

Default.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="Default.aspx.cs"
Inherits="PVFC._Default" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>My WEBSITE</title>
  <style>
    .linkStyle { display: inline-block; margin: 10px 0; }
  </style>
</head>
<body>
  <form id="form1" runat="server">
    <h2>Role Base Access Control</h2>
    <asp:HyperLink ID="lnkTask1Problem" runat="server"
      NavigateUrl="Problem_Statement.txt"
      CssClass="linkStyle">Problem Statement</asp:HyperLink><br />

    <asp:HyperLink ID="lnkTask1Report" runat="server"
      NavigateUrl="Code_Implementation_Report.pdf"
      CssClass="linkStyle">Code Implementation Report</asp:HyperLink><br />

    <asp:HyperLink ID="lnkTask1Output" runat="server"
      NavigateUrl="Sample_Output.pdf"
      CssClass="linkStyle">Sample Output</asp:HyperLink><br />

    <asp:HyperLink ID="lnkTask1Demo" runat="server"
      NavigateUrl="login.aspx"
      CssClass="linkStyle">Demonstration Page</asp:HyperLink><br />
  </form>
</body>
</html>
```

Default.aspx.cs:

```
using System;
using System.Web.UI;

namespace PVFC
{
  public partial class _Default : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {

    }
  }
}
```

```
}
```

Login.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="Login.aspx.cs" Inherits="PVFC.Login"
%>
<html>
<body>
<form runat="server">
<h2>User Login</h2>
Username:<br />
<asp:TextBox ID="txtUser" runat="server" /><br /><br />
Password:<br />
<asp:TextBox ID="txtPass" runat="server" TextMode="Password" /><br /><br />
<asp:Button ID="btnLogin" runat="server"
Text="Login"
OnClick="btnLogin_Click" />
<br /><br />
<asp:Label ID="lblMsg" runat="server" ForeColor="Red" />
<br /><br />
<asp:HyperLink ID="lnkRegister" runat="server"
NavigateUrl="CustomerRegistration.aspx">
Register Now
</asp:HyperLink>
</form>
</body>
</html>
```

Login.aspx.cs:

```
using System;
using System.Data.SqlClient;
using System.Configuration;
namespace PVFC
{
    public partial class Login : System.Web.UI.Page
    {
        string connStr = ConfigurationManager.ConnectionStrings["PVFCConnectionString"].ConnectionString;

        protected void btnLogin_Click(object sender, EventArgs e)
        {
            using (SqlConnection con = new SqlConnection(connStr))
            {
                con.Open();
            }
        }
    }
}
```

```
SqlCommand cmd = new SqlCommand(@"  
    SELECT UserID  
    FROM Users  
    WHERE Username=@u AND Password=@p AND IsActive=1", con);
```

```
cmd.Parameters.AddWithValue("@u", txtUser.Text);  
cmd.Parameters.AddWithValue("@p", txtPass.Text);
```

```
object userId = cmd.ExecuteScalar();
```

```
if (userId == null)  
{  
    lblMsg.Text = "Invalid username or password!";  
    return;  
}
```

```
int uid = Convert.ToInt32(userId);
```

```
Session["UserID"] = uid;
```

```
SqlCommand cmdRole = new SqlCommand(@"  
    SELECT r.RoleName  
    FROM UserRoles ur  
    JOIN Roles r ON ur.RoleID = r.RoleID  
    WHERE ur.UserID=@uid", con);
```

```
cmdRole.Parameters.AddWithValue("@uid", uid);
```

```
string role = cmdRole.ExecuteScalar()?.ToString();
```

```
if (role == null)  
{  
    lblMsg.Text = "No role assigned!";  
    return;  
}
```

```
Session["Role"] = role;
```

```
if (role == "Admin")  
{  
    Response.Redirect("AdminDashboard.aspx");  
}  
else if (role == "Manager")  
{  
    Response.Redirect("ManagerDashboard.aspx");  
}  
else if (role == "Salesperson")  
{  
    Response.Redirect("SalesDashboard.aspx");  
}  
else if (role == "Customer")
```

```

    {
        Response.Redirect("CustomerDashboard.aspx");
    }
    else
    {
        lblMsg.Text = "Unknown role!";
    }
}
}
}
}
}

