

Oracle Academy

Amazing Books

Part 2: Creating the Application Framework and LOVs

In this section, you use the Application Builder in Oracle Application Express to:

- Define the main pages for the Amazing Books application
- Define Lists of Values (LOVs) to be used in the application

Step 1: Logging on to Oracle Application Express

If you are not already logged on to Oracle Application Express, please do so by:

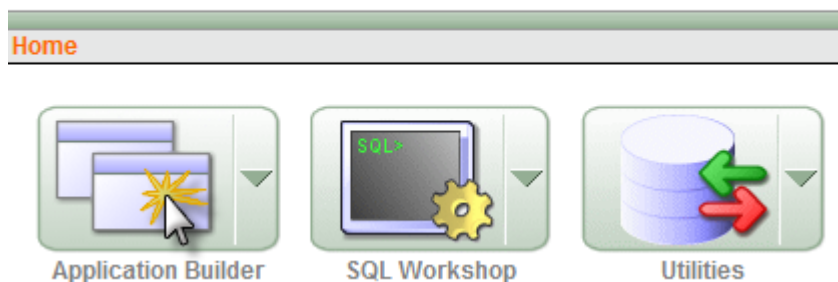
- Changing the address in your browser to <http://iacademy.oracle.com/>
- Entering your School, Username, and Password in the **Login** screen, and clicking **Login**

Step 2: Accessing Application Builder

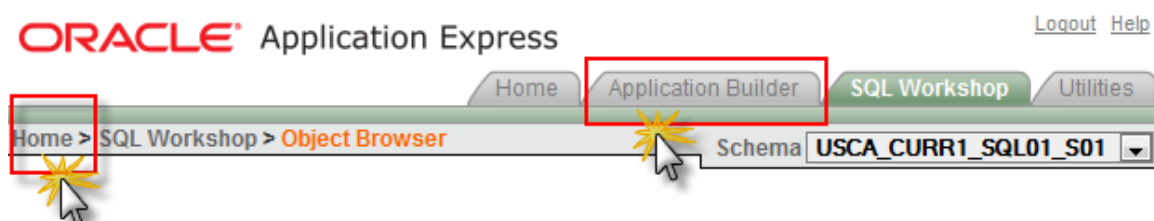
You will be using Application Builder to build your Amazing Books application.

In the **Home** window of **Oracle Application Express**, click **Application Builder**.

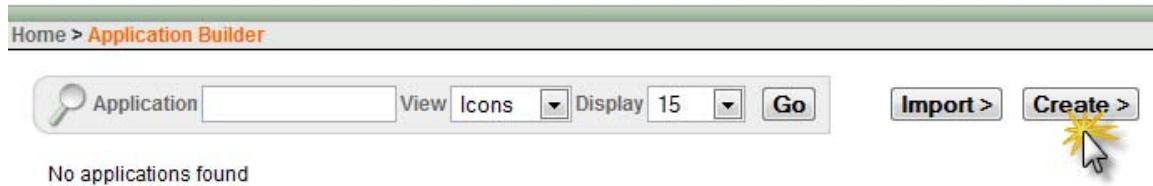
ORACLE® Application Express



Alternatively, you can also access Application Builder by clicking the Application Builder tab.

