

Oracle Academy

Amazing Books

Part 5: Advanced Input Forms with LOVs and Reports with Joins

In this section, you will use Application Builder of Application Express to:

- Create a Form on a table
- Create List of Values (LOV) for items
- Create a Report

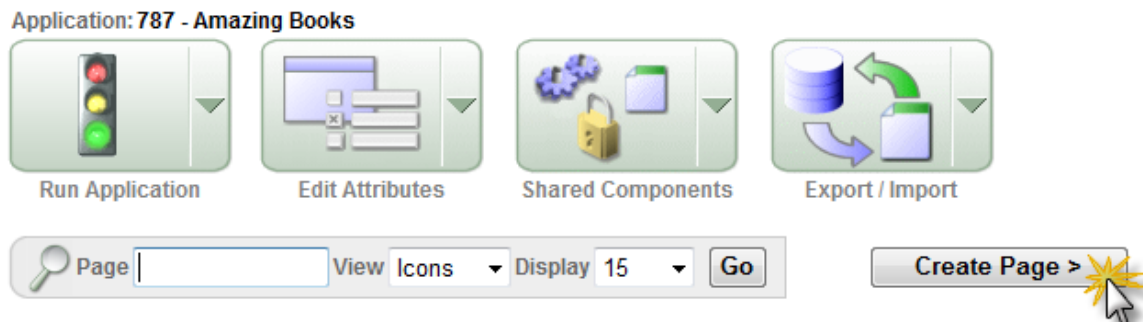
Creating the input forms and report regions are more complicated for the Items and Orders pages. Unlike the reports you created for the other pages, the Items and Order Reports will display columns from their own tables (respectively) **AND** from other tables in the Amazing Books application. In order to incorporate the columns from the other tables, it is necessary to create join transactions as well as a more advanced level of LOVs. The following steps will detail the creation of each page.

Step 1: Accessing the Amazing Books application

If you are still on the Input Form, page down to the bottom and pick “Edit Application” on the bottom menu.



This will take you to the main page of the Amazing Books application page.



Click on the **Create Page** button.

Step 2: Creating a Form on a Table or View

Choose **Form** by clicking the radio button adjacent to that option.

The screenshot shows the 'Create Page' dialog box for application '787 - Amazing Books'. It contains a grid of page type options, each with a radio button and a representative icon. The 'Form' option is selected, indicated by a red circle and a mouse cursor. The 'Next >' button is highlighted with a yellow starburst.

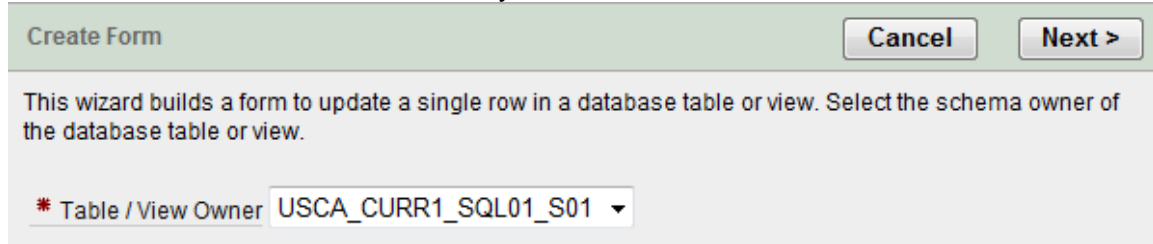
Page Type	Radio Button	Icon Description
Blank Page	<input type="radio"/>	Empty rectangular box
Multiple Blank Pages	<input checked="" type="radio"/>	Stack of three rectangular boxes
Report	<input type="radio"/>	Table with multiple rows and columns
Chart	<input type="radio"/>	Bar chart with four bars of varying heights
Form	<input checked="" type="radio"/>	Form with input fields and a submit button
Wizard	<input type="radio"/>	Wizard interface with multiple steps and navigation arrows
Calendar	<input type="radio"/>	Calendar grid showing days of the month
Tree	<input type="radio"/>	Tree structure diagram with nodes and branches
Login Page	<input type="radio"/>	Login form with username and password fields

Select **NEXT** to continue.

Under the **Forms** heading, select the **Form on a Table or View** radio button.

Select **Next** to continue

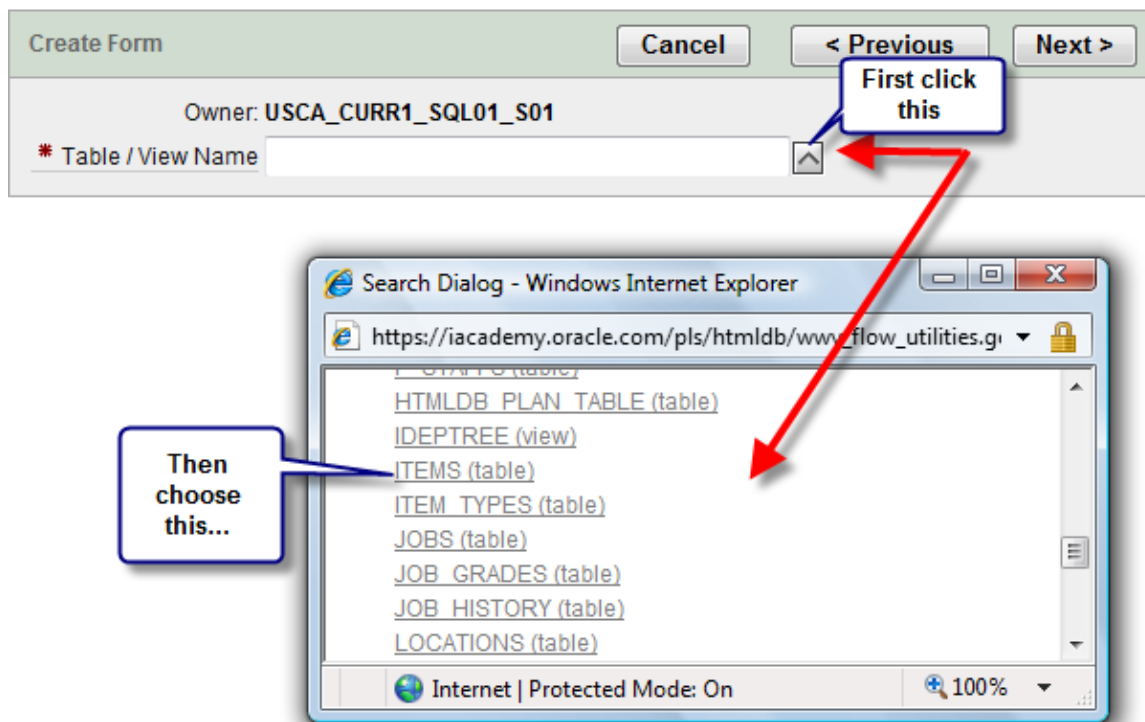
Confirm the **Table/View Owner** is your name/schema.