```

AdminDashboard.aspx:

```

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="AdminDashboard.aspx.cs"
Inherits="PVFC.AdminDashboard" %>
<html>
<body>
<form runat="server">
<h2>Admin Dashboard</h2>
<asp:HyperLink runat="server" NavigateUrl="ProductCatalogUpdate.aspx">Product Catalog
Update</asp:HyperLink><br /><br />
<asp:HyperLink runat="server" NavigateUrl="ProductSearch.aspx">Product Search</asp:HyperLink><br
/><br />
<asp:HyperLink runat="server" NavigateUrl="CustomerDashboard.aspx">Product
Selection</asp:HyperLink><br
/><br />
<asp:HyperLink runat="server" NavigateUrl="PaymentProvision.aspx">Payment Provision</asp:HyperLink>

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

```

AdminDashboard.aspx.cs:

```

using System;
namespace PVFC
{
    public partial class AdminDashboard : BasePage
    {

```

```

        protected void Page_Load(object sender, EventArgs e)
        {
            CheckAccess(new string[] { "Admin" });
        }
    }
}

```

CustomerDashboard.aspx:

```

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="CustomerDashboard.aspx.cs"
Inherits="PVFC.CustomerDashboard" %>

```

```

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
<title>Customer Store</title>
</head>

<body>

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

<h2>Available Products</h2>

<ul>
<li>End Table</li>
<li>Coffee Table</li>
<li>Computer Desk</li>
<li>Entertainment Center</li>
<li>Writers Desk</li>
<li>8-Drawer Desk</li>
<li>Dining Table</li>
<li>Computer Desk Walnut</li>
</ul>

<hr />
Search Product:<br />
<asp:TextBox ID="txtSearch" runat="server"></asp:TextBox>
<asp:Button ID="btnSearch"
runat="server"
Text="Search"
OnClick="btnSearch_Click" />
<br /><br />
<asp:GridView ID="gvProducts"
runat="server"
AutoGenerateColumns="False"
DataKeyNames="Product_Id"
OnRowCommand="gvProducts_RowCommand">

```

```

<Columns>
<asp:BoundField DataField="Product_Id" HeaderText="Product ID" />
<asp:BoundField DataField="Product_Description" HeaderText="Product Name" />
<asp:BoundField DataField="Product_Finish" HeaderText="Finish" />
<asp:BoundField DataField="Standard_Price" HeaderText="Price" />
<asp:ButtonField
Text="Add To Cart"
CommandName="AddProduct"
ButtonType="Button" />
</Columns>
</asp:GridView>
<br />
<asp:Label ID="lblMsg"
runat="server"
ForeColor="Green"></asp:Label>
<asp:Button ID="btnCheckout"
runat="server"
Text="Proceed to Checkout"
OnClick="btnCheckout_Click" />
</form>
</body>
</html>

```

CustomerDashboard.aspx.cs:

```

using System;
using System.Configuration;
using System.Data;
using System.Data.SqlClient;
using System.Web.UI.WebControls;

namespace PVFC
{
    public partial class CustomerDashboard : BasePage
    {
        string connStr = ConfigurationManager.ConnectionStrings["PVFCConnectionString"].ConnectionString;

        protected void Page_Load(object sender, EventArgs e)
        {
            CheckAccess(new string[] { "Customer", "Admin", "Manager", "Salesperson" });
        }

        protected void btnSearch_Click(object sender, EventArgs e)
        {

