



Pakistan Institute of Engineering and Applied Sciences

Project Title.....SUPPLY CHAIN MANAGEMENT SYSTEM

Submitted By.....Urwah Rasheed

Registration Number.....03-3-1-055-2022

Submitted to..... Mr. Irfan Hameed

Submission Date.....May 22, 2025

Supply Chain Management



Task 1: To develop a brief project proposal document of a web development project.

- It must be a data-driven web application
- Incorporate state management
- Validation is mandatory
- Data security is essential
- User and role-based software functionalities to be incorporated

1. Objective:

To develop a **role-based Supply Chain Management System (SCMS)** that allows:

- **Admins** to manage customers, products, orders, shipments, and warehouses.
- **Customers** to register, log in, place orders, and track shipments.

2. Key Features:

User Roles:

- **Admin** (Full control over the system)
- **Customer** (Can place and view orders)

Authentication & Validation:

- Secure login for admin (hardcoded credentials)
- Customer registration with validation (RequiredFieldValidator)

Data Management:

- Admin can **add, view, update, delete** products, orders, and shipments.
- Customers can browse products and place orders.

Security & State Management:

- **Session state** to track user roles.
- **ViewState** to maintain UI state.

Data Visualization:

- **GridView** to display products, orders, and shipments.

Task 2: To write software requirements specification

Functional Requirements:

Admin Functions:

- Manage (Add/Edit/Delete) customers, products, orders, and shipments.
- View order history and shipment status.

Customer Functions:

- Register & log in.
- Browse products and place orders.
- View order status.

Non-Functional Requirements:

Security: Password-protected admin access.

Performance: Fast database queries.

Usability: Simple UI with clear navigation.

User Roles:

Admin – Full system control.

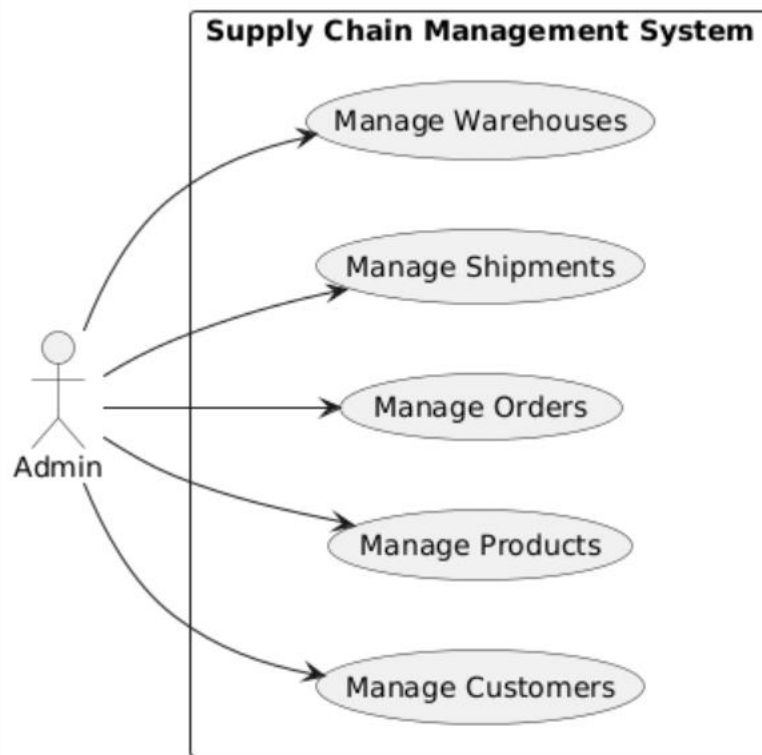
Customer – Limited to order-related actions.

Task 3: To develop the analysis and design model of web application including:

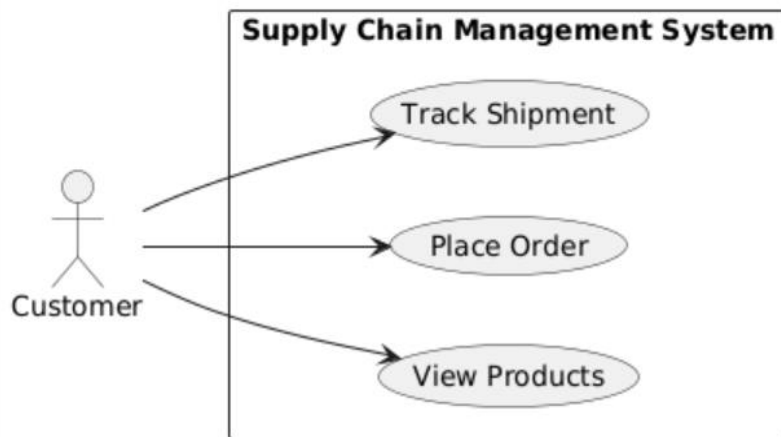
- Use case model
- Sequence diagrams
- Activity diagrams
- Class diagrams

- Use case model

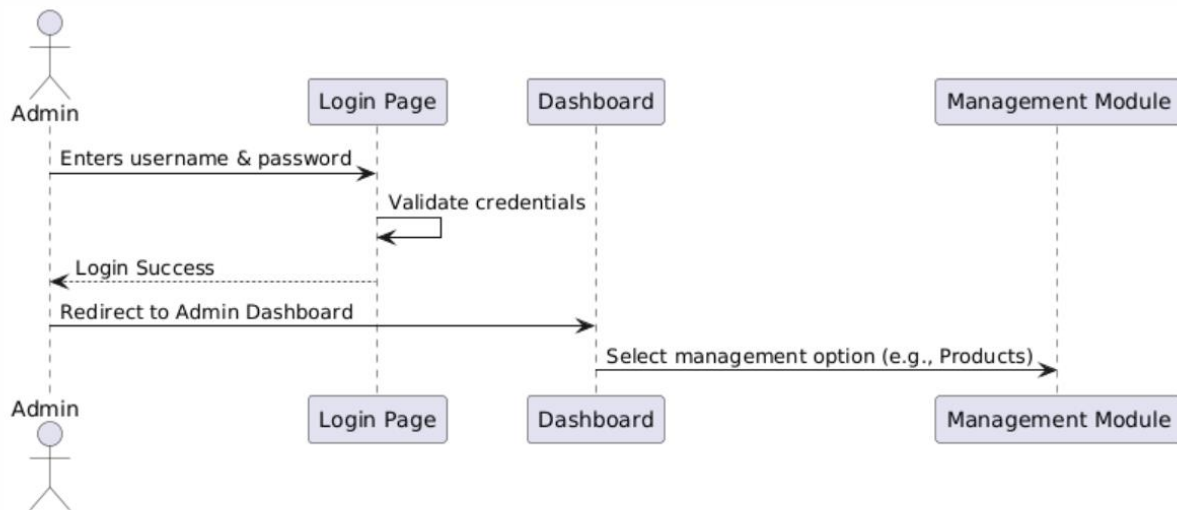
1. Admin Use Case Diagram



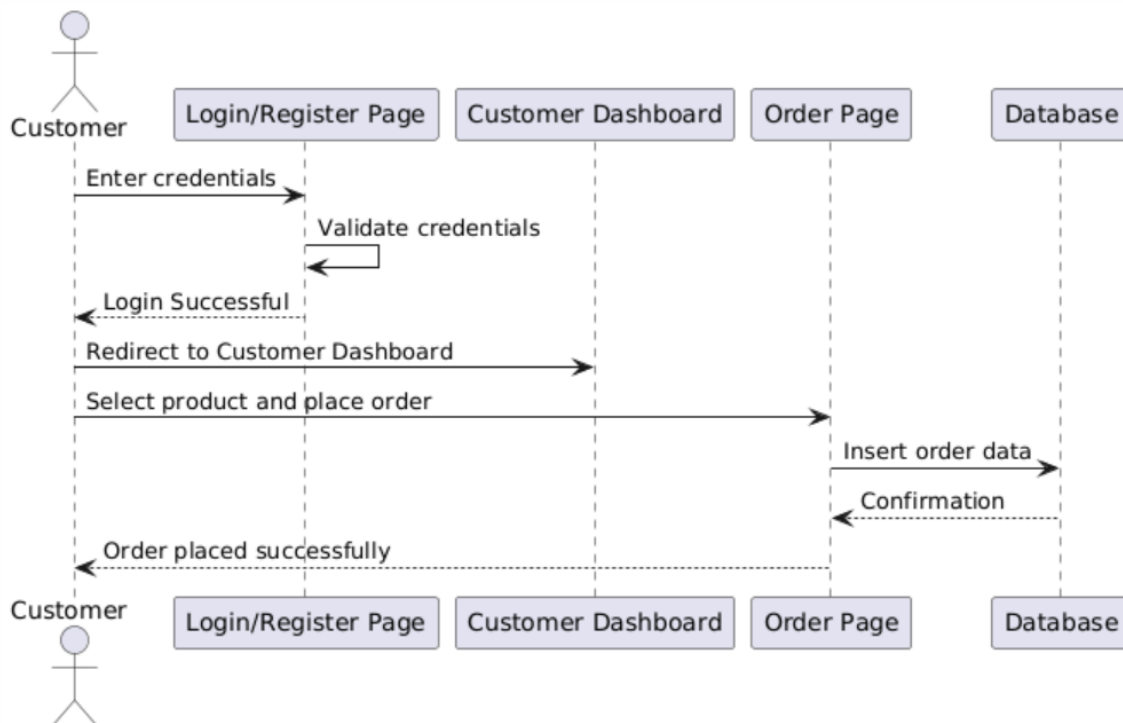
2. Customer Use Case Diagram



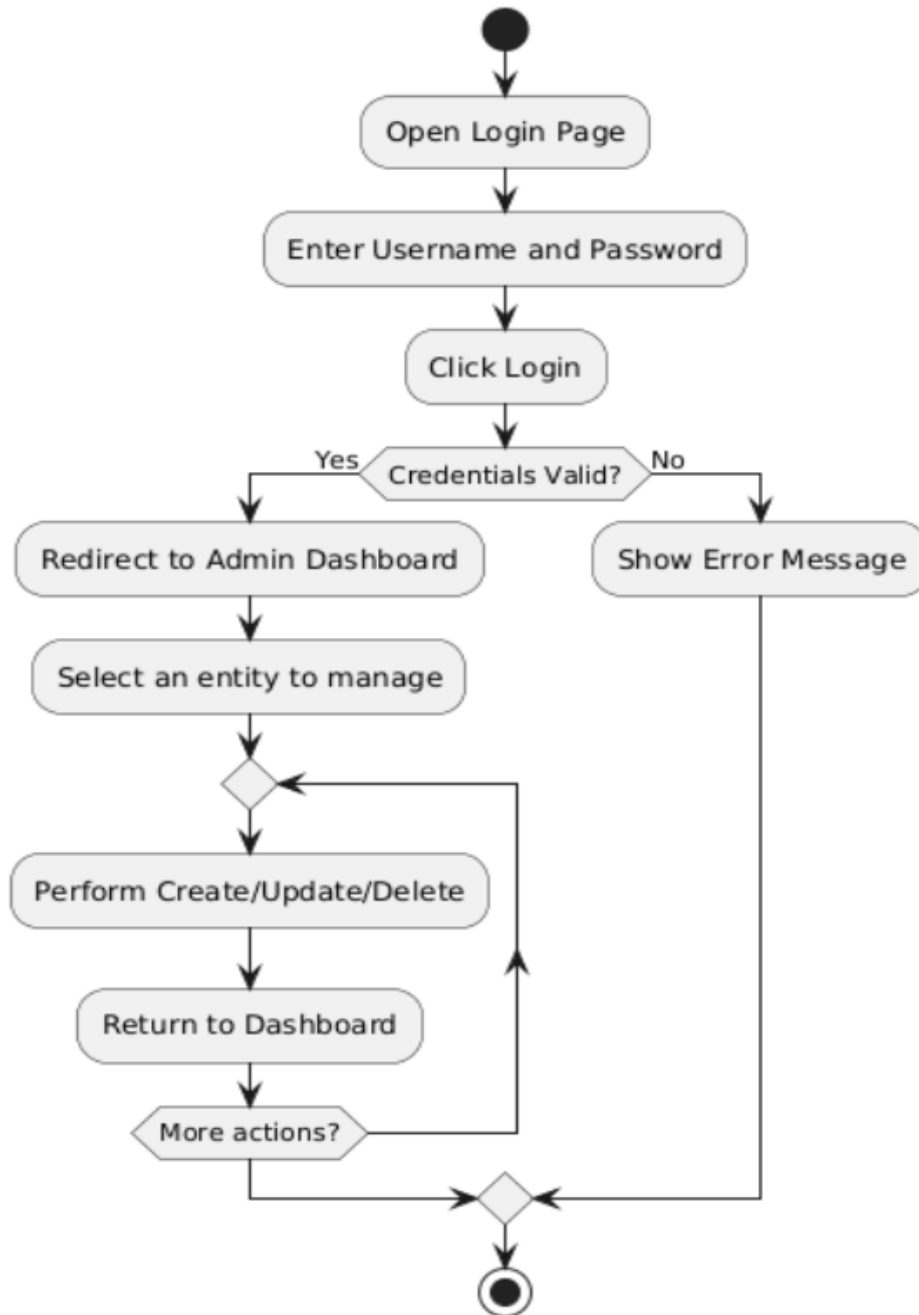
1. Sequence Diagram – Admin Managing Orders