Select **Next** to continue.

Step 3: Assigning Tables to the Form

Select the table on which you wish to place your form by clicking on the **field arrow** next to the **Table / View Name** textbox.



Select **Next** to continue.

Change Region Title to “Items”

Create Form

Cancel < Previous Next >

Specify page and region information. If the page you specify does not exist, the page will be created.

Owner: USCA_CURR1_SQL01_S01
Table / View Name: ITEMS

* Page Number 20
* Page Name Form on ITEMS
* Region Title Items
* Region Template Form Region
Breadcrumb - do not add breadcrumb region to page -

Select **Next** to continue.

Make sure the ‘Do no use tabs’ radio box is marked.

Create Form

Cancel < Previous Next >

Page: 20

Tab Options:

☒ Do not use tabs
☐ Use an existing tab set and create a new tab within the existing tab set.
☐ Use an existing tab set and reuse an existing tab within that tab set.

Click **Next** to continue.

Step 4: Assigning a Trigger

Confirm that the **Primary Key** drop-down list box shows ITEM_ID.

Create Form

Cancel < Previous Next >

Select the Primary Key Column and the Primary Key Column 2, if appropriate.

Page: 20
Owner: USCA_CURR1_SQL01_S01
Table / View Name: ITEMS

* Primary Key ITEM_ID
Primary Key Column 2 - Select Primary Key 2 -

Select **Next** to continue.

Choose the **Existing Trigger** option:

Create Form

Cancel < Previous Next >

Define the source for the primary key columns.

Owner: USCA_CURR1_SQL01_S01
Table / View Name: ITEMS
Primary Key Column: ITEM_ID

* Source Type

☒ Existing trigger ☐ Custom PL/SQL function ☐ Existing sequence

Select **Next** to continue.

Step 5: Selecting Columns

Confirm that all of the columns are selected in the **Select Column(s)** window.

Create Form

Cancel < Previous Next >

Select the columns to include on the form.

Page: 20
Owner: USCA_CURR1_SQL01_S01
Table / View Name: ITEMS

* Select Column(s)

- ISBN (Varchar2)
- TITLE (Varchar2)
- AUTHOR (Varchar2)
- PUBLISHER_ID (Number)
- SUBJECT_ID (Number)
- ITEM_TYPE_ID (Number)
- WHOLESALE_COST (Number)
- RETAIL_PRICE (Number)

Highlight all columns

Select **Next** to continue.

Step 6: Identifying Process Options

Accept the defaults in the **Identify Process Options** window.

Create Form

Cancel < Previous Next >

Identify the process options and button display text for the form. For example, to prevent users from being able to delete from the form, choose **No** for the delete button option.

Page: 20
Owner: USCA_CURR1_SQL01_S01
Table / View Name: ITEMS

Cancel Button Label Cancel

Show Create Button Yes Create Button Label Create

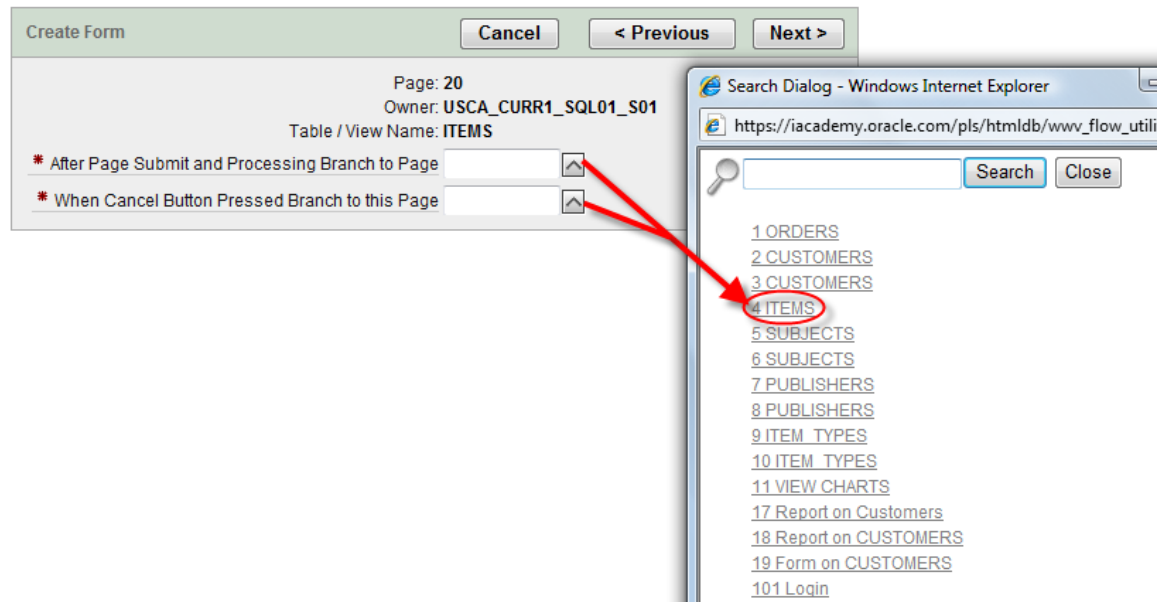
Show Save Button Yes Save Button Label Apply Changes

Show Delete Button Yes Delete Button Label Delete

Select **Next** to continue.

Select the **field arrow** next to each textbox shown in the **Identify Branching** window.

Select **ITEMS** from the popup window. This step will direct the browser to load the Items page after the Submit or Cancel buttons are pressed.




Select **Next** to continue.

Step 7: Confirming your selections.

Accept by clicking the **Finish** button.

Form on Table Confirmation Cancel < Previous Finish

 You have requested to create a form on a table page with the following attributes. Please confirm your selections.