```

```

string searchText = txtSearch.Text.Trim();

using (SqlConnection con = new SqlConnection(connStr))
{
    string query = @"SELECT Product_Id,
                        Product_Description,
                        Product_Finish,
                        Standard_Price
FROM PRODUCT_t
WHERE Product_Description LIKE '%' + @search + '%";

    SqlCommand cmd = new SqlCommand(query, con);

    cmd.Parameters.AddWithValue("@search", searchText);

    SqlDataAdapter da = new SqlDataAdapter(cmd);

    DataTable dt = new DataTable();

    da.Fill(dt);

    gvProducts.DataSource = dt;
    gvProducts.DataBind();
}
}

protected void gvProducts_RowCommand(object sender, GridViewCommandEventArgs e)
{
    if (e.CommandName == "AddProduct")
    {
        int index = Convert.ToInt32(e.CommandArgument);
        int productId = Convert.ToInt32(gvProducts.DataKeys[index].Value);

        Session["SelectedProduct"] = productId;

        lblMsg.Text = "Product added! Now click Checkout.";
    }
}

protected void btnCheckout_Click(object sender, EventArgs e)
{
    if (Session["SelectedProduct"] == null)
    {
        lblMsg.Text = "Please select a product first!";
        return;
    }
}

```

```

        Response.Redirect("ProductSelection.aspx");
    }
}

```

CustomerRegistration.aspx:

```

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="CustomerRegistration.aspx.cs"
Inherits="PVFC.CustomerRegistration" %>
<!DOCTYPE html>
<html>
<head runat="server">
    <title>Customer Registration</title>
</head>
<body>
<form id="form1" runat="server">
    <h2>New Customer Registration</h2>

    Customer ID:<br />
    <asp:TextBox ID="txtId" runat="server" /><br /><br />

    Customer Name:<br />
    <asp:TextBox ID="txtName" runat="server" /><br /><br />

    Address:<br />
    <asp:TextBox ID="txtAddress" runat="server" /><br /><br />

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

    City:<br />
    <asp:DropDownList ID="ddlCity" runat="server" AutoPostBack="true"
        OnSelectedIndexChanged="ddlCity_SelectedIndexChanged">
        <asp:ListItem Text="Lahore" Value="54000" />
        <asp:ListItem Text="Karachi" Value="74000" />
        <asp:ListItem Text="Islamabad" Value="44000" />
        <asp:ListItem Text="Rawalpindi" Value="46000" />
    </asp:DropDownList><br /><br />

    Postal Code:<br />
    <asp:TextBox ID="txtPostal" runat="server" ReadOnly="true" /><br /><br />

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

    Password:<br />
    <asp:TextBox ID="txtPassword" runat="server" TextMode="Password" /><br /><br />
    <asp:Button ID="btnRegister" runat="server"

```

```

        Text="Register Customer"
        OnClick="btnRegister_Click" />

<br /><br />
<asp:Label ID="lblMsg" runat="server" ForeColor="Green" />
</form>
</body>
</html>

```

CustomerRegistration.aspx.cs:

```

using System;
using System.Configuration;
using System.Data.SqlClient;

namespace PVFC
{
    public partial class CustomerRegistration : System.Web.UI.Page
    {
        string connStr = ConfigurationManager.ConnectionStrings["PVFCConnectionString"].ConnectionString;

        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                ddlCity.Items.Insert(0, new System.Web.UI.WebControls.ListItem("Select City", ""));
            }
        }

        protected void ddlCity_SelectedIndexChanged(object sender, EventArgs e)
        {
            txtPostal.Text = ddlCity.SelectedValue;
        }

        protected void btnRegister_Click(object sender, EventArgs e)
        {
            try
            {
                using (SqlConnection con = new SqlConnection(connStr))
                {
                    con.Open();

                    string q1 = @"INSERT INTO CUSTOMER_t
(Customer_Id, Customer_Name, Customer_Address, Customer_City, Customer_State, Postal_Code)
VALUES
(@Id, @Name, @Address, @City, @State, @Postal)";

