



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

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

#### Unit 11: Implementing Navigation in your Application

In this hands-on lab, you implement navigation in the Demo Projects application.

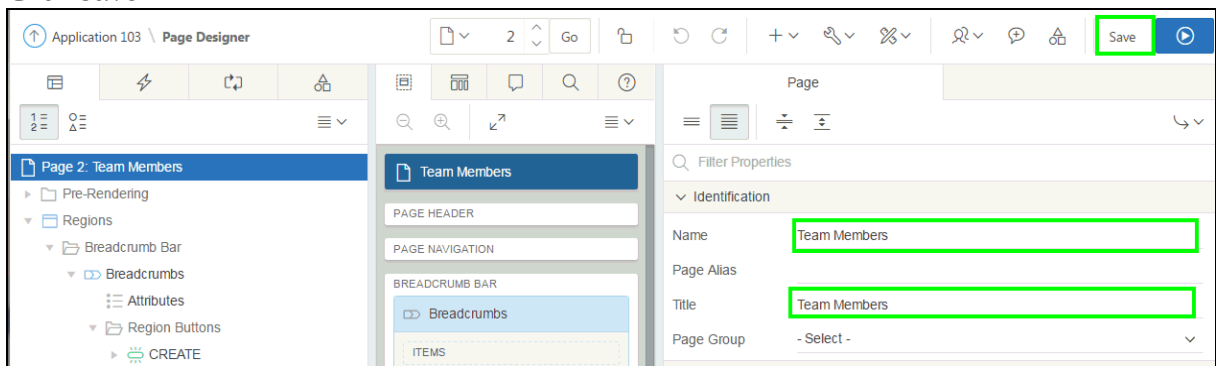
Breadcrumbs are very common within Web applications to allow users to easily traverse from the current page to a parent page. Use of the Back button is discouraged within Web applications, as this operation may display old ("stale") information to the user. This hands-on lab covers updating the breadcrumb entries for the following pages:

- Demo Proj Team Members
- Demo Projects
- Demo Proj Milestones
- Demo Proj Tasks

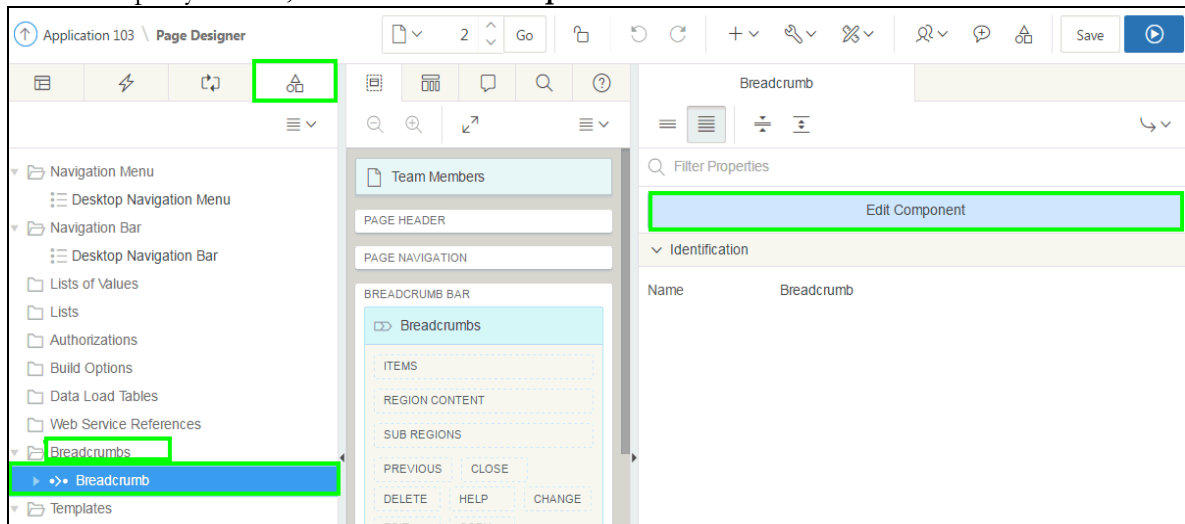
The Navigation Menu is defined as a list within Shared Components. In this hands-on lab, you update the Navigation Menu entries, and include icons for each entry.

In this hands-on lab, you update breadcrumb entries for the pages in the Demo Projects application. You also update the Navigation Menu entries and add icons for each entry.

1. Navigate to **App Builder** and run the **Demo Projects** application.  
In the navigation menu, click **Demo Proj Team Members**.  
In the Developer Toolbar, click **Edit Page 2**.
2. Update the page properties from Demo Proj Team Members to Team Members.  
In the Property Editor:
  - Identification: Name - enter **Team Members**
  - Identification: Title - enter **Team Members**
 Click **Save**.



3. Update the breadcrumb entry for the page.
  - a) In the Rendering tree, click the **Shared Components** tab.
  - b) Expand the Breadcrumbs node and click the **Breadcrumb** entry.
  - c) In the Property Editor, click the **Edit Component** button.



4. Click the **Demo Proj Team Members** breadcrumb entry.

5. For Short Name, enter **Team Members**, and click **Apply Changes**.

Entry

Sequence  ?