Application	787
Page	20
Page Name	Form on ITEMS
Region Title	Items
Region Template	Form Region
Table / View Owner	USCA_CURR1_SQL01_S01
Table / View Name	ITEMS
Primary Key 1	ITEM_ID
Primary Key 2	
Display Columns	ISBN TITLE AUTHOR PUBLISHER_ID SUBJECT_ID ITEM_TYPE_ID WHOLESALE_COST RETAIL_PRICE
Process Options	Insert,Update,Delete

Steps 1 through 7 (above) established the parameters for the input **FORM** that will appear on the **ITEMS** page.

In the following steps, you will edit the basic page to include LOVs for the Publishers, Subjects and Item_Types.

Continue now with Step 8: Do not omit Step 8.

Step 8: Editing the Page

Important: Select the **Edit Page** icon.

Do not Select the Run Page icon at this time.

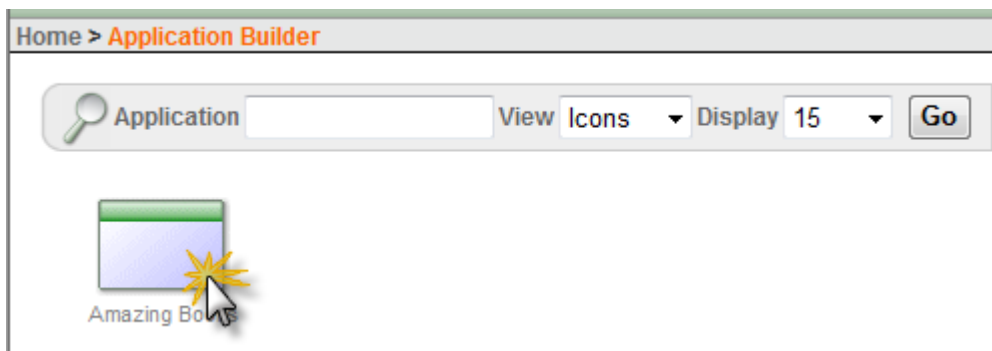


You now begin the steps to add the Publisher, Subject and Item_Type LOVs to the **Items** input form.

During this stage of your form creation, you will change several input textboxes to popup windows that will show a list of values (LOVs) created earlier.

If you are logging back into Application Express, simply click on Application Builder to get to the Amazing Books application.

Now, click on the Amazing Books icon.



Look for the 'Form on ITEMS' form you created earlier.



20 - Form on ITEMS

Step 9: Editing Items

Start by clicking on the **P20_PUBLISHER_ID** hyperlink in the **Items** region under the **Page Rendering** heading. Your number may be different than P20.

Page

Page Name: [Form on ITEMS](#) Template: [Application default](#)

Title: [Form on ITEMS](#) Header Text:

HTML Header: [<script language="JavaScript"](#) Footer Text:

On Load: Build Option:

Help Text: [No help is available for this](#) Authorization: [No](#)

Regions

Display Point: Page Template Body (3)

10 ☐ [Items](#) [HTML](#)

Buttons

Region: [Items](#) ▼▲

10 Cancel	Redirected to page 4	
20 Delete	Run: javascript:confirmDelete(htmldb_delete_m	Conditional
30 Apply Changes	Submit as "SAVE"	Conditional
40 Create	Submit as "CREATE"	Conditional

Items

Region: [Items](#) ▼▲

1 P20_ITEM_ID	Hidden
20 P20_ISBN	Text Field
30 P20_TITLE	Text Field
40 P20_AUTHOR	Text Field
50 P20_PUBLISHER_ID	Text Field
60 P20_SUBJECT_ID	Text Field
70 P20_ITEM_TYPE	Text Field
80 P20_WHOLESALE_COST	Text Field
90 P20_RETAIL_PRICE	Text Field

Step 10: Creating a List of Values (LOV) for an Item

Select the [Popup LOV] option from beneath the “**Display As**” textbox. This selection will display “**Popup LOV (fetches first rowset)**” in the textbox for ‘Display As’.

Scroll down the page to the **List of Values** heading.

Page Item: P20_PUBLISHER_ID

Show All Name Displayed Label Element Source Default LOV Security Conditions Read Only Help

Name

Page: 20 Form on ITEMS

* Name P20_PUBLISHER_ID

Display As Popup LOV (fetches first rowset)

[Text] [Text Area] [Select List] [Radio] [Popup List of Values] [Checkbox] [Date] [Hidden]

[Define List of Values](#)

In the **List of Values** section, change the **Named LOV** textbox to **PUBLISHER_LOV** as shown.

List of Values

Named LOV - Select Named LOV -

Display Extra Values - Select Named LOV -

Number of Columns CUSTOMER_LOV

Null display value ITEM_LOV

List of values definition ITEM_TYPE_LOV

PUBLISHER_LOV

Report Row Per Page

SUBJECT_LOV

Dynamic Translation - Not Translated -

Display Null No

Null return value

Create or edit static List of Values

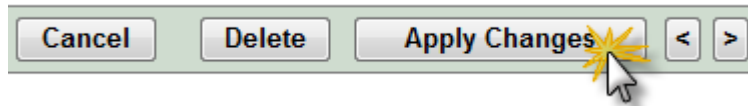
Create Dynamic List of Values

Security

Authorization Scheme - No Authorization Required -

Session State Protection Unrestricted

Scroll back to the top of the page and select **Apply Changes**.



Step 11: Repeat Steps 8-10 for SUBJECT_ID and ITEM_TYPE_ID

REPEAT STEPS 8-10 for the P3_SUBJECT_ID Text Field item and the P3_ITEM_TYPE_ID Text Field .

- To create the P3 SUBJECT ID LOV: (Your subject_id number may be different than P3_SUBJECT_ID)

Select the **P3_SUBJECT_ID** hyperlink in the **Items** region under the **Page Rendering** heading.

Select the [Popup LOV] option from beneath the “**Display As**” textbox. This selection will display “**Popup LOV (fetches first rowset)**” in the textbox.

Scroll down the page to the **List of Values** heading.

In the **List of Values** section, change the **Named LOV** textbox to **SUBJECT_LOV**.

Scroll back to the top of the page and select **Apply Changes**.

