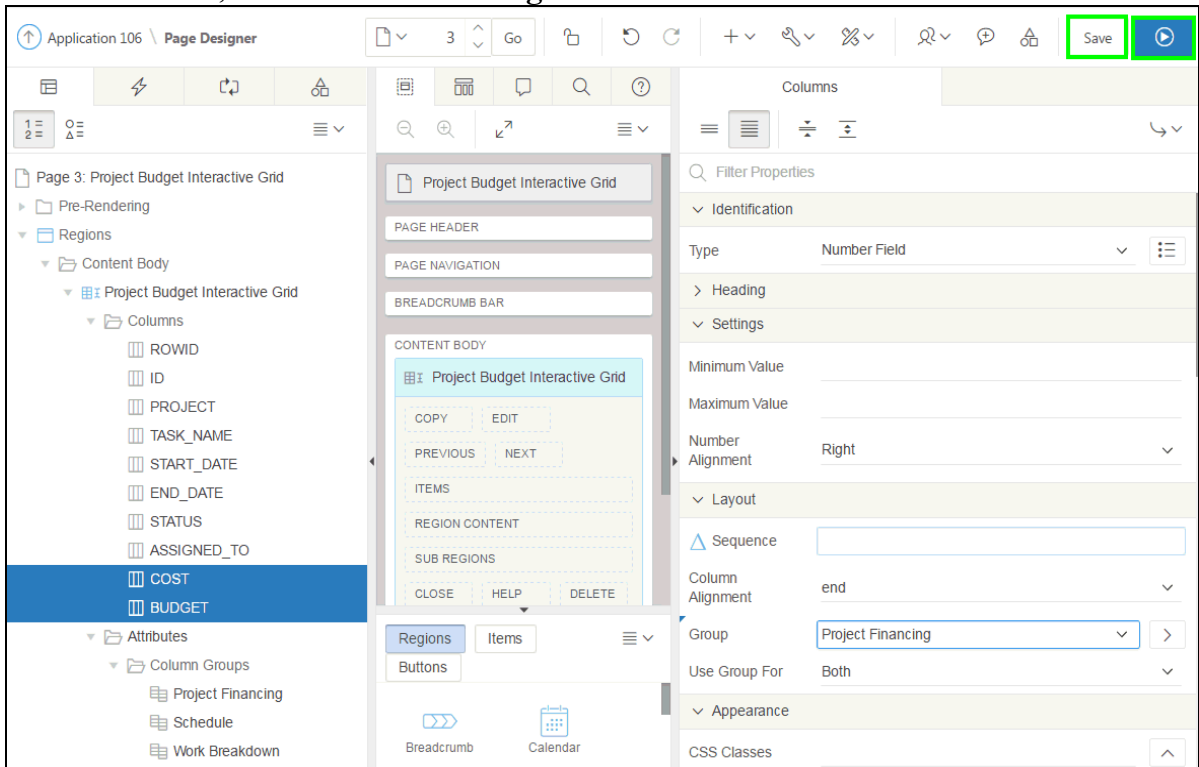
- c) Repeat the above two steps a and b to create column groups: **Schedule** and **Project Financing**.
- d) Now that you created column groups, you need to assign columns to them. Expand **Columns** and select **Project** and **Task\_Name** columns.

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

The screenshot displays the Oracle APEX property editor interface. On the left, a tree view shows the component hierarchy for 'Page 3: Project Budget Interactive Grid'. Under 'Columns', the 'PROJECT' and 'TASK\_NAME' columns are selected and highlighted in blue. The right pane shows the 'Columns' property editor, with the 'Group' dropdown menu set to 'Work Breakdown'. The 'Layout' section is expanded, showing the 'Group' property set to 'Work Breakdown'. The 'Appearance' section is also visible, showing options for 'CSS Classes', 'Format Mask', 'Width', and 'Value Placeholder'.

- 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**.

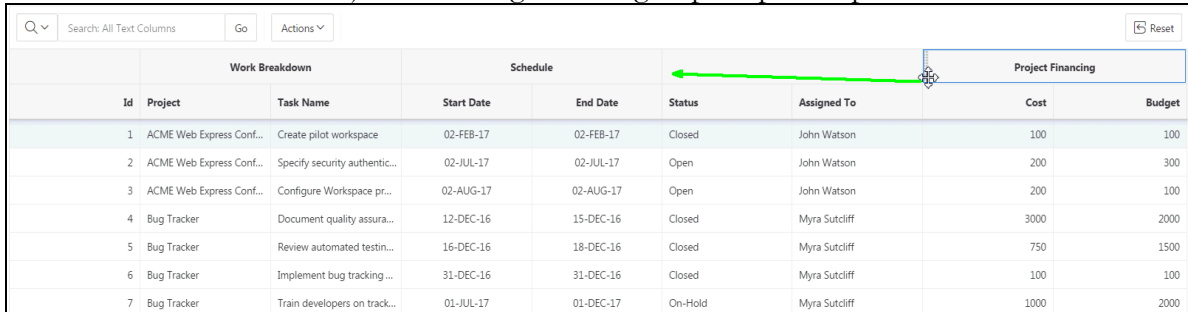


h) The interactive grid now displays column groups.

Work Breakdown			Schedule			Project Financing		
Id	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
1	ACME Web Express Conf...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Watson	100	100
2	ACME Web Express Conf...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Watson	200	300
3	ACME Web Express Conf...	Configure Workspace pr...	02-AUG-17	02-AUG-17	Open	John Watson	200	100
4	Bug Tracker	Document quality assura...	12-DEC-16	15-DEC-16	Closed	Myra Sutcliffe	3000	2000
5	Bug Tracker	Review automated testin...	16-DEC-16	18-DEC-16	Closed	Myra Sutcliffe	750	1500
6	Bug Tracker	Implement bug tracking ...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliffe	100	100
7	Bug Tracker	Train developers on track...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliffe	1000	2000
8	Convert Spreadsheets	Create ACME Web Expre...	02-MAY-17	02-SEP-17	Open	Pam King	6000	10000
9	Convert Spreadsheets	Send links to previous sp...	02-NOV-17	02-NOV-17	Pending	Pam King	0	500
10	Discussion Forum	Identify owners	01-JAN-17	01-JAN-17	Closed	Hank Davis	250	300
11	Discussion Forum	Install ACME Web Expres...	01-JUL-17	01-JUL-17	Closed	Hank Davis	100	100
12	Discussion Forum	Monitor participation	02-JUN-17	02-JUL-17	Open	Hank Davis	450	500
13	Email Integration	Get RFPs for new server	02-APR-17	02-MAY-17	Closed	Bob Nile	2000	1000
14	Employee Satisfaction Su...	Complete questionnaire	01-NOV-17	01-DEC-17	Closed	Irene Jones	1200	800
15	Client Server Conversion	Plan migration schedule	02-JAN-17	02-JAN-17	Closed	Pam King	1000	1000
16	Client Server Conversion	Migrate Client Server app...	02-JUN-17	02-SEP-17	Open	Pam King	300	12000