2. Sequence Diagram: Customer Login and Place Order

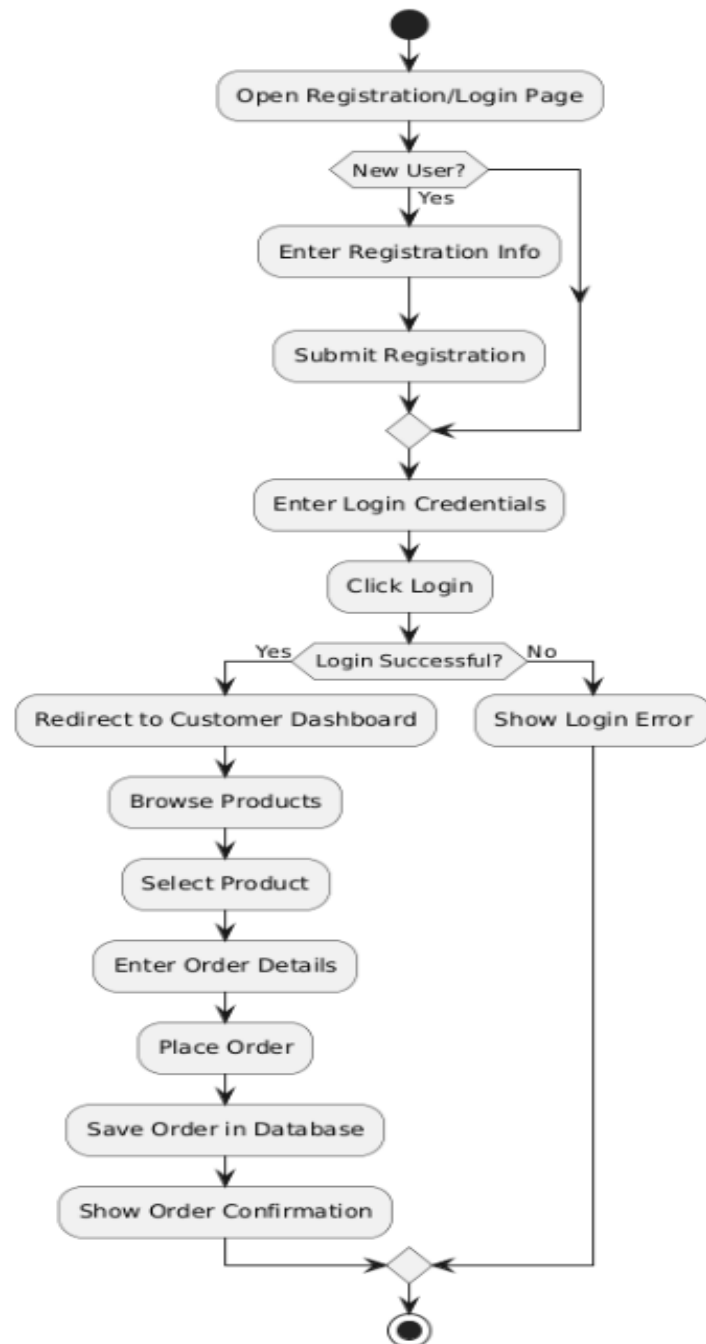


1. Admin Activity Diagram – Login → Manage Entities

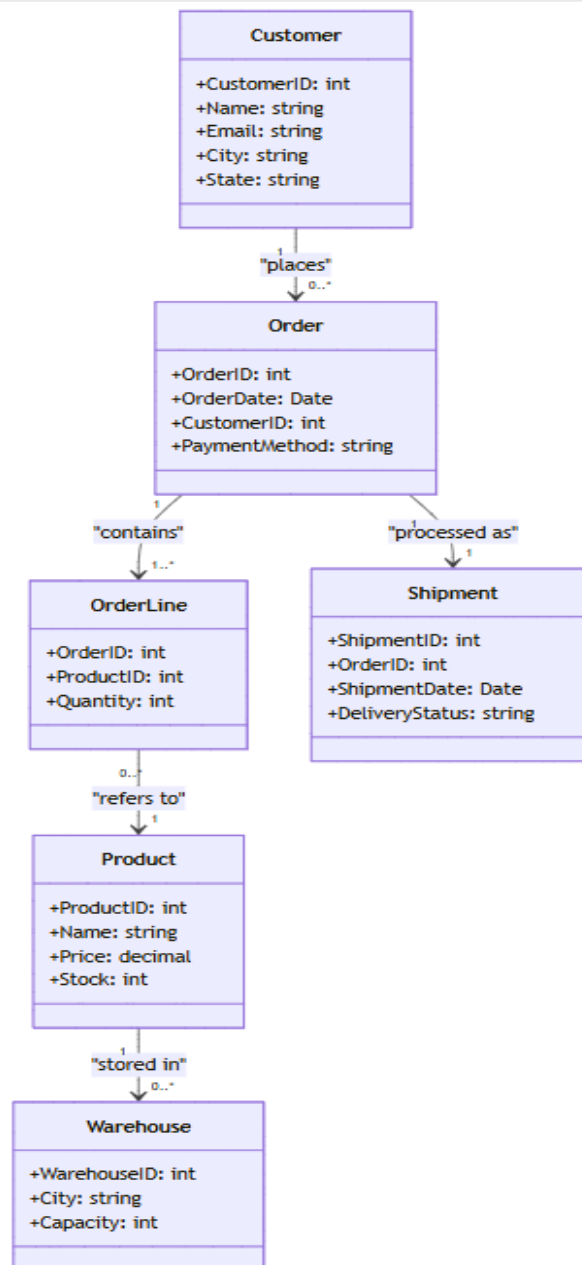


2. Customer Activity Diagram – Register/Login → Place Order

SUPPLY CHAIN MANAGEMENT SYSTEM

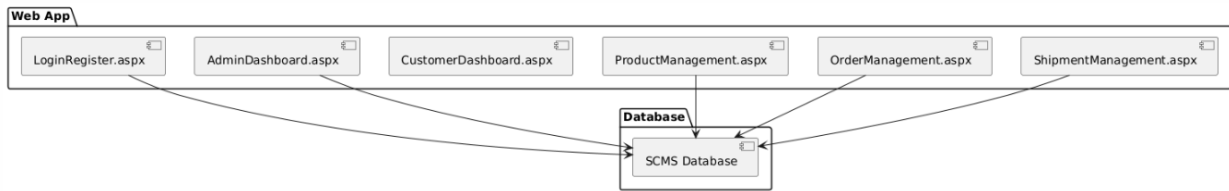


Class Diagram:

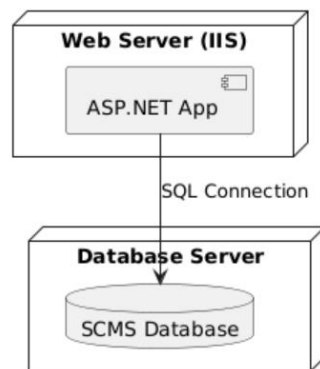


SUPPLY CHAIN MANAGEMENT SYSTEM

Component Diagram



Deployment Diagram

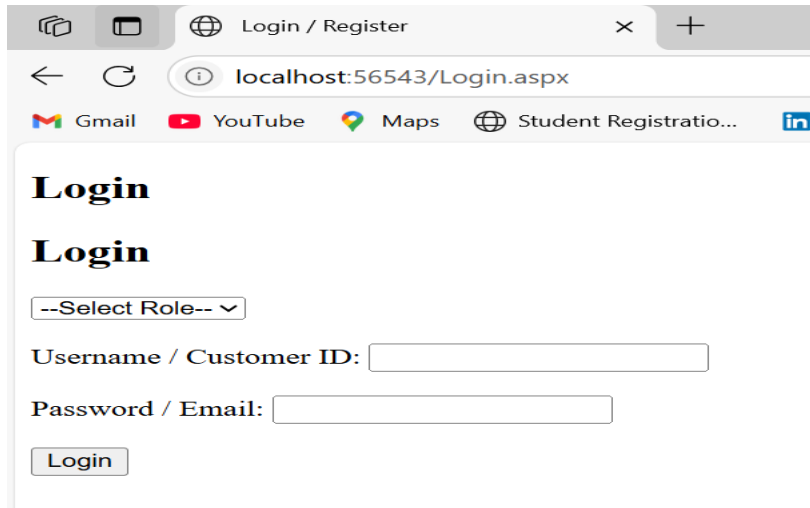


Screenshot of SQL Server:

The screenshot shows the Microsoft SQL Server Management Studio interface. The 'Object Explorer' on the left displays the 'SCMS' database structure, including tables like 'dbo.CUSTOMER_T', 'dbo.MATERIAL_SUPPLIER', 'dbo.ORDER_LINE_T', and 'dbo.ORDER_T'. The 'Query Editor' on the right shows a query: `SELECT * FROM ORDER_T;`. The 'Results' pane at the bottom displays the following data:

	ORDER_ID	ORDER_DATE	CUSTOMER_ID	PAYMENT_METHOD
1	1001	2025-04-01	1001	Card
2	1002	2025-04-02	1002	Cash
3	2001	2025-03-10	1001	Credit Card
4	2002	2025-03-12	1002	PayPal
5	7020	2025-12-04	7001	Express
6	8001	2025-03-10	7001	Credit Card
7	8002	2025-03-12	7002	PayPal
8	8003	2025-05-22	7003	Card

Screenshot of Browser:



Login

Login

--Select Role-- ▾

Username / Customer ID:

Password / Email:

Login

Task 4: Develop database model including:

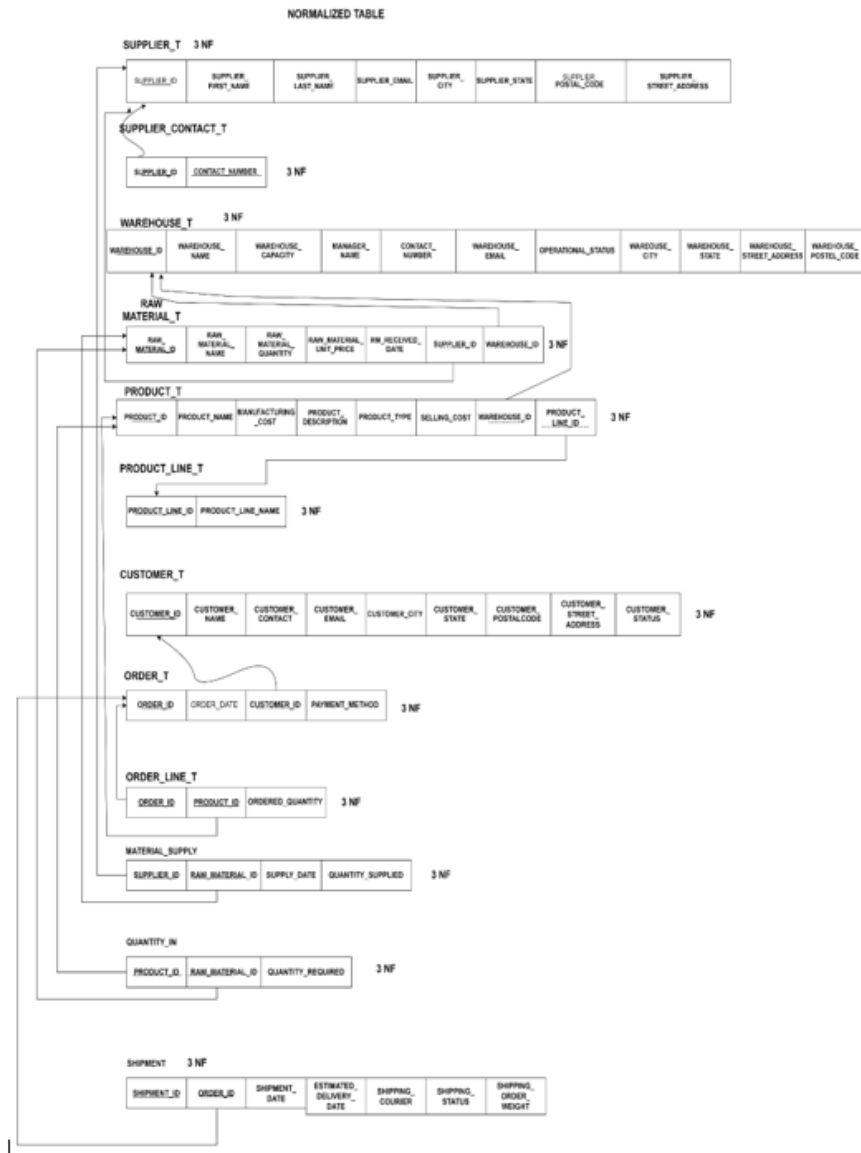
- ER Model
- Relational Model
- Normalization of relational model
- Physical Model
- SQL Implementation

ER Diagram (Entity Relationship Diagram)



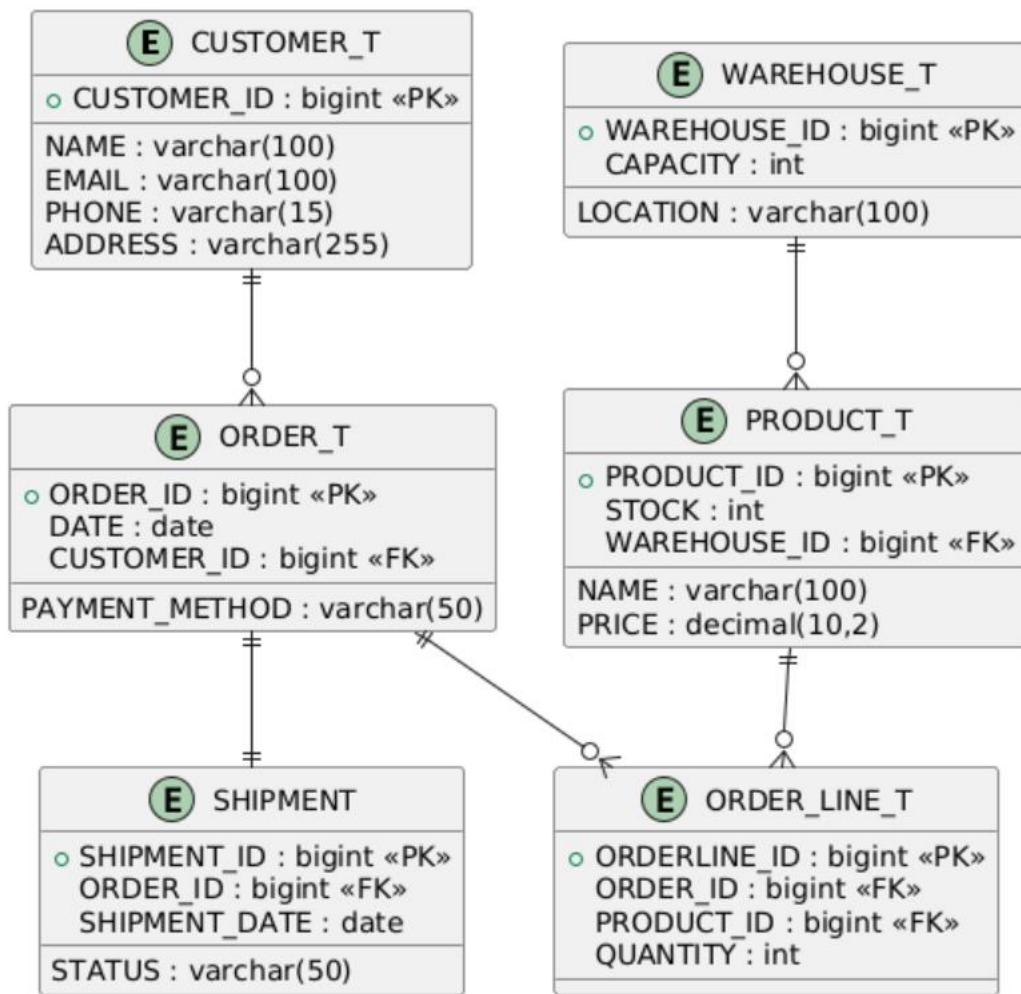
2. Relational Model Diagram

SUPPLY CHAIN MANAGEMENT SYSTEM



Physical Model

- Primary keys (PK) and foreign keys (FK) defined.
- Datatypes are assigned based on data.
- Table constraints used



