

Retail Store- SQL Assessment Use Case

Objective

You're the Database Developer for a small retail store (brick-and-mortar + online). The goal is to assess SQL skills in creating a structured database schema with proper keys and constraints, and inserting accurate initial data based on given requirements.

Instructions

Step 1: Create Database and Tables

Create a database named `RetailDB` and the following tables:

1. Customers

- CustomerID (INT, AUTO_INCREMENT, PK)
- FullName (VARCHAR(100), NOT NULL)
- Email (VARCHAR(120), UNIQUE)
- Phone (VARCHAR(20))
- JoinDate (DATE, NOT NULL)

2. Products

- ProductID (INT, AUTO_INCREMENT, PK)
- SKU (VARCHAR(30), UNIQUE, NOT NULL)
- ProductName (VARCHAR(120), NOT NULL)
- Category (VARCHAR(50))
- UnitPrice (DECIMAL(10,2), NOT NULL)
- Active (TINYINT(1) DEFAULT 1)

3. Stores

- StoreID (INT, AUTO_INCREMENT, PK)
- StoreName (VARCHAR(100), NOT NULL)
- City (VARCHAR(60))
- State (VARCHAR(60))

4. Inventory

- InventoryID (INT, AUTO_INCREMENT, PK)
- StoreID (INT, FK → Stores.StoreID)
- ProductID (INT, FK → Products.ProductID)
- QuantityOnHand (INT, NOT NULL)
- LastRestockDate (DATE)
- Constraint: (StoreID, ProductID) must be unique

5. Orders

- OrderID (INT, AUTO_INCREMENT, PK)
- CustomerID (INT, FK → Customers.CustomerID)
- StoreID (INT, FK → Stores.StoreID)
- OrderDate (DATETIME, NOT NULL)
- Status (ENUM('Placed','Shipped','Delivered','Cancelled') DEFAULT 'Placed')
- PaymentMethod (ENUM('Card','UPI','Cash','Wallet') NOT NULL)
- OrderTotal (DECIMAL(12,2))

6. OrderItems

- OrderItemID (INT, AUTO_INCREMENT, PK)
- OrderID (INT, FK → Orders.OrderID)
- ProductID (INT, FK → Products.ProductID)
- Quantity (INT, NOT NULL)
- UnitPriceAtSale (DECIMAL(10,2), NOT NULL)

Step 2: Insert Sample Data

Customers:

- ('Aisha Verma','aisha@example.com','+91-9000000001','2024-07-10')
- ('Rahul Mehta','rahul@example.com','+91-9000000002','2024-08-02')
- ('Priya Shah','priya@example.com',NULL,'2024-09-15')

Products:

- ('SKU-TEE-001','Classic Tee','Apparel',499.00,1)
- ('SKU-MUG-101','Ceramic Mug','Home',299.00,1)
- ('SKU-NB-210','A5 Notebook','Stationery',149.00,1)
- ('SKU-BAG-505','Tote Bag','Apparel',699.00,0)

Stores:

- ('Downtown Outlet','Mumbai','MH')
- ('City Center','Pune','MH')

Inventory:

- (StoreID=1, ProductID=1, 40, '2025-06-01')
- (StoreID=1, ProductID=2, 25, '2025-06-05')
- (StoreID=2, ProductID=1, 10, '2025-05-28')
- (StoreID=2, ProductID=3, 60, '2025-06-10')

Orders:

- (CustomerID=1, StoreID=1, '2025-07-01 10:15:00','Delivered','Card',1247.00)
- (CustomerID=2, StoreID=2, '2025-07-03 16:22:00','Shipped','UPI',149.00)
- (CustomerID=1, StoreID=1, '2025-07-05 12:05:00','Cancelled','Wallet',299.00)

OrderItems:

- (OrderID=1, ProductID=1, 2, 499.00)
- (OrderID=1, ProductID=2, 1, 249.00)
- (OrderID=2, ProductID=3, 1, 149.00)
- (OrderID=3, ProductID=2, 1, 299.00)

Launching MySQL Console:

1. To open the command terminal the test takers need to go to the Application menu
2. (Three horizontal lines at left top) -> Terminal -> New Terminal.
3. To login to mysql instance: Open new terminal and use following command:

a. **sudo systemctl enable mysql**

b. **sudo systemctl start mysql**

NOTE: After typing any of the above commands you might encounter any warnings.

>> Please note that this warning is expected and can be disregarded. Proceed to the next step.

c. **mysql -u root -p**

The last command will ask for password which is 'pass@word1'

Running Test Cases:

1. Launch another instance of Terminal
2. Run command: **mvn test**
3. You can run this command any number of times to test the status of your activities.
4. Make sure before final submission, you must run test and then submit