

LAB 06

Default.aspx

```
<%@ Page Title="PVFC Home" Language="vb" AutoEventWireup="false"
CodeBehind="Default.aspx.vb" Inherits="pvfc_website._Default" %>

<!DOCTYPE html>
<html>
<head runat="server">
  <title>PVFC Home</title>
  <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
  <form id="form1" runat="server">
    <div class="navbar">
      <!-- EVERYONE can see these -->
      <a href="Default.aspx">Home</a>
      <a href="productSearch.aspx">Products</a>

      <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
      <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
      <a href="catalog.aspx">Manage Catalog</a>
      <% End If %>

      <!-- ONLY CUSTOMERS (2) can see these -->
      <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
      <a href="updateCustomer.aspx">Update Profile</a>
      <a href="payment.aspx">Cart & Checkout</a>
      <% End If %>

      <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
      <% If Session("RoleId") Is Nothing Then %>
      <a href="register.aspx">Register</a>
      <a href="login.aspx">Login</a>
      <% Else %>
      <a href="login.aspx">Logout</a>
      <% End If %>
    </div>

    <div class="main-content container">
      <h1>Pine Valley Furniture Company</h1>
      <p style="text-align: center;">Welcome to our online store. Please
navigate using the menu above.</p>
    </div>
  </form>
</body>
</html>
```

Default.aspx.vb

```
Public Class _Default
    Inherits System.Web.UI.Page

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

    End Sub

End Class
```

login.aspx

```
<%@ Page Language="vb" AutoEventWireup="false" CodeBehind="login.aspx.vb"
Inherits="pvfc_website.login" %>

<!DOCTYPE html>
<html lang="en">
<head runat="server">
    <meta charset="UTF-8">
    <title>System Login</title>
    <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
    <form id="form1" runat="server">
        <div class="navbar">
            <!-- EVERYONE can see these -->
            <a href="Default.aspx">Home</a>
            <a href="productSearch.aspx">Products</a>

            <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
            <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId")
= 3) Then %>
            <a href="catalog.aspx">Manage Catalog</a>
            <% End If %>

            <!-- ONLY CUSTOMERS (2) can see these -->
            <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
            <a href="updateCustomer.aspx">Update Profile</a>
            <a href="payment.aspx">Cart & Checkout</a>
            <% End If %>

            <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
            <% If Session("RoleId") Is Nothing Then %>
            <a href="register.aspx">Register</a>
            <a href="login.aspx">Login</a>
            <% Else %>
            <a href="login.aspx">Logout</a>
            <% End If %>
        </div>
```

```

    <div class="page-wrapper" style="display: flex; align-items: flex-start;
justify-content: center;">
    <div class="login-container">
        <h1>System Login</h1>

        <asp:Label ID="lblMessage" runat="server" Font-Bold="true"
ForeColor="Red" Style="display: block; margin-bottom: 15px;"></asp:Label>

        <div style="text-align: left;">
            <label>Username</label>
            <asp:TextBox ID="emailTB" runat="server"
placeholder="you@email.com"></asp:TextBox>

            <label>Password</label>
            <asp:TextBox ID="pwdTB" runat="server"
TextMode="Password"></asp:TextBox>

            <asp:Button ID="btnlogin" runat="server" Text="Log In"
Style="width: 100%; margin-top: 15px;" />
        </div>
    </div>

    <div style="width: 220px; background: #fff; border: 1px solid
#e5e7eb; border-radius: 10px; padding: 1.2rem; font-family: sans-serif; flex-
shrink: 0; margin-top: 20px; margin-left: 40px;">
        <p style="font-size: 11px; font-weight: bold; color: #888; text-
transform: uppercase; letter-spacing: 0.05em; margin: 0 0 1rem;">Test
Credentials</p>

        <div style="margin-bottom: 1rem; padding-bottom: 1rem; border-
bottom: 1px solid #f0f0f0;">
            <span style="font-size: 11px; background: #dbeafe; color:
#1d4ed8; padding: 2px 8px; border-radius: 4px; font-weight: bold;">Admin</span>
            <p style="font-size: 11px; color: #888; margin: 8px 0
2px;">Username</p>
            <p style="font-size: 12px; font-family: monospace; margin: 0
0 6px;">admin@pvfc.com</p>
            <p style="font-size: 11px; color: #888; margin: 0 0
2px;">Password</p>
            <p style="font-size: 12px; font-family: monospace; margin:
0;">admin123</p>
        </div>

        <div style="margin-bottom: 1rem; padding-bottom: 1rem; border-
bottom: 1px solid #f0f0f0;">
            <span style="font-size: 11px; background: #dcfce7; color:
#15803d; padding: 2px 8px; border-radius: 4px; font-weight:
bold;">Employee</span>
            <p style="font-size: 11px; color: #888; margin: 8px 0
2px;">Username</p>
            <p style="font-size: 12px; font-family: monospace; margin: 0
0 6px;">employee@pvfc.com</p>
            <p style="font-size: 11px; color: #888; margin: 0 0
2px;">Password</p>
            <p style="font-size: 12px; font-family: monospace; margin:
0;">emp123</p>
        </div>

        <div>
            <span style="font-size: 11px; background: #fef9c3; color:
#854d0e; padding: 2px 8px; border-radius: 4px; font-weight:
bold;">Customer</span>

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        <p style="font-size: 11px; color: #888; margin: 8px 0 0;
line-height: 1.5;">Register first via the register page to get a customer
account.</p>
    </div>
</div>
</form>
</body>
</html>

```

login.aspx.vb

```

Imports System.Data.SqlClient
Imports System.Web.Configuration

Public Class login
    Inherits System.Web.UI.Page

    ' LOGOUT MECHANISM
    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs)
Handles Me.Load
        If Not IsPostBack Then
            ' log out = destroy session
            If Session("RoleId") IsNot Nothing Then
                Session.Clear()
                Session.Abandon()
                lblMessage.ForeColor = Drawing.Color.Green
                lblMessage.Text = "You have been successfully logged out."
            End If
        End If
    End Sub

    ' AUTHENTICATION MECHANISM
    Protected Sub btnlogin_Click(sender As Object, e As EventArgs) Handles
btnlogin.Click
        Dim constr As String =
WebConfigurationManager.ConnectionStrings("PVFCConnString").ConnectionString

        ' retrieve both RoleId (for RBAC) and Customer_Id (to link to their
profile)
        Dim query As String = "SELECT RoleId, Customer_Id FROM Users WHERE
Username = @Username AND Password = @Password"

        Try
            Using con As New SqlConnection(constr)
                Using cmd As New SqlCommand(query, con)
                    cmd.Parameters.AddWithValue("@Username", emailTB.Text.Trim())
                    cmd.Parameters.AddWithValue("@Password", pwdTB.Text)

                    con.Open()

                    Using dr As SqlDataReader = cmd.ExecuteReader()
                        If dr.Read() Then
                            ' Success = Establish RBAC Session
                            Dim role As Integer = Convert.ToInt32(dr("RoleId"))
                            Session("RoleId") = role
                        End If
                    End Using
                End Using
            End Try
        End Sub

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        ' If they are a Customer, save their Customer_Id to
the session too
        If Not IsDBNull(dr("Customer_Id")) Then
            Session("CustomerId") =
Convert.ToInt32(dr("Customer_Id"))
        End If

        ' Route based on role
        If role = 1 Then
            ' Admin
            Response.Redirect("adminDashboard.aspx", False)
        ElseIf role = 2 Then
            ' Customer
            Response.Redirect("Default.aspx", False)
        ElseIf role = 3 Then
            ' Employee
            Response.Redirect("catalog.aspx", False)
        Else
            lblMessage.Text = "Role Not Found"
        End If
    Else
        ' Invalid credentials
        lblMessage.Text = "Cannot login. Invalid
credentials."
    End If
End Using
End Using
End Using
Catch ex As Exception
    lblMessage.Text = "An error occurred: " & ex.Message
End Try
End Sub

End Class