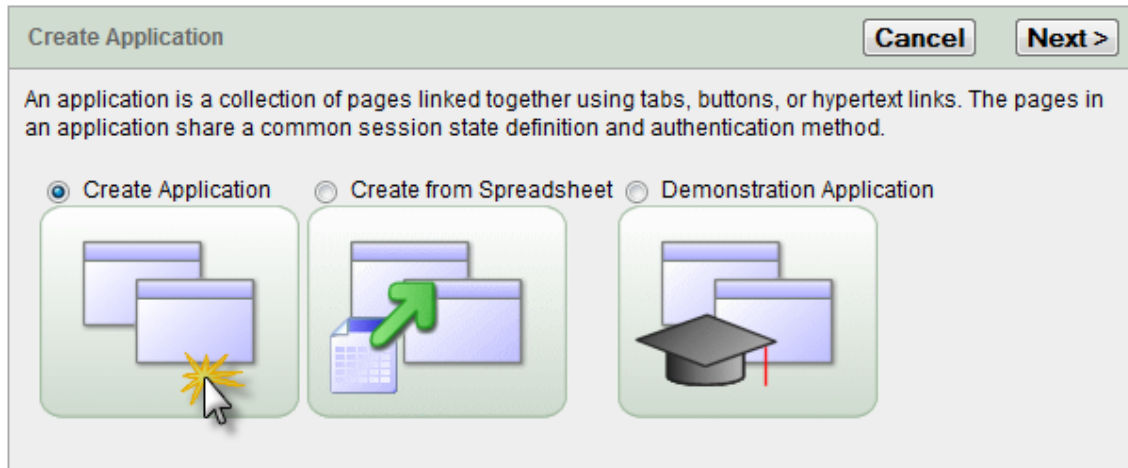


Step 2: Creating a new application



Click **Create** to create a new application.

Step 3: Defining the creation method as “Create Application”



There are three ways to create an application in Application Express. Click the first option, **Create Application**. This option allows you to create an application by defining pages, selecting an authentication scheme, and specifying a user interface.

Step 4: Entering the Name for the Application.

The screenshot shows the 'Create Application' dialog box. At the top, there are three buttons: 'Cancel', '< Previous', and 'Next >'. The 'Next >' button is circled in red and labeled 'E'. Below the buttons, the text reads: 'Enter an application name and an unique application ID. Then, select an application creation method and a schema.' The form contains the following fields and options:

- Name:** A text box containing 'Amazing Books', circled in red and labeled 'A'.
- Application:** A text box containing '787', circled in red and labeled 'B'.
- Create Application:** Two radio button options. The first is 'From scratch', which is selected and circled in red and labeled 'C'. The second is 'Based on existing application design model'.
- Schema:** A dropdown menu showing 'USCA_CURR1_SQL01_S01', circled in red and labeled 'D'.

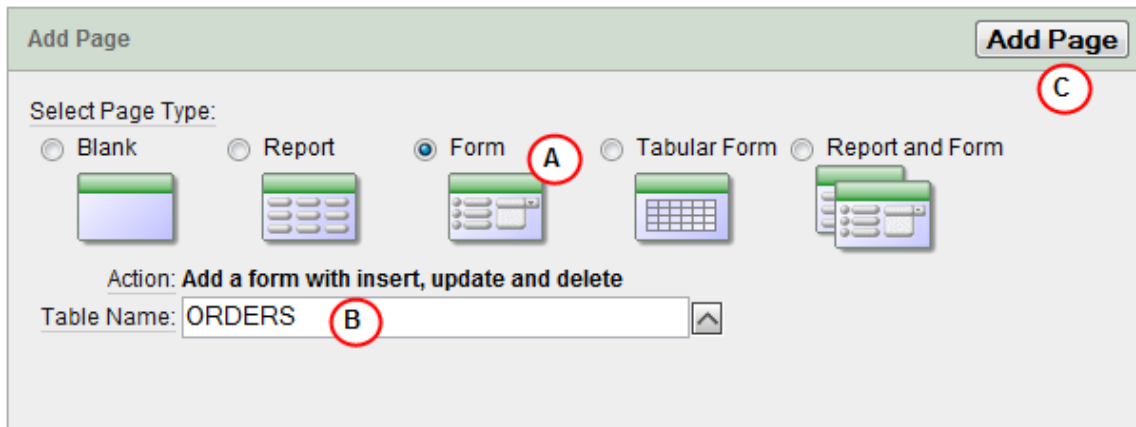
Follow these steps in the Create Application textbox:

- A. Enter "AMAZING BOOKS" in the **Name** textbox.
- B. Do not change the **Application** number. Application Express creates an application number by default and it is recommended that you do not change this number.
- C. Confirm that **From Scratch** is selected.
- D. Confirm that your schema is selected in the schema drop down list.
- E. Click Next to continue.