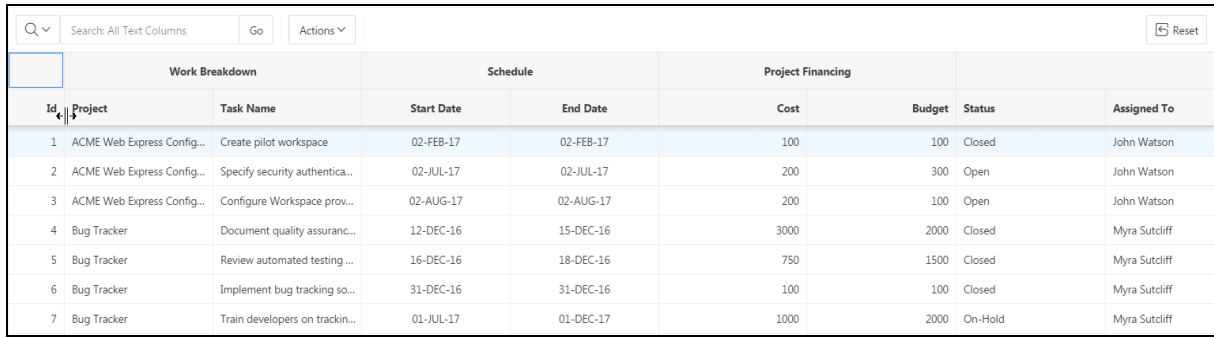
4. Rearrange the columns in the interactive grid. You want to display the column groups Work Breakdown, Schedule, and Project Financing display in order followed by Status and Assigned To.
  - a) Hover the mouse over the Project Financing column group header to display the drag handle. Your mouse cursor 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.



Work Breakdown			Schedule		Project Financing			
Id	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
1	ACME Web Express Conf...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Watson	100	100
2	ACME Web Express Conf...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Watson	200	300
3	ACME Web Express Conf...	Configure Workspace pr...	02-AUG-17	02-AUG-17	Open	John Watson	200	100
4	Bug Tracker	Document quality assura...	12-DEC-16	15-DEC-16	Closed	Myra Sutcliffe	3000	2000
5	Bug Tracker	Review automated testin...	16-DEC-16	18-DEC-16	Closed	Myra Sutcliffe	750	1500
6	Bug Tracker	Implement bug tracking ...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliffe	100	100
7	Bug Tracker	Train developers on track...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliffe	1000	2000

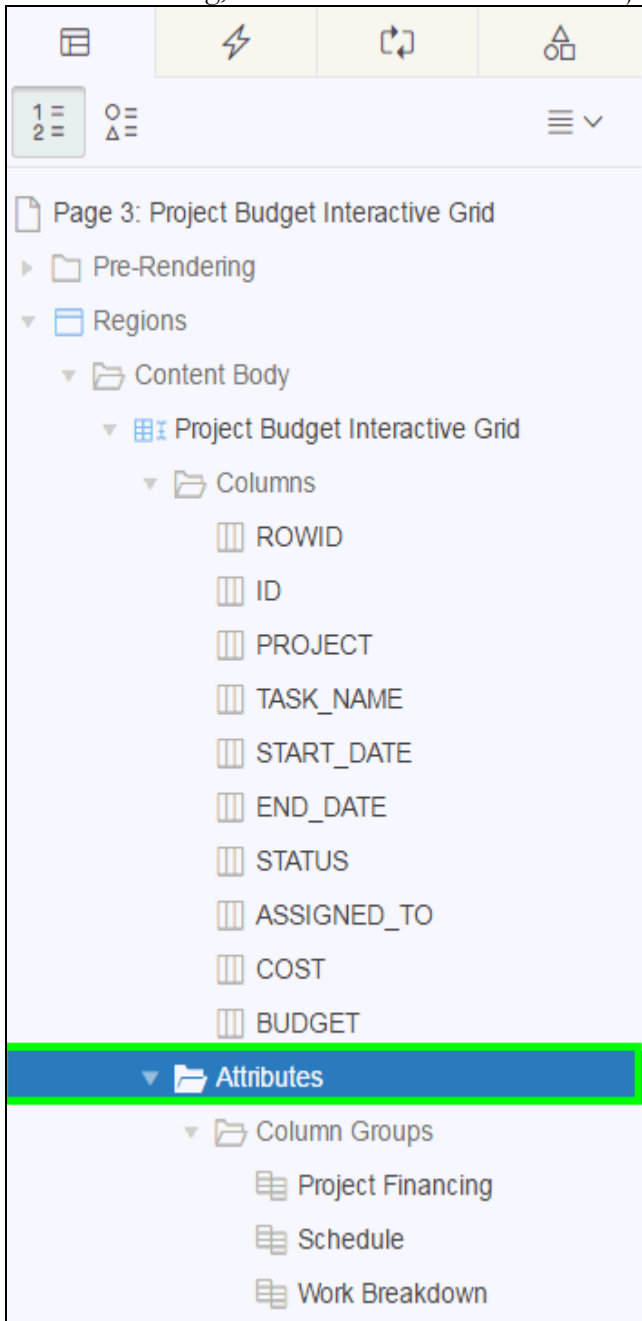
5. Resize the width of the **Id** column. Click and hold the edge of the column heading and adjust with the mouse.