```

register.aspx

```

<%@ Page Title="Register Page" Language="vb" AutoEventWireup="false"
CodeBehind="register.aspx.vb" Inherits="pvfc_website.register" %>

<!DOCTYPE html>
<html lang="en">
<head runat="server">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>New Customer Registration</title>
    <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
    <form id="form1" runat="server">

        <div class="navbar">
            <!-- EVERYONE can see these -->
            <a href="Default.aspx">Home</a>
            <a href="productSearch.aspx">Products</a>

```

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        <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
        <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
        <a href="catalog.aspx">Manage Catalog</a>
        <% End If %>

        <!-- ONLY CUSTOMERS (2) can see these -->
        <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
        <a href="updateCustomer.aspx">Update Profile</a>
        <a href="payment.aspx">Cart & Checkout</a>
        <% End If %>

        <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
        <% If Session("RoleId") Is Nothing Then %>
        <a href="register.aspx">Register</a>
        <a href="login.aspx">Login</a>
        <% Else %>
        <a href="login.aspx">Logout</a>
        <% End If %>
</div>

<div class="page-wrapper">
    <div class="login-container">

        <h1>Create Account</h1>
        <p style="color: #666; font-size: 14px; margin-bottom: 20px;">
            Join PVFC today
        </p>

        <asp:Label ID="lblMessage" runat="server"
            Font-Bold="true" Style="display: block; margin-bottom:
15px;">

        </asp:Label>

        <div style="text-align: left;">

            <label>Full Name</label>
            <asp:TextBox ID="txtName" runat="server"
                placeholder="Full Name">
            </asp:TextBox>

            <label>Address</label>
            <asp:TextBox ID="txtAddress" runat="server"
                placeholder="Street Address">
            </asp:TextBox>

            <label>City</label>
            <asp:TextBox ID="txtCity" runat="server"
                placeholder="City">
            </asp:TextBox>

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

            <label>Postal Code</label>
            <asp:TextBox ID="txtPostalCode" runat="server"
                placeholder="e.g. 32601-2871">
            </asp:TextBox>

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        <label>Email Address (Username)</label>
        <asp:TextBox ID="txtEmail" runat="server"
placeholder="example@email.com" TextMode="Email"></asp:TextBox>

        <label>Password</label>
        <asp:TextBox ID="txtPassword" runat="server"
placeholder="Create a password" TextMode="Password"></asp:TextBox>

    </div>

    <asp:Button ID="btnRegister" runat="server"
Text="Sign Up" Style="width: 100%;" />

</div>
</div>

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

```

register.aspx.vb

```

Imports System.Data.SqlClient
Imports System.Web.Configuration

Public Class register
    Inherits System.Web.UI.Page
    Protected Sub btnRegister_Click(sender As Object, e As EventArgs) Handles
btnRegister.Click
        Dim constr As String =
WebConfigurationManager.ConnectionStrings("PVFCConString").ConnectionString
        Dim conn As New SqlConnection(constr)

        ' We use a SQL Transaction to ensure BOTH inserts succeed.
        ' If one fails, it rolls back both, preventing "orphan" data.
        Dim transaction As SqlTransaction = Nothing
        Dim cmdCustomer As New SqlCommand()
        Dim cmdUser As New SqlCommand()

    Try
        conn.Open()
        transaction = conn.BeginTransaction()

        cmdCustomer.Connection = conn
        cmdCustomer.Transaction = transaction

        ' INSERT The Customer Profile
        cmdCustomer.CommandText = "INSERT INTO CUSTOMER_t (Customer_Name,
Customer_Address, Customer_City, Customer_State, Postal_Code) " &
            "VALUES (@Name, @Address, @City, @State,
@PostalCode); " &
            "SELECT SCOPE_IDENTITY();" ' Get the ID of
the new customer record just created

        cmdCustomer.Parameters.AddWithValue("@Name", txtName.Text)
        cmdCustomer.Parameters.AddWithValue("@Address", txtAddress.Text)
        cmdCustomer.Parameters.AddWithValue("@City", txtCity.Text)

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        cmdCustomer.Parameters.AddWithValue("@State", txtState.Text)
        cmdCustomer.Parameters.AddWithValue("@PostalCode",
txtPostalCode.Text)

        ' ExecuteScalar returns the ID generated by SCOPE_IDENTITY()
        Dim newCustomerId As Integer =
Convert.ToInt32(cmdCustomer.ExecuteScalar())

        ' INSERT The Login Credentials
        cmdUser.Connection = conn
        cmdUser.Transaction = transaction

        cmdUser.CommandText = "INSERT INTO Users (Username, Password, RoleId,
Customer_Id) " &
                                "VALUES (@Username, @Password, 2, @CustId)" ' Role
2 = Customer

        cmdUser.Parameters.AddWithValue("@Username", txtEmail.Text.Trim())
        cmdUser.Parameters.AddWithValue("@Password", txtPassword.Text)
        cmdUser.Parameters.AddWithValue("@CustId", newCustomerId) ' Link to
the profile we just made

        cmdUser.ExecuteNonQuery()

        ' If we made it here without errors, save everything to the database
        transaction.Commit()

        lblMessage.ForeColor = Drawing.Color.Green
        lblMessage.Text = "Registration successful! You can now log in."

        ' Clear the form
        txtName.Text = ""
        txtEmail.Text = ""
        If txtAddress.Text.Trim().Length > 100 Then
            lblMessage.ForeColor = Drawing.Color.Red
            lblMessage.Text = "Address is too long. Please shorten it."
            Return
        End If

    Catch ex As Exception
        ' If anything went wrong (like a duplicate email), undo the whole
thing
        If transaction IsNot Nothing Then
            transaction.Rollback()
        End If
        lblMessage.ForeColor = Drawing.Color.Red
        lblMessage.Text = "Error during registration: " & ex.Message

    Finally
        If conn.State = ConnectionState.Open Then conn.Close()
        conn.Dispose()
        cmdCustomer.Dispose()
        cmdUser.Dispose()
    End Try
End Sub

End Class

```

adminDashboard.aspx

```
<%@ Page Language="vb" AutoEventWireup="false"
CodeBehind="adminDashboard.aspx.vb" Inherits="pvfc_website.adminDashboard" %>

<!DOCTYPE html>
<html lang="en">
<head runat="server">
  <meta charset="UTF-8">
  <title>Admin Dashboard</title>
  <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
  <form id="form1" runat="server">

    <div class="navbar">

      <!-- EVERYONE can see these -->
      <a href="Default.aspx">Home</a>
      <a href="productSearch.aspx">Products</a>

      <!-- Visible to Admins (1) and Employees (3) -->
      <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
      <a href="catalog.aspx">Manage Catalog</a>
      <% End If %>

      <!-- Visible ONLY to Customers (2) -->
      <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
      <a href="updateCustomer.aspx">Update Profile</a>
      <a href="payment.aspx">Cart & Checkout</a>
      <% End If %>