Parent Entry  ?

\* Short Name

Long Name

6. To return to page designer, on the toolbar, click **Edit Page 2**.

Application 103 \ Shared Components \ Breadcrumbs \ Entries

Breadcrumb  ?

Name or Target  ? Page  ?

Edit Breadcrumb Name

Set

Search  Go Actions

Name	Sequence	Page	Parent
Team Members	20	2	(null)

1 - 1

Breadcrumb Entries

A Breadcrumb is a hierarchical list of links that is rendered as a region. Once a Breadcrumb is created Breadcrumb Entries can be defined. Breadcrumbs can be displayed on a page by adding a breadcrumb region using the create region wizard.

Tasks

7. The navigation menu is still displayed as Demo Proj Team Members. Update the Navigation Menu entries, and include icons for each entry. In the page designer, click **Shared Components** icon in the toolbar (not the page shared components).

Application 103 \ Page Designer

2 Go

Page

Filter Properties

Identification

Name

Page Alias

Title

Page Group

Appearance

Navigation Menu

- Desktop Navigation Menu

Navigation Bar

- Desktop Navigation Bar

Lists of Values

Lists

Authorizations

Build Options

Team Members

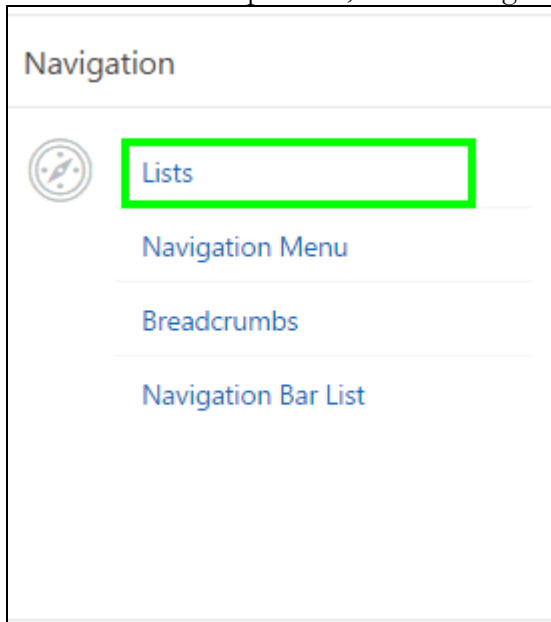
PAGE HEADER

PAGE NAVIGATION

BREADCRUMB BAR

Breadcrumbs

8. Under Shared Components, locate Navigation and click **Lists**.



9. In the Lists report, click **Desktop Navigation Menu**.

The screenshot shows the 'Lists' report in Oracle APEX. The report has a header with tabs: 'Lists', 'List Details', 'Unused', 'Conditional Entries', 'Utilization', and 'History'. Below the tabs is a search bar with a search icon, a search input field, a 'Go' button, and a 'Create >' button. The report table has the following columns: 'Name', 'Type', 'Entries', 'References', 'Entries Updated', 'List Updated', 'Navigation Bar', and 'Navigation Menu'. The 'Desktop Navigation Menu' row is highlighted with a red rectangular box.

Name ↑	Type	Entries	References	Entries Updated	List Updated	Navigation Bar	Navigation Menu
Desktop Navigation Bar	Static	1	0	-	-	Yes	No
Desktop Navigation Menu	Static	5	0	-	-	No	Yes

10. In the List Details report, click **Home**.

Sequence ↑	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	Home	-	f? p=&APP_ID.:1:&APP_SESSION.::&DEBUG.:	-	-	1	-	
20	Demo Proj Team Members	-	f? p=&APP_ID.:2:&APP_SESSION.::&DEBUG.:	-	-	1	-	
40	Demo Proj Projects	-	f? p=&APP_ID.:4:&APP_SESSION.::&DEBUG.:	-	-	1	-	
60	Demo Proj Milestones	-	f? p=&APP_ID.:6:&APP_SESSION.::&DEBUG.:	-	-	1	-	
80	Demo Proj Tasks	-	f? p=&APP_ID.:8:&APP_SESSION.::&DEBUG.:	-	-	1	-	

11. In the Home list entry, locate the **Image/Class** item. Click the up arrow, at the end of the field (^), to display a list of images.

< > List Entry Cancel

Show All    Entry    Target    Current List Entry    Conditions    Authorization    Configuration

Entry

List: **Desktop Navigation Menu** ?

Parent List Entry: - No Parent List Item - ?

Sequence: 10 ?

Image/Class:  ^ ?

