**SQL SERVER PROJECT**

* SQL Server - **database project for EcoShopDatabase**

**Setup database**

| **Item** | **Status** | **Notes** |
| --- | --- | --- |
| **Database creation** | OK | Good |
| **User table** | OK | Secure with password\_hash field |
| **Product table** | OK | Good, simple |
| **Category system** | OK | Relational |
| **Order + OrderItem** | OK | Followed best practice |
| **Payment** | OK | Useful & clean |
| **Shipping** | OK | Tracks logistics |
| **Review system** | OK | Adds customer feedback |
| **Sample user insert** | OK | Works for testing login |
| **Login query** | OK | LOGIN |

-- Create the database if it doesn't exist

IF NOT EXISTS (SELECT name FROM sys.databases WHERE name = 'EcoShopDatabase')

BEGIN

CREATE DATABASE EcoShopDatabase;

END;

GO

-- Use the database

USE EcoShopDatabase;

GO

* **User**

CREATE TABLE [User] (

user\_id INT IDENTITY(1,1) PRIMARY KEY,

name VARCHAR(100) NOT NULL,

email VARCHAR(255) NOT NULL UNIQUE,

password\_hash VARCHAR(255) NOT NULL,

address VARCHAR(255),

phone VARCHAR(20)

);

* **Product**

CREATE TABLE Product (

product\_id INT IDENTITY(1,1) PRIMARY KEY,

title VARCHAR(100) NOT NULL, -- product title

description NVARCHAR(MAX) NULL, -- product description, optional

image\_url VARCHAR(500) NULL, -- URL or image path, optional

category VARCHAR(100) NULL -- product category, optional

);

* **CATEGORIES**

CREATE TABLE Category (

category\_id INT IDENTITY(1,1) PRIMARY KEY,

name VARCHAR(100) NOT NULL UNIQUE

);

ALTER TABLE Product

ADD category\_id INT;

ALTER TABLE Product

ADD FOREIGN KEY (category\_id) REFERENCES Category(category\_id);

* **Order Logic**

Separate Order and OrderItem — one order can have many items:

CREATE TABLE [Order] (

order\_id INT IDENTITY(1,1) PRIMARY KEY,

user\_id INT NOT NULL,

order\_date DATETIME DEFAULT GETDATE(),

price DECIMAL(10,2),

FOREIGN KEY (user\_id) REFERENCES [User](user\_id)

);

CREATE TABLE OrderItem (

order\_item\_id INT IDENTITY(1,1) PRIMARY KEY,

order\_id INT NOT NULL,

product\_id INT NOT NULL,

quantity INT NOT NULL,

price DECIMAL(10,2),

FOREIGN KEY (order\_id) REFERENCES [Order](order\_id),

FOREIGN KEY (product\_id) REFERENCES Product(product\_id)

);

* **Payment**

CREATE TABLE Payment (

payment\_id INT IDENTITY(1,1) PRIMARY KEY,

order\_id INT NOT NULL,

payment\_date DATETIME DEFAULT GETDATE(),

amount DECIMAL(10,2),

method VARCHAR(50),

status VARCHAR(50),

FOREIGN KEY (order\_id) REFERENCES [Order](order\_id)

);

* **Shipping**

CREATE TABLE Shipping (

shipping\_id INT IDENTITY(1,1) PRIMARY KEY,

order\_id INT NOT NULL,

shipping\_address VARCHAR(255),

status VARCHAR(50),

shipped\_date DATETIME,

delivered\_date DATETIME,

FOREIGN KEY (order\_id) REFERENCES [Order](order\_id)

);

* **Product Categories**

CREATE TABLE Category (

category\_id INT IDENTITY(1,1) PRIMARY KEY,

name VARCHAR(100) NOT NULL

);

ALTER TABLE Product

ADD category\_id INT;

ALTER TABLE Product

ADD FOREIGN KEY (category\_id) REFERENCES Category(category\_id);

* **Product Reviews**

CREATE TABLE Review (

review\_id INT IDENTITY(1,1) PRIMARY KEY,

product\_id INT NOT NULL,

user\_id INT NOT NULL,

rating INT CHECK (rating >= 1 AND rating <= 5),

comment TEXT,

review\_date DATETIME DEFAULT GETDATE(),

FOREIGN KEY (product\_id) REFERENCES Product(product\_id),

FOREIGN KEY (user\_id) REFERENCES [User](user\_id)

);

* **Insert a Sample User**

INSERT INTO [User] (name, email, password\_hash, address, phone)

VALUES (

'John Doe',

'john@example.com',

'5f4dcc3b5aa765d61d8327deb882cf99',

'123 Green St, New York',

'555-1234'

);

* **Login query**

SELECT \*

FROM [User]

WHERE email = 'john@example.com'

AND password\_hash = '5f4dcc3b5aa765d61d8327deb882cf99';