-
- To create the P3 ITEM TYPE ID LOV: (Your number may be different than P3_ITEM_TYPE_ID)

Select the **P3_ITEM_TYPE_ID** hyperlink in the **Items** region under the **Page Rendering** heading.

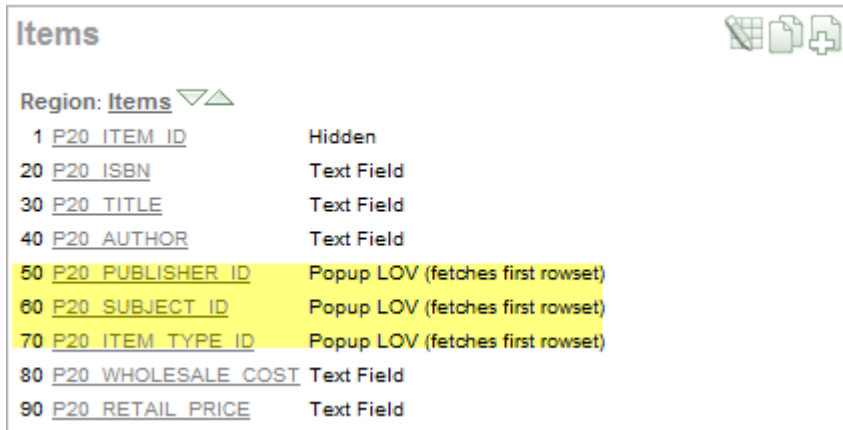
Select the [Popup LOV] option from beneath the “**Display As**” textbox. This selection will display “**Popup LOV (fetches first rowset)**” in the textbox.

Scroll down the page to the **List of Values** heading.

In the **List of Values** section, change the **Named LOV** textbox to **ITEM_TYPE_LOV**.

Scroll back to the top of the page and select **Apply Changes**.

VIEW the format change to Popup LOV:



Items	
Region: <u>Items</u> ▾ ▴	
1 <u>P20_ITEM_ID</u>	Hidden
20 <u>P20_ISBN</u>	Text Field
30 <u>P20_TITLE</u>	Text Field
40 <u>P20_AUTHOR</u>	Text Field
50 <u>P20_PUBLISHER_ID</u>	Popup LOV (fetches first rowset)
60 <u>P20_SUBJECT_ID</u>	Popup LOV (fetches first rowset)
70 <u>P20_ITEM_TYPE_ID</u>	Popup LOV (fetches first rowset)
80 <u>P20_WHOLESALE_COST</u>	Text Field
90 <u>P20_RETAIL_PRICE</u>	Text Field

The **Items** page is now formatted to include the three Popup LOV's; Publishers, Subjects, and Item_Types. View this formatting change in the **List of Values** region, which is under the **Shared Components** heading.



Shared Components

Shared Components icons: ▾, 📄, 📁, ⏏, 📋, 📅, 🖋, 🔒, ↩

Tabs icon: +

Lists of Values icons: 📊, 📄, +

Dynamic ITEM_TYPE_LOV

Dynamic PUBLISHER_LOV

Dynamic SUBJECT_LOV

Breadcrumbs icons: 📊, +

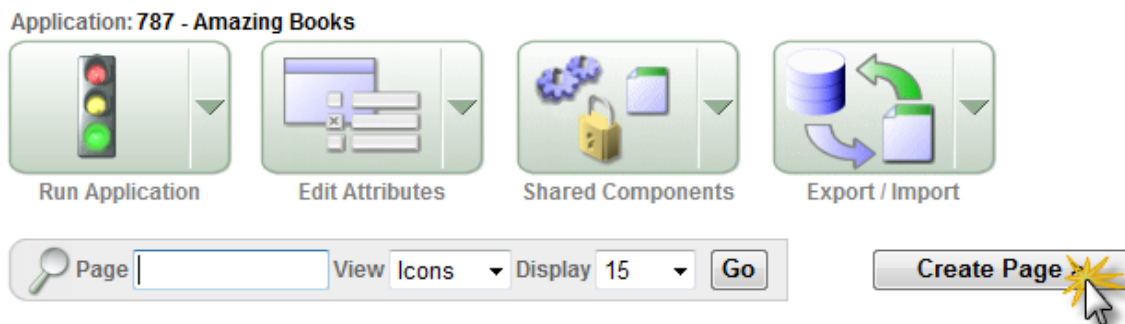
Return to Application Builder:



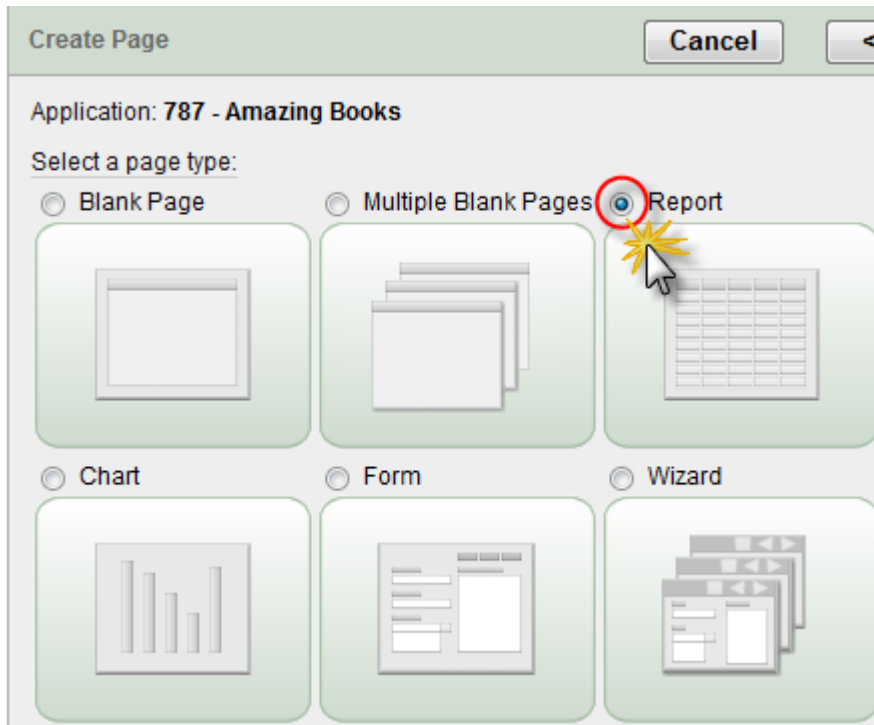
Click on the **Amazing Books** icon.