Id	Work Breakdown		Schedule		Project Financing		Status	Assigned To
Id	Project	Task Name	Start Date	End Date	Cost	Budget	Status	Assigned To
1	ACME Web Express Config...	Create pilot workspace	02-FEB-17	02-FEB-17	100	100	Closed	John Watson
2	ACME Web Express Config...	Specify security authentica...	02-JUL-17	02-JUL-17	200	300	Open	John Watson
3	ACME Web Express Config...	Configure Workspace prov...	02-AUG-17	02-AUG-17	200	100	Open	John Watson
4	Bug Tracker	Document quality assuranc...	12-DEC-16	15-DEC-16	3000	2000	Closed	Myra Sutcliffe
5	Bug Tracker	Review automated testing ...	16-DEC-16	18-DEC-16	750	1500	Closed	Myra Sutcliffe
6	Bug Tracker	Implement bug tracking so...	31-DEC-16	31-DEC-16	100	100	Closed	Myra Sutcliffe
7	Bug Tracker	Train developers on trackin...	01-JUL-17	01-DEC-17	1000	2000	On-Hold	Myra Sutcliffe

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.

- 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.

The screenshot shows the 'Attributes' property editor in Oracle APEX. The 'Download' section is expanded, and the 'Download Formats' section is visible. The 'HTML' checkbox is unchecked and highlighted with a green box. Other settings include 'Save Public Report' set to 'Yes', 'Download' set to 'Yes', and 'Send as Email' set to 'Yes'.

Attributes		
Filter Properties		
When No Data Found		
Toolbar		
Show	<input checked="" type="button" value="Yes"/>	No
Buttons	<input checked="" type="checkbox"/> Reset	
	<input checked="" type="checkbox"/> Save	
Enable Users To		
Save Public Report	<input checked="" type="button" value="Yes"/>	No
Save Public Report Authorization	- Select -	
Download	<input checked="" type="button" value="Yes"/>	No
Download		
Download Formats	<input checked="" type="checkbox"/> CSV	
	<input type="checkbox"/> HTML	
Send as Email	<input checked="" type="button" value="Yes"/>	No

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.
- Under Rendering, select **Attributes** under the Project Budget Interactive Grid region.
  - In the property editor, navigate to Edit. For Enabled, select **Yes**.

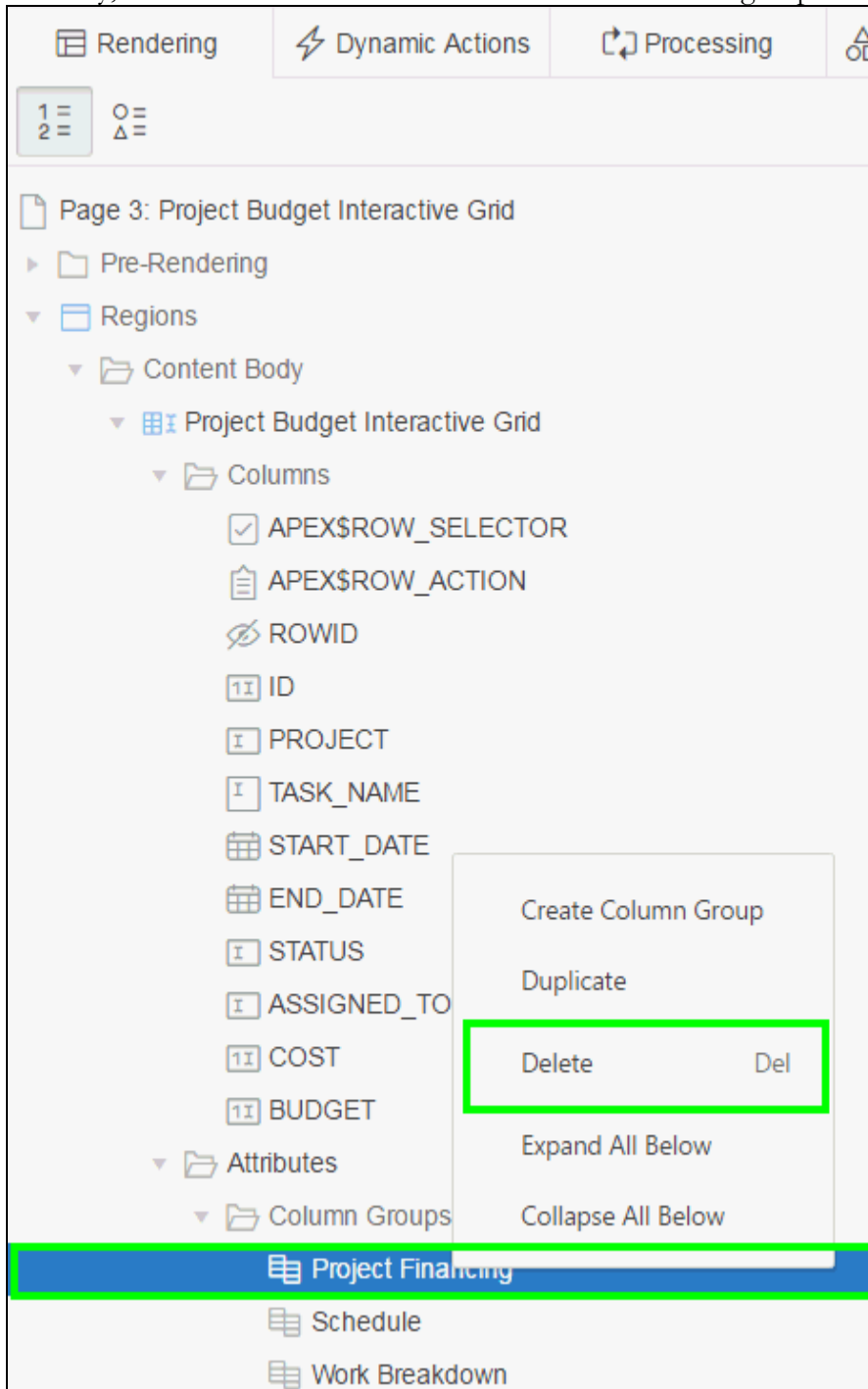
- c) Under **Pagination**, select **Page** for **Type** and select **Yes** for **Show Total Row Count**.