Step 5: Adding Pages to the Application.

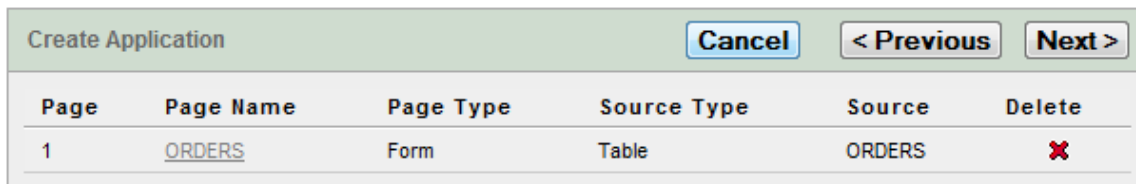
The next step in the Create Application workflow allows you to define the pages in your application. There are seven pages in the Amazing Books application, including: Orders, Customers, Items, Subjects, Publishers, Item Types, and View Charts. There will be one tab for each page. The pages created here will contain the data input forms and report areas for each table in the Amazing Books database.

5.1: Add the Orders page.



The screenshot shows the 'Add Page' dialog box. At the top right is an 'Add Page' button (C). Below it, the 'Select Page Type:' section has five radio buttons: 'Blank', 'Report', 'Form' (selected, A), 'Tabular Form', and 'Report and Form'. Each radio button has a corresponding icon below it. Below the radio buttons, the 'Action:' is 'Add a form with insert, update and delete'. The 'Table Name:' is 'ORDERS' (B). At the bottom right is an 'Add Page' button (C).

- A. Select the Form radio button. This will create a textbox for every field in the Orders table on the Orders page.
- B. Enter Orders in the **Page Name** textbox. Using an underscore in the name is not necessary as these are page titles. These names will also appear on the Page Tabs.
- C. Click Add Page



Page	Page Name	Page Type	Source Type	Source	Delete
1	<u>ORDERS</u>	Form	Table	ORDERS	✖

- D. Confirm that the page is added to the Create Application window. Do not click Next until all 7 pages have been created.

5.2: Add the Customers Page to the Application.

The screenshot shows the 'Add Page' dialog box. At the top right is an 'Add Page' button (labeled D). Below it, under 'Select Page Type:', are five radio buttons: Blank, Report, Form, Tabular Form, and Report and Form (labeled A). Each radio button has a corresponding icon. Below the radio buttons is the text 'Action: Add a report with an edit form on a second page'. Under 'Subordinate to Page' is a dropdown menu showing '- Top Level Page -' (labeled B). Below that is a 'Table Name' text box containing 'CUSTOMERS' (labeled C). At the bottom is a checkbox labeled 'Include Analysis Pages'.

- A. Select the Report and Form radio button.
- B. Confirm that the **Subordinate to Page** value is set to Top Level Page.
- C. Set the **Table Name** value to CUSTOMERS.
- D. Click Add Page.

