

SQL Developer Internship - Task 1

Domain: E-commerce

This project involves designing a relational database schema for an E-commerce platform. The goal is to model customers, products, orders, payments, and shipping information in a normalized and relational format using SQL and an ER diagram.

Entities and Relationships

1. Customers - stores customer information.
2. Categories - groups products.
3. Products - contains details of items for sale.
4. Orders - tracks customer orders.
5. Order_Items - links products to orders (many-to-many relationship).
6. Payments - handles payment details per order.
7. Shipping - manages delivery information.

Relationships:

- One customer can have multiple orders.
- One order can contain multiple products.
- One product belongs to one category.
- Each order has a payment and shipping detail.

SQL Schema (DDL Code)

```
CREATE TABLE Customers (  
    CustomerID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(100) NOT NULL,  
    Email VARCHAR(100) UNIQUE,  
    Address TEXT  
);
```

```
CREATE TABLE Categories (  
    CategoryID INT PRIMARY KEY AUTO_INCREMENT,  
    CategoryName VARCHAR(100) NOT NULL UNIQUE  
);
```

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```
CREATE TABLE Products (  
    ProductID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(100) NOT NULL,  
    Price DECIMAL(10, 2),  
    Stock INT,  
    CategoryID INT,  
    FOREIGN KEY (CategoryID) REFERENCES Categories(CategoryID)  
);
```

```
CREATE TABLE Orders (  
    OrderID INT PRIMARY KEY AUTO_INCREMENT,  
    CustomerID INT,  
    OrderDate DATE,  
    Status VARCHAR(50),  
    FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)  
);
```

```
CREATE TABLE Order_Items (  
    OrderItemID INT PRIMARY KEY AUTO_INCREMENT,  
    OrderID INT,  
    ProductID INT,  
    Quantity INT,  
    Subtotal DECIMAL(10, 2),  
    FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),  
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)  
);
```

```
CREATE TABLE Payments (  
    PaymentID INT PRIMARY KEY AUTO_INCREMENT,  
    OrderID INT,  
    PaymentDate DATE,  
    Amount DECIMAL(10, 2),  
    PaymentMethod VARCHAR(50),  
    FOREIGN KEY (OrderID) REFERENCES Orders(OrderID)  
);
```

```
CREATE TABLE Shipping (  
    ShippingID INT PRIMARY KEY AUTO_INCREMENT,  
    OrderID INT,  
    ShippingDate DATE,
```

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```
ShippingStatus VARCHAR(50),  
FOREIGN KEY (OrderID) REFERENCES Orders(OrderID)  
);
```

Tools Used & Submission

Tools Used:

- MySQL Workbench
- dbdiagram.io
- GitHub

Submission:

- GitHub Repository: Contains .sql script, ER diagram image, and README.md file.
- Final output uploaded as PDF for submission in internship task portal.