Step 12: Creating the Report.

Click on the **Create Page** button. Do not select the Run Page icon at this time.

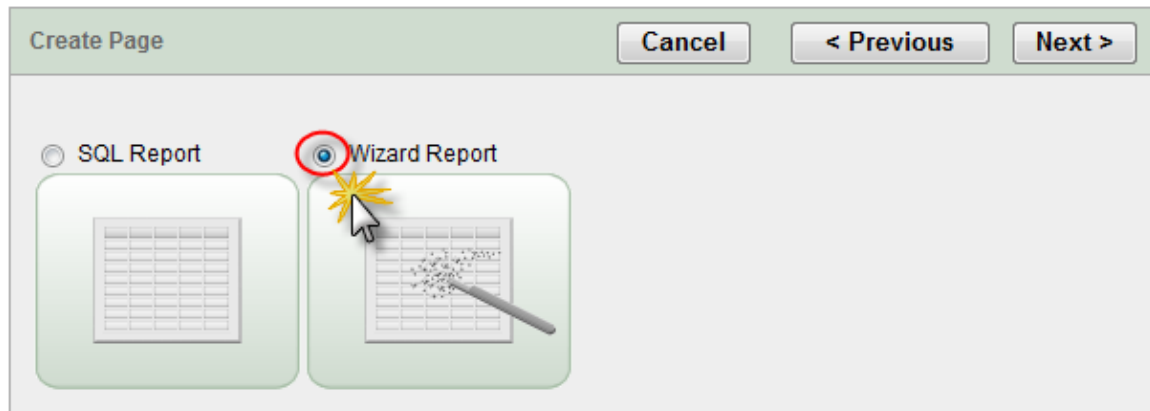


Select **Report**. You now begin the steps to add the **REPORT** region to the **CUSTOMERS** page.



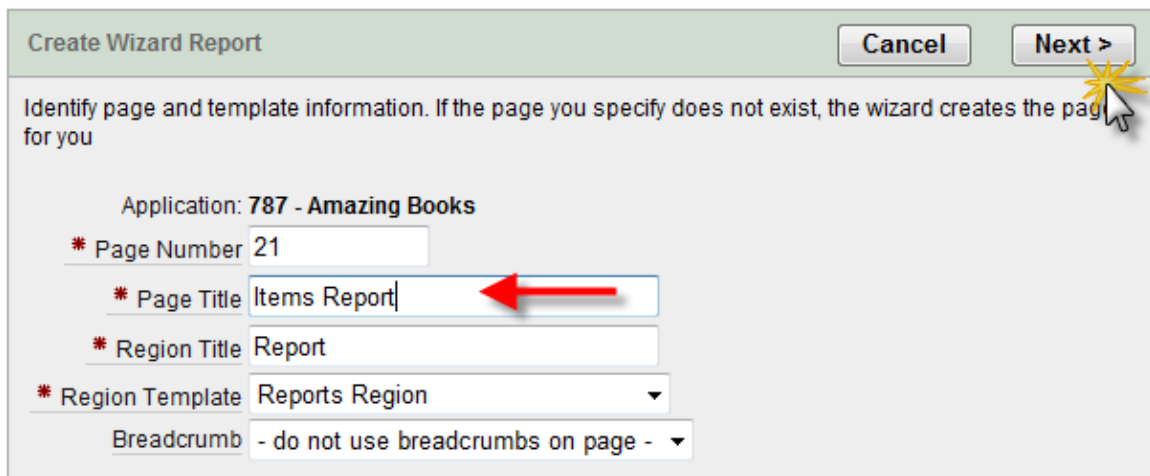
Select **NEXT** to continue.

In the **Create Page** window, select the radio button next to **Wizard Report**.



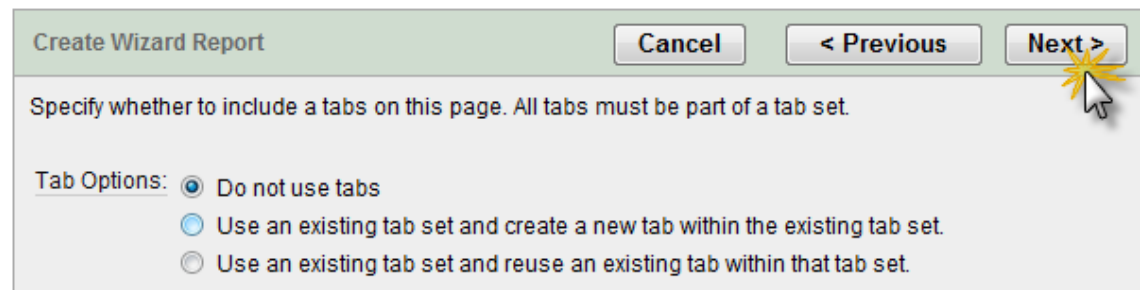
Select **Next** to continue.

In the **Page Title** textbox, enter the title “Items Report”



Select **Next** to continue.