5.3 Add the Items Page to the Application.

Page Type: Form

Subordinate to Page: Top Level Page

Table Name: Items

5.4 Add the Subjects Page to the Application.

Page Type: Report and Form

Subordinate to Page: Top Level Page

Table Name: Subjects

5.5 Add the Publishers Page to the Application.

Page Type: Report and Form

Subordinate to Page: Top Level Page

Table Name: Publishers

5.6 Add the Item Types Page to the Application.

Page Type: Report and Form

Subordinate to Page: Top Level Page

Table Name: Item Types

5.7 Add the View Charts Page to the Application.

Page Type: Blank

Subordinate to Page: Top Level Page

Page Name: View Charts

5.8 Confirm the creation of 7 blank pages and click Next.

Create Application					
Page	Page Name	Page Type	Source Type	Source	Delete
1	<u>ORDERS</u>	Form	Table	ORDERS	✗
2	<u>CUSTOMERS</u>	Report	Table	CUSTOMERS	✗
3	<u>CUSTOMERS</u>	Form	Table	CUSTOMERS	✗
4	<u>ITEMS</u>	Form	Table	ITEMS	✗
5	<u>SUBJECTS</u>	Report	Table	SUBJECTS	✗
6	<u>SUBJECTS</u>	Form	Table	SUBJECTS	✗
7	<u>PUBLISHERS</u>	Report	Table	PUBLISHERS	✗
8	<u>PUBLISHERS</u>	Form	Table	PUBLISHERS	✗
9	<u>ITEM_TYPES</u>	Report	Table	ITEM_TYPES	✗
10	<u>ITEM_TYPES</u>	Form	Table	ITEM_TYPES	✗
11	<u>VIEW CHARTS</u>	Blank	-	-	✗

Step 6: Defining the Tabs for the Application

The application will have one level of tabs.

Create Application

Cancel < Previous Next >

Application: 787
Name: Amazing Books

Tabs:

☐ No Tabs ☒ One Level of Tabs ☐ Two Levels of Tabs

A B

- A. Select the radio button next to **One Level of Tabs**.
- B. Click **Next**.

Step 7: Declining Shared Components

Application Express allows you to copy components from another application to both save application development time and ensure consistency across applications. Since this is the first application in your schema, you can decline this option.

Create Application

Cancel < Previous Next >

Shared components are common application elements that can be displayed or applied across multiple pages in an application. To save time or maintain consistency between applications, it is possible to copy the shared components from an existing application.

Copy Shared Components from Another Application:

☐ Yes ☒ No

A B

- A. Select **No**.
- B. Click **Next**.

Step 8: Defining Authentication

Authentication is the process of determining whether someone or something is, in fact, who or what it is declared to be. In many applications, authentication is done through the use of usernames and passwords. If you were to choose “Database Account” as the authentication scheme for your application, you would need to re-enter your username and password every time you ran the application. To make the development and testing process easier, select “No Authentication”.

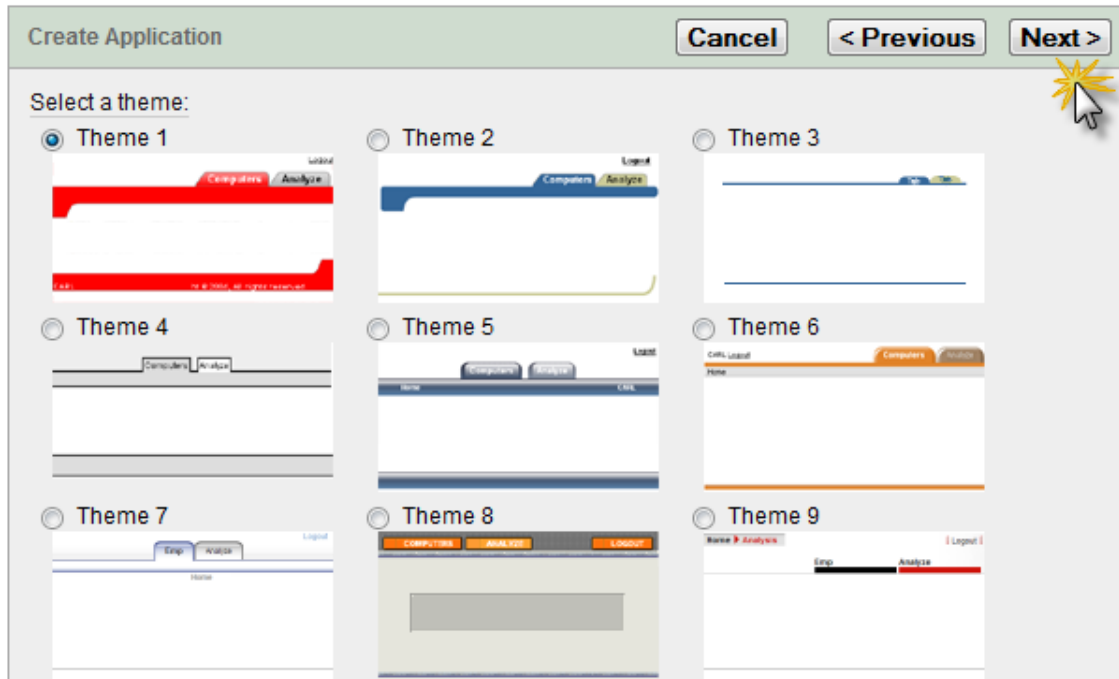
The screenshot shows the 'Create Application' dialog box. At the top, there are buttons for 'Cancel', '< Previous', and 'Next >'. The 'Authentication Scheme:' section has three radio buttons: 'Application Express', 'No Authentication' (which is selected and marked with a red circle 'A'), and 'Database Account'. Below these are three icons: a key, a document, and a database cylinder with a key. The 'Language:' section has a dropdown menu set to 'English (United States) (en-us)' (marked with a red circle 'B'). Below that, the 'User Language Preference Derived From:' section has a dropdown menu set to 'Use Application Primary Language' (marked with a red circle 'C'). The 'Next >' button is marked with a red circle 'D'.

