



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

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

#### Unit 12: Using Themes and Theme Styles

This exercise includes three hands-on-labs.

HOL 12-1 and HOL 12-2 use the Demo Projects application.

HOL 12-3 uses the Budget App application.

**HOL 12-1 Updating the Navigation List:** The Demo Projects application uses the Universal Theme. In this lab, you update the navigation list and while creating a list entry, specify user defined attributes.

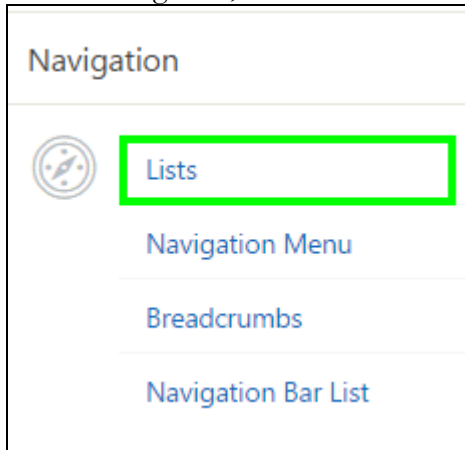
**HOL 12-2 Updating the Team Members Pages:** In this hands-on lab, you create a Classic Report region and update the report template to use Cards. You specify template options.

**HOL 12-3 Creating and Using Theme Styles:** In this hands-on lab, you use the Budget App application. You use the Theme Roller to save the changes made to the Theme Style and then enable users to apply this Theme Style in the running application.

## HOL 12-1: Updating the Navigation List

In this hands-on lab, you update the navigation list in the Demo Projects application. You create a new list entry and make this new entry as a parent list entry to the Logout entry.

1. Navigate to **App Builder** and run the **Demo Projects** application.  
In the Developer Toolbar, click **Application<n>**.
2. On the application home page, click **Shared Components**.  
Under Navigation, click **Lists**.



3. In the Lists report, click **Desktop Navigation Bar**.

The screenshot shows the 'Lists' report in Oracle APEX. The breadcrumb path is 'Application 103 \ Shared Components \ Lists'. The report has tabs for 'Lists', 'List Details', 'Unused', 'Conditional Entries', 'Utilization', and 'History'. A search bar and 'Go' button are present. Below the search bar are buttons for 'Reset', 'Copy', and 'Create >'. The table below has the following data:

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	3 hours ago	3 hours ago	No	Yes

4. Click **Create List Entry**.

The screenshot shows the 'List Details' page in Oracle APEX. The breadcrumb path is 'Application 103 \ Shared Components \ List Details'. The 'List Details' tab is active. A dropdown menu shows 'Desktop Navigation Bar' selected. To the right are buttons for 'Grid Edit', 'Edit List', and 'Create Entry >'. Below this is a search bar and 'Go' button. The table below has the following data:

Sequence ↑	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	Log Out	-	&LOGOUT_URL	-	-	1	-	

5. To create a new list entry, input the following:

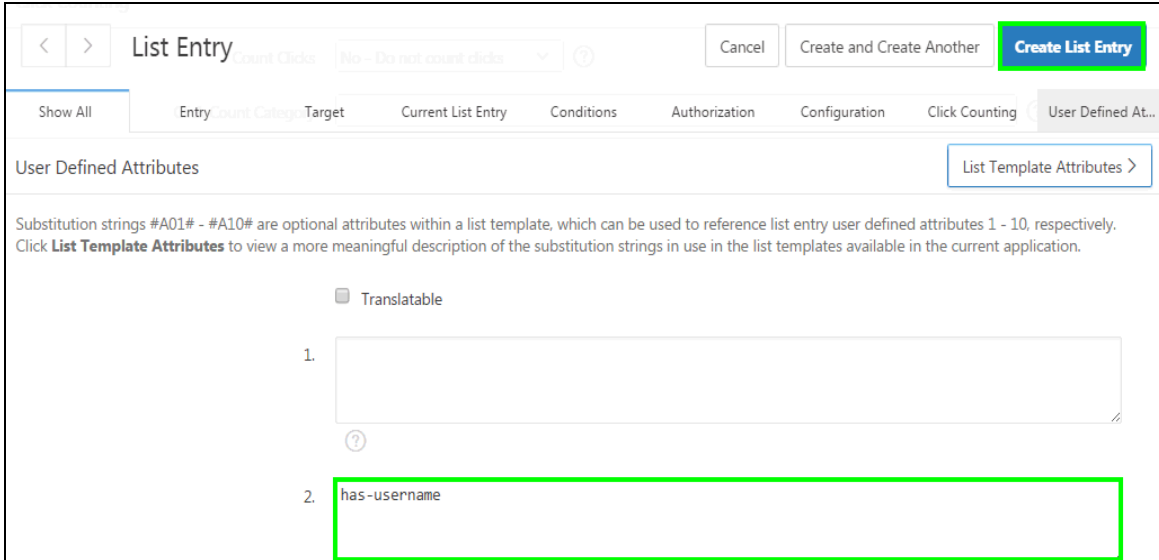
- Image/Class - enter **fa-user**
- List Entry Label - enter **&APP\_USER.**
- Target Type - select **URL**
- URL Target - enter **#**
- User Defined Attributes 2 (List Item CSS Classes) - enter **has-username**

Click **Create List Entry**.