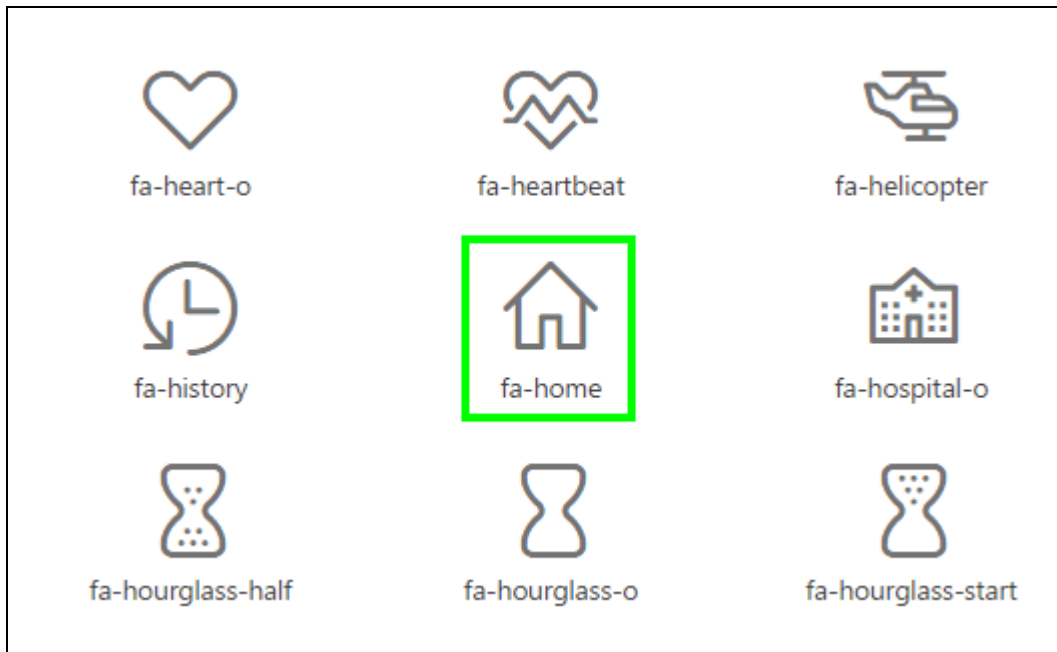
Attributes:  ^ ?

Alt Attribute:  ?

\* List Entry Label: Home

12. Review the library of images, provided by Font Awesome (fa). These images can be utilized throughout the application to improve aesthetics, and provide a visual indicator, rather than just text.

Locate and select **fa-home**.



13. Click the **Next** button ( > ), adjacent to the page title, to navigate to the next entry.  
**Note:** As you navigate from one record to another, any changes to the previous record are automatically saved.

Application 103 \ Shared Components \ List Details \ Create / Edit

< > List Entry Cancel

Show All | Entry | Target | Current List Entry | Conditions | Authorization | Configuration

Entry

List: **Desktop Navigation Menu** ?

Parent List Entry: - No Parent List Item - ?

Sequence: 10 ?

Image/Class: **fa-home** ^ ?

Attributes: ^ ?

14. On the Demo Proj Team Members list entry, for Image/Class enter **fa-users**, and for List Entry Label enter **Team Members**.

Click the **Next** button (>).

The screenshot shows the 'List Entry' configuration page in Oracle APEX. At the top, there is a green banner with a checkmark and the text 'Action processed.'. Below this, there are navigation buttons: '<', '>', and 'Cancel'. The '>' button is highlighted with a green box. The page title is 'List Entry'. Below the title, there are tabs: 'Show All', 'Entry', 'Target', 'Current List Entry', 'Conditions', 'Authorization', and 'Configuration'. The 'Entry' tab is selected. The main content area is titled 'Entry' and contains the following fields:

- List: Desktop Navigation Menu (?)
- Parent List Entry: - No Parent List Item - (?)
- Sequence: 20 (?)
- Image/Class: fa-users (highlighted with a green box)
- Attributes: (empty) (^) (?)
- Alt Attribute: (empty) (?)
- \* List Entry Label: Team Members (highlighted with a green box)

15. On the Demo Projects list entry, for Image/Class enter **fa-folder**, and for List Entry Label enter **Projects**.

Click the **Next** button (>).

**Note:** You can simply type in the image name, such as **fa-folder**, directly into the Image/Class field, rather than bringing up the library of images.