- A. Select **No Authentication**.
- B. Confirm that English is the default language.
- C. Confirm that the User Language is set to “Use Application Primary Language”.
- D. Click Next.

Step 9: Creating the User Interface Theme

Application Express has many built-in interface styles. Rather than creating a style from scratch, you can choose from one of these pre-defined styles. This is one of the features of Application Express that allows for rapid application development.


In the **Create Application** window **Theme** area, select a theme by clicking the appropriate radio button. Themes shown here may vary from what you choose.




Step 10: Confirming the Application Setup

10.1 Confirm the application attributes and click Create.

Create Application Cancel < Previous Create

 You have requested to create an application with the following attributes. Please confirm your selections.





Application	787
Name	Amazing Books
Parsing Schema	USCA_CURR1_SQL01_S01
Default Language	en-us
Tabs	One Level of Tabs
Default Authentication Scheme	No Authentication
UI Theme	

☒ Save this definition as a design model for reuse

10.2 Review the new application.

Application created successfully.

Application: 787 - Amazing Books

 Run Application  Edit Attributes  Shared Components  Export / Import

Page View Icons Display 15 Go Create Page >

1 - ORDERS 2 - CUSTOMERS 3 - CUSTOMERS 4 - ITEMS 5 - SUBJECTS

6 - SUBJECTS 7 - PUBLISHERS 8 - PUBLISHERS 9 - ITEM TYPES 10 - ITEM TYPES

11 - VIEW CHARTS 101 - Login

The Amazing Books application framework is now complete. The next step details how to build Lists of Values (LOVs) that will be used for data entry.

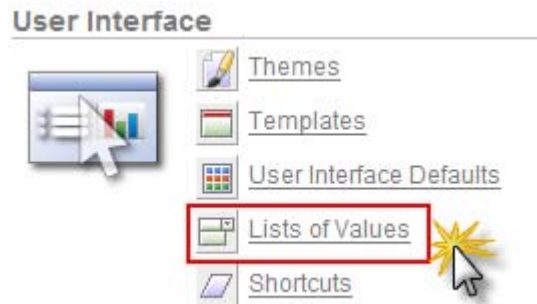
Step 11: Creating Lists of Values

Prior to building the forms to enter data into the tables, it is necessary to build five Lists of Values (LOVs). These lists will be used by the end user to display a select list popup window from which to choose values. The first LOV we will create is the Publishers LOV. The LOV creation tool is one of the Shared Components of Application Express.

11.1 Select the Shared Components icon to access the LOV tool.



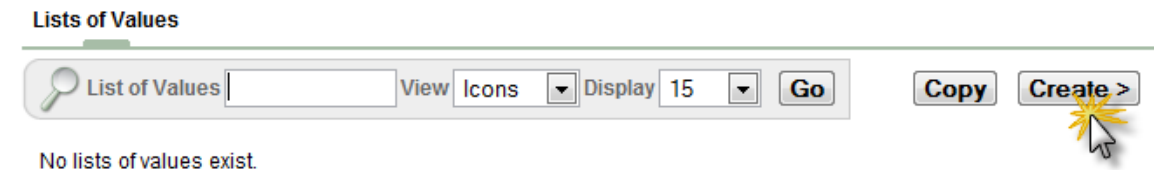
11.2 Select *Lists of Values* from the User Interface menu options.