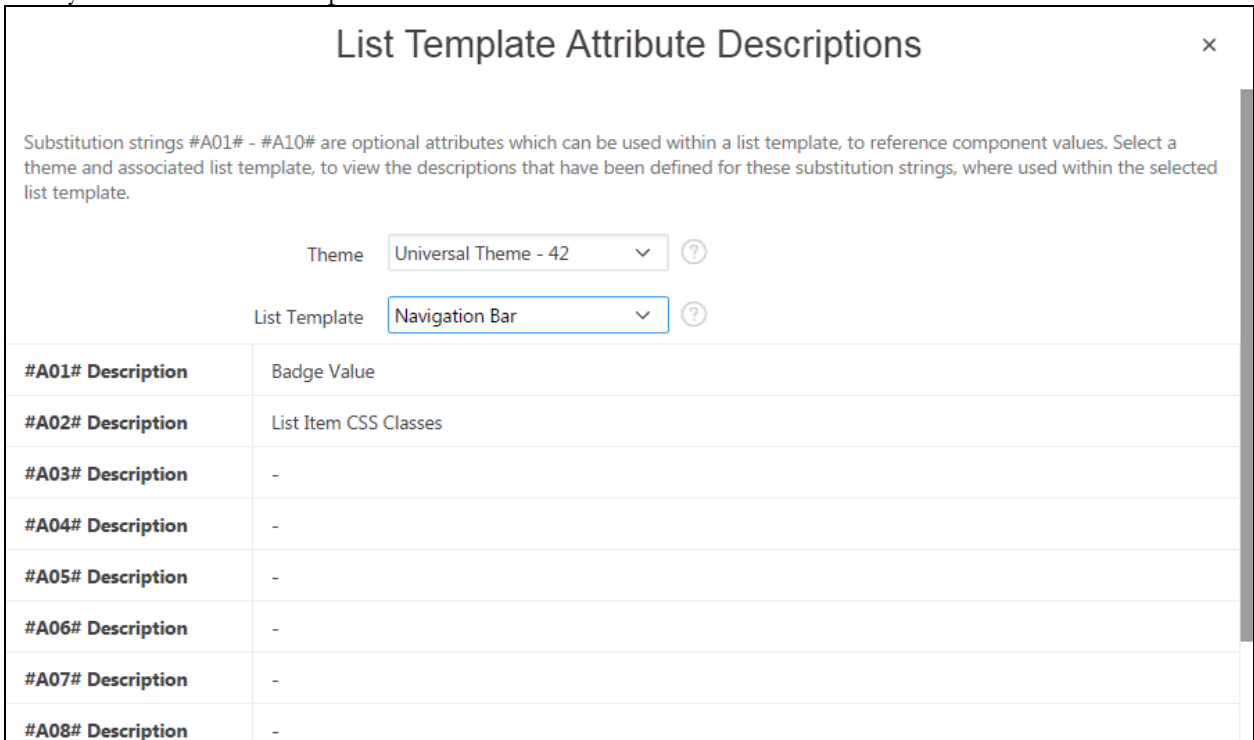
The screenshot shows the 'List Entry' configuration page in Oracle APEX. The 'Entry' tab is selected. The following fields are highlighted with green boxes:

- Sequence: 20
- Image/Class: fa-user
- List Entry Label: &APP\_USER.
- Target type: URL
- URL Target: #

Other visible fields include Attributes, Alt Attribute, Page, reset pagination for this page, Printer Friendly, Request, Clear Cache, Set these items, and With these values. The 'Create List Entry' button is located in the top right corner.



**Note:** To determine the User Defined Attributes, click List Template Attributes. For Theme: Select **Universal Theme 42**, and for List Template: Select **Navigation Bar**. Verify that #A02# Description is List Item CSS Classes.



- Place the Logout entry under the new Application User entry. In the report, click the **Log Out** list entry.

Lists **List Details** Unused Conditional Entries Utilization History

List Desktop Navigation Bar ? Grid Edit Edit List Create Entry >

Q Go Rows 20 Actions

Sequence ↑	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	Log Out	-	&LOGOUT_URL.	-	-	1	-	
20	&APP_USER.	-	#	-	Now	1	-	

- For Parent List Entry, select **&APP\_USER..**  
Click **Apply Changes**.

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

< > **List Entry** Cancel Delete Apply Changes

Show All **Entry** Target Current List E... Conditions Authorization Configuration Click Counting User Defined..

Entry

List: Desktop Navigation Bar ?

Parent List Entry **&APP\_USER.** ?

Sequence  ?

- Click **Run Page 1**.