      <!-- Login/Logout Toggle -->
      <% If Session("RoleId") Is Nothing Then %>
      <a href="register.aspx">Register</a>
      <a href="login.aspx">Login</a>
      <% Else %>
      <a href="login.aspx">Logout</a>
      <% End If %>
    </div>

    <!-- DASHBOARD CONTENT -->
    <div class="page-wrapper">
      <div class="main-content container" style="margin-top: 50px;">
        <h1>Admin Dashboard</h1>
        <p>Welcome to the PVFC Control Center, Administrator.</p>
        <hr style="margin: 20px 0;" />

        <h3>Quick Actions</h3>
        <ul style="list-style-type: none; padding: 0;">
          <li style="margin-bottom: 10px;">
            <a href="catalog.aspx" class="btn" style="text-
decoration: none; display: inline-block; padding: 10px 20px; background-color:
#2c3e50; color: white; border-radius: 4px;">Update Product Catalog &
Inventory</a>
          </li>
        </ul>
      </div>
    </div>
  </form>
</body>
</html>
```

```
        </div>
    </div>

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

admiDashboard.aspx.vb

```
Public Class adminDashboard
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs)
Handles Me.Load
        ' --- THE STRICT GATEKEEPER to prevent unauthorized access ---
        ' Check if session is empty (Guest) OR if the role is anything OTHER than
1 (Admin)
        If Session("RoleId") Is Nothing OrElse Convert.ToInt32(Session("RoleId"))
<> 1 Then
            ' Kick unauthorized users out to the login page
            Response.Redirect("login.aspx", False)
            Exit Sub
        End If

    End Sub

End Class
```

catalog.aspx

```
<%@ Page Title="Admin Panel - Catalog Update" Language="vb"
AutoEventWireup="false" CodeBehind="catalog.aspx.vb"
Inherits="pvfc_website.catalog" %>

<!DOCTYPE html>
<html>
<head runat="server">
    <title>Product Catalog Update</title>
    <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
    <form id="form1" runat="server">

        <div class="navbar">
            <!-- EVERYONE can see these -->
            <a href="Default.aspx">Home</a>
            <a href="productSearch.aspx">Products</a>

            <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
```

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        <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
        <a href="catalog.aspx">Manage Catalog</a>
        <% End If %>

        <!-- ONLY CUSTOMERS (2) can see these -->
        <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
        <a href="updateCustomer.aspx">Update Profile</a>
        <a href="payment.aspx">Cart & Checkout</a>
        <% End If %>

        <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
        <% If Session("RoleId") Is Nothing Then %>
        <a href="register.aspx">Register</a>
        <a href="login.aspx">Login</a>
        <% Else %>
        <a href="login.aspx">Logout</a>
        <% End If %>
    </div>

    <div class="main-content container">
        <h2>Product Update Catalogue</h2>

        <asp:Label ID="lblMessage" runat="server" Font-Bold="true"
            Style="display: block; margin-bottom: 15px;">
        </asp:Label>

        <%--
            DataKeyNames: stores Product_Id per row so it is
                           not visible or editable on the page
            OnRowCommand: fires when any button inside the grid is clicked
        --%>
        <asp:GridView ID="gvCatalog" runat="server"
            AutoGenerateColumns="False"
            Width="100%"
            DataKeyNames="Product_Id"
            OnRowCommand="gvCatalog_RowCommand"
            BorderColor="#dddddd"
            BorderStyle="Solid"
            BorderWidth="1px"
            CellPadding="8">

            <HeaderStyle BackColor="#2c3e50" ForeColor="White" Font-
Bold="true" />
            <AlternatingRowStyle BackColor="#f8f9fa" />

            <Columns>

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

                <asp:TemplateField HeaderText="Description">
                    <ItemTemplate>
                        <asp:TextBox ID="txtDesc" runat="server"
                            Text='<%# Bind("Product_Description") %>'
                            Width="95%">
                        </asp:TextBox>
                    </ItemTemplate>
                </asp:TemplateField>

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<asp:TemplateField HeaderText="Finish">
  <ItemTemplate>
    <asp:TextBox ID="txtFinish" runat="server"
      Text='<%# Bind("Product_Finish") %>'
      Width="95%">
    </asp:TextBox>
  </ItemTemplate>
</asp:TemplateField>

<asp:TemplateField HeaderText="Standard Price">
  <ItemTemplate>
    <asp:TextBox ID="txtPrice" runat="server"
      Text='<%# Bind("Standard_Price") %>'
      Width="80px">
    </asp:TextBox>
  </ItemTemplate>
</asp:TemplateField>

<asp:TemplateField HeaderText="Stock Quantity">
  <ItemTemplate>
    <asp:TextBox ID="txtQty" runat="server"
      Text='<%# Bind("Product_Quantity") %>'
      Width="80px">
    </asp:TextBox>
  </ItemTemplate>
</asp:TemplateField>

<asp:TemplateField HeaderText="Action">
  <ItemTemplate>
    <asp:Button ID="btnUpdate" runat="server"
      Text="Update"
      CommandName="UpdateRow"
      CommandArgument='<%# Container.DataItemIndex %>'
    </asp:Button>
  </ItemTemplate>
</asp:TemplateField>
</Columns>
</asp:GridView>
</div>
</form>
</body>
</html>

```

catalog.aspx.vb

```

Imports System.Data
Imports System.Data.SqlClient
Imports System.Web.Configuration

Public Class catalog
  Inherits System.Web.UI.Page

  ' Page Load - bind the GridView only on first load
  Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
    ' --- THE GATEKEEPER to prevent unauthorized access ---

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        ' Check if session is empty (Guest) OR if the role is Customer (Role 2)
        If Session("RoleId") Is Nothing OrElse Convert.ToInt32(Session("RoleId"))
= 2 Then
            ' Kick them out to the login page
            Response.Redirect("login.aspx", False)
            Exit Sub ' Stop executing the rest of the page load
        End If

        ' Only load the catalog if they passed the security check
        If Not IsPostBack Then
            BindCatalog()
        End If
    End Sub

    ' BindCatalog - fetch all products and display in the GridView
    Private Sub BindCatalog()

        Dim connectionString As String =
WebConfigurationManager.ConnectionStrings("PVFConnString").ConnectionString

        Dim selectSQL As String =
            "SELECT Product_Id, Product_Description, Product_Finish, " &
            "      Standard_Price, Product_Quantity " &
            "FROM   Product_T"

        Dim con As New SqlConnection(connectionString)
        Dim cmd As New SqlCommand(selectSQL, con)
        Dim adapter As New SqlDataAdapter(cmd)
        Dim ds As New DataSet()

        Try
            adapter.Fill(ds, "Products")
            gvCatalog.DataSource = ds.Tables("Products")
            gvCatalog.DataBind()

        Catch err As Exception
            lblMessage.ForeColor = System.Drawing.Color.Red
            lblMessage.Text = "Error loading catalog: " & err.Message

        Finally
            con.Close()
        End Try

    End Sub

    ' RowCommand - fires when Update button in a row is clicked
    Protected Sub gvCatalog_RowCommand(sender As Object,
        e As GridViewCommandEventArgs)

        If e.CommandName = "UpdateRow" Then

            ' Identify which row was clicked
            Dim rowIndex As Integer = Convert.ToInt32(e.CommandArgument)
            Dim row As GridViewRow = gvCatalog.Rows(rowIndex)

            ' Retrieve the primary key from DataKeys (not from the page)
            Dim productId As Integer =
                Convert.ToInt32(gvCatalog.DataKeys(rowIndex).Value)

            ' Retrieve the TextBox values from inside that row
            Dim txtDesc As TextBox = CType(row.FindControl("txtDesc"), TextBox)