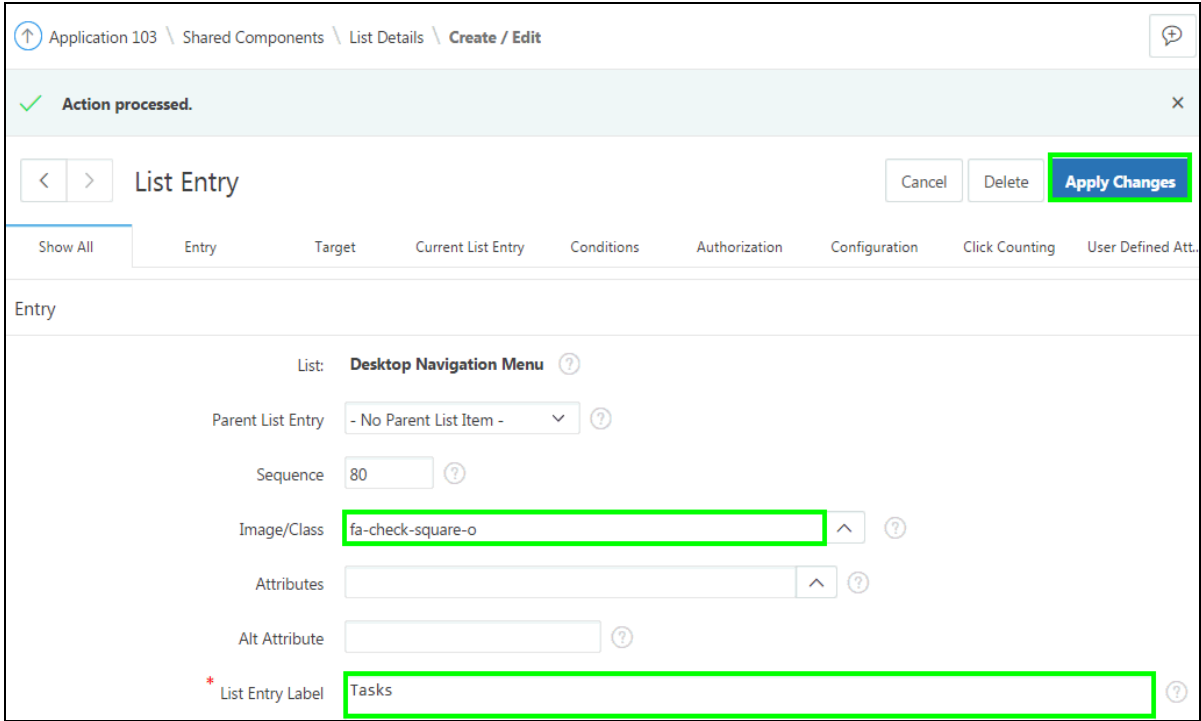
16. On the Demo Proj Milestones list entry, for Image/Class enter **fa-flag**, and for List Entry Label enter **Milestones**.

Click the **Next** button (>).

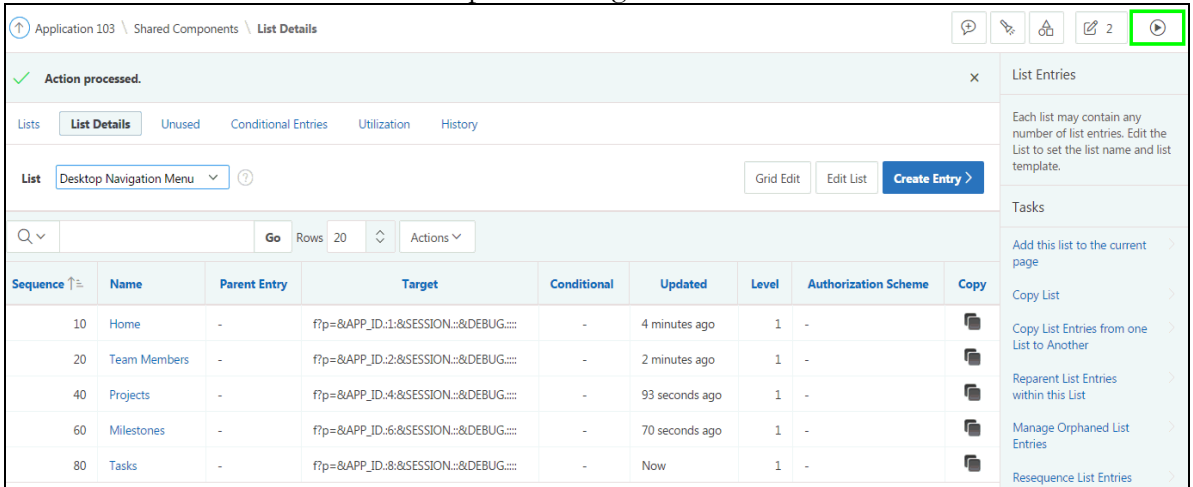
17. On the Demo Proj Tasks list entry, for Image/Class enter **fa-check-square-o**, and for List Entry Label enter **Tasks**.

Click the **Next** button (>).

