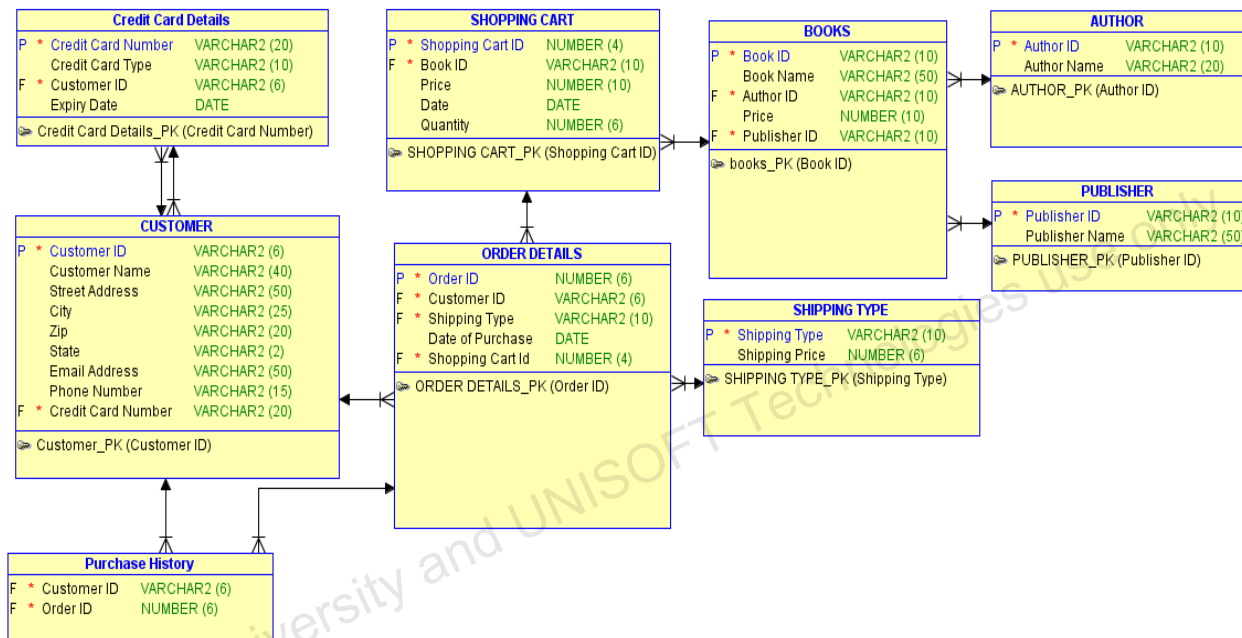


## Case Study: Online Book Store

### Overview

In this case study, you build a set of database tables for an online book store (E-Commerce Shopping Cart). After you create the tables, you insert, update, and delete records in the book store database and generate a report. The database contains only the essential tables.

The following is a diagram of the table and columns for the online book store application:



**Note:** If you want to build the tables, you can execute the commands in the `Online_Book_Store_Create_Table.sql` script in SQL Developer. If you want to drop the tables, you can execute the commands in the `Online_Book_Store_Drop_Tables.sql` script in SQL Developer. Then you can execute the commands in the `<<Online_Book_Store_Populate.sql>>` script in SQL Developer to create and populate the tables.

All the three SQL scripts are present in the `/home/oracle/labs/sql1/labs` folder.

- If you use the `Online_Book_Store_Create_Table.sql` script to build the tables, start with step 2.
- If you use the `Online_Book_Store_Drop_Tables.sql` script to remove the tables, start with step 1.
- If you use the `Online_Book_Store_Populate.sql` script to build and populate the tables, start with step 6.

## Practice 1-2

### Overview

In this practice, you create the tables based on the following table instance charts. Select the appropriate data types and be sure to add integrity constraints.