```

```

SqlCommand cmd1 = new SqlCommand(q1, con);
cmd1.Parameters.AddWithValue("@Id", txtId.Text);
cmd1.Parameters.AddWithValue("@Name", txtName.Text);
cmd1.Parameters.AddWithValue("@Address", txtAddress.Text);
cmd1.Parameters.AddWithValue("@City", ddlCity.SelectedItem.Text);
cmd1.Parameters.AddWithValue("@State", txtState.Text);
cmd1.Parameters.AddWithValue("@Postal", txtPostal.Text);

cmd1.ExecuteNonQuery();

string q2 = @"INSERT INTO Users (Username, Password)
VALUES (@u, @p); SELECT SCOPE_IDENTITY()";

SqlCommand cmd2 = new SqlCommand(q2, con);
cmd2.Parameters.AddWithValue("@u", txtUsername.Text);
cmd2.Parameters.AddWithValue("@p", txtPassword.Text);

int userId = Convert.ToInt32(cmd2.ExecuteScalar());

SqlCommand cmd3 = new SqlCommand("INSERT INTO UserRoles VALUES (@uid, 4)", con);
cmd3.Parameters.AddWithValue("@uid", userId);
cmd3.ExecuteNonQuery();

Session["UserID"] = userId;
Session["CustomerID"] = txtId.Text;

Response.Redirect("ProductSelection.aspx");
}
}
catch (Exception ex)
{
    lblMsg.Text = "Error: " + ex.Message;
}
}
}
}
}

```

ManagerDashboard.aspx:

```

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="ManagerDashboard.aspx.cs"
Inherits="PVFC.ManagerDashboard" %>
<html>
<body>
<form runat="server">

```

```

<h2>Manager Dashboard</h2>
<asp:HyperLink runat="server" NavigateUrl="ProductSearch.aspx">
Product Search
</asp:HyperLink>
<br /><br />
<asp:HyperLink runat="server" NavigateUrl="CustomerDashboard.aspx">
Product Selection
</asp:HyperLink>
<br /><br />
<asp:HyperLink runat="server" NavigateUrl="PaymentProvision.aspx">
Payment Provision
</asp:HyperLink>
</form>
</body>
</html>

```

ManagerDashboard.aspx.cs:

```

using System;
namespace PVFC
{
    public partial class ManagerDashboard : BasePage
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            CheckAccess(new string[] { "Manager" });
        }
    }
}

```

PaymentProvision.aspx:

```

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="PaymentProvision.aspx.cs"
Inherits="PVFC.PaymentProvision" %>

<!DOCTYPE html>
<html>
<head runat="server">

```

```
<title>Payment Provision</title>
```

```
<style>
```

```
form{
width:420px;
margin:40px auto;
padding:25px;
border:1px solid #ccc;
background-color:white;
}
```

```
h2{
text-align:center;
}
```

```
input{
width:200px;
padding:5px;
}
```

```
button{
padding:6px 10px;
margin-right:5px;
}
```

```
</style>
```

```
</head>
```

```
<body>
```

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

```
<h2>Payment Provision</h2>
```

```
Order ID:<br />
```

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

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

```
Account Number:<br />
```

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

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

```
Payment Method:<br />
```

```
<asp:Button ID="btnCash"
```

```
runat="server"
```

```
Text="Cash"
```

```
OnClick="btnCash_Click" />
```

```
<asp:Button ID="btnOnline"
```

```
runat="server"
```

```
Text="Online"
```

```
OnClick="btnOnline_Click" />
```

```
<asp:Button ID="btnOthers"
```

```
runat="server"
```

```
Text="Others"
```

```
OnClick="btnOthers_Click" />
```

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

```
<asp:Button ID="btnSubmit"
```

```
runat="server"
```

```
Text="Submit Payment"
```

```
OnClick="btnSubmit_Click" />
<br /><br />
<asp:Label ID="lblOutput"
runat="server"
ForeColor="Green"></asp:Label>
</form>
</body>
</html>
```