Application 103 \ Shared Components \ List Details ? ? ? 1 ▶

Lists **List Details** Unused Conditional Entries Utilization History

List Desktop Navigation Bar ? Grid Edit Edit List Create Entry >

Q Go Rows 20 Actions

Sequence ↑	Name	Parent Entry	Target	Conditional	Updated	Level	Authorization Scheme	Copy
10	Log Out	&APP_USER.	&LOGOUT_URL.	-	10 minutes ago	2	-	
20	&APP_USER.	-	#	-	19 minutes ago	1	-	

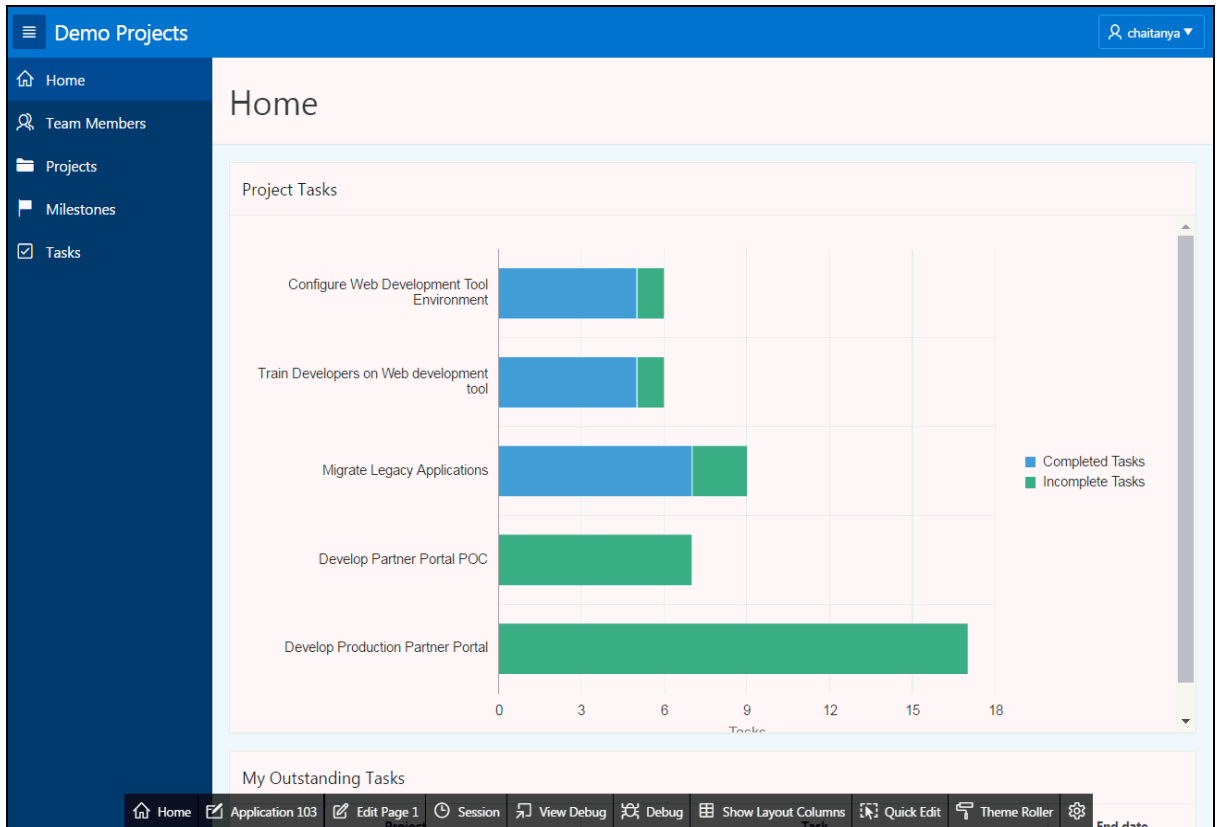
List Entries

Each list may contain any number of list entries. Edit the List to set the list name and list template.

Tasks

- Add this list to the current page >
- Copy List >
- Copy List Entries from one List to Another >

- The home page looks like:

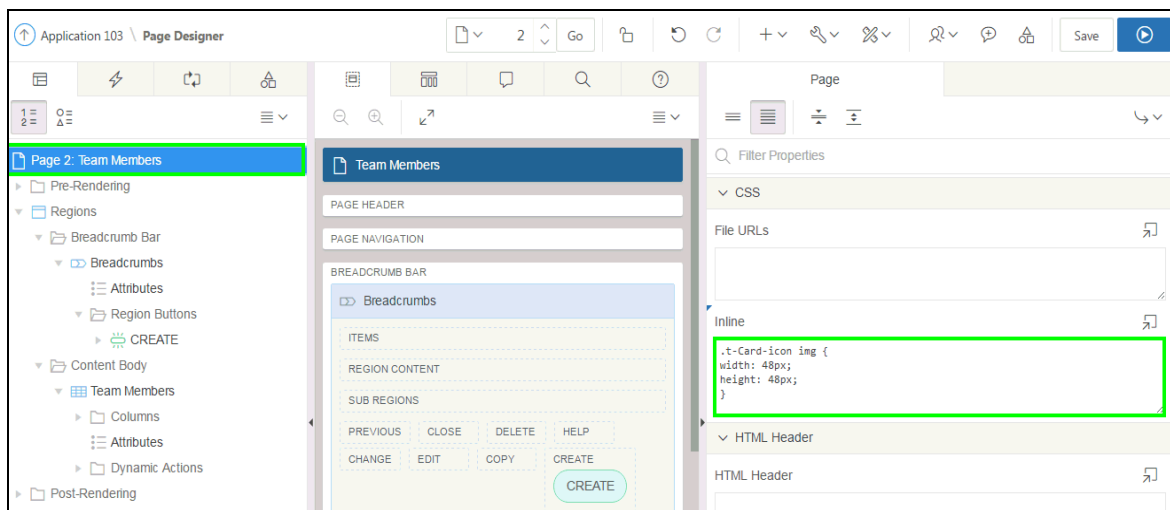


## HOL 12-2: Updating the Team Member Pages

In this lab, you update the Team Member pages by replacing the Interactive Grid with a card region. This will provide a directory of your team members' contact information and roles as though you had a stack of their business cards at hand.

1. In the Demo Projects application runtime environment, click **Team Members** in the navigation menu.  
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, with the page selected, for CSS - Inline, copy and paste the following code:

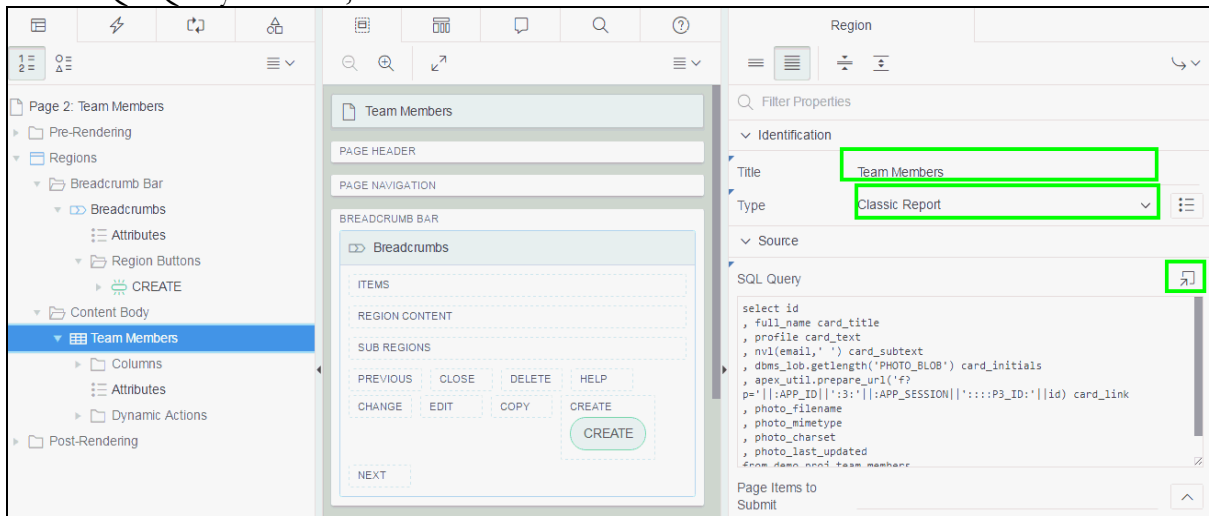
```
.t-Card-icon img {
width: 48px;
height: 48px;
}
```



**Note:** This CSS ensures that the images are all the same size (48 pixels) irrespective of the size of the image uploaded.

3. This page is an Interactive Grid. You want to convert the report type to a Classic Report type, so that you can utilize one of the built-in templates. Update the Interactive Grid to a Classic Report, and apply the Cards template to display the team members in a more visually pleasing manner.  
Click the **DEMO\_PROJ\_TEAM\_MEMBERS** region and input the following:
  - Identification: Title - enter **Team Members**
  - Identification: Type - select **Classic Report**

In the SQL Query attribute, click the **Code Editor** button.