SQL Implementation

► Create Tables

-- DROP TABLES IN REVERSE DEPENDENCY ORDER

DROP TABLE IF EXISTS ORDER_LINE_T;

DROP TABLE IF EXISTS SHIPMENT;

DROP TABLE IF EXISTS ORDER_T;

DROP TABLE IF EXISTS CUSTOMER_T;

DROP TABLE IF EXISTS QUANTITY_IN;

DROP TABLE IF EXISTS MATERIAL_SUPPLIER;

DROP TABLE IF EXISTS SUPPLIER_CONTACT;

DROP TABLE IF EXISTS PRODUCT_T;

DROP TABLE IF EXISTS PRODUCT_LINE_T;

DROP TABLE IF EXISTS RAW_MATERIAL_T;

DROP TABLE IF EXISTS SUPPLIER_T;

DROP TABLE IF EXISTS WAREHOUSE_T;

-- WAREHOUSE_T

```
CREATE TABLE WAREHOUSE_T (  
    WAREHOUSE_ID INT NOT NULL PRIMARY KEY,  
    WAREHOUSE_NAME VARCHAR(35) NOT NULL,  
    WAREHOUSE_STREET_ADDRESS VARCHAR(150),  
    WAREHOUSE_STATE VARCHAR(20),  
    WAREHOUSE_CITY VARCHAR(20),  
    WAREHOUSE_POSTAL_CODE VARCHAR(10),  
    WAREHOUSE_CAPACITY INT,  
    MANAGER_NAME VARCHAR(35),  
    CONTACT_NUMBER VARCHAR(15),  
    EMAIL VARCHAR(100),  
    OPERATIONAL_STATUS VARCHAR(25)  
);
```

-- SUPPLIER_T

```
CREATE TABLE SUPPLIER_T (  
    SUPPLIER_ID INT NOT NULL PRIMARY KEY,  
    SUPPLIER_FIRST_NAME VARCHAR(20) NOT NULL,  
    SUPPLIER_LAST_NAME VARCHAR(20),
```

```
SUPPLIER_EMAIL VARCHAR(35),
SUPPLIER_CITY VARCHAR(20),
SUPPLIER_STATE VARCHAR(15),
SUPPLIER_POSTAL_CODE VARCHAR(7),
SUPPLIER_STREET_ADDRESS VARCHAR(50)
);

-- SUPPLIER_CONTACT
CREATE TABLE SUPPLIER_CONTACT (
    SUPPLIER_ID INT NOT NULL,
    CONTACT_NUMBER VARCHAR(14),
    PRIMARY KEY (SUPPLIER_ID, CONTACT_NUMBER),
    FOREIGN KEY (SUPPLIER_ID) REFERENCES SUPPLIER_T(SUPPLIER_ID) ON
    DELETE CASCADE
);

-- PRODUCT_LINE_T
CREATE TABLE PRODUCT_LINE_T (
    PRODUCT_LINE_ID INT NOT NULL PRIMARY KEY,
    PRODUCT_LINE_NAME VARCHAR(100) NOT NULL
);

-- RAW_MATERIAL_T
CREATE TABLE RAW_MATERIAL_T (
    RAW_MATERIAL_ID INT NOT NULL PRIMARY KEY,
    RAW_MATERIAL_NAME VARCHAR(50) NOT NULL,
    RAW_MATERIAL_QUANTITY INT NOT NULL,
```

```
RAW_MATERIAL_UNIT_PRICE DECIMAL(6,2) NOT NULL,  
RM_RECEIVED_DATE DATE DEFAULT GETDATE(),  
SUPPLIER_ID INT NULL,  
WAREHOUSE_ID INT NULL,  
FOREIGN KEY (SUPPLIER_ID) REFERENCES SUPPLIER_T(SUPPLIER_ID) ON  
DELETE SET NULL,  
FOREIGN KEY (WAREHOUSE_ID) REFERENCES WAREHOUSE_T(WAREHOUSE_ID)  
ON DELETE SET NULL  
);  
  
-- PRODUCT_T  
CREATE TABLE PRODUCT_T (  
    PRODUCT_ID INT NOT NULL PRIMARY KEY,  
    PRODUCT_NAME VARCHAR(100) NOT NULL,  
    MANUFACTURING_COST DECIMAL(6,2) NOT NULL,  
    PRODUCT_DESCRIPTION VARCHAR(200),  
    PRODUCT_TYPE CHAR(20),  
    SELLING_COST DECIMAL(6,2) NOT NULL,  
    PRODUCT_LINE_ID INT NULL,  
    WAREHOUSE_ID INT NULL,  
    PRODUCT_QUANTITY INT,  
    FOREIGN KEY (WAREHOUSE_ID) REFERENCES WAREHOUSE_T(WAREHOUSE_ID)  
    ON DELETE SET NULL,  
    FOREIGN KEY (PRODUCT_LINE_ID) REFERENCES  
    PRODUCT_LINE_T(PRODUCT_LINE_ID) ON DELETE SET NULL  
);  
  
-- MATERIAL_SUPPLIER
```



```
CREATE TABLE MATERIAL_SUPPLIER (  
    MATERIAL_SUPPLIER_ID INT IDENTITY(1,1) PRIMARY KEY,  
    SUPPLIER_ID INT NULL,  
    RAW_MATERIAL_ID INT NULL,  
    SUPPLY_DATE DATE DEFAULT GETDATE(),  
    QUANTITY_SUPPLIED INT NOT NULL,  
    FOREIGN KEY (SUPPLIER_ID) REFERENCES SUPPLIER_T(SUPPLIER_ID) ON  
DELETE SET NULL,  
    FOREIGN KEY (RAW_MATERIAL_ID) REFERENCES  
RAW_MATERIAL_T(RAW_MATERIAL_ID) ON DELETE SET NULL  
);
```

-- QUANTITY_IN

```
CREATE TABLE QUANTITY_IN (  
    PRODUCT_ID INT NOT NULL,  
    RAW_MATERIAL_ID INT NOT NULL,  
    QUANTITY_REQUIRED INT,  
    PRIMARY KEY (PRODUCT_ID, RAW_MATERIAL_ID),  
    FOREIGN KEY (PRODUCT_ID) REFERENCES PRODUCT_T(PRODUCT_ID),  
    FOREIGN KEY (RAW_MATERIAL_ID) REFERENCES  
RAW_MATERIAL_T(RAW_MATERIAL_ID)  
);
```

-- CUSTOMER_T

```
CREATE TABLE CUSTOMER_T (  
    CUSTOMER_ID BIGINT NOT NULL PRIMARY KEY,  
    CUSTOMER_NAME VARCHAR(40) NOT NULL,
```

```
CUSTOMER_CONTACT BIGINT NOT NULL,  
CUSTOMER_EMAIL VARCHAR(35),  
CUSTOMER_CITY VARCHAR(20) NOT NULL,  
CUSTOMER_STATE VARCHAR(50) NOT NULL,  
CUSTOMER_POSTALCODE VARCHAR(10) NOT NULL,  
CUSTOMER_STREET_ADDRESS VARCHAR(30),  
CUSTOMER_STATUS CHAR(10)  
);  
  
-- ORDER_T  
CREATE TABLE ORDER_T (  
    ORDER_ID INT NOT NULL PRIMARY KEY,  
    ORDER_DATE DATE DEFAULT GETDATE(),  
    CUSTOMER_ID BIGINT,  
    PAYMENT_METHOD VARCHAR(10),  
    FOREIGN KEY (CUSTOMER_ID) REFERENCES CUSTOMER_T(CUSTOMER_ID)  
);  
  
-- ORDER_LINE_T  
CREATE TABLE ORDER_LINE_T (  
    ORDER_ID INT,  
    PRODUCT_ID INT,  
    ORDERED_QUANTITY INT,  
    PRIMARY KEY (ORDER_ID, PRODUCT_ID),  
    FOREIGN KEY (ORDER_ID) REFERENCES ORDER_T(ORDER_ID),  
    FOREIGN KEY (PRODUCT_ID) REFERENCES PRODUCT_T(PRODUCT_ID)  
);
```

-- SHIPMENT

```
CREATE TABLE SHIPMENT (  
    SHIPMENT_ID INT PRIMARY KEY,  
    ORDER_ID INT,  
    SHIPMENT_DATE DATE,  
    ESTIMATED_DELIVERY_DATE DATE,  
    SHIPPING_COURIER VARCHAR(30),  
    SHIPPING_STATUS VARCHAR(20),  
    SHIPPING_ORDER_WEIGHT INT,  
    FOREIGN KEY (ORDER_ID) REFERENCES ORDER_T(ORDER_ID)  
);
```

► [Insert Sample Records](#)

-- WAREHOUSE_T Table Insertions (Ensuring unique WAREHOUSE_ID)

```
INSERT INTO WAREHOUSE_T (WAREHOUSE_ID, WAREHOUSE_NAME,  
    WAREHOUSE_STREET_ADDRESS, WAREHOUSE_STATE, WAREHOUSE_CITY,  
    WAREHOUSE_POSTAL_CODE, WAREHOUSE_CAPACITY, MANAGER_NAME,  
    CONTACT_NUMBER, EMAIL, OPERATIONAL_STATUS)
```

VALUES

```
(2001, 'Main Warehouse', '1234 Industrial Blvd', 'California', 'Los Angeles', '90001', 10000, 'John  
Doe', '555-1234', 'warehouse@pvfc.com', 'Operational'),
```

```
(2002, 'East Warehouse', '5678 Commerce Dr', 'California', 'San Francisco', '94110', 8000, 'Jane  
Smith', '555-5678', 'eastwarehouse@pvfc.com', 'Operational');
```

-- SUPPLIER_T Table Insertions (Ensuring unique SUPPLIER_ID)

```
INSERT INTO SUPPLIER_T (SUPPLIER_ID, SUPPLIER_FIRST_NAME,  
    SUPPLIER_LAST_NAME, SUPPLIER_EMAIL, SUPPLIER_CITY, SUPPLIER_STATE,  
    SUPPLIER_POSTAL_CODE, SUPPLIER_STREET_ADDRESS)
```

VALUES

(3001, 'Alice', 'Green', 'alice.green@furnituresupplies.com', 'Los Angeles', 'California', '90001', '789 Oak St'),

(3002, 'Bob', 'Brown', 'bob.brown@woodworksupplies.com', 'San Francisco', 'California', '94110', '101 Pine St');

-- SUPPLIER_CONTACT Table Insertions (Ensuring unique combination of SUPPLIER_ID and CONTACT_NUMBER)

INSERT INTO SUPPLIER_CONTACT (SUPPLIER_ID, CONTACT_NUMBER)

VALUES

(3001, '555-6789'),

(3002, '555-4321');

-- PRODUCT_LINE_T Table Insertions (Ensuring unique PRODUCT_LINE_ID)

INSERT INTO PRODUCT_LINE_T (PRODUCT_LINE_ID, PRODUCT_LINE_NAME)

VALUES

(4001, 'Wooden Furniture'),

(4002, 'Metal Furniture');

-- RAW_MATERIAL_T Table Insertions (Ensuring unique RAW_MATERIAL_ID)

INSERT INTO RAW_MATERIAL_T (RAW_MATERIAL_ID, RAW_MATERIAL_NAME, RAW_MATERIAL_QUANTITY, RAW_MATERIAL_UNIT_PRICE, RM_RECEIVED_DATE, SUPPLIER_ID, WAREHOUSE_ID)

VALUES

(5001, 'Wood', 5000, 10.00, '2025-01-10', 3001, 2001),

(5002, 'Steel', 2000, 20.00, '2025-02-15', 3002, 2002);