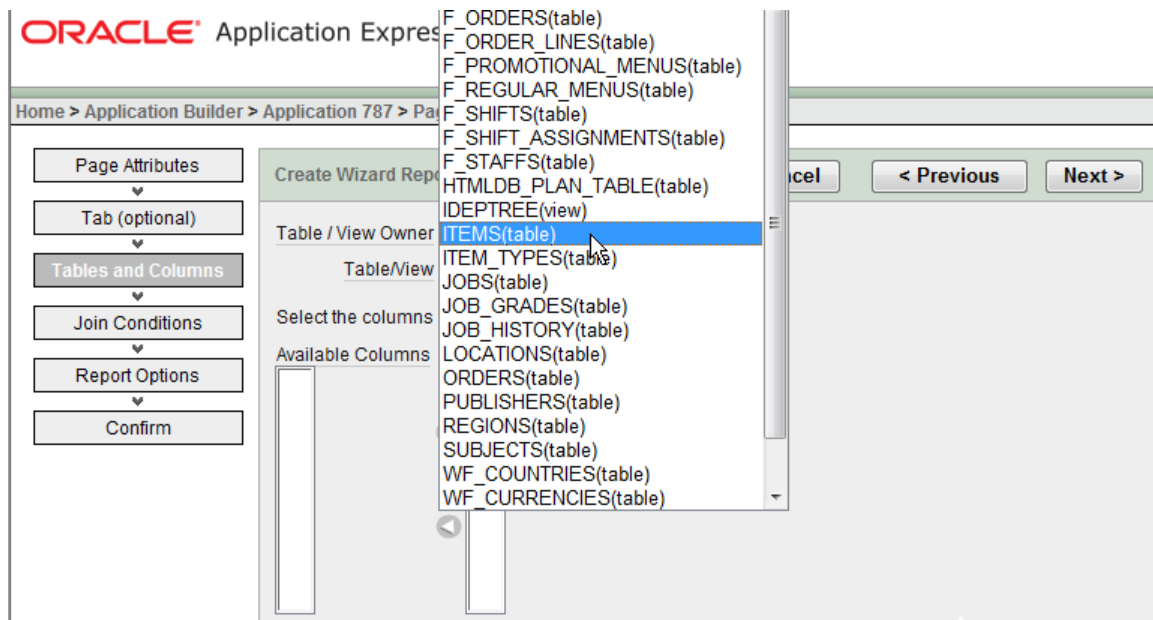
Make sure the ‘Do not use tabs’ radio box is marked.



Click '**Next**' to continue.

Step 13: Assigning tables to Report

In the **Table/View Name** drop-down list box, select the **ITEMS** table, and you will see that the column names associated with the table appear under Select Columns.

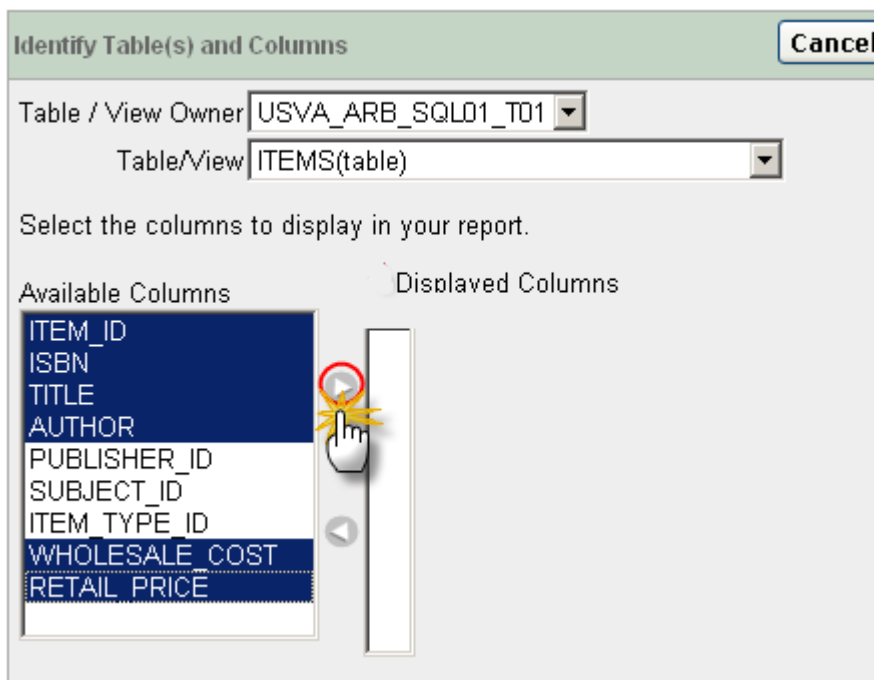


In the **Available Columns** window, highlight the following column names: (You may have to use the <CTRL> button to do them all at once.)

ITEM_ID
ISBN
TITLE
AUTHOR
WHOLESALE_COST
RETAIL_PRICE

Add them to the **Displayed Columns** by clicking the > sign between the two windows.

DO NOT click on Next yet..



Notice that PUBLISHER_ID, SUBJECT_ID and ITEM_TYPE_ID were not selected. These columns in the ITEMS table are numeric values that have little human meaning. For the report to show meaningful information, you will select publisher names, subjects, or item types. To display those column names, which are from other tables, a join condition must be created.

To create the **PUBLISHERS** join, change the **Table / View Name** drop-down list to **PUBLISHERS**.

In the **Select Columns** window, select **PUBLISHER**, then click the **>** icon to add it to the **Columns Selected** window. Do not select PUBLISHER_ID.

Your screen should look similar to this screenshot. **DO NOT click on Next yet.**

The image shows two screenshots of the 'Create Wizard Report' dialog box, illustrating the steps to add the PUBLISHER column to the displayed columns.

Top Screenshot:

- Table / View Owner:** USCA_CURR1_SQL01_S01
- Table/View:** PUBLISHERS
- Show Only Related Tables:** Yes (selected)
- Select the columns to display in your report.**
- Available Columns:** PUBLISHER_ID, PUBLISHER (highlighted with a red circle and a yellow starburst icon).
- Displayed Columns:** ITEMS.ITEM_ID, ITEMS.ISBN, ITEMS.TITLE, ITEMS.AUTHOR, ITEMS.WHOLESALE_COST, ITEMS.RETAIL_PRICE.

Bottom Screenshot:

- Table / View Owner:** USCA_CURR1_SQL01_S01
- Table/View:** PUBLISHERS
- Show Only Related Tables:** Yes (selected)
- Select the columns to display in your report.**
- Available Columns:** PUBLISHER_ID.
- Displayed Columns:** ITEMS.ITEM_ID, ITEMS.ISBN, ITEMS.TITLE, ITEMS.AUTHOR, ITEMS.WHOLESALE_COST, ITEMS.RETAIL_PRICE, PUBLISHERS.PUBLISHER.

A large curved arrow points from the 'PUBLISHER' column in the top screenshot to the 'PUBLISHERS.PUBLISHER' column in the bottom screenshot, indicating the successful addition of the column.

In the **Select Columns** window, select the **Table / View Name** drop-down list to show **SUBJECTS**.

In the **Select Columns** window, select **SUBJECT** and click the > icon. Do not select **SUBJECT_ID**.

DO NOT click on Next yet.