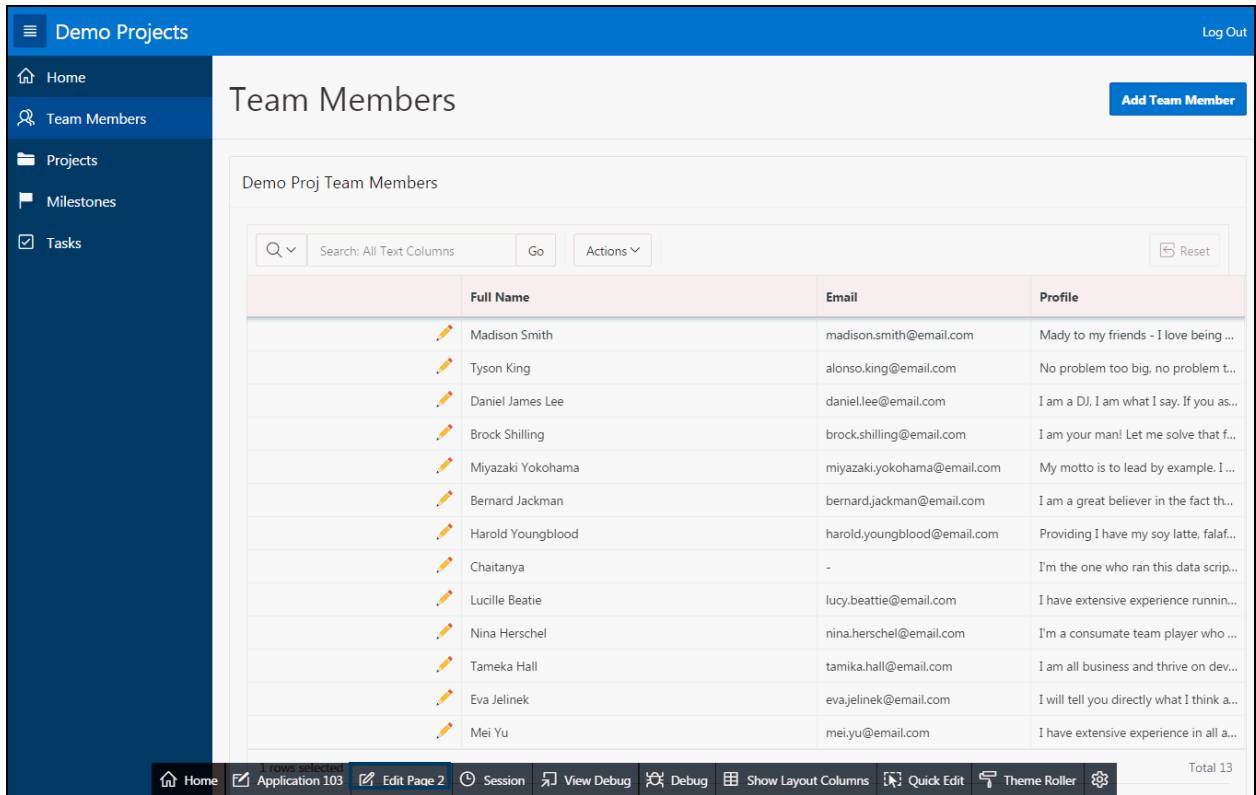
Click **Apply Changes**.



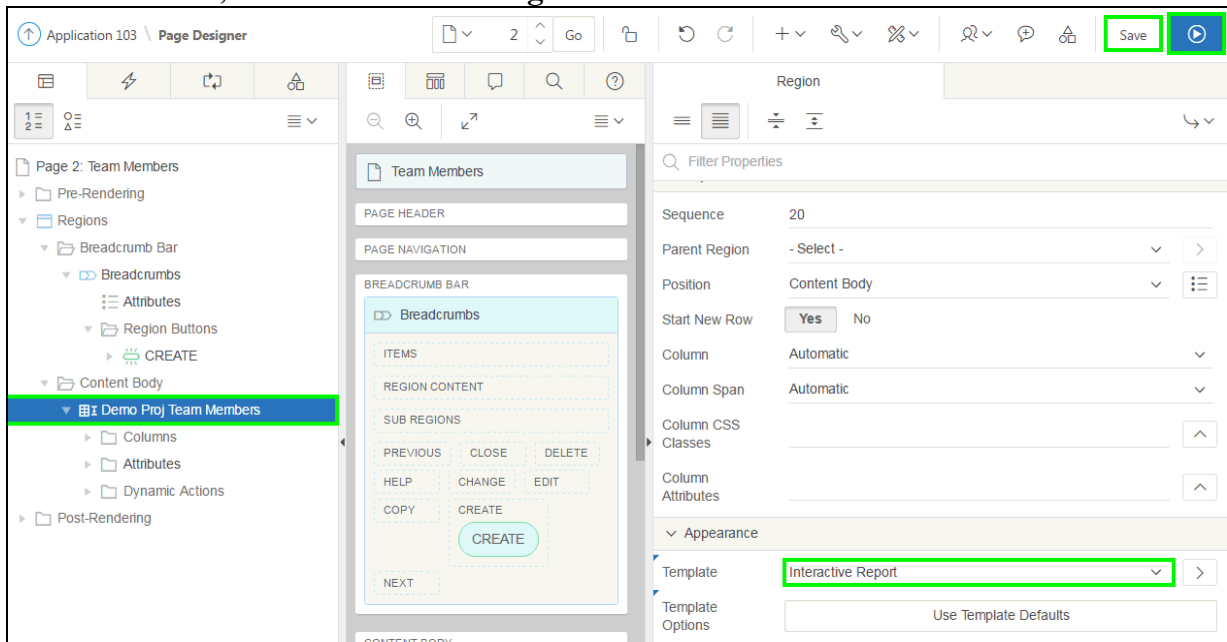
18. Click **Run** on the toolbar to see the updated navigation menu.



19. You still see the Interactive Grid region title. You want to update the region template. In the Developer Toolbar, click **Edit Page 2**.



20. Under Rendering > Regions, select **Demo Proj Team Members**.  
 In the property editor, locate Appearance. For Template, select **Interactive Report**.  
 Click **Save**. Then, click **Save and Run Page**.