-- PRODUCT_T Table Insertions (Ensuring unique PRODUCT_ID)

```
INSERT INTO PRODUCT_T (PRODUCT_ID, PRODUCT_NAME,  
MANUFACTURING_COST, PRODUCT_DESCRIPTION, PRODUCT_TYPE,  
SELLING_COST, PRODUCT_LINE_ID, WAREHOUSE_ID, PRODUCT_QUANTITY)
```

```
VALUES
```

```
(6001, 'Wooden Chair', 50.00, 'Comfortable wooden chair', 'Furniture', 150.00, 4001, 2001, 200),
```

```
(6002, 'Steel Table', 100.00, 'Durable steel table', 'Furniture', 300.00, 4002, 2002, 150);
```

```
-- QUANTITY_IN Table Insertions (Ensuring unique combinations of PRODUCT_ID and  
RAW_MATERIAL_ID)
```

```
INSERT INTO QUANTITY_IN (PRODUCT_ID, RAW_MATERIAL_ID,  
QUANTITY_REQUIRED)
```

```
VALUES
```

```
(6001, 5001, 100),
```

```
(6002, 5002, 200);
```

```
-- CUSTOMER_T Table Insertions (Ensuring unique CUSTOMER_ID)
```

```
INSERT INTO CUSTOMER_T (CUSTOMER_ID, CUSTOMER_NAME,  
CUSTOMER_CONTACT, CUSTOMER_EMAIL, CUSTOMER_CITY, CUSTOMER_STATE,  
CUSTOMER_POSTALCODE, CUSTOMER_STREET_ADDRESS, CUSTOMER_STATUS)
```

```
VALUES
```

```
(7001, 'John Doe', 5551234567, 'johndoe@email.com', 'Los Angeles', 'California', '90001', '123  
Maple St', 'Active'),
```

```
(7002, 'Jane Smith', 5557654321, 'janesmith@email.com', 'San Francisco', 'California', '94110',  
'456 Oak St', 'Inactive');
```

```
-- ORDER_T Table Insertions (Ensuring unique ORDER_ID and adjusting  
PAYMENT_METHOD column length)
```

```
ALTER TABLE ORDER_T
```

```
ALTER COLUMN PAYMENT_METHOD VARCHAR(50);
```

```
INSERT INTO ORDER_T (ORDER_ID, ORDER_DATE, CUSTOMER_ID,  
PAYMENT_METHOD)
```

```
VALUES
```

```
(8001, '2025-03-10', 7001, 'Credit Card'),
```

```
(8002, '2025-03-12', 7002, 'PayPal');
```

```
-- ORDER_LINE_T Table Insertions (Ensuring unique combinations of ORDER_ID and  
PRODUCT_ID)
```

```
INSERT INTO ORDER_LINE_T (ORDER_ID, PRODUCT_ID, ORDERED_QUANTITY)
```

```
VALUES
```

```
(8001, 6001, 2),
```

```
(8002, 6002, 1);
```

```
-- SHIPMENT Table Insertions (Ensuring unique SHIPMENT_ID)
```

```
INSERT INTO SHIPMENT (SHIPMENT_ID, ORDER_ID, SHIPMENT_DATE,  
ESTIMATED_DELIVERY_DATE, SHIPPING_COURIER, SHIPPING_STATUS,  
SHIPPING_ORDER_WEIGHT)
```

```
VALUES
```

```
(9001, 8001, '2025-03-15', '2025-03-20', 'FedEx', 'Shipped', 10),
```

```
(9002, 8002, '2025-03-17', '2025-03-22', 'UPS', 'Shipped', 15);
```

Task 5: To implement the web application using concepts and examples studied in the course

Platform and Tools Used

- **Frontend:** ASP.NET Web Forms (.aspx)
- **Backend:** VB.NET Code-behind (.aspx.vb)
- **Database:** SQL Server
- **Data Access:** ADO.NET (using SqlConnection, SqlCommand, etc.)

- **Hosting Environment:** Localhost via IIS

Concepts Applied from Course

Concept	Implementation Description
ASP.NET Web Forms	Used for designing the user interface through page-based architecture
ADO.NET	Used to interact with SQL Server database
VB.NET Code-Behind	Logic for button clicks, data insertion, redirection, etc.
SQL Server Integration	Backend relational database
Validation Controls	Ensures valid input on forms
ViewState and Session	Maintains state across pages
Role-Based Login	Allows Admin and Customer login
GridView and TextBox	Display and enter data
IIS Deployment	Hosting and running application on local browser

Pages Implemented

1. Login.aspx

- Allows login for Admin (hardcoded credentials) and Customer (using database)
- Redirects based on role
- Allows new customers to register
- Inserts data into CUSTOMER_T

2. AdminDashboard.aspx

- Admin can:
 - Manage Products
 - Manage Customers
 - View Orders
 - Manage Shipments

- Manage Warehouses

3. CustomerDashboard.aspx

- Customer can:
 - View Products
 - Place Orders
 - Track Shipments

CODES of all pages:

//Login.aspx

```
<%@ Page Language="vb" AutoEventWireup="true" CodeFile="Login.aspx.vb"
Inherits="Login" %>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head runat="server">
```

```
    <title>Login / Register</title>
```

```
</head>
```

```
<body>
```

```
    <form id="form1" runat="server">
```

```
        <h2>Login</h2>
```

```
        <h2>Login</h2>
```

```
        <asp:DropDownList ID="ddlRole" runat="server">
```

```
            <asp:ListItem Text="--Select Role--" Value="" />
```

```
            <asp:ListItem Text="Admin" Value="Admin" />
```

```
            <asp:ListItem Text="Customer" Value="Customer" />
```

```
        </asp:DropDownList><br /><br />
```


Username / Customer ID: <asp:TextBox ID="txtUsername" runat="server" />

Password / Email: <asp:TextBox ID="txtPassword" runat="server" />

<asp:Button ID="btnLogin" runat="server" Text="Login" OnClick="btnLogin_Click" />

<asp:Label ID="lblLoginMessage" runat="server" ForeColor="Red" />

<hr />

<h2>New Customer? Register Here:</h2>

Name: <asp:TextBox ID="txtNewName" runat="server" />

Contact: <asp:TextBox ID="txtNewContact" runat="server" />

Email: <asp:TextBox ID="txtNewEmail" runat="server" />

City: <asp:TextBox ID="txtNewCity" runat="server" />

State: <asp:TextBox ID="txtNewState" runat="server" />

Postal Code: <asp:TextBox ID="txtNewPostalCode" runat="server" />

Street Address: <asp:TextBox ID="txtNewStreet" runat="server" />

<asp:Button ID="btnRegister" runat="server" Text="Sign Up" OnClick="btnRegister_Click" />

<asp:Label ID="lblRegisterMessage" runat="server" ForeColor="Green" />

</form>

</body>

</html>

//Login.aspx.vb

Imports System.Data.SqlClient

Partial Class Login

Inherits System.Web.UI.Page

' Hardcoded Admin credentials

Private Const AdminUsername As String = "admin"

Private Const AdminPassword As String = "admin123"

' SQL Server connection string

Private ReadOnly connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial
Catalog=SCMS;Integrated Security=True"

' Login Click Event

Protected Sub btnLogin_Click(sender As Object, e As EventArgs)

Dim role As String = ddlRole.SelectedValue

Dim username As String = txtUsername.Text.Trim()

Dim password As String = txtPassword.Text.Trim()

If role = "Admin" Then

If username = AdminUsername AndAlso password = AdminPassword Then

Response.Redirect("AdminDashboard.aspx")

Else

lblLoginMessage.Text = "Invalid admin credentials."

End If

ElseIf role = "Customer" Then

```
If IsCustomerValid(username, password) Then
    Session("CustomerID") = Convert.ToInt32(username)
    Response.Redirect("CustomerDashboard.aspx")
Else
    lblLoginMessage.Text = "Invalid customer ID or email."
End If

Else
    lblLoginMessage.Text = "Please select a role."
End If

End Sub

' Check if customer exists

Private Function IsCustomerValid(customerID As String, email As String) As Boolean

    Dim query As String = "SELECT COUNT(*) FROM CUSTOMER_T WHERE
CUSTOMER_ID = @CustomerID AND CUSTOMER_EMAIL = @Email"

    Using conn As New SqlConnection(connStr)

        Using cmd As New SqlCommand(query, conn)

            cmd.Parameters.AddWithValue("@CustomerID", customerID)
            cmd.Parameters.AddWithValue("@Email", email)

            conn.Open()

            Return Convert.ToInt32(cmd.ExecuteScalar()) > 0

        End Using

    End Using

End Function

' Register New Customer

Protected Sub btnRegister_Click(sender As Object, e As EventArgs)
```

```
Dim name = txtNewName.Text.Trim()
```

```
Dim contact = txtNewContact.Text.Trim()
```

```
Dim email = txtNewEmail.Text.Trim()
```

```
Dim city = txtNewCity.Text.Trim()
```

```
Dim state = txtNewState.Text.Trim()
```

```
Dim postal = txtNewPostalCode.Text.Trim()
```

```
Dim street = txtNewStreet.Text.Trim()
```

```
Dim status = "Active"
```

```
Dim newID As Integer = GetNextCustomerID()
```

```
Dim insertQuery As String =
```

```
"INSERT INTO CUSTOMER_T (CUSTOMER_ID, CUSTOMER_NAME,  
CUSTOMER_CONTACT, CUSTOMER_EMAIL, CUSTOMER_CITY, CUSTOMER_STATE,  
CUSTOMER_POSTALCODE, CUSTOMER_STREET_ADDRESS, CUSTOMER_STATUS) "  
&
```

```
"VALUES (@ID, @Name, @Contact, @Email, @City, @State, @Postal, @Street, @Status)"
```

```
Using conn As New SqlConnection(connStr)
```

```
Using cmd As New SqlCommand(insertQuery, conn)
```

```
cmd.Parameters.AddWithValue("@ID", newID)
```

```
cmd.Parameters.AddWithValue("@Name", name)
```

```
cmd.Parameters.AddWithValue("@Contact", contact)
```

```
cmd.Parameters.AddWithValue("@Email", email)
```

```
cmd.Parameters.AddWithValue("@City", city)
```

```
cmd.Parameters.AddWithValue("@State", state)
```

```
cmd.Parameters.AddWithValue("@Postal", postal)
```

```
cmd.Parameters.AddWithValue("@Street", street)
```

```
cmd.Parameters.AddWithValue("@Status", status)
```

```
conn.Open()
```

```
cmd.ExecuteNonQuery()
```

```
End Using
```

```
End Using
```

```
lblRegisterMessage.Text = "Registration successful! Your Customer ID is " & newID & ".  
Please log in now."
```

```
End Sub
```

```
' Get next available Customer ID
```

```
Private Function GetNextCustomerID() As Integer
```

```
Dim query As String = "SELECT ISNULL(MAX(CUSTOMER_ID), 0) + 1 FROM  
CUSTOMER_T"
```

```
Using conn As New SqlConnection(connStr)
```

```
Using cmd As New SqlCommand(query, conn)
```

```
conn.Open()
```

```
Return Convert.ToInt32(cmd.ExecuteScalar())
```

```
End Using
```

```
End Using
```

```
End Function
```

```
End Class
```

//AdminDashboard.aspx

```
<%@ Page Language="vb" AutoEventWireup="true" CodeFile="AdminDashboard.aspx.vb"
Inherits="AdminDashboard" %>

<!DOCTYPE html>

<html>

<head runat="server">

    <title>Admin Dashboard</title>

</head>

<body>

    <form id="form1" runat="server">

        <h2>Welcome, Admin!</h2>

        <p>Select a functionality:</p>

        <ul>

            <li><a href="CustomerManagement.aspx">Manage Customers</a></li>

            <li><a href="ProductManagement.aspx">Manage Products</a></li>

            <li><a href="OrderManagement.aspx">Manage Orders</a></li>

            <li><a href="WarehouseManagement.aspx">Manage Warehouses</a></li>

            <li><a href="ShipmentManagement.aspx">Manage Shipments</a></li>

        </ul>

        <asp:Button ID="btnLogout" runat="server" Text="Logout" OnClick="btnLogout_Click"
/>

    </form>

</body>

</html>
```

//AdminDashboard.aspx.vb

Partial Class AdminDashboard

Inherits System.Web.UI.Page

Protected Sub btnLogout_Click(sender As Object, e As EventArgs)

Response.Redirect("Login.aspx")

End Sub

End Class

// CustomerManagement.aspx

<%@ Page Language="VB" AutoEventWireup="false"

CodeFile="CustomerManagement.aspx.vb" Inherits="CustomerManagement" %>

<!DOCTYPE html>

<html>

<head>

<title>Customer Management</title>

</head>

<body>

<form id="form1" runat="server">

<h2>Customer Management</h2>

<asp:GridView ID="gvCustomers" runat="server" AutoGenerateColumns="False"

DataKeyNames="CUSTOMER_ID" OnRowDeleting="gvCustomers_RowDeleting">

<Columns>

<asp:BoundField DataField="CUSTOMER_ID" HeaderText="Customer ID"
ReadOnly="True" />

```
<asp:BoundField DataField="CUSTOMER_NAME" HeaderText="Name" />
<asp:BoundField DataField="CUSTOMER_EMAIL" HeaderText="Email" />
<asp:BoundField DataField="CUSTOMER_STATUS" HeaderText="Status" />
<asp:CommandField ShowDeleteButton="True" />
</Columns>
</asp:GridView>

<br />

<asp:HyperLink ID="lnkBack" runat="server"
NavigateUrl="AdminDashboard.aspx">Back to Dashboard</asp:HyperLink>

</form>
</body>
</html>
```

// CustomerManagement.aspx.vb

Imports System.Data.SqlClient

Imports System.Configuration

Partial Class CustomerManagement

Inherits System.Web.UI.Page

' Get the connection string from web.config

Private ReadOnly connStr As String =
ConfigurationManager.ConnectionStrings("MyConn").ConnectionString

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

 LoadCustomers()

End If

End Sub

Private Sub LoadCustomers()

 Dim query As String = "SELECT CUSTOMER_ID, CUSTOMER_NAME,
CUSTOMER_EMAIL, CUSTOMER_STATUS FROM CUSTOMER_T"

 Using conn As New SqlConnection(connStr)

 Using cmd As New SqlCommand(query, conn)

 conn.Open()

 Dim reader As SqlDataReader = cmd.ExecuteReader()

 gvCustomers.DataSource = reader

 gvCustomers.DataBind()

 End Using

 End Using

End Sub

Protected Sub gvCustomers_RowDeleting(sender As Object, e As GridViewDeleteEventArgs)

 Dim customerId As Integer = Convert.ToInt32(gvCustomers.DataKeys(e.RowIndex).Value)

 Dim deleteQuery As String = "DELETE FROM CUSTOMER_T WHERE
CUSTOMER_ID = @ID"

 Using conn As New SqlConnection(connStr)

 Using cmd As New SqlCommand(deleteQuery, conn)

 cmd.Parameters.AddWithValue("@ID", customerId)

 conn.Open()

 cmd.ExecuteNonQuery()

 End Using

End Using

LoadCustomers()

End Sub

End Class

// OrderManagement.aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="OrderManagement.aspx.vb"
Inherits="OrderManagement" %>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head runat="server">
```

```
    <title>Order Management</title>
```

```
</head>
```

```
<body>
```

```
    <form id="form1" runat="server">
```

```
        <asp:Button ID="btnBackToDashboard" runat="server" Text="Back to Dashboard"
OnClick="btnBackToDashboard_Click" CssClass="btn btn-secondary" />
```