The screenshot shows the configuration panel for an Interactive Grid. The 'Save' button is highlighted in green. The 'Edit' section is expanded, showing the following settings:

- Enabled:**  Yes  No
- Allowed Operations:**
  - Add Row
  - Update Row
  - Delete Row
- Allowed Row Operations Column:** - Select -
- Lost Update Type:** Row Values
- Add Row If Empty:**  Yes  No
- >Edit Authorization**
- > Performance**
- > Appearance**
- ▼ Pagination**
  - Type:** Page
  - Show Total Row Count:**  Yes  No

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

## HOL 7-6: 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**.

Project Budget Interactive Grid

Q server Go Actions Edit Save Add Row Reset

Search for 'server'

		Id	Project	Task Name	Start Date	End Date	Status	Assigned To
<input type="checkbox"/>	≡	11	Discussion Forum	Install ACME Web Express...	01-JUL-17	01-JUL-17	Closed	Hank Davis
<input type="checkbox"/>	≡	13	Email Integration	Get RFPs for new server	02-APR-17	02-MAY-17	Closed	Bob Nile
<input type="checkbox"/>	≡	15	Client Server Conversion	Plan migration schedule	02-JAN-17	02-JAN-17	Closed	Pam King
<input type="checkbox"/>	≡	16	Client Server Conversion	Migrate Client Server app...	02-JUN-17	02-SEP-17	Open	Pam King
<input type="checkbox"/>	≡	17	Client Server Conversion	Test migrated applications	02-NOV-17	02-DEC-17	Pending	Russ Saunders
<input type="checkbox"/>	≡	24	Migrate from Legacy Ser...	Identify integration points	03-MAR-17	03-APR-17	Pending	Bob Nile
<input type="checkbox"/>	≡	25	Migrate from Legacy Ser...	Create DB Connection to ...	03-MAR-17	03-MAR-17	Pending	Scott Spencer
<input type="checkbox"/>	≡	26	Migrate from Legacy Ser...	Import data	03-SEP-17	03-OCT-17	Pending	John Watson
<input type="checkbox"/>	≡	27	Migrate from Legacy Ser...	Convert processes	03-SEP-17	03-NOV-17	Pending	Pam King
<input type="checkbox"/>	≡	28	Public Website	Determine host server	01-NOV-17	01-NOV-17	Closed	Tiger Scott

< > 1 > 1 - 10 of 10

2. Remove the filter by clicking the **X** icon. Now, in the search bar, click the magnifying glass and select **Task Name** column. Enter **server** in the text area and click **Go**. Notice that the search is now restricted only to the

Task Name column.

Project Budget Interactive Grid

Search: server  Actions Edit  Add Row

Case Sensitive  X

All Text Columns

- Id
- Project
- Task Name
- Start Date
- End Date
- Status
- Assigned To
- Cost
- Budget

Id	Project	Task Name	Start Date	End Date	Status
11	Discussion Forum	Install ACME Web Express...	01-JUL-17	01-JUL-17	Closed
13	Email Integration	Get RFPs for new server	02-APR-17	02-MAY-17	Closed
16	Client Server Conversion	Migrate Client Server app...	02-JUN-17	02-SEP-17	Open
25	Migrate from Legacy Ser...	Create DB Connection to ...	03-MAR-17	03-MAR-17	Pending
28	Public Website	Determine host server	01-NOV-17	01-NOV-17	Closed

- 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**.

Search: All Text Columns  Actions Edit  Add Row

Id	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
1	ACME Web Express Confi...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Watson	100	100
2	ACME Web Express Confi...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Watson	200	300
3	ACME Web Express Confi...	Configure Workspace pro...	02-AUG-17	02-AUG-17	Open	John Watson	200	100

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

Search: All Text Columns  Actions Edit  Add Row

Id	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
1	ACME Web Express Confi...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Watson	100	300
2	ACME Web Express Confi...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Watson	200	300
3	ACME Web Express Confi...	Configure Workspace pro...	02-AUG-17	02-AUG-17	Open	John Watson	200	100

The changes are saved now.

Changes saved X

Project Budget Interactive Grid

Search: All Text Columns  Actions Edit  Add Row

Name	Start Date	End Date	Status	Assigned To	Cost	Budget
pilot workspace	02-FEB-17	02-FEB-17	Closed	John Watson	100	300
y security authentic...	02-JUL-17	02-JUL-17	Open	John Watson	200	300
ure Workspace pro...	02-AUG-17	02-AUG-17	Open	John Watson	200	100

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

		Id	Project	Task Name	Start Date	End Date	Status	Assigned To
<input type="checkbox"/>	☰	1	ACME Web Express Confi...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Watson
<input type="checkbox"/>	☰	2	ACME Web Express Confi...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Watson
<input type="checkbox"/>	☰		ACME Web Express Confi...	Configure Workspace pro...	02-AUG-17	02-AUG-17	Open	John Watson
<input type="checkbox"/>	+		Bug Tracker	Document quality assuran...	12-DEC-16	15-DEC-16	Closed	Myra Sutcliffe
<input type="checkbox"/>	+		Bug Tracker	Review automated testing...	16-DEC-16	18-DEC-16	Closed	Myra Sutcliffe
<input type="checkbox"/>	+		Bug Tracker	Implement bug tracking s...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliffe
<input type="checkbox"/>	+		Bug Tracker	Train developers on track...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliffe
<input type="checkbox"/>	+		Convert Spreadsheets	Create ACME Web Expres...	02-MAY-17	02-SEP-17	Open	Pam King

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

		Id	Project	Task Name	Start Date	End Date	Status	Assigned To
		2	ACME Web Express Configuration	Specify security authentication scheme(s)	02-JUL-17	02-JUL-17	Open	John Watson
		Cost	200					
		Budget	300					

7. Replace the existing value for Budget with **500** and click **Save**. Then, click **Report View**.

		Id	Project	Task Name	Start Date	End Date	Status	Assigned To
		2	ACME Web Express Cor	Specify security authentication scheme(s)	02-JUL-17	02-JUL-17	Open	John Watson
		Cost	200					
		Budget	500					

8. The row now displays 500 for Budget.

Q		Search: All Text Columns	Go	Actions	Edit	Save	Add Row	Reset
<input type="checkbox"/>		02-FEB-17	02-FEB-17	Closed	John Watson	100	300	
<input type="checkbox"/>		02-JUL-17	02-JUL-17	Open	John Watson	200	500	
<input type="checkbox"/>		02-AUG-17	02-AUG-17	Open	John Watson	200	100	