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Dim txtFinish As TextBox = CType(row.FindControl("txtFinish"),
TextBox)
Dim txtPrice As TextBox = CType(row.FindControl("txtPrice"), TextBox)
Dim txtQty As TextBox = CType(row.FindControl("txtQty"), TextBox)

Dim connectionString As String =
WebConfigurationManager.ConnectionStrings("PVFCConString").ConnectionString

Dim updateSQL As String =
    "UPDATE Product_T " &
    "SET    Product_Description = @Description, " &
    "       Product_Finish      = @Finish, " &
    "       Standard_Price      = @Price, " &
    "       Product_Quantity    = @Qty " &
    "WHERE Product_Id          = @ProductId"

Dim con As New SqlConnection(connectionString)
Dim cmd As New SqlCommand(updateSQL, con)

cmd.Parameters.AddWithValue("@Description", txtDesc.Text)
cmd.Parameters.AddWithValue("@Finish", txtFinish.Text)
cmd.Parameters.AddWithValue("@Price",
Convert.ToDecimal(txtPrice.Text))
cmd.Parameters.AddWithValue("@Qty", Convert.ToInt32(txtQty.Text))
cmd.Parameters.AddWithValue("@ProductId", productId)

Try
    con.Open()
    Dim rowsAffected As Integer = cmd.ExecuteNonQuery()

    If rowsAffected > 0 Then
        lblMessage.ForeColor = System.Drawing.Color.Green
        lblMessage.Text = "Product ID " & productId.ToString() &
            " updated successfully."
        ' Reload the GridView to reflect the new data
        BindCatalog()
    Else
        lblMessage.ForeColor = System.Drawing.Color.Red
        lblMessage.Text = "Update failed. Product ID not found."
    End If

Catch err As Exception
    lblMessage.ForeColor = System.Drawing.Color.Red
    lblMessage.Text = "Error: " & err.Message

Finally
    con.Close()
End Try

End If

End Sub

End Class

```

```

<%@ Page Title="Payment Page" Language="vb" AutoEventWireup="false"
CodeBehind="payment.aspx.vb" Inherits="pvfc_website.payment" %>

<!DOCTYPE html>
<html>
<head runat="server">
    <title>Payment</title>
    <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
    <form id="form1" runat="server">
        <div class="navbar">
            <!-- EVERYONE can see these -->
            <a href="Default.aspx">Home</a>
            <a href="productSearch.aspx">Products</a>

            <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
            <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
                <a href="catalog.aspx">Manage Catalog</a>
            <% End If %>

            <!-- ONLY CUSTOMERS (2) can see these -->
            <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
                <a href="updateCustomer.aspx">Update Profile</a>
                <a href="payment.aspx">Cart & Checkout</a>
            <% End If %>

            <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
            <% If Session("RoleId") Is Nothing Then %>
                <a href="register.aspx">Register</a>
                <a href="login.aspx">Login</a>
            <% Else %>
                <a href="login.aspx">Logout</a>
            <% End If %>
        </div>

        <div class="main-content container">
            <h2>Payment Provision</h2>

            <%-- Order Summary --%>
            <div style="border: 1px solid #ccc; padding: 10px; margin-bottom:
20px; text-align: left;">
                <h3>Order Summary</h3>
                <asp:GridView ID="gvCart" runat="server"
AutoGenerateColumns="False" Width="100%">
                    <Columns>
                        <asp:BoundField DataField="Description"
HeaderText="Product" />
                        <asp:BoundField DataField="Finish" HeaderText="Finish" />
                        <asp:BoundField DataField="Price" HeaderText="Unit Price"
/>
                        <asp:BoundField DataField="Qty" HeaderText="Qty" />
                        <asp:BoundField DataField="Subtotal"
HeaderText="Subtotal" />
                    </Columns>
                </asp:GridView>
                <br />
                <p><strong>
                    <asp:Label ID="lblTotal"
runat="server"></asp:Label></strong></p>

```

```

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

    <!-- Payment Form -->
    <div style="text-align: left; display: inline-block; width: 100%;
max-width: 400px; padding: 20px; border: 1px solid #e0e0e0; border-radius: 8px;">
        <div style="margin-bottom: 15px; text-align: center;">
            <asp:Label ID="lblMessage" runat="server" Font-
Bold="true"></asp:Label>
        </div>

        <label><strong>Payment Method:</strong></label>
        <br />
        <asp:RadioButton ID="rbCard" runat="server" Text="Visa / Master
Card" GroupName="PaymentMethod" AutoPostBack="true" Checked="true" />
        <br />
        <asp:RadioButton ID="rbCOD" runat="server" Text="Cash on
Delivery" GroupName="PaymentMethod" AutoPostBack="true" />
        <br />
        <br />

        <!-- Card Fields Panel -->
        <asp:Panel ID="pnlCard" runat="server">
            <label>Card Number:</label>
            <asp:TextBox ID="txtCardNum" runat="server"
placeholder="xxxx-xxxx-xxxx-xxxx" Style="width: 100%; margin-bottom:
15px;"></asp:TextBox>

            <div style="display: flex; gap: 20px; margin-bottom: 20px;">
                <div style="flex: 1;">
                    <label>Expiry (MM/YY):</label>
                    <asp:TextBox ID="txtExpiry" runat="server"
Style="width: 100%;"></asp:TextBox>
                </div>
                <div style="width: 80px;">
                    <label>CVV:</label>
                    <asp:TextBox ID="txtCvv" runat="server"
TextMode="Password" Style="width: 100%;"></asp:TextBox>
                </div>
            </div>
            <asp:Button ID="btnPayNow" runat="server" Text="PAY NOW"
Style="width: 100%;" />
        </asp:Panel>

        <!-- COD Panel -->
        <asp:Panel ID="pnlCOD" runat="server" Visible="false">
            <asp:Button ID="btnPlaceOrder" runat="server" Text="PLACE
ORDER" Style="width: 100%;" />
        </asp:Panel>
    </div>
</div>
</form>
</body>
</html>

```

```

Imports System.Data
Imports System.Data.SqlClient
Imports System.Web.Configuration

Public Class payment
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs)
Handles Me.Load
        ' Only logged-in customers (RoleId = 2) can access this page
        If Session("RoleId") Is Nothing OrElse Convert.ToInt32(Session("RoleId"))
<> 2 Then
            Response.Redirect("login.aspx", False)
            Exit Sub
        End If

        If Not IsPostBack Then
            LoadCart()
            ShowCardPanel()
        End If
    End Sub

    ' -----
    ' LOAD CART
    ' -----

    Private Sub LoadCart()
        Dim connString As String =
WebConfigurationManager.ConnectionStrings("PVFCConnString").ConnectionString
        Dim conn As SqlConnection = Nothing
        Dim cmd As SqlCommand = Nothing
        Dim sda As SqlDataAdapter = Nothing

        Try
            conn = New SqlConnection(connString)
            Dim query As String =
Finish, " &
                "SELECT p.Product_Description AS Description, p.Product_Finish AS
                "          p.Standard_Price AS Price, c.Quantity AS Qty, " &
                "          (p.Standard_Price * c.Quantity) AS Subtotal " &
                "FROM SHOPPING_CART_t c " &
                "INNER JOIN PRODUCT_t p ON c.Product_Id = p.Product_Id " &
                "WHERE c.Session_Id = @SessionId"

            cmd = New SqlCommand(query, conn)
            cmd.Parameters.AddWithValue("@SessionId", Session.SessionID)

            sda = New SqlDataAdapter(cmd)
            Dim dt As New DataTable()
            conn.Open()
            sda.Fill(dt)