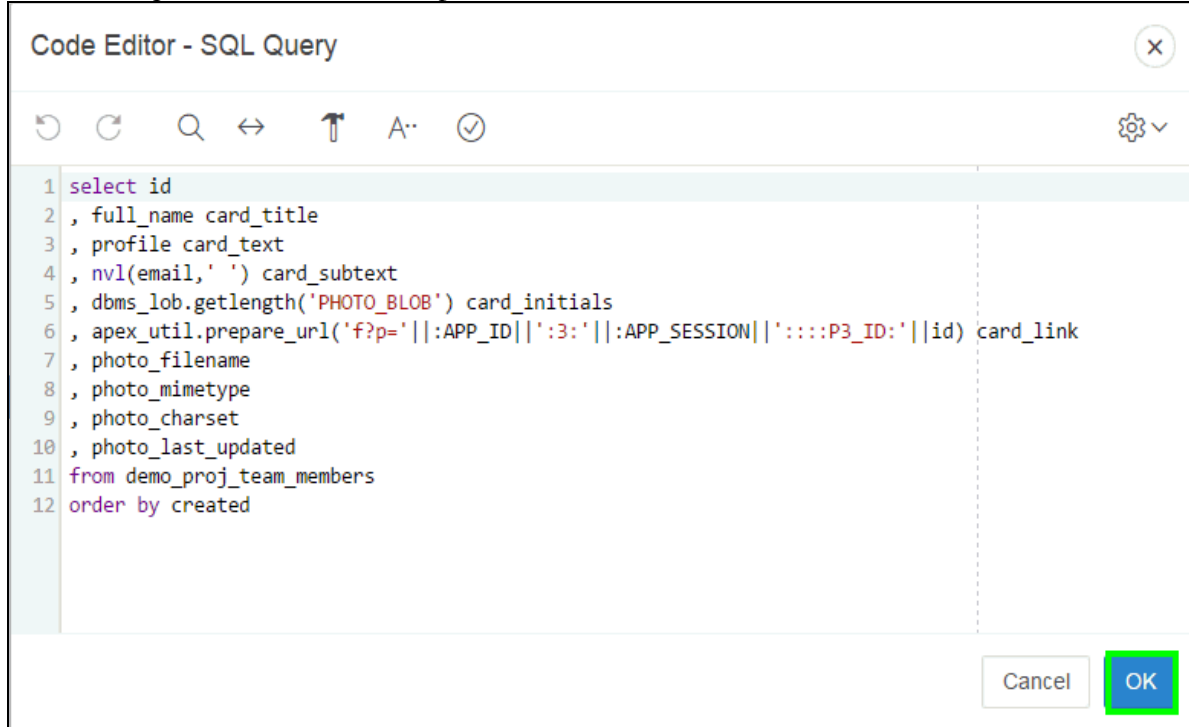


- In the Code Editor window, delete the existing SQL Query and copy and paste the following code:

```
select id
, full_name card_title
, profile card_text
, nvl(email, ' ') card_subtext
, dbms_lob.getlength('PHOTO_BLOB') card_initials
,
apex_util.prepare_url('f?p=||:APP_ID||:3:||:APP_SESSION||:::::P3_ID:'||id)
card_link
, photo_filename
, photo_mimetype
, photo_charset
, photo_last_updated
from demo_proj_team_members
order by created
```

Then, click **OK**.

**Note:** This SQL query uses specific column names, such as `card_title`, which correspond to the columns required for the Card template.



The screenshot shows a 'Code Editor - SQL Query' window with a toolbar at the top containing icons for undo, redo, search, refresh, copy, paste, and save. The SQL query is as follows:

```

1 select id
2 , full_name card_title
3 , profile card_text
4 , nvl(email, ' ') card_subtext
5 , dbms_lob.getlength('PHOTO_BLOB') card_initials
6 , apex_util.prepare_url('f?p='||:APP_ID||':3:'||:APP_SESSION||'::::P3_ID:'||id) card_link
7 , photo_filename
8 , photo_mimetype
9 , photo_charset
10 , photo_last_updated
11 from demo_proj_team_members
12 order by created

```

At the bottom right of the editor, there are 'Cancel' and 'OK' buttons.

5. The report region has the required Type and SQL Source, now the report needs to be enhanced to display an image and utilize the correct report template.

The `DEMO_PROJ_TEAM_MEMBERS` table includes columns which store an image and the image's associated properties. You can use this information to show the team Member's stored image, instead of the member's initials in the cards report.

Under the Rendering > Regions, locate Team Members, and expand the **Columns** node. Select the **CARD\_INITIALS** column, and input the following:

- Identification: Type - select **Display Image**
- BLOB Attributes: Table Name - select **DEMO\_TEAM\_MEMBERS**
- BLOB Attributes: BLOB Column - select **PHOTO\_BLOB**
- BLOB Attributes: Primary Key Column 1 - select **ID**
- BLOB Attributes: Mime Type Column - select **PHOTO\_MIMETYPE**
- BLOB Attributes: Filename Column - select **PHOTO\_FILENAME**
- BLOB Attributes: Last Updated Column - select **PHOTO\_LAST\_UPDATED**