```
        <div class="form-section">
```

```
            <h2>Order Management</h2>
```

```
            <asp:HiddenField ID="hfOrderID" runat="server" />
```

```
            <label>Customer</label>
```

```
            <asp:DropDownList ID="ddlCustomer" runat="server" />
```

```
            <label>Order Date</label>
```

```
            <asp:TextBox ID="txtOrderDate" runat="server" TextMode="Date" />
```

```
<label>Payment Method</label>

<asp:DropDownList ID="ddlPaymentMethod" runat="server">

    <asp:ListItem Text="Cash" Value="Cash" />

    <asp:ListItem Text="Card" Value="Card" />

    <asp:ListItem Text="Online" Value="Online" />

</asp:DropDownList>

<asp:Button ID="btnSave" runat="server" Text="Save Order" CssClass="btn"
OnClick="btnSave_Click" />

<asp:Button ID="btnClear" runat="server" Text="Clear" CssClass="btn"
OnClick="btnClear_Click" />

</div>

<div class="grid-section">

    <asp:GridView ID="gvOrders" runat="server" AutoGenerateColumns="False"
DataKeyNames="ORDER_ID" OnRowEditing="gvOrders_RowEditing"
OnRowDeleting="gvOrders_RowDeleting"
OnRowCancelingEdit="gvOrders_RowCancelingEdit">

        <Columns>

            <asp:BoundField DataField="ORDER_ID" HeaderText="Order ID"
ReadOnly="True" />

            <asp:BoundField DataField="CUSTOMER_NAME" HeaderText="Customer
Name" />

            <asp:BoundField DataField="ORDER_DATE" HeaderText="Order Date" />

            <asp:BoundField DataField="PAYMENT_METHOD" HeaderText="Payment" />

            <asp:CommandField ShowEditButton="True" ShowDeleteButton="True" />

        </Columns>

    </asp:GridView>

</div>
```

```
<asp:HyperLink ID="lnkBack" runat="server" NavigateUrl="AdminDashboard.aspx">Back to  
Dashboard</asp:HyperLink>
```

```
</form>
```

```
</body>
```

```
</html>
```

// OrderManagement.aspx.vb

```
Imports System.Data.SqlClient
```

```
Partial Class OrderManagement
```

```
    Inherits System.Web.UI.Page
```

```
    Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial  
Catalog=SCMS;Integrated Security=True"
```

```
    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles  
Me.Load
```

```
        If Not IsPostBack Then
```

```
            LoadCustomerDropdown()
```

```
            LoadOrders()
```

```
        End If
```

```
    End Sub
```

```
    Private Sub LoadCustomerDropdown()
```

```
        Using conn As New SqlConnection(connStr)
```

```
            Dim cmd As New SqlCommand("SELECT CUSTOMER_ID, CUSTOMER_NAME  
FROM CUSTOMER_T", conn)
```

```
            conn.Open()
```

```
            ddlCustomer.DataSource = cmd.ExecuteReader()
```

```
ddlCustomer.DataTextField = "CUSTOMER_NAME"
```

```
ddlCustomer.DataValueField = "CUSTOMER_ID"
```

```
ddlCustomer.DataBind()
```

```
ddlCustomer.Items.Insert(0, New ListItem("--Select Customer--", ""))
```

```
End Using
```

```
End Sub
```

```
Private Sub LoadOrders()
```

```
Using conn As New SqlConnection(connStr)
```

```
Dim cmd As New SqlCommand(" SELECT O.ORDER_ID, C.CUSTOMER_NAME,  
O.ORDER_DATE, O.PAYMENT_METHOD FROM ORDER_T O JOIN CUSTOMER_T C ON  
O.CUSTOMER_ID = C.CUSTOMER_ID", conn)
```

```
conn.Open()
```

```
gvOrders.DataSource = cmd.ExecuteReader()
```

```
gvOrders.DataBind()
```

```
End Using
```

```
End Sub
```

```
Protected Sub btnSave_Click(sender As Object, e As EventArgs)
```

```
Using conn As New SqlConnection(connStr)
```

```
Dim query As String
```

```
If String.IsNullOrEmpty(hfOrderID.Value) Then
```

```
query = "INSERT INTO ORDER_T (ORDER_DATE, CUSTOMER_ID,  
PAYMENT_METHOD) VALUES (@date, @customer, @payment)"
```

```
Else
```

```
query = "UPDATE ORDER_T SET ORDER_DATE = @date, CUSTOMER_ID =  
@customer, PAYMENT_METHOD = @payment WHERE ORDER_ID = @id"
```

End If

Using cmd As New SqlCommand(query, conn)

cmd.Parameters.AddWithValue("@date", txtOrderDate.Text)

cmd.Parameters.AddWithValue("@customer", ddlCustomer.SelectedValue)

cmd.Parameters.AddWithValue("@payment", ddlPaymentMethod.SelectedValue)

If Not String.IsNullOrEmpty(hfOrderID.Value) Then

cmd.Parameters.AddWithValue("@id", hfOrderID.Value)

End If

conn.Open()

cmd.ExecuteNonQuery()

End Using

End Using

ClearForm()

LoadOrders()

End Sub

Protected Sub btnClear_Click(sender As Object, e As EventArgs)

ClearForm()

End Sub

Private Sub ClearForm()

hfOrderID.Value = ""

ddlCustomer.SelectedIndex = 0

```
ddlPaymentMethod.SelectedIndex = 0
```

```
txtOrderDate.Text = ""
```

```
End Sub
```

```
Protected Sub gvOrders_RowEditing(sender As Object, e As GridViewEditEventArgs)
```

```
    Dim row As GridViewRow = gvOrders.Rows(e.NewEditIndex)
```

```
    hfOrderID.Value = gvOrders.DataKeys(e.NewEditIndex).Value.ToString()
```

```
    ddlCustomer.SelectedItem.Text = Server.HtmlDecode(row.Cells(1).Text)
```

```
    txtOrderDate.Text = Convert.ToDateTime(row.Cells(2).Text).ToString("yyyy-MM-dd")
```

```
    ddlPaymentMethod.SelectedValue = row.Cells(3).Text
```

```
End Sub
```

```
Protected Sub gvOrders_RowDeleting(sender As Object, e As GridViewDeleteEventArgs)
```

```
    Dim orderId As Integer = Convert.ToInt32(gvOrders.DataKeys(e.RowIndex).Value)
```

```
    Using conn As New SqlConnection(connStr)
```

```
        Dim cmd As New SqlCommand("DELETE FROM ORDER_T WHERE ORDER_ID =  
@id", conn)
```

```
        cmd.Parameters.AddWithValue("@id", orderId)
```

```
        conn.Open()
```

```
        cmd.ExecuteNonQuery()
```

```
    End Using
```

```
    LoadOrders()
```

```
End Sub
```

```
Protected Sub btnBackToDashboard_Click(sender As Object, e As EventArgs)
```

```
Response.Redirect("AdminDashboard.aspx")
```

```
End Sub
```

```
Protected Sub gvOrders_RowCancelingEdit(sender As Object, e As  
GridViewCancelEventArgs)
```

```
ClearForm()
```

```
End Sub
```

```
End Class
```

// **ProductManagement.aspx**

```
<%@ Page Language="VB" AutoEventWireup="false"
```

```
CodeFile="ProductManagement.aspx.vb" Inherits="ProductManagement" %>
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
<title>Product Management</title>
```

```
<style>
```

```
.form-container { width: 500px; margin: 20px auto; padding: 15px; border: 1px solid #ccc;  
border-radius: 8px; background: #f9f9f9; }
```

```
.form-container label { display: block; margin-top: 10px; }
```

```
.form-container input, .form-container textarea, .form-container select { width: 100%;  
padding: 8px; }
```

```
.form-container .button { margin-top: 15px; }
```

```
.grid-container { width: 90%; margin: 20px auto; }
```

```
</style>
```

```
</head>
```

```
<body>
```



```
<form id="form1" runat="server">
  <div class="form-container">
    <h2>Product Management</h2>
    <asp:HiddenField ID="hfProductID" runat="server" />
    <label>Product Name:</label>
    <asp:TextBox ID="txtName" runat="server" />

    <label>Manufacturing Cost:</label>
    <asp:TextBox ID="txtManufacturingCost" runat="server" />

    <label>Selling Cost:</label>
    <asp:TextBox ID="txtSellingCost" runat="server" />

    <label>Description:</label>
    <asp:TextBox ID="txtDescription" runat="server" TextMode="MultiLine" />

    <label>Product Type:</label>
    <asp:TextBox ID="txtType" runat="server" />

    <label>Product Line ID:</label>
    <asp:TextBox ID="txtProductLineID" runat="server" />

    <label>Warehouse ID:</label>
    <asp:DropDownList ID="ddlWarehouse" runat="server" />

    <label>Quantity:</label>
    <asp:TextBox ID="txtQuantity" runat="server" />
```

```
<asp:Button ID="btnSave" runat="server" CssClass="button" Text="Save Product"
OnClick="btnSave_Click" />
```

```
<asp:Button ID="btnClear" runat="server" CssClass="button" Text="Clear"
OnClick="btnClear_Click" />
```

```
</div>
```

```
<div class="grid-container">
```

```
<asp:GridView ID="gvProducts" runat="server" AutoGenerateColumns="False"
DataKeyNames="PRODUCT_ID"
```

```
OnRowCommand="gvProducts_RowCommand">
```

```
<Columns>
```

```
<asp:BoundField DataField="PRODUCT_ID" HeaderText="ID" ReadOnly="True"
/>
```

```
<asp:BoundField DataField="PRODUCT_NAME" HeaderText="Name" />
```

```
<asp:BoundField DataField="MANUFACTURING_COST" HeaderText="M. Cost"
/>
```

```
<asp:BoundField DataField="SELLING_COST" HeaderText="S. Cost" />
```

```
<asp:BoundField DataField="PRODUCT_DESCRIPTION"
HeaderText="Description" />
```

```
<asp:BoundField DataField="PRODUCT_TYPE" HeaderText="Type" />
```

```
<asp:BoundField DataField="PRODUCT_LINE_ID" HeaderText="Line ID" />
```

```
<asp:BoundField DataField="WAREHOUSE_ID" HeaderText="Warehouse ID" />
```

```
<asp:BoundField DataField="PRODUCT_QUANTITY" HeaderText="Quantity" />
```

```
<asp:TemplateField>
```

```
<ItemTemplate>
```

```
<asp:Button ID="btnEdit" runat="server" CommandName="EditProduct"
CommandArgument='<%=# Container.DataItemIndex %>' Text="Edit" />
```

```
<asp:Button ID="btnDelete" runat="server" CommandName="DeleteProduct"
CommandArgument='<%=# Container.DataItemIndex %>' Text="Delete" />
```

```
        </ItemTemplate>
    </asp:TemplateField>
</Columns>
</asp:GridView>
</div>

<asp:HyperLink ID="lnkBack" runat="server"
NavigateUrl="AdminDashboard.aspx">Back to Dashboard</asp:HyperLink>

</form>
</body>
</html>
```

// ProductManagement.aspx.vb

```
Imports System.Data
```

```
Imports System.Data.SqlClient
```

```
Partial Class ProductManagement
```

```
    Inherits System.Web.UI.Page
```

```
    Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial
Catalog=SCMS;Integrated Security=True"
```

```
    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
        If Not IsPostBack Then
```

```
            LoadWarehouseDropdown()
```

```
            BindGrid()
```

```
        End If
```

```
    End Sub
```

```
    Protected Sub btnSave_Click(sender As Object, e As EventArgs)
```

If Page.IsValid Then

Using conn As New SqlConnection(connStr)

conn.Open()

Dim query As String

If String.IsNullOrEmpty(hfProductID.Value) Then

```
query = "INSERT INTO PRODUCT_T (PRODUCT_NAME,
MANUFACTURING_COST, SELLING_COST, PRODUCT_DESCRIPTION,
PRODUCT_TYPE, PRODUCT_LINE_ID, WAREHOUSE_ID, PRODUCT_QUANTITY) " &
"VALUES (@name, @mcost, @scost, @desc, @type, @pline, @whouse,
@qty)"
```

Else

```
query = "UPDATE PRODUCT_T SET PRODUCT_NAME=@name,
MANUFACTURING_COST=@mcost, SELLING_COST=@scost,
PRODUCT_DESCRIPTION=@desc, PRODUCT_TYPE=@type,
PRODUCT_LINE_ID=@pline, WAREHOUSE_ID=@whouse, PRODUCT_QUANTITY=@qty
WHERE PRODUCT_ID=@id"
```

End If

Using cmd As New SqlCommand(query, conn)

cmd.Parameters.AddWithValue("@name", txtName.Text.Trim())

cmd.Parameters.AddWithValue("@mcost",
Decimal.Parse(txtManufacturingCost.Text))

cmd.Parameters.AddWithValue("@scost", Decimal.Parse(txtSellingCost.Text))

cmd.Parameters.AddWithValue("@desc", txtDescription.Text.Trim())

cmd.Parameters.AddWithValue("@type", txtType.Text.Trim())

cmd.Parameters.AddWithValue("@pline", txtProductLineID.Text.Trim())

cmd.Parameters.AddWithValue("@whouse", ddlWarehouse.SelectedValue)

cmd.Parameters.AddWithValue("@qty", Integer.Parse(txtQuantity.Text))

```
If Not String.IsNullOrEmpty(hfProductID.Value) Then
    cmd.Parameters.AddWithValue("@id", hfProductID.Value)
End If
```

```
    cmd.ExecuteNonQuery()
End Using
End Using
```

```
ClearForm()
BindGrid()
End If
End Sub
```

```
Protected Sub btnClear_Click(sender As Object, e As EventArgs)
    ClearForm()
End Sub
```