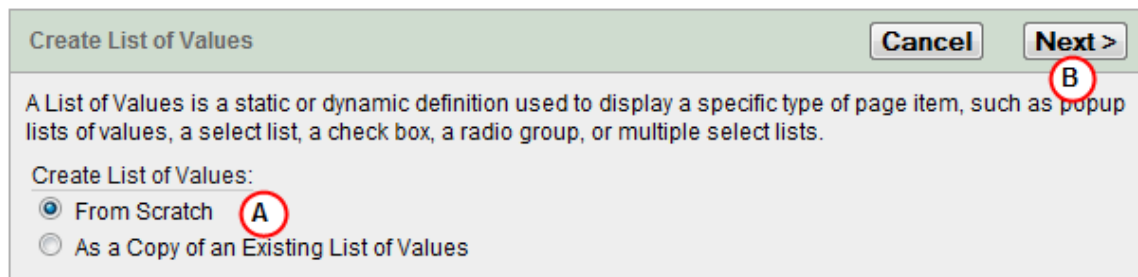
Step 12: Creating the PUBLISHER_LOV

This step creates the PUBLISHER_LOV. This list will be used to select publisher names when the user places orders or enters items into a form on the ORDERS page. By using a LOV, the user will be able to choose a button that will launch a popup window containing a list of all the publisher names in the PUBLISHERS table. Selecting a publisher's name from a popup window is much easier than having to remember each publisher's ID number. The application will take care of the details.

12.1 Click Create to begin creating the LOV.



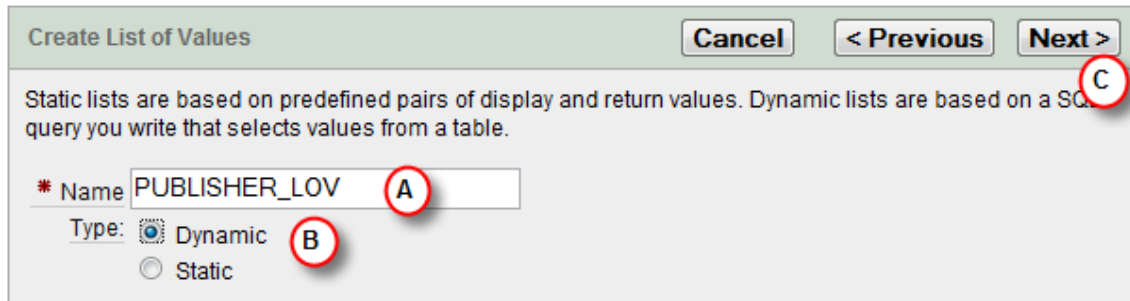
12.2 Define the Source for the PUBLISHER_LOV as “From Scratch”.



- A. In the **Create List of Values** window, confirm that the **From Scratch** radio button is selected.
- B. Click **Next** to continue.


12.3 Define the PUBLISHER_LOV as a Dynamic List.

A dynamic list is based on a SQL statement. A status list is based on a predefined set of values. The LOVs in Amazing Books will be dynamic lists.



- A. In the **Name** textbox, enter: **PUBLISHER_LOV**.
- B. Select the **Type** radio button: **Dynamic**
- C. Select **Next** to continue.

12.4 Define the SQL statement for the PUBLISHERS_LOV.



- A. In the **Query** textbox, enter the following SQL statement:

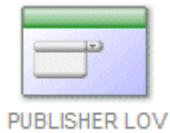
```
SELECT publisher d, publisher_id r
FROM publishers
ORDER BY 1
```

- B. Click **Create List of Values**.