            If dt.Rows.Count > 0 Then
                gvCart.DataSource = dt
                gvCart.DataBind()

                Dim total As Decimal = 0
                For Each row As DataRow In dt.Rows
                    total += Convert.ToDecimal(row("Subtotal"))
                Next
                lblTotal.Text = "Order Total: $" & total.ToString("N2")
                lblEmptyCart.Text = ""
            Else
                gvCart.DataSource = Nothing
            End If
        Catch ex As Exception
            ' Handle exception
        End Try
    End Sub
End Class

```

```

        gvCart.DataBind()
        lblEmptyCart.Text = "Your cart is empty. Add products before
checking out."
        lblTotal.Text = ""
    End If

    Catch ex As Exception
        lblEmptyCart.Text = "Error loading cart: " & ex.Message
    Finally
        If sda IsNot Nothing Then sda.Dispose()
        If cmd IsNot Nothing Then cmd.Dispose()
        If conn IsNot Nothing Then
            If conn.State = ConnectionState.Open Then conn.Close()
            conn.Dispose()
        End If
    End Try
End Sub

Private Sub ShowCardPanel()
    pnlCard.Visible = True
    pnlCOD.Visible = False
End Sub

Private Sub ShowCODPanel()
    pnlCard.Visible = False
    pnlCOD.Visible = True
End Sub

Protected Sub rbCard_CheckedChanged(sender As Object, e As EventArgs) Handles
rbCard.CheckedChanged
    If rbCard.Checked Then ShowCardPanel()
End Sub

Protected Sub rbCOD_CheckedChanged(sender As Object, e As EventArgs) Handles
rbCOD.CheckedChanged
    If rbCOD.Checked Then ShowCODPanel()
End Sub

' Credit Card path
Protected Sub btnPayNow_Click(sender As Object, e As EventArgs) Handles
btnPayNow.Click
    If txtCardNum.Text.Trim() = "" OrElse txtExpiry.Text.Trim() = "" OrElse
txtCvv.Text.Trim() = "" Then
        lblMessage.Text = "Please fill in all card details."
        lblMessage.ForeColor = Drawing.Color.Red
        Return
    End If
    PlaceOrder()
End Sub

' Cash on Delivery path
Protected Sub btnPlaceOrder_Click(sender As Object, e As EventArgs) Handles
btnPlaceOrder.Click
    PlaceOrder()
End Sub

' -----
' PLACE ORDER
' 1. Validate cart is not empty
' 2. Check every item has enough stock
' 3. Deduct inventory
' 4. Clear cart
' -----

```

```

Private Sub PlaceOrder()
    Dim connString As String =
WebConfigurationManager.ConnectionStrings("PVFCConnString").ConnectionString
    Dim conn As SqlConnection = Nothing
    Dim transaction As SqlTransaction = Nothing

    Try
        conn = New SqlConnection(connString)
        conn.Open()
        transaction = conn.BeginTransaction()

        ' --- STEP 1: Check cart is not empty ---
        Dim checkCartCmd As New SqlCommand(
            "SELECT COUNT(*) FROM SHOPPING_CART_t WHERE Session_Id =
@SessionId",
            conn, transaction)
        checkCartCmd.Parameters.AddWithValue("@SessionId", Session.SessionID)
        Dim cartCount As Integer =
Convert.ToInt32(checkCartCmd.ExecuteScalar())
        checkCartCmd.Dispose()

        If cartCount = 0 Then
            lblMessage.Text = "Your cart is empty. Please add products
before placing an order."
            lblMessage.ForeColor = Drawing.Color.Red
            transaction.Rollback()
            Return
        End If

        ' --- STEP 2: Check stock for every cart item ---
        Dim stockCheckCmd As New SqlCommand(
            "SELECT p.Product_Description, c.Quantity AS CartQty,
p.Product_Quantity AS Stock " &
            "FROM SHOPPING_CART_t c " &
            "INNER JOIN PRODUCT_t p ON c.Product_Id = p.Product_Id " &
            "WHERE c.Session_Id = @SessionId " &
            " AND (p.Product_Quantity <= 0 OR c.Quantity >
p.Product_Quantity)",
            conn, transaction)
        stockCheckCmd.Parameters.AddWithValue("@SessionId",
Session.SessionID)

        Dim sda As New SqlDataAdapter(stockCheckCmd)
        Dim dtProblems As New DataTable()
        sda.Fill(dtProblems)
        stockCheckCmd.Dispose()
        sda.Dispose()

        If dtProblems.Rows.Count > 0 Then
            ' Build a friendly error listing each problem item
            Dim msg As New System.Text.StringBuilder()
            msg.AppendLine("Cannot place order - stock issues detected:")
            For Each row As DataRow In dtProblems.Rows
                Dim stock As Integer = Convert.ToInt32(row("Stock"))
                Dim cartQty As Integer = Convert.ToInt32(row("CartQty"))
                Dim desc As String = row("Product_Description").ToString()

                If stock <= 0 Then
                    msg.AppendLine("• """" & desc & """" is out of stock.")
                Else
                    msg.AppendLine("• """" & desc & """: you ordered " &
cartQty &
                    " but only " & stock & " available.")
                End If
            Next
        End If
    Catch ex As Exception
        lblMessage.Text = ex.Message
    End Try
End Sub

```

```

        End If
    Next
    lblMessage.Text      = msg.ToString().Replace(Environment.NewLine,
"<br/>")
    lblMessage.ForeColor = Drawing.Color.OrangeRed
    transaction.Rollback()
    Return
End If

' --- STEP 3: Deduct inventory ---
Dim deductCmd As New SqlCommand(
    "UPDATE p " &
    "SET p.Product_Quantity = p.Product_Quantity - c.Quantity " &
    "FROM PRODUCT_t p " &
    "INNER JOIN SHOPPING_CART_t c ON p.Product_Id = c.Product_Id " &
    "WHERE c.Session_Id = @SessionId",
    conn, transaction)
deductCmd.Parameters.AddWithValue("@SessionId", Session.SessionID)
deductCmd.ExecuteNonQuery()
deductCmd.Dispose()

' --- STEP 4: Clear cart ---
Dim clearCmd As New SqlCommand(
    "DELETE FROM SHOPPING_CART_t WHERE Session_Id = @SessionId",
    conn, transaction)
clearCmd.Parameters.AddWithValue("@SessionId", Session.SessionID)
clearCmd.ExecuteNonQuery()
clearCmd.Dispose()

transaction.Commit()

lblMessage.Text      = "&#10003; Order placed successfully! Thank you
for your purchase."
lblMessage.ForeColor = Drawing.Color.Green
LoadCart() ' Refresh to show empty cart

Catch ex As Exception
    If transaction IsNot Nothing Then transaction.Rollback()
    lblMessage.Text      = "Error processing order: " & ex.Message
    lblMessage.ForeColor = Drawing.Color.Red
Finally
    If transaction IsNot Nothing Then transaction.Dispose()
    If conn IsNot Nothing
        If conn.State = ConnectionState.Open Then conn.Close()
        conn.Dispose()
    End If
End Try
End Sub

End Class

```

productSearch.aspx

```

<%@ Page Title="Product Search Page" Language="vb" AutoEventWireup="false"
CodeBehind="productSearch.aspx.vb" Inherits="pvfc_website.productSearch" %>

```