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

Q		Search: All Text Columns	Go	Actions	Edit	Save	Add Row	Reset
<input type="checkbox"/>		<b>Id</b>	<b>Project</b>	<b>Task Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Status</b>	<b>Assigned</b>
<input checked="" type="checkbox"/>		37	New Project	New Task	02-Feb-17	10-Feb-17	Closed	Pam King
<input type="checkbox"/>		1	ACME Web Express Confi...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Wats
<input type="checkbox"/>		2	ACME Web Express Confi...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Wats

10. Click the row header for the row that you just added and select **Delete Row**.

Project Budget Interactive Grid

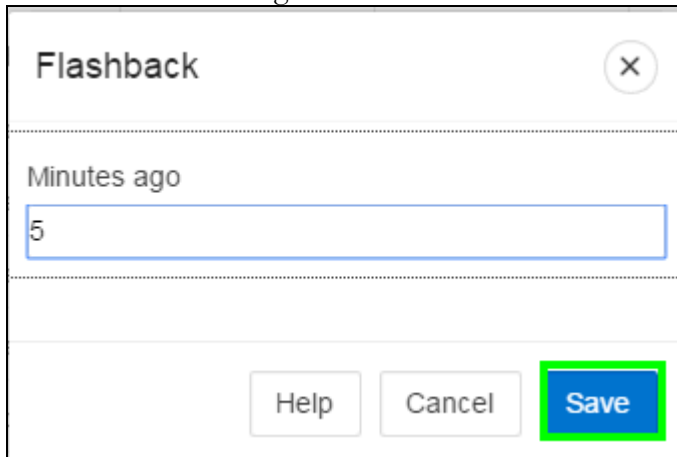
Q		Search: All Text Columns	Go	Actions	Edit	Save	Add Row	Reset
<input type="checkbox"/>		<b>Id</b>	<b>Project</b>	<b>Task Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Status</b>	<b>Assigned</b>
<input checked="" type="checkbox"/>		37	New Project	New Task	02-FEB-17	10-FEB-17	Closed	Pam King
<input type="checkbox"/>			Web Express Confi...	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	John Wats
<input type="checkbox"/>			Web Express Confi...	Specify security authentic...	02-JUL-17	02-JUL-17	Open	John Wats
<input type="checkbox"/>			Web Express Confi...	Configure Workspace pro...	02-AUG-17	02-AUG-17	Open	John Wats
<input type="checkbox"/>			cker	Document quality assuran...	12-DEC-16	15-DEC-16	Closed	Myra Sutc
<input type="checkbox"/>			cker	Review automated testing...	16-DEC-16	18-DEC-16	Closed	Myra Sutc
<input type="checkbox"/>			cker	Implement bug tracking s...	31-DEC-16	31-DEC-16	Closed	Myra Sutc
<input type="checkbox"/>			cker	Train developers on track...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutc

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

Project Budget Interactive Grid

Q		Search: All Text Columns	Go	Actions	Edit	Save	Add Row	Reset	
<input type="checkbox"/>		<b>Id</b>	<b>Project</b>	<b>Columns</b>	<b>Start Date</b>	<b>End Date</b>	<b>Status</b>	<b>Assigned To</b>	<b>Cost</b>
<input checked="" type="checkbox"/>		1	ACME Web Expr...	Filter	02-FEB-17	02-FEB-17	Closed	John Watson	100
<input type="checkbox"/>		2	ACME Web Expr...	<b>Data</b>	02-JUL-17	02-JUL-17	Open	John Watson	200
<input type="checkbox"/>		3	ACME Web Expr...	Format	02-AUG-17	02-AUG-17	Open	John Watson	200
<input type="checkbox"/>		4	Bug Tracker	Chart	15-DEC-16	15-DEC-16	Closed	Myra Sutcliff	3000
<input type="checkbox"/>		5	Bug Tracker	Report	18-DEC-16	18-DEC-16	Closed	Myra Sutcliff	750
<input type="checkbox"/>		6	Bug Tracker	Download	31-DEC-16	31-DEC-16	Closed	Myra Sutcliff	100
<input type="checkbox"/>		7	Bug Tracker	Help	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliff	1000
<input type="checkbox"/>		8	Convert Spreads...		02-MAY-17	02-SEP-17	Open	Pam King	6000

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

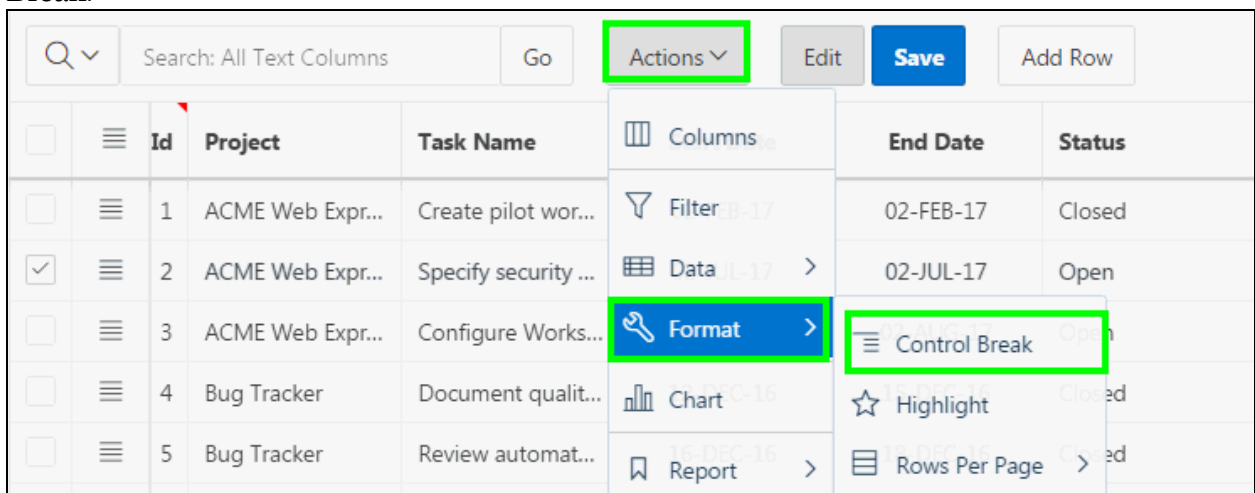


The image shows a dialog box titled "Flashback" with a close button (X) in the top right corner. Below the title bar, there is a label "Minutes ago" followed by a text input field containing the number "5". At the bottom of the dialog, there are three buttons: "Help", "Cancel", and "Save". The "Save" button is highlighted with a green border.