```
Private Sub ClearForm()
    hfProductID.Value = ""
    txtName.Text = ""
    txtManufacturingCost.Text = ""
    txtSellingCost.Text = ""
    txtDescription.Text = ""
    txtType.Text = ""
    txtProductLineID.Text = ""
    ddlWarehouse.SelectedIndex = 0
    txtQuantity.Text = ""
End Sub
```

End Sub

Private Sub BindGrid()

Using conn As New SqlConnection(connStr)

Dim query As String = "SELECT * FROM PRODUCT_T"

Dim cmd As New SqlCommand(query, conn)

Dim da As New SqlDataAdapter(cmd)

Dim dt As New DataTable()

da.Fill(dt)

gvProducts.DataSource = dt

gvProducts.DataBind()

End Using

End Sub

Private Sub LoadWarehouseDropdown()

Using conn As New SqlConnection(connStr)

Dim cmd As New SqlCommand("SELECT WAREHOUSE_ID FROM
WAREHOUSE_T", conn)

conn.Open()

ddlWarehouse.DataSource = cmd.ExecuteReader()

ddlWarehouse.DataTextField = "WAREHOUSE_ID"

ddlWarehouse.DataValueField = "WAREHOUSE_ID"

ddlWarehouse.DataBind()

End Using

ddlWarehouse.Items.Insert(0, New ListItem("-- Select Warehouse --", ""))

End Sub

```
Protected Sub gvProducts_RowCommand(sender As Object, e As  
GridViewCommandEventArgs)
```

```
    If e.CommandName = "EditProduct" Then
```

```
        Dim index As Integer = Convert.ToInt32(e.CommandArgument)
```

```
        Dim row As GridViewRow = gvProducts.Rows(index)
```

```
        hfProductID.Value = gvProducts.DataKeys(index).Value.ToString()
```

```
        txtName.Text = row.Cells(1).Text
```

```
        txtManufacturingCost.Text = row.Cells(2).Text
```

```
        txtSellingCost.Text = row.Cells(3).Text
```

```
        txtDescription.Text = row.Cells(4).Text
```

```
        txtType.Text = row.Cells(5).Text
```

```
        txtProductLineID.Text = row.Cells(6).Text
```

```
        ddlWarehouse.SelectedValue = row.Cells(7).Text
```

```
        txtQuantity.Text = row.Cells(8).Text
```

```
    ElseIf e.CommandName = "DeleteProduct" Then
```

```
        Dim index As Integer = Convert.ToInt32(e.CommandArgument)
```

```
        Dim productId As String = gvProducts.DataKeys(index).Value.ToString()
```

```
        Using conn As New SqlConnection(connStr)
```

```
            Dim cmd As New SqlCommand("DELETE FROM PRODUCT_T WHERE  
PRODUCT_ID=@id", conn)
```

```
            cmd.Parameters.AddWithValue("@id", productId)
```

```
            conn.Open()
```

```
            cmd.ExecuteNonQuery()
```

```
        End Using
```

```
        BindGrid()  
    End If  
End Sub  
  
End Class
```

// ShipmentManagement.aspx

```
<%@ Page Language="VB" AutoEventWireup="false"  
CodeFile="ShipmentManagement.aspx.vb" Inherits="ShipmentManagement" %>
```

```
<!DOCTYPE html>  
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
    <title>Shipment Management</title>
```

```
    <style>
```

```
        .form-section {  
            margin-bottom: 20px;  
            padding: 10px;  
            border: 1px solid #ccc;  
            width: 450px;  
        }
```

```
        .form-section label {  
            display: inline-block;  
            width: 180px;  
            font-weight: bold;  
        }
```

```
        .form-section input {
```



```
width: 230px;
margin-bottom: 10px;
}
.error-label {
    color: red;
    font-weight: bold;
}
.gridview {
    margin-top: 20px;
}
.nav-button {
    margin-bottom: 20px;
}
</style>
</head>
<body>
    <form id="form1" runat="server">

        <div class="form-section">
            <h2>Shipment Form</h2>
            <asp:HiddenField ID="hfShipmentID" runat="server" />

            <label>Order ID:</label>
            <asp:TextBox ID="txtOrderID" runat="server" /><br />

            <label>Shipment Date:</label>
```

```
<asp:TextBox ID="txtShipmentDate" runat="server" /><br />
```

```
<label>Estimated Delivery Date:</label>
```

```
<asp:TextBox ID="txtEstimatedDeliveryDate" runat="server" /><br />
```

```
<label>Shipping Courier:</label>
```

```
<asp:TextBox ID="txtCourier" runat="server" /><br />
```

```
<label>Shipping Status:</label>
```

```
<asp:TextBox ID="txtStatus" runat="server" /><br />
```

```
<label>Shipping Order Weight:</label>
```

```
<asp:TextBox ID="txtWeight" runat="server" /><br />
```

```
<asp:Button ID="btnSave" runat="server" Text="Save Shipment"  
OnClick="btnSave_Click" />
```

```
<asp:Button ID="btnClear" runat="server" Text="Clear" OnClick="btnClear_Click" />
```

```
<br /><br />
```

```
<asp:Label ID="lblError" runat="server" CssClass="error-label"></asp:Label>
```

```
</div>
```

```
<div class="gridview">
```

```
<h2>All Shipments</h2>
```

```
<asp:GridView ID="gvShipments" runat="server" AutoGenerateColumns="False"  
DataKeyNames="SHIPMENT_ID"
```

```
OnRowEditing="gvShipments_RowEditing"
```

```
OnRowDeleting="gvShipments_RowDeleting"
```

```
OnRowCancelingEdit="gvShipments_RowCancelingEdit">
<Columns>
    <asp:BoundField DataField="SHIPMENT_ID" HeaderText="Shipment ID"
ReadOnly="True" />
    <asp:BoundField DataField="ORDER_ID" HeaderText="Order ID" />
    <asp:BoundField DataField="SHIPMENT_DATE" HeaderText="Shipment Date" />
    <asp:BoundField DataField="ESTIMATED_DELIVERY_DATE"
HeaderText="Estimated Delivery" />
    <asp:BoundField DataField="SHIPPING_COURIER" HeaderText="Courier" />
    <asp:BoundField DataField="SHIPPING_STATUS" HeaderText="Status" />
    <asp:BoundField DataField="SHIPPING_ORDER_WEIGHT"
HeaderText="Weight (kg)" />
    <asp:CommandField ShowEditButton="True" ShowDeleteButton="True" />
</Columns>
</asp:GridView>
</div>
<asp:HyperLink ID="lnkBack" runat="server"
NavigateUrl="AdminDashboard.aspx">Back to Dashboard</asp:HyperLink>
</form>
</body>
</html>
```

// ShipmentManagement.aspx.vb

Imports System.Data.SqlClient

Partial Class ShipmentManagement

Inherits System.Web.UI.Page

```
Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial  
Catalog=SCMS;Integrated Security=True"
```

```
Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
    If Not IsPostBack Then
```

```
        LoadShipments()
```

```
    End If
```

```
End Sub
```

```
Private Sub LoadShipments()
```

```
    Using conn As New SqlConnection(connStr)
```

```
        Dim cmd As New SqlCommand("SELECT * FROM SHIPMENT", conn)
```

```
        conn.Open()
```

```
        gvShipments.DataSource = cmd.ExecuteReader()
```

```
        gvShipments.DataBind()
```

```
    End Using
```

```
End Sub
```

```
' Function to get next SHIPMENT_ID manually
```

```
Private Function GetNextShipmentID() As Integer
```

```
    Dim nextID As Integer = 1
```

```
    Using conn As New SqlConnection(connStr)
```

```
        Dim cmd As New SqlCommand("SELECT ISNULL(MAX(SHIPMENT_ID), 0) FROM  
SHIPMENT", conn)
```

```
        conn.Open()
```

```
        Dim result = cmd.ExecuteScalar()
```

```
        If result IsNot Nothing Then
```

```
            nextID = Convert.ToInt32(result) + 1
```

```
End If
End Using
Return nextID
End Function

Protected Sub btnSave_Click(sender As Object, e As EventArgs)

    Dim shipDate As DateTime
    Dim estDate As DateTime
    Dim weight As Integer
    lblError.Text = ""

    ' Validate dates and weight
    If Not DateTime.TryParse(txtShipmentDate.Text, shipDate) Then
        lblError.Text = "Please enter a valid Shipment Date."
        Return
    End If

    If Not DateTime.TryParse(txtEstimatedDeliveryDate.Text, estDate) Then
        lblError.Text = "Please enter a valid Estimated Delivery Date."
        Return
    End If

    If Not Integer.TryParse(txtWeight.Text, weight) Then
        lblError.Text = "Please enter a valid Order Weight (integer)."
        Return
    End If
```

```
If String.IsNullOrEmpty(txtOrderID.Text) Then
```

```
    lblError.Text = "Order ID is required."
```

```
    Return
```

```
End If
```

```
Using conn As New SqlConnection(connStr)
```

```
    Dim query As String
```

```
    If String.IsNullOrEmpty(hfShipmentID.Value) Then
```

```
        ' Insert new shipment with generated SHIPMENT_ID
```

```
        Dim newShipmentID As Integer = GetNextShipmentID()
```

```
        query = "INSERT INTO SHIPMENT (SHIPMENT_ID, ORDER_ID,  
SHIPMENT_DATE, ESTIMATED_DELIVERY_DATE, SHIPPING_COURIER,  
SHIPPING_STATUS, SHIPPING_ORDER_WEIGHT) " &
```

```
            "VALUES (@shipmentId, @orderId, @shipDate, @estDate, @courier, @status,  
@weight)"
```

```
Using cmd As New SqlCommand(query, conn)
```

```
    cmd.Parameters.AddWithValue("@shipmentId", newShipmentID)
```

```
    cmd.Parameters.AddWithValue("@orderId", txtOrderID.Text)
```

```
    cmd.Parameters.AddWithValue("@shipDate", shipDate)
```

```
    cmd.Parameters.AddWithValue("@estDate", estDate)
```

```
    cmd.Parameters.AddWithValue("@courier", txtCourier.Text)
```

```
    cmd.Parameters.AddWithValue("@status", txtStatus.Text)
```

```
    cmd.Parameters.AddWithValue("@weight", weight)
```

```
    conn.Open()
```

```
    cmd.ExecuteNonQuery()
```

End Using

Else

' Update existing shipment

```
query = "UPDATE SHIPMENT SET ORDER_ID=@orderId,  
SHIPMENT_DATE=@shipDate, ESTIMATED_DELIVERY_DATE=@estDate, " &  
"SHIPPING_COURIER=@courier, SHIPPING_STATUS=@status,  
SHIPPING_ORDER_WEIGHT=@weight WHERE SHIPMENT_ID=@id"
```

Using cmd As New SqlCommand(query, conn)

```
cmd.Parameters.AddWithValue("@orderId", txtOrderID.Text)
```

```
cmd.Parameters.AddWithValue("@shipDate", shipDate)
```

```
cmd.Parameters.AddWithValue("@estDate", estDate)
```

```
cmd.Parameters.AddWithValue("@courier", txtCourier.Text)
```

```
cmd.Parameters.AddWithValue("@status", txtStatus.Text)
```

```
cmd.Parameters.AddWithValue("@weight", weight)
```

```
cmd.Parameters.AddWithValue("@id", Convert.ToInt32(hfShipmentID.Value))
```

```
conn.Open()
```

```
cmd.ExecuteNonQuery()
```

End Using

End If

End Using

ClearForm()

LoadShipments()

End Sub

Protected Sub btnBackToDashboard_Click(sender As Object, e As EventArgs)

```
Response.Redirect("AdminDashboard.aspx")
```

```
End Sub
```

```
Protected Sub btnClear_Click(sender As Object, e As EventArgs)
```

```
    ClearForm()
```

```
End Sub
```

```
Private Sub ClearForm()
```

```
    hfShipmentID.Value = ""
```

```
    txtOrderID.Text = ""
```

```
    txtShipmentDate.Text = ""
```

```
    txtEstimatedDeliveryDate.Text = ""
```

```
    txtCourier.Text = ""
```

```
    txtStatus.Text = ""
```

```
    txtWeight.Text = ""
```

```
    lblError.Text = ""
```

```
End Sub
```

```
Protected Sub gvShipments_RowEditing(sender As Object, e As GridViewEditEventArgs)
```

```
    Dim row As GridViewRow = gvShipments.Rows(e.NewEditIndex)
```

```
    hfShipmentID.Value = gvShipments.DataKeys(e.NewEditIndex).Value.ToString()
```

```
    txtOrderID.Text = Server.HtmlDecode(row.Cells(1).Text)
```

```
    txtShipmentDate.Text = Server.HtmlDecode(row.Cells(2).Text)
```

```
    txtEstimatedDeliveryDate.Text = Server.HtmlDecode(row.Cells(3).Text)
```

```
    txtCourier.Text = Server.HtmlDecode(row.Cells(4).Text)
```

```
    txtStatus.Text = Server.HtmlDecode(row.Cells(5).Text)
```

```
    txtWeight.Text = Server.HtmlDecode(row.Cells(6).Text)
```


End Sub

Protected Sub gvShipments_RowDeleting(sender As Object, e As GridViewDeleteEventArgs)

Dim id As Integer = Convert.ToInt32(gvShipments.DataKeys(e.RowIndex).Value)

Using conn As New SqlConnection(connStr)

Dim cmd As New SqlCommand("DELETE FROM SHIPMENT WHERE
SHIPMENT_ID = @id", conn)

cmd.Parameters.AddWithValue("@id", id)

conn.Open()

cmd.ExecuteNonQuery()

End Using

LoadShipments()

End Sub

Protected Sub gvShipments_RowCancelingEdit(sender As Object, e As
GridViewCancelEventArgs)

ClearForm()

End Sub

End Class

// **WarehouseManagement.aspx**

<%@ Page Language="VB" AutoEventWireup="true"

CodeFile="WarehouseManagement.aspx.vb" Inherits="WarehouseManagement" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">

```
<head runat="server">
    <title>Warehouse Management</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="width: 800px; margin: auto;">
            <h2>Warehouse Management</h2>

            <asp:HiddenField ID="hfWarehouseID" runat="server" />

            <asp:Label ID="lblName" runat="server" Text="Name:" />
            <asp:TextBox ID="txtWarehouseName" runat="server" /><br />

            <asp:Label ID="lblCity" runat="server" Text="City:" />
            <asp:TextBox ID="txtCity" runat="server" /><br />

            <asp:Label ID="lblState" runat="server" Text="State:" />
            <asp:TextBox ID="txtState" runat="server" /><br />