```

<!DOCTYPE html>

```

```

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
  <link href="~/pvfstyles.css" rel="stylesheet" type="text/css" runat="server"
/>
</head>
<body>
  <form id="form1" runat="server">
    <div class="navbar">
      <!-- EVERYONE can see these -->
      <a href="Default.aspx">Home</a>
      <a href="productSearch.aspx">Products</a>

      <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
      <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
      <a href="catalog.aspx">Manage Catalog</a>
      <% End If %>

      <!-- ONLY CUSTOMERS (2) can see these -->
      <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
      <a href="updateCustomer.aspx">Update Profile</a>
      <a href="payment.aspx">Cart & Checkout</a>
      <% End If %>

      <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
      <% If Session("RoleId") Is Nothing Then %>
      <a href="register.aspx">Register</a>
      <a href="login.aspx">Login</a>
      <% Else %>
      <a href="login.aspx">Logout</a>
      <% End If %>
    </div>

    <div class="container">
      <div style="text-align: center; padding-bottom: 20px; border-bottom:
1px solid #ccc;">
        <label>Search:</label>

        <asp:TextBox ID="txtSearch" runat="server" placeholder="Table,
Desk..."></asp:TextBox>
        <asp:Button ID="btnSearch" runat="server" Text="Go" />

        <br />
        <br />
        <strong>Category:</strong>
        <asp:Button ID="btnAsh" runat="server" Text="Natural Ash"
CssClass="btn" />
        <asp:Button ID="btnWalnut" runat="server" Text="Walnut"
CssClass="btn" />
        <asp:Button ID="btnCherry" runat="server" Text="Cherry"
CssClass="btn" />
      </div>

      <h2>Available Products</h2>

      <div style="text-align: center; margin-bottom: 15px;">
        <asp:Label ID="lblMessage" runat="server" ForeColor="Red" Font-
Bold="true"></asp:Label>
      </div>

```

```

        <asp:GridView ID="gvProducts" runat="server"
AutoGenerateColumns="False" Width="100%">
        <Columns>
            <asp:BoundField DataField="Product_Id" HeaderText="Product
ID" />
            <asp:BoundField DataField="Product_Description"
HeaderText="Product Description" />
            <asp:BoundField DataField="Product_Finish"
HeaderText="Finish" />
            <asp:BoundField DataField="Standard_Price"
HeaderText="Standard Price" DataFormatString="{0:N2}" />
            <asp:ButtonField ButtonType="Button" Text="Select"
CommandName="SelectProduct" HeaderText="Action" />
        </Columns>
    </asp:GridView>

    <br />
    <div id="divAddToCart" runat="server" visible="false" style="border:
1px solid #ccc; padding: 15px; margin-top: 15px;">
        <h3>Selected Product</h3>
        <asp:Label ID="lblSelectedProduct" runat="server"></asp:Label>
        <br />
        <br />
        <label>Quantity:</label>
        <asp:TextBox ID="txtQuantity" runat="server" Text="1"
Style="width: 60px;"></asp:TextBox>
        <asp:Button ID="btnAddToCart" runat="server" Text="Add to Cart"
CssClass="btn" />
        <br />
        <asp:Label ID="lblCartMessage" runat="server" ForeColor="Green"
Font-Bold="true"></asp:Label>
    </div>
</div>
</form>
</body>
</html>

```

productSearch.aspx.vb

```

Imports System.Data
Imports System.Data.SqlClient
Imports System.Configuration

Public Class productSearch
    Inherits System.Web.UI.Page

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

        End Sub

    Protected Sub btnSearch_Click(sender As Object, e As EventArgs) Handles
btnSearch.Click
        Dim searchText As String = txtSearch.Text.Trim()
        '1. get connection string from web.config

```

```

Dim connString As String =
ConfigurationManager.ConnectionStrings("PVFCConString").ConnectionString

Dim conn As SqlConnection = Nothing
Dim cmd As SqlCommand = Nothing
Dim sda As SqlDataAdapter = Nothing

Try
    '2. set up connection and command
    conn = New SqlConnection(connString)

    '3. query matching pvfc table structure
    Dim query As String = "SELECT Product_ID, Product_Description,
Product_Finish, Standard_Price FROM PRODUCT_t WHERE Product_Description LIKE
@SearchText"
    cmd = New SqlCommand(query, conn)
    cmd.Parameters.AddWithValue("@SearchText", "%" & searchText & "%")

    '4. execute query and bind results to GridView
    sda = New SqlDataAdapter(cmd)
    Dim dt As New DataTable()

    ' open the connection
    conn.Open()
    sda.Fill(dt)

    '5. display results or error message
    If dt.Rows.Count > 0 Then
        gvProducts.DataSource = dt
        gvProducts.DataBind()
        lblMessage.Text = ""
    Else
        gvProducts.DataSource = Nothing
        gvProducts.DataBind()
        lblMessage.Text = "No products found."
    End If

Catch ex As Exception
    lblMessage.Text = "An error occurred while searching: " & ex.Message
Finally
    ' clean up resources and ensure connection is closed
    If sda IsNot Nothing Then sda.Dispose()
    If cmd IsNot Nothing Then cmd.Dispose()
    If conn IsNot Nothing Then
        If conn.State = ConnectionState.Open Then
            conn.Close() ' close connection
        End If
        conn.Dispose()
    End If
End Try
End Sub

```

```

Private Sub FilterByFinish(finish As String)
    Dim connString As String =
ConfigurationManager.ConnectionStrings("PVFCConString").ConnectionString

    Dim conn As SqlConnection = Nothing
    Dim cmd As SqlCommand = Nothing
    Dim sda As SqlDataAdapter = Nothing

    Try
        conn = New SqlConnection(connString)
        'querying the exact Product_Finish column from the SQL script

```

```

        Dim query As String = "SELECT Product_Id, Product_Description,
Product_Finish, Standard_Price FROM PRODUCT_t WHERE Product_Finish = @Finish"

        cmd = New SqlCommand(query, conn)
        cmd.Parameters.AddWithValue("@Finish", finish)

        sda = New SqlDataAdapter(cmd)
        Dim dt As New DataTable()

        ' open the connection
        conn.Open()
        sda.Fill(dt)

        If dt.Rows.Count > 0 Then
            gvProducts.DataSource = dt
            gvProducts.DataBind()
            lblMessage.Text = ""
        Else
            gvProducts.DataSource = Nothing
            gvProducts.DataBind()
            lblMessage.Text = "No Products Found in " & finish
        End If

        Catch ex As Exception
            lblMessage.Text = "An error occurred filtering products: " &
ex.Message
        Finally
            ' clean up resources and ensure connection is closed
            If sda IsNot Nothing Then sda.Dispose()
            If cmd IsNot Nothing Then cmd.Dispose()
            If conn IsNot Nothing Then
                If conn.State = ConnectionState.Open Then
                    conn.Close() ' close connection
                End If
                conn.Dispose()
            End If
        End Try
    End Sub

    'all handlers below will call the above function with specific finish
    Protected Sub btnAsh_Click(sender As Object, e As EventArgs) Handles
btnAsh.Click
        FilterByFinish("Natural Ash")
    End Sub

    Protected Sub btnWalnut_Click(sender As Object, e As EventArgs) Handles
btnWalnut.Click
        FilterByFinish("Walnut")
    End Sub

    Protected Sub btnCherry_Click(sender As Object, e As EventArgs) Handles
btnCherry.Click
        FilterByFinish("Cherry")
    End Sub