Column

Filter Properties

Identification

Column Name CARD\_INITIALS

Type **Display Image**

Heading

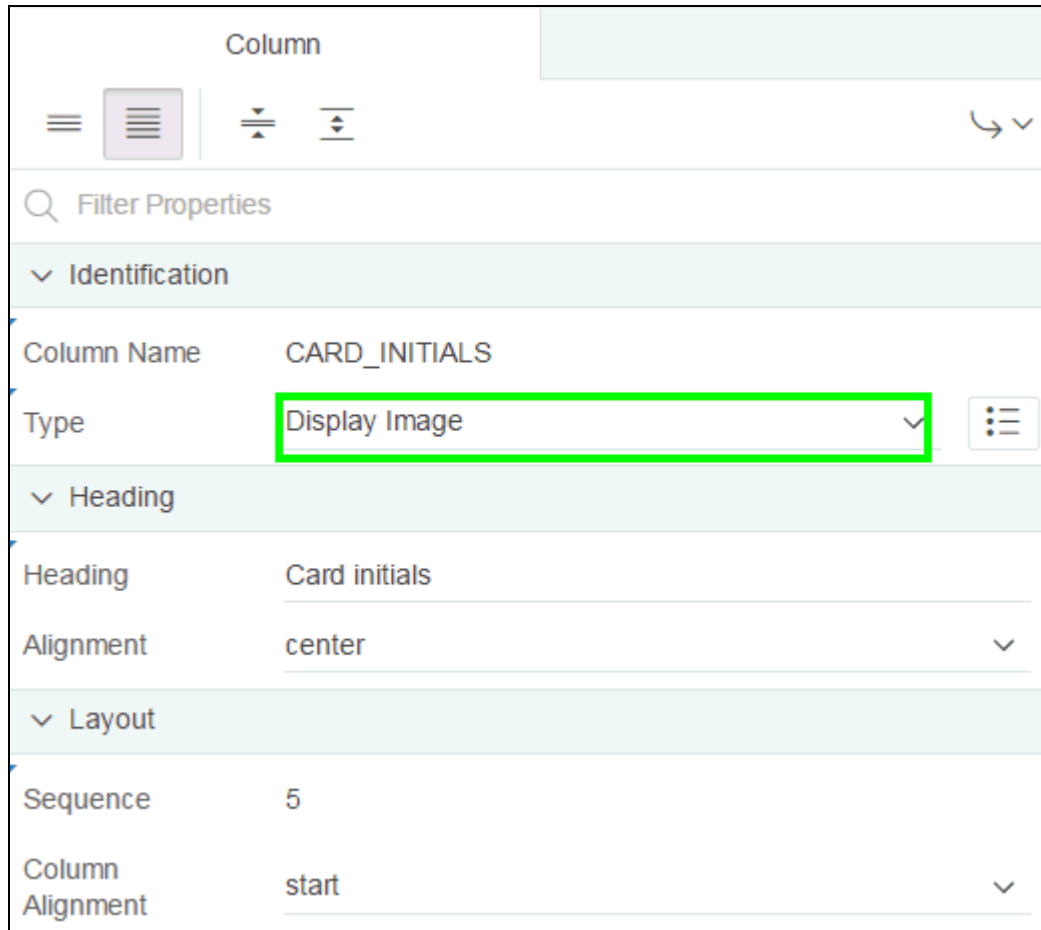
Heading Card initials

Alignment center

Layout

Sequence 5

Column Alignment start



▼ BLOB Attributes

Table Owner	Parsing Schema	▼
Table Name	DEMO_PROJ_TEAM_MEMBERS	^
BLOB Column	PHOTO_BLOB	▼
Primary Key Column 1	ID	▼
Primary Key Column 2	- Select -	▼
Mime Type Column	PHOTO_MIMETYPE	▼
Filename Column	PHOTO_FILENAME	▼
Last Updated Column	PHOTO_LAST_UPDATED	▼

6. Under Rendering, expand the Team Members region. Select **Attributes**. In the property editor, locate Appearance. For Template, select **Cards**. Click **Template Options**.

The screenshot shows the Oracle APEX Page Designer interface. On the left, the 'Attributes' property editor is open for the 'Team Members' region. The 'Appearance' section is expanded, and the 'Template' dropdown is set to 'Cards'. Below it, the 'Template Options' are set to 'Use Template Defaults, Color Fill, 3 Columns, Featured'. The main workspace shows a breadcrumb bar with a 'CREATE' button.

7. In the Template Options dialog:
- Style - select **Basic**
  - Icons - select **Display Initials**

- Layout - select **4 Columns**
- Body Text - select **3 Lines**

### Template Options ✕

**General**  Use Template Defaults  Apply Theme Colors

**Style** Basic ▾

**Icons** Display Initials ▾

**Layout** 4 Columns ▾

**Body Text** 3 Lines ▾

**Animation** Color Fill ▾

Cancel
OK

Click **OK**.

8. Click **Save**. Then, click **Save and Run Page** to see the new cards.

Demo Projects
chaitanya ▾

Home
Team Members
Projects
Milestones
Tasks

## Team Members

tables.

I have extensive experience  
getting development teams to  
can't bring in a project on time

lucy.beattie@email.com

I'm a competitive team player who  
I get to explore and learn new  
things. My belief is to work hard

nina.herschel@email.com

I am a DJ  
as well as a  
Point me at some obtuse security

tamika.hall@email.com

Add Team Member

Eva Jelinek

I will tell you directly what I think  
and expect you to tell me the  
same. If you are sensitive then it

evajelinek@email.com

Mei Yu

I have extensive experience in all  
aspects of application  
development. If you need help

meiyu@email.com

Madison Smith

Mady to my friends - I love being  
creative and coming up with  
beautiful solutions.

madison.smith@email.com

Daniel James Lee

I am a DJ, I am what I say. If you  
ask me a question and I don't  
answer, it is not because I'm

daniellee@email.com

Tyson King

No problem too big, no problem  
too small!

alonso.king@email.com

Brock Shilling

I am your man! Let me solve that  
for you.

brock.shilling@email.com

Miyazaki Yokohama

My motto is to lead by example. I  
run a tight ship where everyone  
knows where we are heading.

miyazaki.yokohama@email.com

Bernard Jackman

I am a great believer in the fact  
there is no "I" in TEAM.

bernardjackman@email.com

Harold Youngblood

Home Application 103 Edit Page 2 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

13

## HOL 12-3: Using Themes and Theme Styles

In this hands-on lab, you use the Theme Roller to save a Theme Style. Then, you enable end users to apply this style while running the application.