Create Wizard Report

Cancel < Previous Next >

Table / View Owner USCA_CURR1_SQL01_S01

Table/View SUBJECTS

Show Only Related Tables: ☒ Yes ☐ No

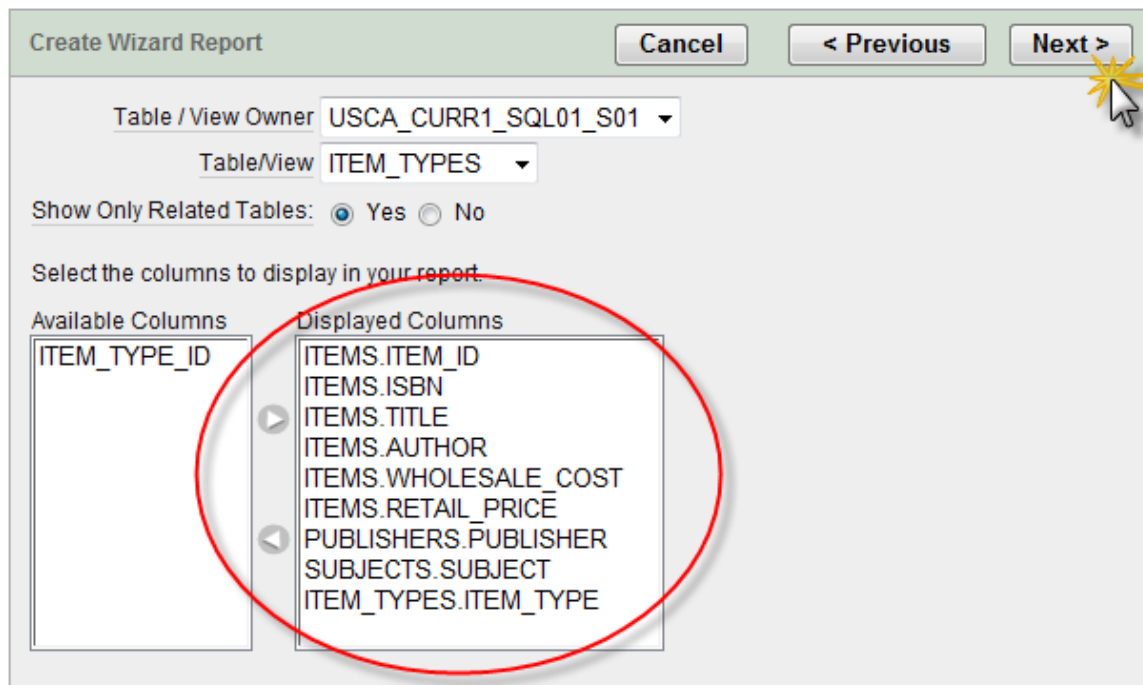
Select the columns to display in your report.

Available Columns	Displayed Columns
SUBJECT_ID	ITEMS.ITEM_ID
	ITEMS.ISBN
	ITEMS.TITLE
	ITEMS.AUTHOR
	ITEMS.WHOLESALE_COST
	ITEMS.RETAIL_PRICE
	PUBLISHERS.PUBLISHER
	SUBJECTS.SUBJECT

In the **Select Columns** window, select the **Table / View Name** drop-down list to show **ITEM_TYPES**.

In the **Select Columns** window, select **ITEM_TYPE** and click the > icon. Do not select **ITEM_TYPE_ID**.

This completes the selection of table columns for the **Items** Report.



Now, select **Next** to continue.

Step 14: Reviewing Join Conditions

Review the **Join Conditions** window. The data in each textbox is automatically created by Application Express.

The column on the left lists the primary keys and the column on the right lists the foreign keys for the Items Report.

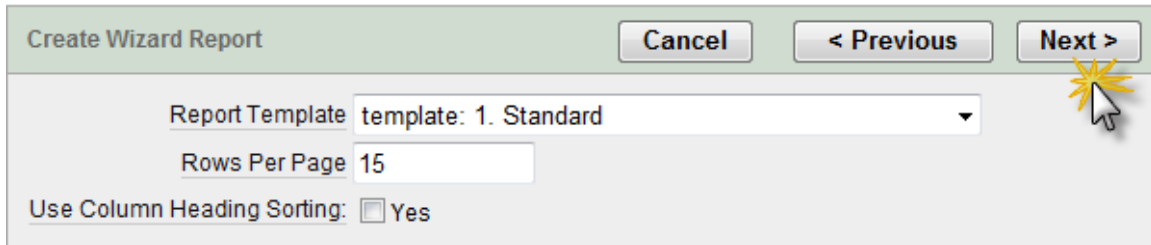
Column		Column
"ITEM_TYPES".ITEM_TYPE_ID	=	"ITEMS".ITEM_TYPE_ID
"PUBLISHERS".PUBLISHER_ID	=	"ITEMS".PUBLISHER_ID
"SUBJECTS".SUBJECT_ID	=	"ITEMS".SUBJECT_ID
	=	
	=	

Add More Join Conditions

Select **Next** to continue.

Step 15: Report Options

Select Template (use default).