    Protected Sub gvProducts_RowCommand(sender As Object, e As
GridViewCommandEventArgs) Handles gvProducts.RowCommand
        If e.CommandName = "SelectProduct" Then
            Dim rowIndex As Integer = Convert.ToInt32(e.CommandArgument)
            Dim row As GridViewRow = gvProducts.Rows(rowIndex)

            Dim productId As String = row.Cells(0).Text
            Dim productDesc As String = row.Cells(1).Text

```

```

        Dim productFinish As String = row.Cells(2).Text
        Dim productPrice As String = row.Cells(3).Text

        ' Store selected product in Session
        Session("SelectedProductId") = productId
        Session("SelectedProductDesc") = productDesc
        Session("SelectedProductFinish") = productFinish
        Session("SelectedProductPrice") = productPrice

        lblSelectedProduct.Text = productDesc & " (" & productFinish & ") - "
& productPrice
        divAddToCart.Visible = True
        lblCartMessage.Text = ""
    End If
End Sub

Protected Sub btnAddToCart_Click(sender As Object, e As EventArgs) Handles
btnAddToCart.Click
    Dim qty As Integer = 0
    If Not Integer.TryParse(txtQuantity.Text.Trim(), qty) OrElse qty <= 0
Then
        lblCartMessage.Text = "Please enter a valid quantity."
        lblCartMessage.ForeColor = Drawing.Color.Red
        Return
    End If

    Dim connString As String =
ConfigurationManager.ConnectionStrings("PVFCCConnString").ConnectionString
    Dim conn As SqlConnection = Nothing
    Dim cmd As SqlCommand = Nothing

    Try
        conn = New SqlConnection(connString)
        ' Insert using the guest's SessionID. Customer_Id remains NULL.
        Dim query As String = "INSERT INTO SHOPPING_CART_t (Session_Id,
Product_Id, Quantity) VALUES (@SessionId, @ProductId, @Qty)"

        cmd = New SqlCommand(query, conn)
        cmd.Parameters.AddWithValue("@SessionId", Session.SessionID)
        cmd.Parameters.AddWithValue("@ProductId",
Session("SelectedProductId").ToString())
        cmd.Parameters.AddWithValue("@Qty", qty)

        conn.Open()
        cmd.ExecuteNonQuery()

        lblCartMessage.Text = "Item added to cart! (" & qty & "x " &
Session("SelectedProductDesc").ToString() & ")"
        lblCartMessage.ForeColor = Drawing.Color.Green

    Catch ex As Exception
        lblCartMessage.Text = "Database Error: " & ex.Message
        lblCartMessage.ForeColor = Drawing.Color.Red
    Finally
        If cmd IsNot Nothing Then cmd.Dispose()
        If conn IsNot Nothing Then
            If conn.State = ConnectionState.Open Then conn.Close()
            conn.Dispose()
        End If
    End Try
End Sub
End Class

```

updateCustomer.aspx

```
<%@ Page Title="Customer Information Update Page" Language="vb"
AutoEventWireup="false" CodeBehind="updateCustomer.aspx.vb"
Inherits="pvfc_website.updateCustomer" %>

<!DOCTYPE html>
<html lang="en">
<head runat="server">
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Update Customer Profile</title>
  <link rel="stylesheet" href="pvfcstyles.css">
</head>
<body>
  <form id="form1" runat="server">

    <div class="navbar">
      <!-- EVERYONE can see these -->
      <a href="Default.aspx">Home</a>
      <a href="productSearch.aspx">Products</a>

      <!-- ONLY ADMINS (1) and EMPLOYEES (3) can see this -->
      <% If Session("RoleId") IsNot Nothing AndAlso
(Convert.ToInt32(Session("RoleId")) = 1 OrElse Convert.ToInt32(Session("RoleId"))
= 3) Then %>
      <a href="catalog.aspx">Manage Catalog</a>
      <% End If %>

      <!-- ONLY CUSTOMERS (2) can see these -->
      <% If Session("RoleId") IsNot Nothing AndAlso
Convert.ToInt32(Session("RoleId")) = 2 Then %>
      <a href="updateCustomer.aspx">Update Profile</a>
      <a href="payment.aspx">Cart & Checkout</a>
      <% End If %>

      <!-- GUESTS see Login/Register, LOGGED-IN USERS see Logout -->
      <% If Session("RoleId") Is Nothing Then %>
      <a href="register.aspx">Register</a>
      <a href="login.aspx">Login</a>
      <% Else %>
      <a href="login.aspx">Logout</a>
      <% End If %>
    </div>

    <div class="page-wrapper">
      <div class="login-container">

        <h1>Update Your Profile</h1>

        <asp:Label ID="lblMessage" runat="server"
          Font-Bold="true" Style="display: block; margin-bottom:
15px;">
        </asp:Label>

        <%-- Step 1: Search fields --%>
        <div style="text-align: left;">

          <label>Enter Your Full Name:</label>
        </div>
      </div>
    </div>
  </form>
</body>
</html>
```

```

        <asp:TextBox ID="txtSearchName" runat="server"
            placeholder="Your Name ">
        </asp:TextBox>

        <label>Enter Your Postal Code:</label>
        <asp:TextBox ID="txtSearchZip" runat="server"
            placeholder="32601-2871">
        </asp:TextBox>

        <asp:Button ID="btnFetch" runat="server"
            Text="Find My Profile" Style="width: 100%; margin-top:
10px;" />

    </div>

<!-- Step 2: Edit panel - hidden until a customer record is found
-->
<asp:Panel ID="pnlEditProfile" runat="server" Visible="false">

    <!-- Hidden field stores the Customer_Id between postbacks --
-->
    <asp:HiddenField ID="hfCustomerId" runat="server" />

    <hr style="margin: 20px 0;" />
    <h3>Edit Your Details</h3>

    <div style="text-align: left;">

        <label>Full Name</label>
        <asp:TextBox ID="txtName" runat="server"></asp:TextBox>

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

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

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

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

        <asp:Button ID="btnUpdate" runat="server"
            Text="Save Changes" Style="width: 100%; margin-top:
10px;" />

    </div>

</asp:Panel>

</div>
</div>

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

```

updateCustomer.aspx.vb

```
Imports System.Data.SqlClient
Imports System.Web.Configuration

Public Class updateCustomer
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
        ' --- THE GATEKEEPER to prevent unauthorized access ---
        ' Only allow Role 2 (Customers)
        If Session("RoleId") Is Nothing OrElse Convert.ToInt32(Session("RoleId"))
<> 2 Then
            Response.Redirect("login.aspx", False)
            Exit Sub
        End If

    End Sub

    ' 1 - Find the customer record using Name and Postal Code
    Protected Sub btnFetch_Click(sender As Object, e As EventArgs) _
        Handles btnFetch.Click

        Dim connectionString As String =
WebConfigurationManager.ConnectionStrings("PVFCConString").ConnectionString

        Dim selectSQL As String =
            "SELECT Customer_Id, Customer_Name, Customer_Address, " &
            "      Customer_City, Customer_State, Postal_Code " &
            "FROM CUSTOMER_T " &
            "WHERE Customer_Name = @Name AND Postal_Code = @PostalCode"

        Dim con As New SqlConnection(connectionString)
        Dim cmd As New SqlCommand(selectSQL, con)

        cmd.Parameters.AddWithValue("@Name", txtSearchName.Text)
        cmd.Parameters.AddWithValue("@PostalCode", txtSearchZip.Text)

    Try
        con.Open()
        Dim reader As SqlDataReader = cmd.ExecuteReader()

        If reader.Read() Then
            ' Store the primary key in the hidden field
            hfCustomerId.Value = reader("Customer_Id").ToString()

            ' Populate the editable text boxes
            txtName.Text = reader("Customer_Name").ToString()
            txtAddress.Text = reader("Customer_Address").ToString()
            txtCity.Text = reader("Customer_City").ToString()
            txtState.Text = reader("Customer_State").ToString()
            txtPostalCode.Text = reader("Postal_Code").ToString()

            ' Show the edit panel
            pnlEditProfile.Visible = True
            lblMessage.ForeColor = System.Drawing.Color.Blue
            lblMessage.Text = "Profile found. Make your changes below."