### Tasks

#### 1. Table Details

a. Table Name: AUTHOR

Column	Data type	Key	Table Dependent Type
Author_ID	VARCHAR2	PK	
Author_Name	VARCHAR2		

b. Table Name: BOOKS

Column	Datatype	Key	Table Dependent On
Book_ID	VARCHAR2	PK	
Book_Name	VARCHAR2		
Author_ID	VARCHAR2	FK	AUTHORS
Price	NUMBER		
Publisher_ID	VARCHAR2	FK	PUBLISHER

c. Table Name: CUSTOMER

Column Name	Data type	Key	Table Dependent On
Customer_ID	VARCHAR2	PK	
Customer_Name	VARCHAR2		
Street_Address	VARCHAR2		
City	VARCHAR2		
Phone_Number	VARCHAR2		
Credit_Card_Number	VARCHAR2	FK	Credit_Card_Details

d. CREDIT\_CARD\_DETAILS

Column Name	Data type	Key	Table Dependent On
Credit_Card_Number	VARCHAR2	PK	
Credit_Card_Type	VARCHAR2		
Expiry_Date	DATE		

e. Table Name: ORDER\_DETAILS

Column	Data type	Key	Table Dependent On
Order_ID	NUMBER	PK	
Customer_ID	VARCHAR2	FK	CUSTOMER
Shipping_Type	VARCHAR2	FK	SHIPPING_TYPE
Date_of_Purchase	DATE		
Shopping_Cart_ID	NUMBER	FK	SHOPPING_CART

f. Table Name: PUBLISHER

Column	Data type	Key	Table Dependent Type
Publisher_ID	VARCHAR2	PK	
Publisher_Name	VARCHAR2		

g. Table Name: PURCHASE\_HISTORY

Column	Data type	Key	Table Dependent Type
Customer_ID	VARCHAR2	FK	CUSTOMER
Order_ID	NUMBER	FK	ORDER_DETAILS

h. Table Name: SHIPPING\_TYPE

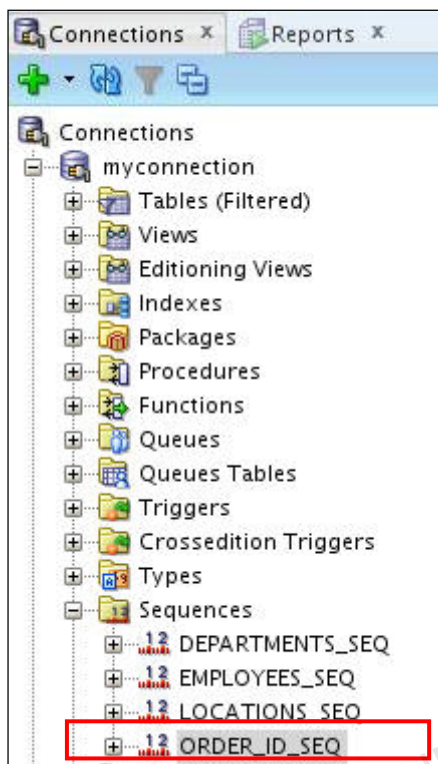
Column	Data type	Key	Table Dependent Type
Shipping_Type	VARCHAR2	PK	
Shipping_Price	NUMBER		

i. Table Name: SHOPPING\_CART

Column	Data type	Key	Table Dependent On
Shopping_Cart_ID	NUMBER	PK	
Book_ID	VARCHAR2	FK	BOOKS
Price	NUMBER		
Shopping_Cart_Date	DATE		
Quantity	NUMBER		

2. Add additional Referential Integrity constraints to the tables created.
3. Verify that the tables were created properly by checking in the Connections Navigator in SQL Developer.

4. Create a sequence to uniquely identify each row in the ORDER\_DETAILS table.
  - a. Start with 100; do not allow caching of the values. Name the sequence ORDER\_ID\_SEQ.
  - b. Verify the existence of the sequences in the Connections Navigator in SQL Developer.



5. Add data to the tables. Create a script for each set of data to be added.  
Add data to the following tables:

- a. AUTHOR
- b. PUBLISHER
- c. SHIPPING\_TYPE
- d. CUSTOMER
- e. CREDIT\_CARD\_DETAILS
- f. BOOKS
- g. SHOPPING\_CART
- h. ORDER\_DETAILS
- i. PURCHASE\_HISTORY

**Note:** Save the scripts by using the task number. For example, to save the script created for the AUTHOR table, you can save it as labs\_apcs\_5a\_1.sql. Ensure that you save the scripts in /home/oracle/labs/sql1/labs folder.

6. Create a view named `CUSTOMER_DETAILS` to show the Customer Name, Customer Address, and the details of the order placed by the customer. Order the results by Customer ID.