13. Notice the budget values for projects with Id's 1 and 2.

	Id	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
Project: ACME Web Express Configuration								
<input type="checkbox"/>	1	Create pilot worksp...	02-FEB-17	02-FEB-17	Closed	John Watson	100	100
<input type="checkbox"/>	2	Specify security aut...	02-JUL-17	02-JUL-17	Open	John Watson	200	300

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



The image shows a table with columns: Id, Project, Task Name, End Date, and Status. The table has five rows. The second row (Id 2) is selected. A menu is open over the table, showing options: Columns, Filter, Data, Format, Chart, and Report. The "Format" option is highlighted in blue, and its sub-menu is open, showing "Control Break" highlighted in green. Other options in the sub-menu include Highlight and Rows Per Page.

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

The screenshot shows the 'Control Break' dialog box. On the left, there is a table with columns 'Enabled' and 'Column'. The 'Project' row is selected and has a checkmark in the 'Enabled' column. Below this table are four navigation buttons: '+', '-', '^', and 'v'. On the right side of the dialog, there are three dropdown menus: 'Column' (set to 'Project'), 'Direction' (set to 'Ascending'), and 'Nulls' (set to 'Last'). At the bottom right, there are three buttons: 'Help', 'Cancel', and 'Save' (which is highlighted in green).

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

	Id	Task Name	Start Date	End Date	Status	Assigned To	Cost
Project: ACME Web Express Configuration							
<input type="checkbox"/>	1	Create pilot works...			Closed	John Watson	100
<input type="checkbox"/>	2	Specify security au...			Open	John Watson	200
<input type="checkbox"/>	3	Configure Worksp...			Open	John Watson	200
Project: Bug Tracker							
<input type="checkbox"/>	4	Document quality ...	15-DEC-16	18-DEC-16	Closed	Myra Sutcliffe	3000
<input type="checkbox"/>	5	Review automated...	16-DEC-16	18-DEC-16	Closed	Myra Sutcliffe	750
<input type="checkbox"/>	6	Implement bug tra...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliffe	100
<input type="checkbox"/>	7	Train developers o...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliffe	1000
Project: Client Server Conversion							
<input type="checkbox"/>	16	Migrate Client Serv...	02-JUN-17	02-SEP-17	Open	Pam King	300
<input type="checkbox"/>	17	Test migrated appl...	02-NOV-17	02-DEC-17	Pending	Russ Saunders	0
<input type="checkbox"/>	15	Plan migration sch...	02-JAN-17	02-JAN-17	Closed	Pam King	1000

17. 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
<input checked="" type="checkbox"/>	Project costi...

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

+ - ^ v

Help Cancel Save

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

Project Budget Interactive Grid

Search: All Text Columns Go Actions Edit Save Add Row Reset

Project Project costing grea...

		<b>Id</b>	<b>Task Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Status</b>	<b>Assigned To</b>	<b>Cost</b>
Project: ACME Web Express Configuration								
<input type="checkbox"/>		1	Create pilot works...	02-FEB-17	02-FEB-17	Closed	John Watson	100
<input type="checkbox"/>		2	Specify security au...	02-JUL-17	02-JUL-17	Open	John Watson	200
<input type="checkbox"/>		3	Configure Worksp...	02-AUG-17	02-AUG-17	Open	John Watson	200
Project: Bug Tracker								
<input type="checkbox"/>		4	Document quality ...	12-DEC-16	15-DEC-16	Closed	Myra Sutcliff	3000
<input type="checkbox"/>		5	Review automated...	16-DEC-16	18-DEC-16	Closed	Myra Sutcliff	750
<input type="checkbox"/>		6	Implement bug tra...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliff	100
<input type="checkbox"/>		7	Train developers o...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliff	1000
Project: Client Server Conversion								
<input type="checkbox"/>		16	Migrate Client Serv...	02-JUN-17	02-SEP-17	Open	Pam King	300
<input type="checkbox"/>		17	Test migrated appl...	02-NOV-17	02-DEC-17	Pending	Russ Saunders	0
<input type="checkbox"/>		15	Plan migration sch...	02-JAN-17	02-JAN-17	Closed	Pam King	1000

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

Project Budget Interactive Grid

Search: All Text Columns Go Actions Edit Save Add Row Reset

Project Project costing grea...

		<b>Id</b>	<b>Task Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Status</b>	<b>Assigned To</b>
Project: ACME Web Express Configuration							
<input type="checkbox"/>		1	Create pilot v...	02-FEB-17	02-FEB-17	Closed	John Watson
<input type="checkbox"/>		2	Specify secur...	02-JUL-17	02-JUL-17	Open	John Watson
<input type="checkbox"/>		3	Configure W...	02-AUG-17	02-AUG-17	Open	John Watson
Project: Bug Tracker							
<input type="checkbox"/>		4	Document quality assuran...	15-DEC-16	15-DEC-16	Closed	Myra Sutcliff
<input type="checkbox"/>		5	Review automated testing...	18-DEC-16	18-DEC-16	Closed	Myra Sutcliff
<input type="checkbox"/>		6	Implement bug tracking s...	31-DEC-16	31-DEC-16	Closed	Myra Sutcliff
<input type="checkbox"/>		7	Train developers on track...	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliff
Project: Client Server Conversion							
<input type="checkbox"/>		16	Migrate Client Server appl...	02-JUN-17	02-SEP-17	Open	Pam King
<input type="checkbox"/>		17	Test migrated applications	02-NOV-17	02-DEC-17	Pending	Russ Saunders
<input type="checkbox"/>		15	Plan migration schedule	02-JAN-17	02-JAN-17	Closed	Pam King

Columns Filter Data Format Chart Report Save As Edit Delete Reset

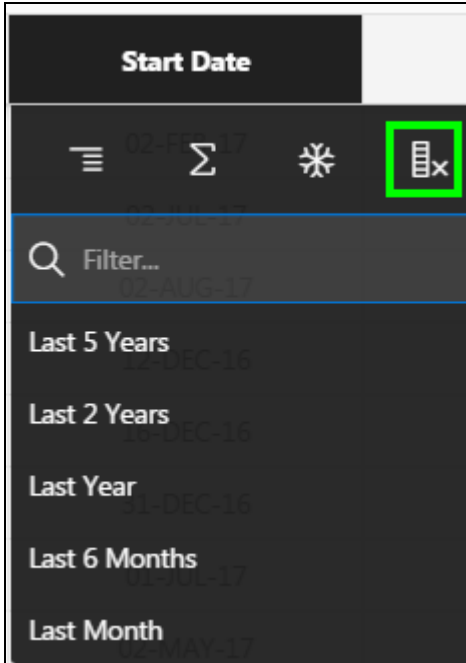
20. In the Report – Save As dialog, select **Private** for Type. Enter **My Private Report** for Name. Click **Save**.