        Else
```

```

        ' No match found - keep the edit panel hidden
        pnlEditProfile.Visible = False
        lblMessage.ForeColor = System.Drawing.Color.Red
        lblMessage.Text = "No record found matching that Name and Postal
Code."
    End If

    reader.Close()

Catch err As Exception
    lblMessage.ForeColor = System.Drawing.Color.Red
    lblMessage.Text = "Error: " & err.Message

Finally
    con.Close()
End Try

End Sub

' 2 - Save the changes back to the database
Protected Sub btnUpdate_Click(sender As Object, e As EventArgs) _
    Handles btnUpdate.Click

    Dim connectionString As String =
WebConfigurationManager.ConnectionStrings("PVFCConString").ConnectionString

    Dim updateSQL As String =
        "UPDATE CUSTOMER_T " &
        "SET Customer_Name = @Name, " &
        "Customer_Address = @Address, " &
        "Customer_City = @City, " &
        "Customer_State = @State, " &
        "Postal_Code = @PostalCode " &
        "WHERE Customer_Id = @CustomerId"

    Dim con As New SqlConnection(connectionString)
    Dim cmd As New SqlCommand(updateSQL, con)

    ' Bind form values to parameters
    cmd.Parameters.AddWithValue("@Name", txtName.Text)
    cmd.Parameters.AddWithValue("@Address", txtAddress.Text)
    cmd.Parameters.AddWithValue("@City", txtCity.Text)
    cmd.Parameters.AddWithValue("@State", txtState.Text)
    cmd.Parameters.AddWithValue("@PostalCode", txtPostalCode.Text)

    ' Use the hidden field to safely identify the row to update
    cmd.Parameters.AddWithValue("@CustomerId", hfCustomerId.Value)

Try
    con.Open()
    Dim rowsAffected As Integer = cmd.ExecuteNonQuery()

    If rowsAffected > 0 Then
        lblMessage.ForeColor = System.Drawing.Color.Green
        lblMessage.Text = "Your profile has been updated successfully."

        ' Hide the edit panel and reflect new values in the search boxes
        pnlEditProfile.Visible = False
        txtSearchName.Text = txtName.Text
        txtSearchZip.Text = txtPostalCode.Text
    Else
        lblMessage.ForeColor = System.Drawing.Color.Red
    End If
End Try

```

```

        lblMessage.Text = "Update failed. Please try again."
    End If

    Catch err As Exception
        lblMessage.ForeColor = System.Drawing.Color.Red
        lblMessage.Text = "Error: " & err.Message

    Finally
        con.Close()
    End Try

End Sub

End Class

```

pvcstyles.css

```

body {
    font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
    background-color: #f4f7f6;
    margin: 0;
    padding: 0;
    color: #333;
    text-align: center;
}

/* Navigation Menu */
.navbar {
    background-color: #2c3e50;
    padding: 15px 0;
    box-shadow: 0 2px 5px rgba(0,0,0,0.1);
}

    .navbar a {
        color: white;
        text-decoration: none;
        padding: 12px 25px;
        font-size: 16px;
        margin: 0 5px;
        border-radius: 4px;
        transition: background-color 0.3s;
    }

        .navbar a:hover {
            background-color: #34495e;
        }

/* Main Content Box */
.container {
    width: 70%;
    margin: 40px auto;
    background-color: white;
    padding: 30px;
    border-radius: 10px;
    box-shadow: 0 4px 15px rgba(0,0,0,0.1);
    min-height: 500px;
}

```

```

h1, h2, h3 {
  color: #2c3e50;
  margin-bottom: 25px;
  border-bottom: 2px solid #eee;
  padding-bottom: 10px;
  display: inline-block;
}

/* Forms */
form {
  display: inline-block;
  text-align: left;
  background-color: #fff;
  padding: 20px 40px;
  border: 1px solid #e0e0e0;
  border-radius: 8px;
}

label {
  font-weight: 600;
  color: #555;
  margin-top: 15px;
  display: block;
}

input, select {
  width: 100%;
  max-width: 300px;
  padding: 10px;
  margin-top: 5px;
  border: 1px solid #ccc;
  border-radius: 5px;
  font-size: 14px;
  box-sizing: border-box;
}

input:focus {
  border-color: #3498db;
  outline: none;
}

/* Buttons */
button, .btn {
  background-color: #3498db;
  color: white;
  border: none;
  padding: 10px 20px;
  border-radius: 5px;
  font-size: 16px;
  cursor: pointer;
  margin-top: 15px;
  transition: background-color 0.3s;
}

button:hover, .btn:hover {
  background-color: #2980b9;
}

/* Secondary Button (for Cancel/Back) */
button.secondary {
  background-color: #95a5a6;
}

```

```

/* Product Cards (For Search Page) */
.product-grid {
  display: flex;
  justify-content: center;
  gap: 30px;
  flex-wrap: wrap;
  margin-top: 20px;
}

.card {
  background: white;
  border: 1px solid #eee;
  border-radius: 8px;
  padding: 20px;
  width: 220px;
  text-align: center;
  box-shadow: 0 2px 5px rgba(0,0,0,0.05);
  transition: transform 0.2s;
}

.card:hover {
  transform: translateY(-5px);
  box-shadow: 0 5px 15px rgba(0,0,0,0.1);
}

.card img-placeholder {
  display: block;
  height: 120px;
  background-color: #ecf0f1;
  margin-bottom: 15px;
  border-radius: 4px;
  line-height: 120px;
  color: #bdc3c7;
}

/* Tables */
table {
  width: 100%;
  max-width: 800px;
  margin: 20px auto;
  border-collapse: collapse;
  background: white;
}

th, td {
  padding: 12px 15px;
  border-bottom: 1px solid #ddd;
  text-align: center;
}

th {
  background-color: #f8f9fa;
  font-weight: bold;
  color: #2c3e50;
}

tr:hover {
  background-color: #f1f1f1;
}

```

```
/* Ensure the body takes up the full screen height */
body {
  min-height: 100vh;
  display: flex;
  flex-direction: column;
}

.page-wrapper {
  flex: 1;
  display: flex;
  justify-content: center;
  align-items: center;
  width: 100%;
}

/* Styling for the Centered Form Container */
.login-container {
  background: white;
  padding: 40px;
  border-radius: 10px;
  box-shadow: 0 5px 20px rgba(0,0,0,0.1);
  width: 100%;
  max-width: 400px;
  text-align: center;
  border: 1px solid #e0e0e0;
}

.login-container h1 {
  margin-top: 0;
  font-size: 24px;
  color: #333;
}

.login-container input {
  width: 100%;
  margin-bottom: 15px;
}

.login-container button {
  width: 100%;
  padding: 12px;
  font-size: 16px;
  background-color: #3498db;
  color: white;
  border: none;
  border-radius: 5px;
  cursor: pointer;
}

.login-container button:hover {
  background-color: #2980b9;
}
```