21. The Team Members page looks like:

	Full Name	Email	Profile
	Madison Smith	madison.smith@email.com	Mady to my friends - I love being creat
	Tyson King	alonso.king@email.com	No problem too big, no problem too s.
	Daniel James Lee	daniel.lee@email.com	I am a D!, I am what I say, If you ask m.
	Brock Shilling	brock.shilling@email.com	I am your man! Let me solve that for y.
	Miyazaki Yokohama	miyazaki.yokohama@email.com	My motto is to lead by example. I run ..
	Bernard Jackman	bernard.jackman@email.com	I am a great believer in the fact there i.
	Harold Youngblood	harold.youngblood@email.com	Providing I have my soy latte, falafel, a.
	Chaitanya	-	I'm the one who ran this data script to
	Lucille Beattie	lucy.beattie@email.com	I have extensive experience running de
	Nina Herschel	nina.herschel@email.com	I'm a consumate team player who likes
	Tameka Hall	tamika.hall@email.com	I am all business and thrive on develop
	Eva Jelinek	evajelinek@email.com	I will tell you directly what I think and e
	Mei Yu	mei.yu@email.com	I have extensive experience in all aspec

Now, update the page properties and the breadcrumb entry for the Demo Projects page. In the navigation menu, click **Projects**.

In the Developer Toolbar, click **Edit Page 4**.

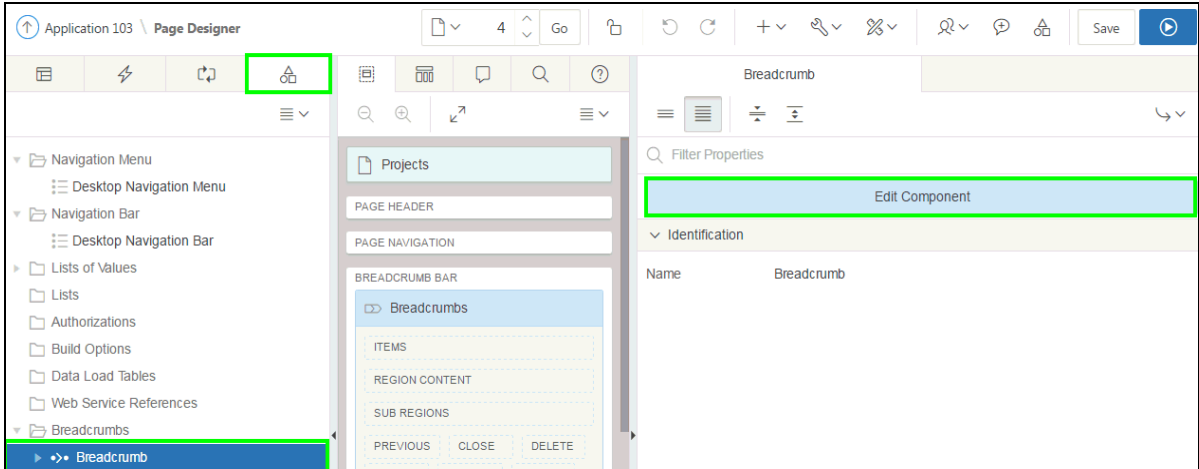
22. In the Property Editor:

- Identification: Name - enter **Projects**
- Identification: Title - enter **Projects**

Click **Save**.

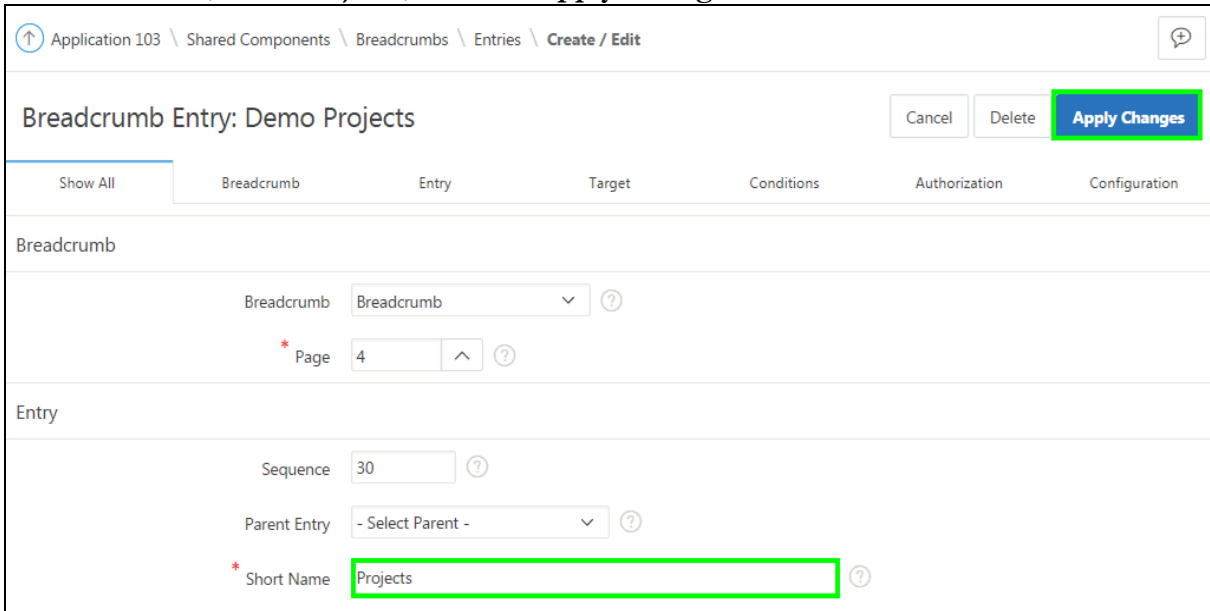
23. Update the breadcrumb entry for the page.