1. Navigate to **App Builder** and then run the **Budget App** application.  
In the Developer Toolbar, click **Theme Roller**.

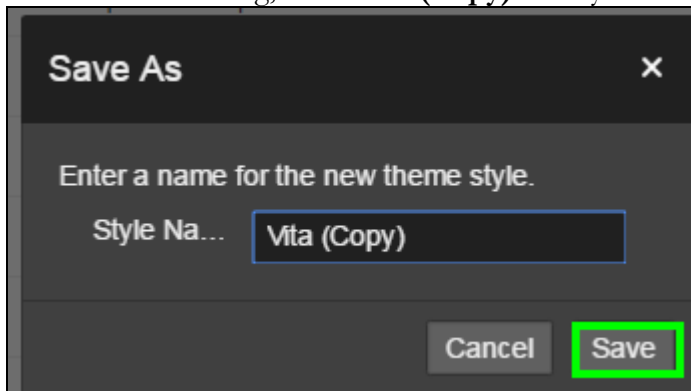
	Id	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
	43	New Packaged App	Prepare requirements doc	15-FEB-17	20-FEB-17	Open	PAM KING	500	800
	1	ACME Web Express Configuration	Create pilot workspace	02-FEB-17	02-FEB-17	Closed	JOHN WATSON	100	100
	2	ACME Web Express Configuration	Specify security authentication scheme(s)	02-JUL-17	02-JUL-17	Open	John Watson	200	300
	3	ACME Web Express Configuration	Configure Workspace provisioning	02-AUG-17	02-AUG-17	Open	JOHN WATSON	200	100
	4	Bug Tracker	Document quality assurance procedures	12-DEC-16	15-DEC-16	Closed	MYRA SUTCLIFF	3000	2000
	5	Bug Tracker	Review automated testing tools	16-DEC-16	18-DEC-16	Closed	Myra Sutcliffe	750	1500
	6	Bug Tracker	Implement bug tracking software	31-DEC-16	31-DEC-16	Closed	Myra Sutcliffe	100	100
	7	Bug Tracker	Train developers on tracking bugs	01-JUL-17	01-DEC-17	On-Hold	Myra Sutcliffe	1000	2000
	8	Convert Spreadsheets	Create ACME Web Express applications from spreadsheets	02-MAY-17	02-SEP-17	Open	Pam King	6000	10000
	9	Convert Spreadsheets	Send links to previous spreadsheet owners	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 Express application on internet server	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

2. The current Theme Style is Vita.  
Under Global Colors, click the color swatch to select new colors.  
To edit a specific component, expand a group and select new colors or styling of the component you wish to edit.  
Modify the look by specifying colors of your choice and preview the changes. Once you are done, click **Save As**.

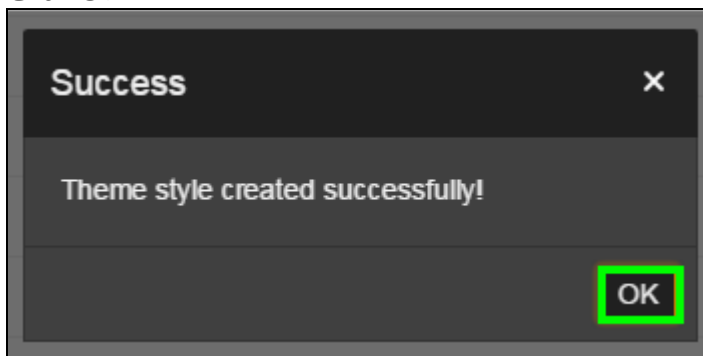
The screenshot shows the Oracle APEX interface for the 'BUDGET APP'. The main content area displays a table of project tasks. The Theme Roller dialog is open, showing the 'Vita (Current)' style selected. The 'Save As' button is highlighted with a green box.