PaymentProvision.aspx.cs:

```
using System;

namespace PVFC
{
    public partial class PaymentProvision : BasePage
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                if (Session["OrderID"] != null)
                {
                    txtOrderId.Text = Session["OrderID"].ToString();
                }
            }
        }

        protected void btnSubmit_Click(object sender, EventArgs e)
        {
            lblOutput.Text = "Payment successful for Order ID: " + txtOrderId.Text;

            Session["OrderID"] = null;
            Session["SelectedProduct"] = null;

            RedirectToDashboard();
        }

        protected void btnCash_Click(object sender, EventArgs e)
        {
            lblOutput.Text = "Cash selected";
        }

        protected void btnOnline_Click(object sender, EventArgs e)
        {
            lblOutput.Text = "Online selected";
        }
    }
}
```

```

        protected void btnOthers_Click(object sender, EventArgs e)
        {
            lblOutput.Text = "Other payment selected";
        }
    }
}

```

ProductCatalogUpdate.aspx:

```

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="ProductCatalogUpdate.aspx.cs"
Inherits="PVFC.ProductCatalogUpdate" %>

```

```

<!DOCTYPE html>
<html>
<head runat="server">
    <title>Product Catalog Update</title>
</head>
<body>
<form id="form1" runat="server">
    <h2>Product Catalog Update</h2>

    Product ID:<br />
    <asp:TextBox ID="txtProductId" runat="server" /><br /><br />

    Product Line:<br />
    <asp:DropDownList ID="ddlProductLine" runat="server">
        <asp:ListItem Text="Select Line" Value="" />
        <asp:ListItem Text="Cherry Tree" Value="1" />
        <asp:ListItem Text="Scandinavia" Value="2" />
        <asp:ListItem Text="Country Look" Value="3" />
    </asp:DropDownList><br /><br />

    Description:<br />
    <asp:TextBox ID="txtDescription" runat="server" /><br /><br />

    Finish:<br />
    <asp:TextBox ID="txtFinish" runat="server" /><br /><br />

    Standard Price:<br />
    <asp:TextBox ID="txtPrice" runat="server" /><br /><br />

    <asp:Button ID="btnUpdate" runat="server"
        Text="Update Product"
        OnClick="btnUpdate_Click" />

    <br /><br />

```

```
<asp:Label ID="lblMsg" runat="server" ForeColor="Green" />
</form>
</body>
</html>
```

ProductCatalogUpdate.aspx.cs:

```
using System;
using System.Configuration;
using System.Data.SqlClient;

namespace PVFC
{
    public partial class ProductCatalogUpdate : BasePage
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (Request.QueryString["redirect"] == "1")
            {
                RedirectToDashboard();
            }
        }
        string connStr = ConfigurationManager.ConnectionStrings["PVFCConnectionString"].ConnectionString;

        protected void btnUpdate_Click(object sender, EventArgs e)
        {
            try
            {
                using (SqlConnection con = new SqlConnection(connStr))
                {
                    string query = @"UPDATE PRODUCT_t
                                   SET Product_Line_Id = @LineId,
                                   Product_Description = @Desc,
                                   Product_Finish = @Finish,
                                   Standard_Price = @Price
                                   WHERE Product_Id = @Pid";

                    using (SqlCommand cmd = new SqlCommand(query, con))
                    {
                        cmd.Parameters.AddWithValue("@Pid", txtProductId.Text);
                        cmd.Parameters.AddWithValue("@LineId", ddlProductLine.SelectedValue);
                        cmd.Parameters.AddWithValue("@Desc", txtDescription.Text);
                        cmd.Parameters.AddWithValue("@Finish", txtFinish.Text);
                        cmd.Parameters.AddWithValue("@Price", txtPrice.Text);

                        con.Open();
                        int rows = cmd.ExecuteNonQuery();
                    }
                }
            }
        }
    }
}
```

```
        if (rows > 0)
        {
            lblMsg.Text = "Product Updated Successfully!";

            ClientScript.RegisterStartupScript(this.GetType(), "redirect",
                "setTimeout(function(){ window.location = 'ProductCatalogUpdate.aspx?redirect=1';
}, 1500); ", true);
        }
        else
        {
            lblMsg.Text = "Product ID Not Found!";
        }
    }
}
}
}
}
}
}
}
}
```