In the SELECT statement above, the letter “d” is an alias for the column from which the user will select values. The letter “d” can be thought of as “what is displayed.” The letter “r” is an alias for the column that will be written into a table (generally a foreign key). The letter “r” can be thought of as “what is returned.”

12.5 Review the new LOV.

When the LOV is created, the following icon is displayed:



Step 13: Creating the CUSTOMER_LOV

Create the CUSTOMER_LOV as a dynamic LOV using the following SQL statement:

```
SELECT customer_name d, customer_id r
FROM customers
ORDER BY 1
```

Step 14: Creating the ITEM_LOV

Create the ITEM_LOV as a dynamic LOV using the following SQL statement:

```
SELECT title d, item_id r
FROM items
ORDER BY 1
```

Step 15: Creating the ITEM_TYPE_LOV

Create the ITEM_TYPE_LOV as a dynamic LOV using the following SQL statement:

```
SELECT item_type d, item_type_id r
FROM item_types
ORDER BY 1
```

Step 16: Creating the SUBJECT_LOV

Create the SUBJECT_LOV as a dynamic LOV using the following SQL statement:

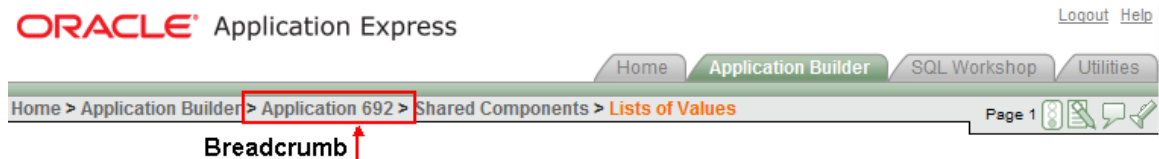
```
SELECT subject d, subject_id r
FROM subjects
ORDER BY 1
```

Confirm that you created 5 LOVs.

Step 17: Running your Application

To test the application framework that you just created, you can run your application using the Run Application tool.

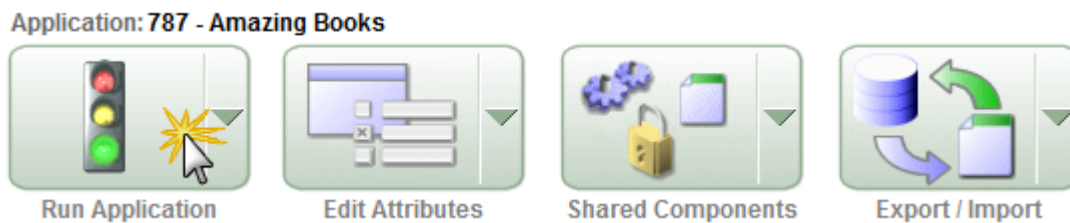
17.1 Return to the Application home page.



To access this tool, return to the home page of your application by clicking on the Application number in the breadcrumb.

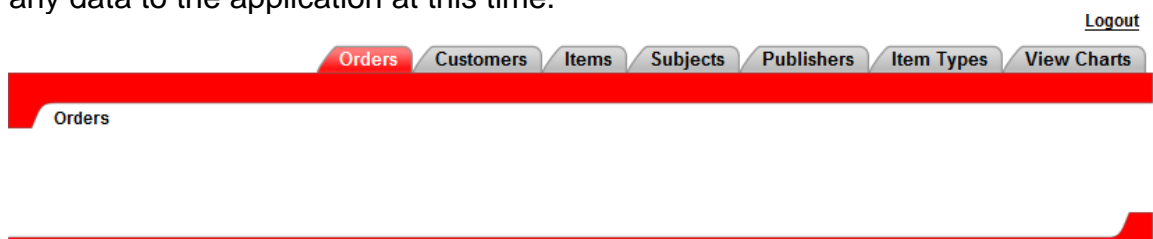
17.2 Run the Application.

Click Run Application.



17.3 Test the Application.

Click on each of the tabs to make sure they are working correctly. Do not add any data to the application at this time.



17.4 Exit the Application.

To exit the application, click Edit Application. This returns you to Application Builder.