	Id	Project	Task Name	Start Date	End Date				
	43	New Packaged App	Prepare requirements doc	15-FEB-17	20-FEB-17				
	1	ACME Web Express Configuration	Create pilot workspace	02-FEB-17	02-FEB-17				
	2	ACME Web Express Configuration	Specify security authentication scheme(s)	02-JUL-17	02-JUL-17				
	3	ACME Web Express Configuration	Configure Workspace provisioning	02-AUG-17	02-AUG-17				
	4	Bug Tracker	Document quality assurance procedures	12-DEC-16	15-DEC-16				
	5	Bug Tracker	Review automated testing tools	16-DEC-16	18-DEC-16				
	6	Bug Tracker	Implement bug tracking software	31-DEC-16	31-DEC-16				
	7	Bug Tracker	Train developers on tracking bugs	01-JUL-17	01-DEC-17				
	8	Convert Spreadsheets	Create ACME Web Express applications from spreadsheets	02-MAY-17	02-SEP-17				
	9	Convert Spreadsheets	Send links to previous spreadsheet owners	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 Express application on internet server	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

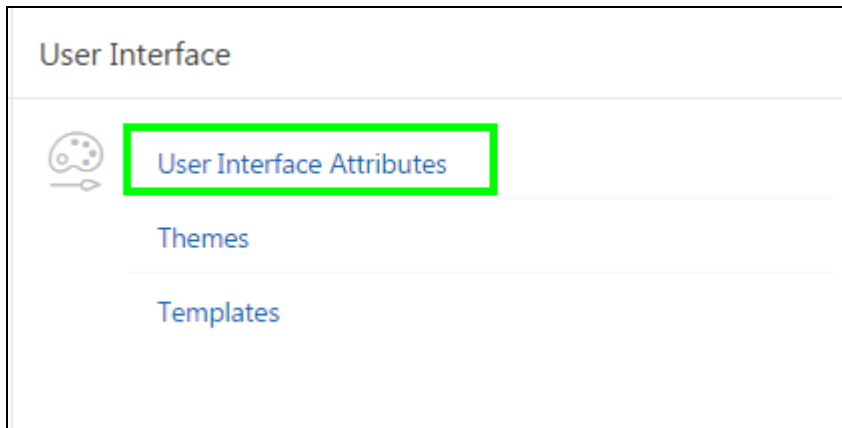
- In the Save As dialog, enter **Vita (Copy)** for Style Name and click **Save**.



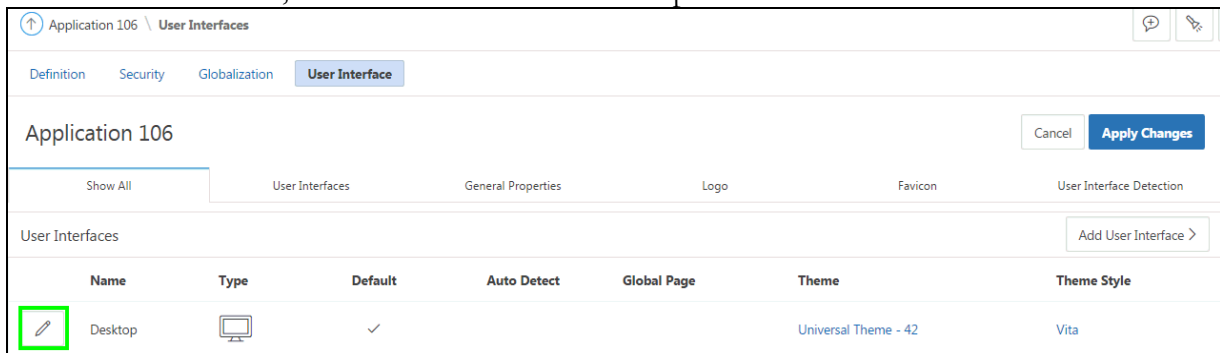
- Click **OK**.



- Click **Application <n>** in the Developer Toolbar.  
In the application home page, click **Shared Components**.  
Under User Interface, click **User Interface Attributes**.



- Under User Interfaces, click the **Edit** icon for Desktop.



- Under Attributes, select **Yes** for Enable End Users to Choose Theme Style.  
Notice that the new Theme Style you saved is displayed under Theme Style list.  
Click **Apply Changes**.

The screenshot shows the 'User Interface Details' configuration page in Oracle APEX. The 'User Interface' tab is selected. The 'Identification' sub-tab is active, showing 'Display Name' set to 'Desktop' and 'Sequence' set to '10'. The 'Attributes' section includes several settings: 'Auto Detect' is set to 'No', 'Default' is set to 'Yes', and 'Enable End Users to choose Theme Style' is set to 'Yes'. The 'Home URL' and 'Login URL' fields contain session-based URLs. The 'Theme' is set to 'Universal Theme'. The 'Theme Style' dropdown is open, showing 'Vita' as the selected option. Other options in the dropdown include 'Vita (Copy)', 'Vita - Dark', 'Vita - Red', and 'Vita - Slate'. The 'Apply Changes' button is highlighted in green.

8. Now, run the application. At the bottom of the page, click the **Customize** link.
9. Using the Customize dialog, users can specify their Theme Style while running the application. Select the Theme Style that you saved in step 3 above, and click **Apply Changes**.

**Customize** ✕

## Appearance

You can personalize the appearance of this application by changing the Theme Style. Please select a Theme Style from the list below and click on Apply Changes.

- Use Application Default Style
- Vista
- Vita Default Accessibility Tested
- Vita (Copy)** Accessibility Tested
- Vita - Dark
- Vita - Red

**Apply Changes**

10. The Theme Style is applied and you see a message that says **Preferences changed for user <username>**.





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