	CUSTOMER_NAME	STREET_ADDRESS	ORDER_ID	CUSTOMER_ID	SHIPPING_TYPE	DATE_OF_PURCHASE	SHOPPING_CART_ID
1	VelasquezCarmen	283 King Street	0D0001	CN0001	USPS	12-JUN-11	SC0002
2	Ngao LaDoris	5 Modrany	0D0002	CN0002	USPS	28-JUN-15	SC0005
3	Nagayama Midori	68 Via Centrale	0D0003	CN0003	FedEx	31-JUL-14	SC0007
4	Quick-To-See Mark	6921 King Way	0D0004	CN0004	FedEx	14-AUG-16	SC0004
5	Ropeburn Audry	86 Chu Street	0D0005	CN0005	FedEx	21-SEP-16	SC0003
6	Urguhart Molly	3035 Laurier Blvd.	0D0006	CN0006	DHL	28-OCT-12	SC0001
7	Menchu Roberta	Boulevard de Waterloo 41	0D0007	CN0007	DHL	11-AUG-12	SC0006
8	Biri Ben	398 High St.	0D0008	CN0008	DHL	18-SEP-13	SC0008
9	Catchpole Antoinette	88 Alfred St.	0D0009	CN0009	USPS	25-NOV-13	SC0009

7. Make changes to the data in the tables.
- a. Add a new book detail. Verify if the author detail for the book is available in the `AUTHOR` table. If not, make an entry in the `AUTHOR` table.

	BOOK_ID	BOOK_NAME	AUTHOR_ID	PRICE	PUBLISHER_ID
1	BN0001	Florentine Tragedy	AN0002	150	PN0002
2	BN0002	A Vision	AN0002	100	PN0003
3	BN0003	Citizen of the World	AN0001	100	PN0001
4	BN0004	The Complete Poetical Works of Oliver Goldsmith	AN0001	300	PN0001
5	BN0005	Androcles and the Lion	AN0003	90	PN0004
6	BN0006	An Unsocial Socialist	AN0003	80	PN0004
7	BN0007	A Thing of Beauty is a Joy Forever	AN0007	100	PN0002
8	BN0008	Beyond the Pale	AN0008	75	PN0005
9	BN0009	The Clicking of Cuthbert	AN0009	175	PN0005
10	BN0010	Bride of Frankenstein	AN0006	200	PN0001
11	BN0011	Shelley Poetry and Prose	AN0005	150	PN0003
12	BN0012	War and Peace	AN0004	150	PN0002
13	BN0013	Two States	AN0009	150	PN0005

- b. Enter a shopping cart detail for the book details that you just entered in 7(a).

	SHOPPING_CART_ID	BOOK_ID	PRICE	SHOPPING_CART_DATE	QUANTITY
1	SC0001	BN0002	200	12-JUN-11	10
2	SC0002	BN0003	90	31-JUL-14	8
3	SC0003	BN0003	175	28-JUN-15	7
4	SC0004	BN0001	80	14-AUG-16	9
5	SC0005	BN0001	175	21-SEP-16	4
6	SC0006	BN0004	100	11-AUG-12	6
7	SC0007	BN0005	200	28-OCT-12	5
8	SC0008	BN0006	100	25-NOV-13	7
9	SC0009	BN0006	150	18-SEP-13	8
10	SC0010	BN0013	200	12-JUN-16	12

8. Create a report that contains each customer's history of purchasing books. Be sure to include the customer name, customer ID, book ID, date of purchase, and shopping cart ID. Save the commands that generate the report in a script file named `lab_apcs_8.sql`.

**Note:** Your results may be different.

	CUSTOMER	CUSTOMER_ID	SHOPPING_CART_ID	BOOK_ID	DATE_OF_PURCHASE
1	VelasquezCarmen	CN0001	SC0002	BN0003	12-JUN-11
2	Ngao LaDoris	CN0002	SC0005	BN0001	28-JUN-15
3	Nagayama Midori	CN0003	SC0007	BN0005	31-JUL-14
4	Quick-To-See Mark	CN0004	SC0004	BN0001	14-AUG-16
5	Ropeburn Audry	CN0005	SC0003	BN0003	21-SEP-16
6	Urguhart Molly	CN0006	SC0001	BN0002	28-OCT-12
7	Menchu Roberta	CN0007	SC0006	BN0004	11-AUG-12
8	Biri Ben	CN0008	SC0008	BN0006	18-SEP-13
9	Catchpole Antoinette	CN0009	SC0009	BN0006	25-NOV-13

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