- In the Rendering tree, click the **Shared Components** tab.
- Expand the Breadcrumbs node and click the **Breadcrumb** entry.
- In the Property Editor, click the **Edit Component** button.

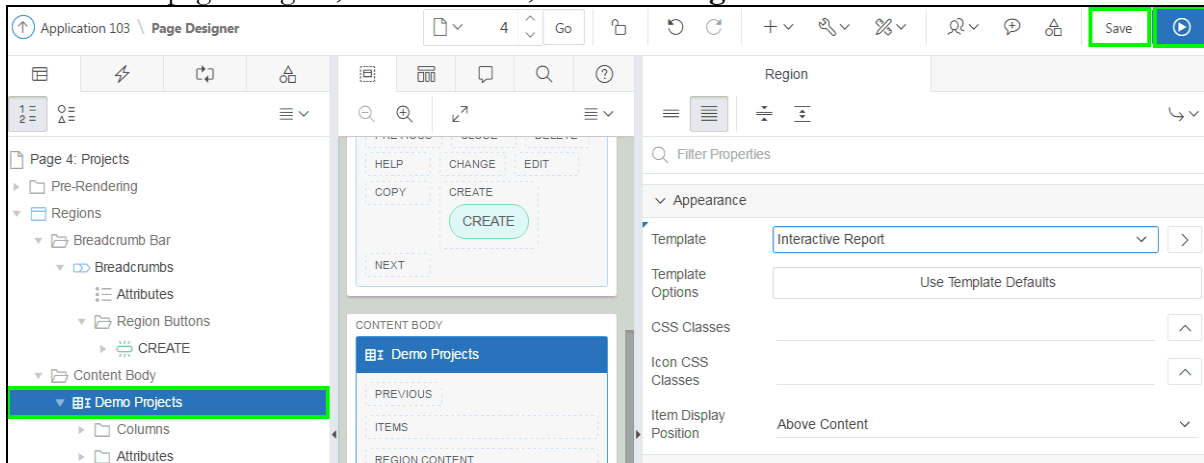


24. Click the **Demo Projects** breadcrumb entry.

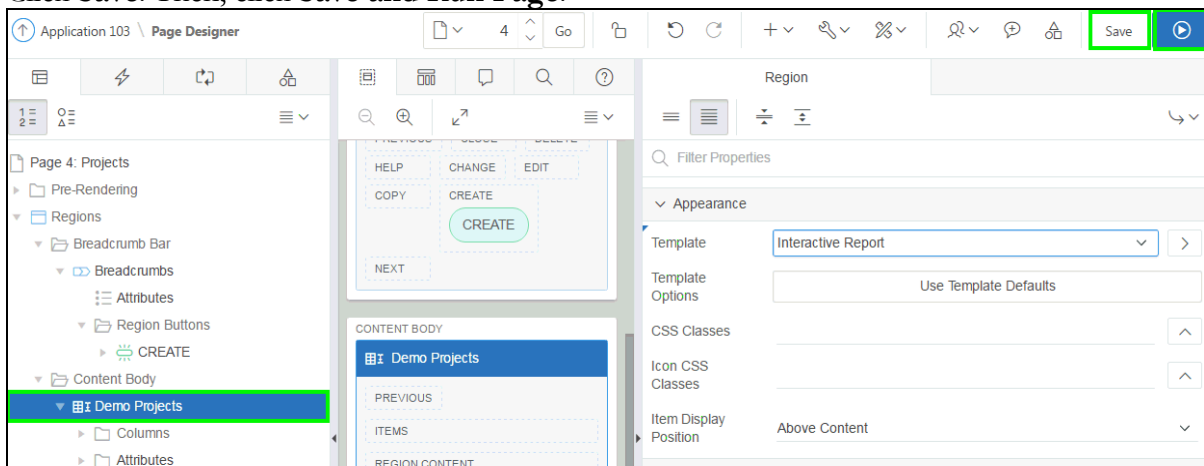
25. For Short Name, enter **Projects**, and click **Apply Changes**.



26. To return to page designer, on the toolbar, click **Edit Page 4**.



27. Under Rendering > Regions, select **Demo Projects**.  
 In the property editor, locate Appearance. For Template, select **Interactive Report**.  
 Click **Save**. Then, click **Save and Run Page**.



28. Now, update the page properties and the breadcrumb entry for the Demo Proj Milestones page.  
 In the navigation menu, click **Milestones**.  
 In the Developer Toolbar, click **Edit Page 6**.

Name	Project Lead	Status Cd	Completed Date	Milestones
Develop Partner Portal ...	Chaitanya	IN-PROGRESS	-	2
Develop Production Pa...	Lucille Beatie	ASSIGNED	-	5
Configure Web Develo...	Chaitanya	COMPLETED	12-JAN-17	0
Train Developers on W...	Lucille Beatie	COMPLETED	27-JAN-17	2
Migrate Legacy Applica...	Miyazaki Yokohama	IN-PROGRESS	-	3
Over...				12

29. In the Property Editor:

- Identification: Name - enter **Milestones**
- Identification: Title - enter **Milestones**

Click **Save**.