The screenshot shows a dialog box titled "Report - Save As". It has a close button (X) in the top right corner. Below the title bar, there are two sections: "Type" and "Name". The "Type" section has a dropdown menu with "Private" selected. The "Name" section has a text input field containing "My Private Report". At the bottom right, there are three buttons: "Help", "Cancel", and "Save". The "Save" button is highlighted with a green border.

21. 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.

The screenshot shows the Oracle APEX Reports interface. At the top, there is a search bar with "Search: All Text Columns" and a "Go" button. To the right, there is a dropdown menu for "My Private Report" which is currently open, showing a list of report types: "Default", "Primary Report" (highlighted in green), "Private", and "My Private Report". To the right of the dropdown are buttons for "Actions", "Edit", "Save", and "Add Row". Below the search bar, there is a list of reports with checkboxes and icons. The "Project" report is selected, and the "Project costing grea..." report is also visible.

22. 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**.

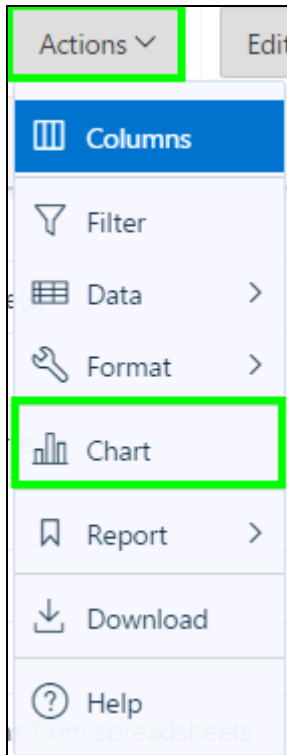


Repeat this step for the **End Date** and **Assigned To** columns.

23. Resize the columns' width using the mouse.

Search: All Text Columns    Go    Primary Report    Actions    Edit    Save    Add Row    Reset							
		Id	Project	Task Name	Status	Cost	Budget
<input type="checkbox"/>	≡	1	ACME Web Express Configuration	Create pilot workspace	Closed	100	100
<input type="checkbox"/>	≡	2	ACME Web Express Configuration	Specify security authentication scheme(s)	Open	200	300
<input type="checkbox"/>	≡	3	ACME Web Express Configuration	Configure Workspace provisioning	Open	200	100
<input type="checkbox"/>	≡	4	Bug Tracker	Document quality assurance procedures	Closed	3000	2000
<input type="checkbox"/>	≡	5	Bug Tracker	Review automated testing tools	Closed	750	1500
<input type="checkbox"/>	≡	6	Bug Tracker	Implement bug tracking software	Closed	100	100

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



25. In the Chart dialog:

- Type: Select **Bar**
- Label: Select **Project**
- Value: Select **Cost**
- Aggregation: Select **Sum**

Click **Save**.

### Chart

Type

Area Bar Bubble Donut Funnel Line Line with Area

Pie Polar Radar Range Scatter Stock

Orientation  
Vertical

Label  
Project

Value  
Cost

Aggregation  
Sum

Z  
- Select -

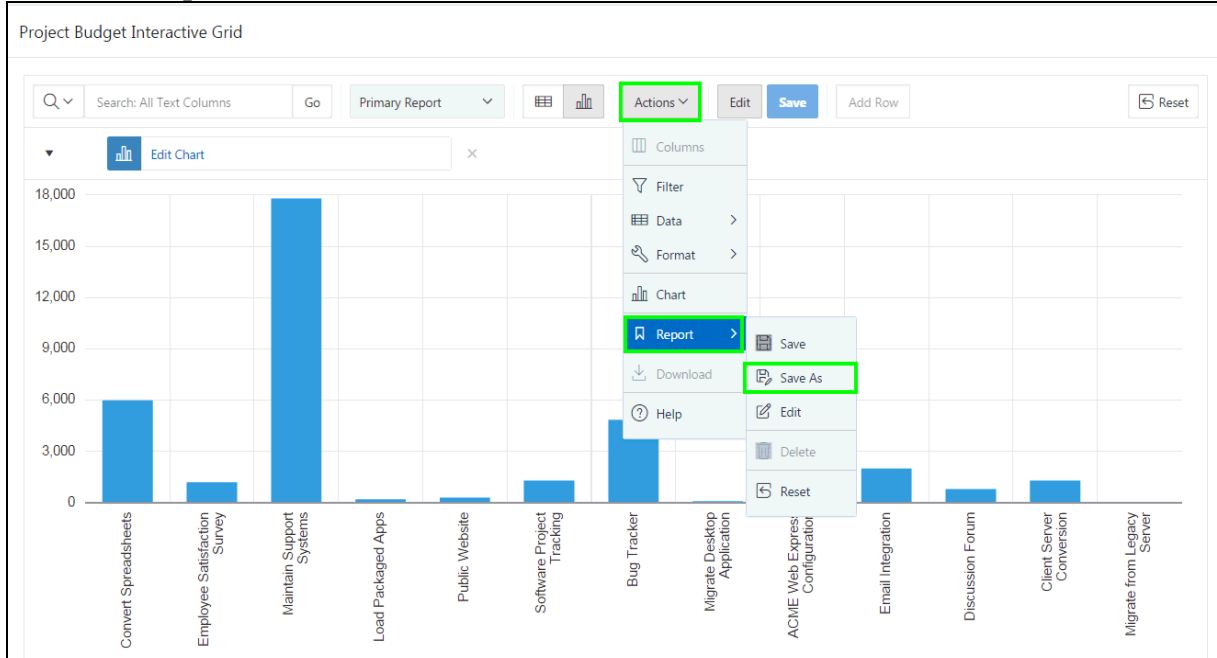
Aggregation  
- Select -

Series  
- Select -

Stack  
Off

Help Cancel **Save**

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



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

The screenshot shows the 'Report - Save As' dialog box. It has a title bar with a close button (X). The 'Type' dropdown is set to 'Private'. The 'Name' text box contains 'My Custom Report'. At the bottom, there are three buttons: 'Help', 'Cancel', and 'Save' (highlighted with a green box).