            <asp:Label ID="lblPostalCode" runat="server" Text="Postal Code:" />
            <asp:TextBox ID="txtPostalCode" runat="server" /><br />

            <asp:Label ID="lblAddress" runat="server" Text="Street Address:" />
            <asp:TextBox ID="txtStreetAddress" runat="server" /><br /><br />

            <asp:Button ID="btnSave" runat="server" Text="Save" OnClick="btnSave_Click" />
            <asp:Button ID="btnClear" runat="server" Text="Clear" OnClick="btnClear_Click" />
```

```
<asp:GridView ID="gvWarehouses" runat="server" AutoGenerateColumns="False"
    DataKeyNames="WAREHOUSE_ID"
    OnRowEditing="gvWarehouses_RowEditing"
    OnRowDeleting="gvWarehouses_RowDeleting"
    OnRowCancelingEdit="gvWarehouses_RowCancelingEdit"
    HeaderStyle-BackColor="#3AC0F2" HeaderStyle-ForeColor="White">
    <Columns>
        <asp:BoundField DataField="WAREHOUSE_ID" HeaderText="ID"
ReadOnly="True" />
        <asp:BoundField DataField="WAREHOUSE_NAME" HeaderText="Name" />
        <asp:BoundField DataField="WAREHOUSE_CITY" HeaderText="City" />
        <asp:BoundField DataField="WAREHOUSE_STATE" HeaderText="State" />
        <asp:BoundField DataField="WAREHOUSE_POSTAL_CODE"
HeaderText="Postal Code" />
        <asp:BoundField DataField="WAREHOUSE_STREET_ADDRESS"
HeaderText="Street Address" />
        <asp:CommandField ShowEditButton="True" ShowDeleteButton="True" />
    </Columns>
</asp:GridView>
</div>
<asp:HyperLink ID="lnkBack" runat="server"
NavigateUrl="AdminDashboard.aspx">Back to Dashboard</asp:HyperLink>

</form>
</body>
```

</html>

// WarehouseManagement.aspx.vb

Imports System.Data.SqlClient

Partial Class WarehouseManagement

Inherits System.Web.UI.Page

Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial
Catalog=SCMS;Integrated Security=True"

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

LoadWarehouses()

End If

End Sub

Private Sub LoadWarehouses()

Using conn As New SqlConnection(connStr)

Dim cmd As New SqlCommand("SELECT * FROM WAREHOUSE_T", conn)

conn.Open()

gvWarehouses.DataSource = cmd.ExecuteReader()

gvWarehouses.DataBind()

End Using

End Sub

```
Protected Sub btnSave_Click(sender As Object, e As EventArgs)
```

```
    Using conn As New SqlConnection(connStr)
```

```
        Dim query As String
```

```
        If String.IsNullOrEmpty(hfWarehouseID.Value) Then
```

```
            query = "INSERT INTO WAREHOUSE_T (WAREHOUSE_NAME,  
WAREHOUSE_CITY, WAREHOUSE_STATE, WAREHOUSE_POSTAL_CODE,  
WAREHOUSE_STREET_ADDRESS) VALUES (@name, @city, @state, @postal, @address)"
```

```
        Else
```

```
            query = "UPDATE WAREHOUSE_T SET WAREHOUSE_NAME=@name,  
WAREHOUSE_CITY=@city, WAREHOUSE_STATE=@state,  
WAREHOUSE_POSTAL_CODE=@postal, WAREHOUSE_STREET_ADDRESS=@address  
WHERE WAREHOUSE_ID=@id"
```

```
        End If
```

```
        Using cmd As New SqlCommand(query, conn)
```

```
            cmd.Parameters.AddWithValue("@name", txtWarehouseName.Text)
```

```
            cmd.Parameters.AddWithValue("@city", txtCity.Text)
```

```
            cmd.Parameters.AddWithValue("@state", txtState.Text)
```

```
            cmd.Parameters.AddWithValue("@postal", txtPostalCode.Text)
```

```
            cmd.Parameters.AddWithValue("@address", txtStreetAddress.Text)
```

```
        If Not String.IsNullOrEmpty(hfWarehouseID.Value) Then
```

```
            cmd.Parameters.AddWithValue("@id", hfWarehouseID.Value)
```

```
        End If
```

```
        conn.Open()
```

```
        cmd.ExecuteNonQuery()
```

```
    End Using
```

End Using

ClearForm()

LoadWarehouses()

End Sub

Protected Sub btnClear_Click(sender As Object, e As EventArgs)

ClearForm()

End Sub

Private Sub ClearForm()

hfWarehouseID.Value = ""

txtWarehouseName.Text = ""

txtCity.Text = ""

txtState.Text = ""

txtPostalCode.Text = ""

txtStreetAddress.Text = ""

End Sub

Protected Sub gvWarehouses_RowEditing(sender As Object, e As GridViewEditEventArgs)

Dim row As GridViewRow = gvWarehouses.Rows(e.NewEditIndex)

hfWarehouseID.Value = gvWarehouses.DataKeys(e.NewEditIndex).Value.ToString()

txtWarehouseName.Text = Server.HtmlDecode(row.Cells(1).Text)

txtCity.Text = Server.HtmlDecode(row.Cells(2).Text)

txtState.Text = Server.HtmlDecode(row.Cells(3).Text)

txtPostalCode.Text = Server.HtmlDecode(row.Cells(4).Text)

```
txtStreetAddress.Text = Server.HtmlDecode(row.Cells(5).Text)
```

```
End Sub
```

```
Protected Sub gvWarehouses_RowDeleting(sender As Object, e As  
GridViewDeleteEventArgs)
```

```
Dim id As Integer = Convert.ToInt32(gvWarehouses.DataKeys(e.RowIndex).Value)
```

```
Using conn As New SqlConnection(connStr)
```

```
Dim cmd As New SqlCommand("DELETE FROM WAREHOUSE_T WHERE  
WAREHOUSE_ID = @id", conn)
```

```
cmd.Parameters.AddWithValue("@id", id)
```

```
conn.Open()
```

```
cmd.ExecuteNonQuery()
```

```
End Using
```

```
LoadWarehouses()
```

```
End Sub
```

```
Protected Sub gvWarehouses_RowCancelingEdit(sender As Object, e As  
GridViewCancelEventArgs)
```

```
ClearForm()
```

```
End Sub
```

```
End Class
```

```
// CustomerDashboard.aspx
```

```
<%@ Page Language="vb" AutoEventWireup="true" CodeFile="CustomerDashboard.aspx.vb"
Inherits="CustomerDashboard" %>

<!DOCTYPE html>

<html>

<head runat="server">

    <title>Customer Dashboard</title>

</head>

<body>

    <form id="form1" runat="server">

        <h2>Welcome, Customer!</h2>

        <p>Select a functionality:</p>

        <ul>

            <li><a href="ProductList.aspx">View Products</a></li>

            <li><a href="OrderPlacement.aspx">Place Order</a></li>

            <li><a href="OrderTracking.aspx">Track Orders</a></li>

        </ul>

        <asp:Button ID="btnLogout" runat="server" Text="Logout" OnClick="btnLogout_Click"
/>

    </form>

</body>

</html>
```

// CustomerDashboard.aspx.vb

Partial Class CustomerDashboard

Inherits System.Web.UI.Page

Protected Sub btnLogout_Click(sender As Object, e As EventArgs)


```
Response.Redirect("Login.aspx")
```

```
End Sub
```

```
End Class
```

// ProductList.aspx

```
<%@ Page Language="vb" AutoEventWireup="true" CodeFile="ProductList.aspx.vb"  
Inherits="ProductList" %>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head><title>Product List</title></head>
```

```
<body>
```

```
    <form id="form1" runat="server">
```

```
        <h2>Available Products</h2>
```

```
        <asp:GridView ID="gvProducts" runat="server"  
AutoGenerateColumns="True"></asp:GridView>
```

```
        <asp:HyperLink ID="lnkBack" runat="server"  
NavigateUrl="CustomerDashboard.aspx">Back to Dashboard</asp:HyperLink>
```

```
    </form>
```

```
</body>
```

```
</html>
```

// ProductList.aspx.vb

```
Imports System.Data.SqlClient
```

```
Partial Class ProductList
```

```
    Inherits System.Web.UI.Page
```

```
    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
If Not IsPostBack Then
    LoadProducts()
End If
End Sub

Private Sub LoadProducts()

    Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial
Catalog=SCMS;Integrated Security=True"

    Using conn As New SqlConnection(connStr)

        Dim cmd As New SqlCommand("SELECT PRODUCT_ID, PRODUCT_NAME,
PRODUCT_DESCRIPTION, SELLING_COST, PRODUCT_QUANTITY FROM
PRODUCT_T", conn)

        conn.Open()

        gvProducts.DataSource = cmd.ExecuteReader()

        gvProducts.DataBind()

    End Using

End Sub
End Class
```

// OrderPlacement.aspx

```
<%@ Page Language="VB" AutoEventWireup="true" CodeFile="OrderPlacement.aspx.vb"
Inherits="OrderPlacement" %>
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
    <title>Place Order</title>
```

```
    <style>
```

```
body {  
    font-family: Arial;  
    padding: 30px;  
    background-color: #f8f9fa;  
}  
  
.order-container {  
    max-width: 500px;  
    margin: auto;  
    padding: 30px;  
    background-color: white;  
    border: 1px solid #ddd;  
    border-radius: 8px;  
}  
  
.order-container h2 {  
    text-align: center;  
    margin-bottom: 20px;  
}  
  
.form-group {  
    margin-bottom: 15px;  
}  
  
label {  
    display: block;  
    font-weight: bold;  
    margin-bottom: 5px;  
}  
  
input[type="text"], select {  
    width: 100%;
```

```
padding: 8px;
border: 1px solid #ccc;
border-radius: 5px;
}
.btn-submit {
background-color: #007bff;
color: white;
border: none;
padding: 10px 15px;
border-radius: 5px;
cursor: pointer;
width: 100%;
}
.btn-submit:hover {
background-color: #0056b3;
}
.message {
margin-top: 20px;
text-align: center;
font-weight: bold;
}
</style>
</head>
<body>
<form id="form1" runat="server">
<div class="order-container">
<h2>Place Your Order</h2>
```

```
<div class="form-group">  
  <label for="ddlProducts">Select Product:</label>  
  <asp:DropDownList ID="ddlProducts" runat="server" />  
</div>
```

```
<div class="form-group">  
  <label for="txtQuantity">Quantity:</label>  
  <asp:TextBox ID="txtQuantity" runat="server" />  
</div>
```

```
<div class="form-group">  
  <label for="ddlPayment">Payment Method:</label>  
  <asp:DropDownList ID="ddlPayment" runat="server">  
    <asp:ListItem Text="Cash" Value="Cash" />  
    <asp:ListItem Text="Card" Value="Card" />  
    <asp:ListItem Text="Online Transfer" Value="Online Transfer" />  
  </asp:DropDownList>  
</div>
```

```
<asp:Button ID="btnOrder" runat="server" Text="Place Order" CssClass="btn-submit"  
OnClick="btnOrder_Click" />
```

```
<asp:Label ID="lblMessage" runat="server" CssClass="message" ForeColor="Green" />  
</div>
```

```
<asp:HyperLink ID="lnkBack" runat="server"  
NavigateUrl="CustomerDashboard.aspx">Back to Dashboard</asp:HyperLink>  
</form>
```

</body>

</html>

// OrderPlacement.aspx.vb

Imports System.Data.SqlClient

Partial Class OrderPlacement

Inherits System.Web.UI.Page

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

If Session("CustomerID") Is Nothing Then

Response.Redirect("Login.aspx")

Else

LoadProducts()

End If

End If

End Sub

Private Sub LoadProducts()

Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial
Catalog=SCMS;Integrated Security=True"

Using conn As New SqlConnection(connStr)

Dim cmd As New SqlCommand("SELECT PRODUCT_ID, PRODUCT_NAME FROM
PRODUCT_T", conn)

conn.Open()

ddlProducts.DataSource = cmd.ExecuteReader()

ddlProducts.DataTextField = "PRODUCT_NAME"

ddlProducts.DataValueField = "PRODUCT_ID"

```
ddlProducts.DataBind()
```

```
End Using
```

```
End Sub
```

```
Protected Sub btnOrder_Click(sender As Object, e As EventArgs)
```

```
    Dim customerId As Integer = Convert.ToInt32(Session("CustomerID"))
```

```
    Dim productId As Integer = Convert.ToInt32(ddlProducts.SelectedValue)
```

```
    Dim quantity As Integer = Convert.ToInt32(txtQuantity.Text)
```

```
    Dim paymentMethod As String = ddlPayment.SelectedValue
```

```
    Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial  
Catalog=SCMS;Integrated Security=True"
```

```
    Using conn As New SqlConnection(connStr)
```

```
        conn.Open()
```

```
        Dim trans = conn.BeginTransaction()
```

```
        Try
```

```
            ' Generate next ORDER_ID manually
```

```
            Dim getMaxIdCmd As New SqlCommand("SELECT ISNULL(MAX(ORDER_ID), 0)  
+ 1 FROM ORDER_T", conn, trans)
```

```
            Dim nextOrderId As Integer = Convert.ToInt32(getMaxIdCmd.ExecuteScalar())
```

```
            ' Insert into ORDER_T
```

```
            Dim insertOrder As New SqlCommand("INSERT INTO ORDER_T (ORDER_ID,  
ORDER_DATE, CUSTOMER_ID, PAYMENT_METHOD) VALUES (@id, @date, @custId,  
@payment)", conn, trans)
```

```
            insertOrder.Parameters.AddWithValue("@id", nextOrderId)
```

```
            insertOrder.Parameters.AddWithValue("@date", DateTime.Now)
```

```
insertOrder.Parameters.AddWithValue("@custId", customerId)

insertOrder.Parameters.AddWithValue("@payment", paymentMethod)

insertOrder.ExecuteNonQuery()

' Insert into ORDER_LINE_T

Dim insertLine As New SqlCommand("INSERT INTO ORDER_LINE_T
(ORDER_ID, PRODUCT_ID, ORDERED_QUANTITY) VALUES (@orderId, @productId,
@qty)", conn, trans)

insertLine.Parameters.AddWithValue("@orderId", nextOrderId)

insertLine.Parameters.AddWithValue("@productId", productId)

insertLine.Parameters.AddWithValue("@qty", quantity)

insertLine.ExecuteNonQuery()

trans.Commit()

lblMessage.Text = "Order placed successfully!"