30. Update the breadcrumb entry for the page.

- In the Rendering tree, click the **Shared Components** tab.
- Expand the Breadcrumbs node and click the **Breadcrumb** entry.
- In the Property Editor, click the **Edit Component** button.

31. Click the **Demo Proj Milestones** breadcrumb entry.

32. For Short Name, enter **Milestones**, and click **Apply Changes**.

The screenshot shows the configuration page for a breadcrumb entry. The breadcrumb is set to 'Breadcrumb' and the page is '6'. The 'Short Name' field is highlighted in green and contains the text 'Milestones'. The 'Apply Changes' button is also highlighted in green.

33. To return to page designer, on the toolbar, click **Edit Page 6**.

34. Under Rendering > Regions, select **Demo Proj Milestones**.  
In the property editor, locate Appearance. For Template, select **Interactive Report**.  
Click **Save**. Then, click **Save and Run Page**.

35. The Milestones page now looks like:

The screenshot shows the 'Milestones' page in Oracle APEX. The page title is 'Milestones' and there is a 'Create Milestone' button. The table below shows a list of milestones with columns for Project, Milestone, and Due Date. The table is filtered by 'Sum (Tasks)'. The 'Milestones' page title is visible at the top.

Project	Milestone	Due Date ↑
Train Developers on Web de...	Train the Trainers	18-JAN-17
Train Developers on Web de...	All Developers Trained	22-JAN-17
Migrate Legacy Applications	Move Data Structures	27-JAN-17
Migrate Legacy Applications	Redevelop HR Applications	04-FEB-17
Migrate Legacy Applications	Redevelop Project Tracking A...	10-FEB-17
Develop Partner Portal POC	Define Requirements	13-FEB-17
Develop Partner Portal POC	Build Proof-of-Concept	20-FEB-17
Develop Production Partner ...	Define Production App Scope	21-FEB-17
Develop Production Partner ...	Build Phase 1 of Production P...	28-FEB-17
Develop Production Partner ...	Perform Beta testing with seL...	08-MAR-17
Develop Production Partner ...	Complete Phase 1 Developm...	04-APR-17
Develop Production Partner ...	Roll out Phase 1 of Partner P...	08-APR-17

36. Now, update the page properties and the breadcrumb entry for the Demo Proj Tasks page. In the navigation menu, click **Tasks**.  
In the Developer Toolbar, click **Edit Page 8**.
37. In the Property Editor:
  - Identification: Name - enter **Tasks**
  - Identification: Title - enter **Tasks**Click **Save**.
38. Update the breadcrumb entry for the page.
  - d) In the Rendering tree, click the **Shared Components** tab.
  - e) Expand the Breadcrumbs node and click the **Breadcrumb** entry.
  - f) In the Property Editor, click the **Edit Component** button.
39. Click the **Demo Proj Tasks** breadcrumb entry.
40. For Short Name, enter **Tasks**, and click **Apply Changes**.
41. To return to page designer, on the toolbar, click **Edit Page 8**.
42. Under Rendering > Regions, select **Demo Proj Tasks**.  
In the property editor, locate Appearance. For Template, select **Interactive Report**.  
Click **Save**. Then, click **Save and Run Page**.

43. The Tasks page now looks like:

The screenshot shows the Oracle APEX 'Tasks' page. The page has a blue header with 'Demo Projects' and 'Log Out'. A left sidebar contains navigation links: Home, Team Members, Projects, Milestones, and Tasks (selected). The main content area is titled 'Tasks' and includes a 'Create Task' button. Below the title is a search bar with 'Search: All Text Columns', a 'Go' button, and an 'Actions' dropdown. There are two filter tags: 'Project' and 'Milestone'. The tasks are listed in a table with the following columns: Task, Assignee, Start Date, End Date, and Completed?.

Task	Assignee	Start Date	End Date	Completed?
Project: Configure Web Development Tool Environment, Milestone: -				
Identify Server Requ...	Chaitanya	08-JAN-17	09-JAN-17	Yes
Install Web develop...	Mei Yu	10-JAN-17	10-JAN-17	Yes
Configure Web Liste...	Harold Youngblood	10-JAN-17	10-JAN-17	Yes
Configure Web deve...	Bernard Jackman	11-JAN-17	11-JAN-17	Yes
Define Workspaces	Mei Yu	12-JAN-17	12-JAN-17	Yes
Assign Workspace A...	Harold Youngblood	12-JAN-17	12-JAN-17	No
Project: Develop Partner Portal POC, Milestone: Build Proof-of-Concept				
Design first-cut of m...	Madison Smith	14-FEB-17	18-FEB-17	No
Populate Data Struc...	Harold Youngblood	15-FEB-17	16-FEB-17	No
Develop Admin Scre...	Nina Herschel	15-FEB-17	17-FEB-17	No
Present POC to Key ...	Chaitanya	19-FEB-17	19-FEB-17	No
Project: Develop Partner Portal POC, Milestone: Define Requirements				

The footer of the page contains navigation icons and text: Home, Application 103, Edit Page 8, Session, View Debug, Debug, Show Layout Columns, Quick Edit, Theme Roller, and Total 45.



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