28. The report is now saved under Private in the Reports drop down list. Click the Report View icon.


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

		Search: All Text Columns	Go	My Custom Report	Actions	Edit	Save	Add Row
					Columns			
		<b>Id</b>	<b>Project</b>	<b>Task Name</b>	Filter		<b>Status</b>	<b>Cost</b>
<input type="checkbox"/>		1	ACME Web Express Configuration	Create pilot workspace	Data >		Closed	100
<input type="checkbox"/>		2	ACME Web Express Configuration	Specify security authentication scheme	Format >		Open	200
<input type="checkbox"/>		3	ACME Web Express Configuration	Configure Workspace provisioning	Chart		Open	200
<input type="checkbox"/>		4	Bug Tracker	Document quality assurance procedure	Report >		Closed	3000
<input type="checkbox"/>		5	Bug Tracker	Review automated testing tools	Download		Closed	750
<input type="checkbox"/>		6	Bug Tracker	Implement bug tracking software	Help		On-Hold	100
<input type="checkbox"/>		7	Bug Tracker	Train developers on tracking bugs			On-Hold	1000
<input type="checkbox"/>		8	Convert Spreadsheets	Create ACME Web Express applications			Open	6000

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

### Download

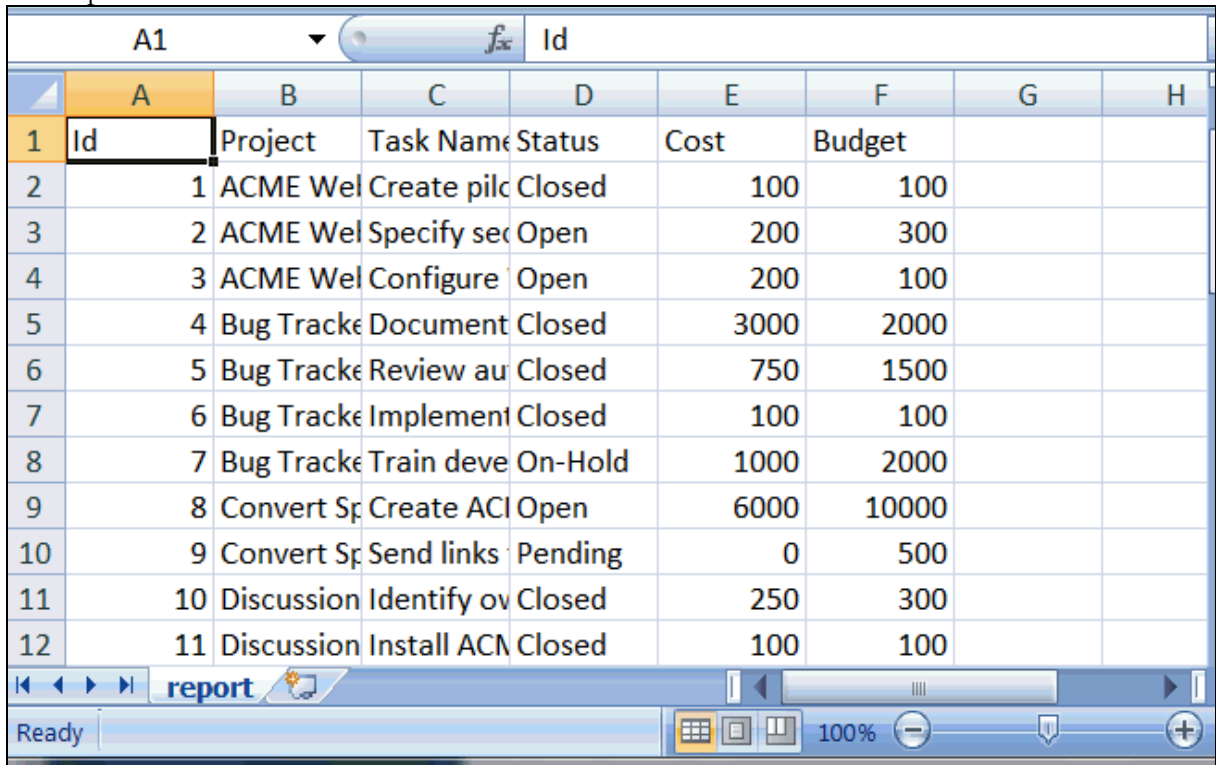
Choose Format

  
 CSV

Send as Email

Help Cancel Download

30. The report is now loaded as CSV.



The screenshot shows an Oracle APEX report viewer displaying a CSV table. The table has 12 rows and 8 columns. The columns are labeled: Id, Project, Task Name, Status, Cost, Budget, and two empty columns. The data is as follows:

	A	B	C	D	E	F	G	H
1	Id	Project	Task Name	Status	Cost	Budget		
2	1	ACME Wel	Create pilc	Closed	100	100		
3	2	ACME Wel	Specify sec	Open	200	300		
4	3	ACME Wel	Configure	Open	200	100		
5	4	Bug Tracke	Document	Closed	3000	2000		
6	5	Bug Tracke	Review au	Closed	750	1500		
7	6	Bug Tracke	Implement	Closed	100	100		
8	7	Bug Tracke	Train deve	On-Hold	1000	2000		
9	8	Convert Sp	Create ACI	Open	6000	10000		
10	9	Convert Sp	Send links	Pending	0	500		
11	10	Discussion	Identify ov	Closed	250	300		
12	11	Discussion	Install ACM	Closed	100	100		

The interface includes a toolbar with navigation buttons, a 'report' label, and a status bar showing 'Ready' and '100%' zoom.



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