Catch ex As Exception

trans.Rollback()

lblMessage.Text = "Error placing order: " & ex.Message

End Try

End Using

End Sub

End Class
```

// OrderTracking.aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="OrderTracking.aspx.vb"
Inherits="OrderTracking" %>
```

```
<!DOCTYPE html>
```



```
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Order Tracking </title>
</head>
<body>
    <form id="form1" runat="server">
        <div class="grid-container">
            <h2>Your Orders and Shipments</h2>
            <asp:GridView ID="gvOrders" runat="server" AutoGenerateColumns="False"
                EmptyDataText="No orders or shipments found."
                CssClass="table table-bordered"
                GridLines="Both"
                HeaderStyle-BackColor="#4285F4"
                HeaderStyle-ForeColor="White"
                HeaderStyle-Font-Bold="True">

                <Columns>
                    <asp:BoundField DataField="ORDER_ID" HeaderText="Order ID" />
                    <asp:BoundField DataField="ORDER_DATE" HeaderText="Order Date"
DataFormatString="{0:yyyy-MM-dd}" />
                    <asp:BoundField DataField="PRODUCT_NAME" HeaderText="Product Name" />
                    <asp:BoundField DataField="ORDERED_QUANTITY" HeaderText="Quantity" />
                    <asp:BoundField DataField="SHIPMENT_DATE" HeaderText="Shipment Date"
DataFormatString="{0:yyyy-MM-dd}" />
                    <asp:BoundField DataField="ESTIMATED_DELIVERY_DATE"
HeaderText="Estimated Delivery" DataFormatString="{0:yyyy-MM-dd}" />
                    <asp:BoundField DataField="SHIPPING_STATUS" HeaderText="Shipment Status"
/>
                </Columns>
            </asp:GridView>
        </div>
    </form>
</body>
</html>
```

```

        </Columns>

    </asp:GridView>

</div>

    <asp:HyperLink ID="lnkBack" runat="server"
NavigateUrl="CustomerDashboard.aspx">Back to Dashboard</asp:HyperLink>

</form>

</body>

</html>

```

//OrderTracking.aspx.vb

Imports System.Data.SqlClient

Partial Class OrderTracking

Inherits System.Web.UI.Page

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

LoadOrders()

End If

End Sub

Private Sub LoadOrders()

Dim customerId As Integer = Session("CustomerID")

Dim connStr As String = "Data Source=DESKTOP-6EPGA6H;Initial
Catalog=SCMS;Integrated Security=True"

Using conn As New SqlConnection(connStr)

Dim cmd As New SqlCommand("SELECT O.ORDER_ID, O.ORDER_DATE,
P.PRODUCT_NAME, OL.ORDERED_QUANTITY, S.SHIPMENT_DATE,
S.ESTIMATED_DELIVERY_DATE, S.SHIPPING_STATUS FROM ORDER_T O JOIN

```
ORDER_LINE_T OL ON O.ORDER_ID = OL.ORDER_ID JOIN PRODUCT_T P ON
OL.PRODUCT_ID = P.PRODUCT_ID LEFT JOIN SHIPMENT S ON O.ORDER_ID =
S.ORDER_ID WHERE O.CUSTOMER_ID= @custId", conn)
```

```
cmd.Parameters.AddWithValue("@custId", customerId)
```

```
conn.Open()
```

```
gvOrders.DataSource = cmd.ExecuteReader()
```

```
gvOrders.DataBind()
```

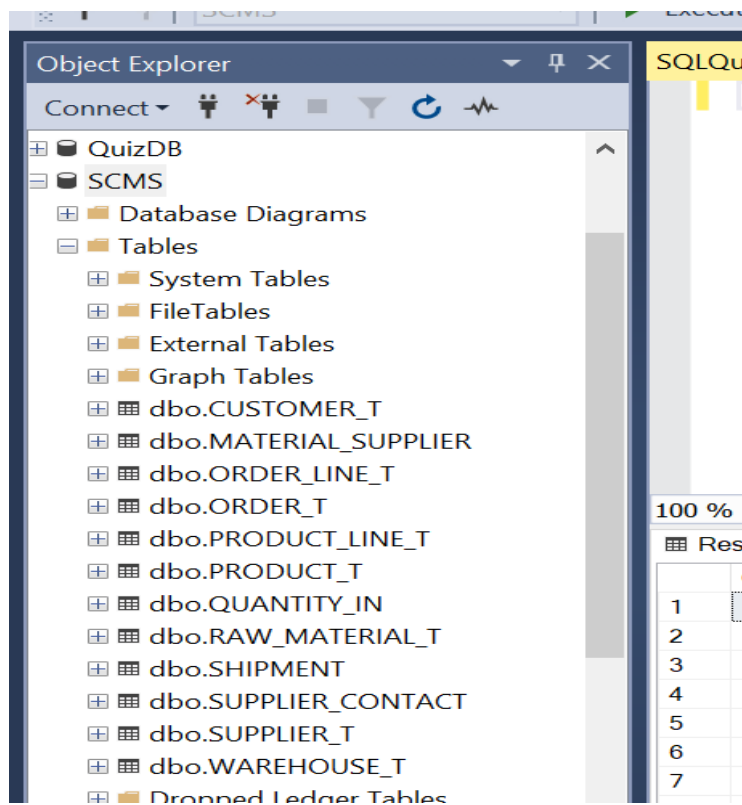
```
End Using
```

```
End Sub
```

```
End Class
```

Task 6: To host the application on a web domain.

- Database can be on local machine
- Or on web hosting platform



SUPPLY CHAIN MANAGEMENT SYSTEM

The screenshot shows the SOMEE.com database management interface. The top navigation bar includes links for Dashboard, Shop, Ask a question, a search bar for the knowledge base, and a Log Out button. The left sidebar shows a tree view of databases, with 'Supply_Chain_Management' selected. The main content area displays the 'Database details' for 'Supply_Chain_Management'. The details include the database name, full domain name, SQL version (MS SQL 2022 Express), subscription (Free hosting package), service ID, and invoice number. On the right, there are two progress bars showing the usage of the data file and log file, both at 8MB used out of a 30MB capacity.

Database name:	Supply_Chain_Management
Full domain name:	Supply_Chain_Management.mssql.somee.com
SQL Version:	MS SQL 2022 Express
Subscription:	Free hosting package (SPID1336062)
Service ID:	MPID4878227
Invoices:	INVID1443650

Data file	Capacity: 30MB
Used: 8MB	Free: 22MB

Log file	Capacity: 30MB
Used: 8MB	Free: 22MB

Task 7: Testing of Web Application

Login

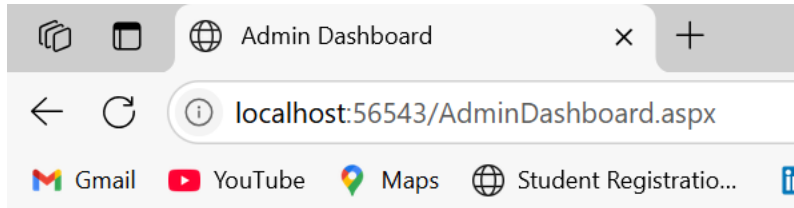
Login

Admin ▼

Username / Customer ID:

Password / Email:

Login



Welcome, Admin!

Select a functionality:

- [Manage Customers](#)
- [Manage Products](#)
- [Manage Orders](#)
- [Manage Warehouses](#)
- [Manage Shipments](#)

[Logout](#)

Customer Management

Customer ID	Name	Email	Status	
7001	John Doe	johndoe@email.com	Active	Delete
7002	Jane Smith	janesmith@email.com	Inactive	Delete

[Back to Dashboard](#)

Order Management

localhost:56543/OrderManagement.aspx

Gmail YouTube Maps Student Registratio... Jobs | LinkedIn ChatGPT

Back to Dashboard

Order Management

Customer --Select Customer-- Order Date mm/dd/yyyy Payment Method Cash

Order ID	Customer Name	Order Date	Payment	
1001	David Brown	4/1/2025 12:00:00 AM	Card	Edit Delete
1002	Eve Green	4/2/2025 12:00:00 AM	Cash	Edit Delete
2001	David Brown	3/10/2025 12:00:00 AM	Credit Card	Edit Delete
2002	Eve Green	3/12/2025 12:00:00 AM	PayPal	Edit Delete
7020	John Doe	12/4/2025 12:00:00 AM	Express	Edit Delete
8001	John Doe	3/10/2025 12:00:00 AM	Credit Card	Edit Delete
8002	Jane Smith	3/12/2025 12:00:00 AM	PayPal	Edit Delete
8003	Ayesha	5/22/2025 12:00:00 AM	Card	Edit Delete

[Back to Dashboard](#)

Product Management

localhost:56543/ProductManagement.aspx

Gmail YouTube Maps Student Registratio... Jobs | LinkedIn ChatGPT Oracle SmartX Innovations... preply - Search

Product Line ID:

Warehouse ID:

-- Select Warehouse --

Quantity:

Save Product

Clear

ID	Name	M. Cost	S. Cost	Description	Type	Line ID	Warehouse ID	Quantity		
301	Wooden Chair	50.00	150.00	Comfortable wooden chair	Furniture	1	1	200	Edit	Delete
302	Steel Table	100.00	300.00	Durable steel table	Furniture	2	2	150	Edit	Delete
501	Wooden Chair	50.00	150.00	Comfortable wooden chair	Furniture	301	1001	200	Edit	Delete
502	Steel Table	100.00	300.00	Durable steel table	Furniture	302	1002	150	Edit	Delete
6001	Wooden Chair	50.00	150.00	Comfortable wooden chair	Furniture	4001	2001	200	Edit	Delete
6002	Steel Table	100.00	300.00	Durable steel table	Furniture	4002	2002	150	Edit	Delete



Warehouse Management

Name:

City:

State:

Postal Code:

Street Address:

ID	Name	City	State	Postal Code	Street Address	
1	Central Warehouse	Los Angeles	California	90001	123 Main St	Edit Delete
2	East Coast Warehouse	New York City	New York	10001	456 East St	Edit Delete
1001	Main Warehouse	Los Angeles	California	90001	1234 Industrial Blvd	Edit Delete
1002	East Warehouse	San Francisco	California	94110	5678 Commerce Dr	Edit Delete
2001	Main Warehouse	Los Angeles	California	90001	1234 Industrial Blvd	Edit Delete
2002	East Warehouse	San Francisco	California	94110	5678 Commerce Dr	Edit Delete

[Back to Dashboard](#)

Shipment Management

localhost:56543/ShipmentManagement.aspx

Gmail

YouTube

Maps

Student Registratio...

Jobs | LinkedIn

ChatGPT

Oracle

SmartX Innovations:

Shipment Form

Order ID:

Shipment Date:

Estimated Delivery Date:

Shipping Courier:

Shipping Status:

Shipping Order Weight:

Save Shipment

Clear

All Shipments

Shipment ID	Order ID	Shipment Date	Estimated Delivery	Courier	Status	Weight (kg)	
1001	1001	4/2/2025 12:00:00 AM	4/5/2025 12:00:00 AM	FedEx	Shipped	20	Edit Delete
1002	1002	4/3/2025 12:00:00 AM	4/6/2025 12:00:00 AM	UPS	Shipped	25	Edit Delete
1003	2001	3/15/2025 12:00:00 AM	3/20/2025 12:00:00 AM	FedEx	Shipped	10	Edit Delete
1004	2002	3/17/2025 12:00:00 AM	3/22/2025 12:00:00 AM	UPS	Shipped	15	Edit Delete
9001	8001	3/15/2025 12:00:00 AM	3/20/2025 12:00:00 AM	FedEx	Shipped	10	Edit Delete
9002	8002	3/17/2025 12:00:00 AM	3/22/2025 12:00:00 AM	UPS	Shipped	15	Edit Delete
9003	8003	5/23/2025 12:00:00 AM	5/30/2025 12:00:00 AM	UPS	Shipped	10	Edit Delete

Login / Register

×

+

←

↺

localhost:56543/Login.aspx

Gmail

YouTube

Maps

Student Registratio...

Jobs

Login

Login

Customer ▾

Username / Customer ID:

Password / Email:

Login

Customer Dashboard

×

+

←

↺

localhost:56543/CustomerDashboard.aspx

Gmail

YouTube

Maps

Student Registratio...

Welcome, Customer!

Select a functionality:

- [View Products](#)
- [Place Order](#)
- [Track Orders](#)

Logout

SUPPLY CHAIN MANAGEMENT SYSTEM

Product List

localhost:56543/ProductList.aspx

Gmail YouTube Maps Student Registratio... Jobs | LinkedIn ChatGPT Oracle SmartX Innovations

Available Products

PRODUCT_ID	PRODUCT_NAME	PRODUCT_DESCRIPTION	SELLING_COST	PRODUCT_QUANTITY
301	Wooden Chair	Comfortable wooden chair	150.00	200
302	Steel Table	Durable steel table	300.00	150
501	Wooden Chair	Comfortable wooden chair	150.00	200
502	Steel Table	Durable steel table	300.00	150
6001	Wooden Chair	Comfortable wooden chair	150.00	200
6002	Steel Table	Durable steel table	300.00	150

[Back to Dashboard](#)

Place Order

localhost:56543/OrderPlacement.aspx

Gmail YouTube Maps Student Registratio... Jobs | LinkedIn ChatGPT Oracle SmartX Innovations:... preply - Search

Place Your Order

Select Product:

Wooden Chair

Quantity:

2

Payment Method:

Card

Place Order

[Back to Dashboard](#)

Order Tracking

×

+

←

↻

localhost:56543/OrderTracking.aspx

Gmail

YouTube

Maps

Student Registratio...

Jobs | LinkedIn

ChatGPT

Oracle

SmartX

Your Orders and Shipments

Order ID	Order Date	Product Name	Quantity	Shipment Date	Estimated Delivery	Shipment Status
8003	2025-05-22	Steel Table	2	2025-05-23	2025-05-30	Shipped

[Back to Dashboard](#)