Create Wizard Report

Cancel < Previous Next >

Report Template template: 1. Standard

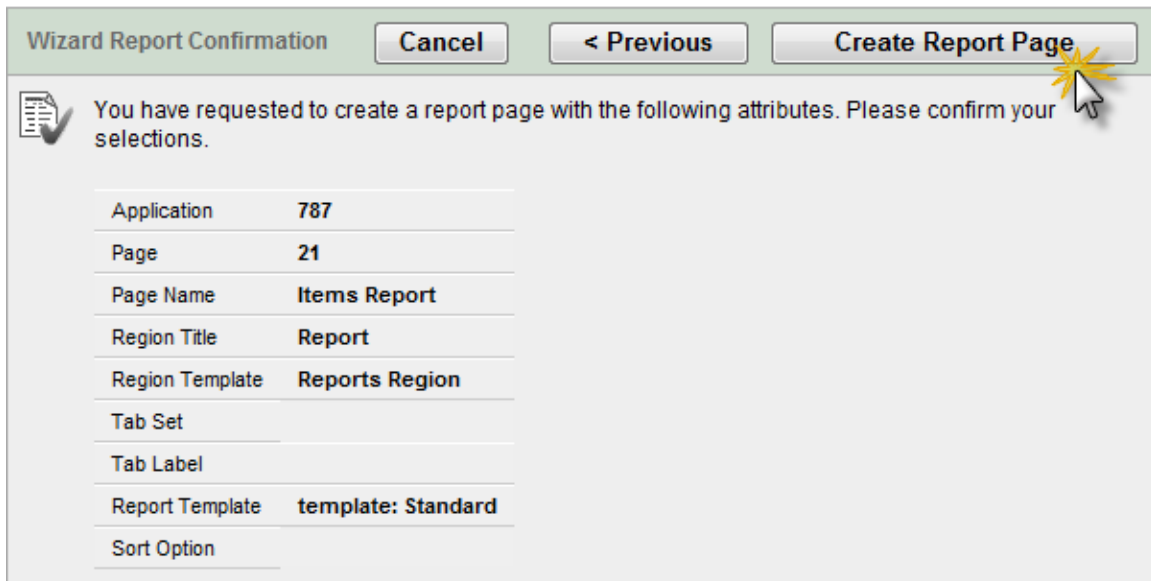
Rows Per Page 15

Use Column Heading Sorting: ☐ Yes

Select **NEXT** to continue


Step 16: Confirming Report Selections

Confirmation:



Wizard Report Confirmation

Cancel < Previous Create Report Page

 You have requested to create a report page with the following attributes. Please confirm your selections.

Application	787
Page	21
Page Name	Items Report
Region Title	Report
Region Template	Reports Region
Tab Set	
Tab Label	
Report Template	template: Standard
Sort Option	

Select **Create Report Page** to continue.

You have successfully created the Items page. It includes LOVs on the input form, as well as a report that includes combined information from three other tables.

Return to the AMAZING_BOOKS application main page

Step 17: Follow these steps to create the ORDERS form.

1. Click on the **Create Page** button.
2. Choose **Form** by clicking the radio button adjacent to that option. Select **NEXT** to continue.
3. Under the **Forms** heading, select the **Form on a Table or View** radio button. Select **Next** to continue.
4. Confirm the **Table/View Owner** is your name/schema. Select **Next** to continue.
5. Select the table (ORDERS) on which you wish to place your form by clicking on the **field arrow** next to the **Table / View Name** textbox. Select **Next** to continue.
6. Change Region Title to 'Orders'. Click **Next** to continue.
7. Make sure the 'Do not use tabs' radio box is selected. Click **Next** to continue.
8. Confirm that the **Primary Key** drop-down list box shows ORDER_ID. Select **Next** to continue.
9. Choose the **Existing Trigger** option. Select **Next** to continue.
10. Confirm that all of the columns are selected (highlighted) in the **Select Column(s)** window. Select **Next** to continue.
11. Accept the defaults in the **Identify Process Options** window. Select **Next** to continue.
12. Select the **field arrow** next to each textbox shown in the **Identify Branching** window.
13. Select **ORDERS** from the popup window. This step will direct the browser to load the Orders page after the Submit or Cancel buttons are pressed. Select **Next** to continue.
14. Accept by clicking the **Finish** button.

Click on the “Edit Page” icon to get to “Page Rendering”

Follow previous steps (Steps 9-16) to create the LOV's for the **ORDERS** table, and to create the report.

Do not select the Run Page icon at this time.

You now begin the steps to add Popup LOVS to the **ORDERS** page input form.

During this stage of your form creation, you will change 2 input textboxes to popup windows that will show a list of values (LOVs) created earlier.

1. Start by selecting the **P1_CUSTOMER_ID** hyperlink in the **Items** region under the **Page Rendering** heading. (You may have a different number than P1)
2. Select the [Popup LOV] option from beneath the "**Display As**" textbox. This selection will display "**Popup LOV (fetches first rowset)**" in the textbox.
3. Scroll down the same page to the **List of Values** heading.
4. In the **List of Values** section, change the **Named LOV** textbox to **CUSTOMER_LOV**.
5. Scroll back to the top of the page and select **Apply Changes**.

At this point, the **P1_ITEM_ID Text Field** item must be changed to a **Popup LOV**.

To create the P1_ITEM_ID LOV:

1. Select the **P1_ITEM_ID** hyperlink in the **Items** region under the **Page Rendering** heading. (You may have a different number than P1)
2. Select the [Popup LOV] option from beneath the “**Display As**” textbox. This selection will display “**Popup LOV (fetches first rowset)**” in the textbox.
3. Scroll down the page to the **List of Values** heading.
4. In the **List of Values** section, change the **Named LOV** textbox to **ITEM_LOV**.
5. Scroll back to the top of the page and select **Apply Changes**.
6. **Do not omit the following step.** Under **Page Rendering**, locate the **Regions** area and select the **Create icon**. (Looks like a piece of paper with a plus sign)
7. In the **Identify Region Type** window, select the **radio button** next to **Report**.
8. Select **Next** to continue.
9. In the **Selection Report Implementation** select the **radio button** next to **Wizard Report**.
10. Select **Next** to continue.
11. In the **Identify Region Attributes** window, enter “**Orders Report**” in the **Title** textbox.
12. Select **Next** to continue.
13. In the **Select Columns** window, locate the **Table / View Name** drop-down list.
14. Select the **ORDERS(table)** from the list.
15. **DO NOT click on Next yet.**

16. In the **Select Columns** window, highlight the following column names:: (You may have to use the <CTRL> button to do them all at once.)

ORDER_ID
ORDER_DATE
QUANTITY

Add them to the **Columns Selected** by clicking the > sign between the two windows.

17. **DO NOT** click on **Next** yet.

18. In the **Select Columns** window, select the **Table / View Name** drop-down list to show **ITEMS**.

19. In the **Select Columns** window, select **TITLE** and **RETAIL_PRICE**.

20. Click the > icon to add it to the **Columns Selected** window.

21. **DO NOT** click on **Next** yet.

22. In the **Select Columns** window, select the **Table / View Name** drop-down list to show **CUSTOMERS**.

23. In the **Select Columns** window, select **CUSTOMER_NAME** and click the > icon.

24. This completes the selection of table columns for the **Orders** Report.

25. Select **Next** to continue.

26. Review the **Join Conditions** window. The data in each textbox is automatically created by Application Builder.

27. The column on the left lists the primary keys and the column on the right lists the foreign keys for the Orders Report. Select **Next** to continue.

28. Click **Create Region**

You have successfully created the **Orders** page. It includes LOVs on the input form, as well as a report that includes combined information from three other tables.

Move on to Part 6.