

Lab 04: ASP.NET Web Forms Implementation

Management System for Pine Valley Furniture Company

Web Engineering Course Report

February 26, 2026

1 INTRODUCTION

This report contains the complete source code for the Pine Valley Furniture Portal. The application is built using ASP.NET Web Forms with VB.NET as the server-side language. It implements customer registration, product searching, order placement, catalog management, and payment processing.

2 DEFAULT LANDING PAGE

The landing page serves as the main navigation hub for the portal.

2.1 Default.aspx (Markup)

```
1 <%@ Page Title="Home Page" Language="VB" MasterPageFile="~/Site.Master"
  AutoEventWireup="true" CodeBehind="Default.aspx.vb" Inherits="Lab04_Solution.
  _Default" %>
2
3 <asp:Content ID="BodyContent" ContentPlaceHolderID="MainContent" runat="server">
4   <div style="text-align: center; font-family: Arial;">
5     <h1>Pine Valley Furniture Portal</h1>
6     <p>Welcome to the Management System. Please select a task:</p>
7
8     <table align="center" border="1" cellpadding="20" style="border-collapse
  : collapse;">
9       <tr>
10        <td>
11          <h3>Customers</h3>
12          <a href="Register.aspx">Register New Customer</a>
13        </td>
14        <td>
15          <h3>Inventory</h3>
16          <a href="Search.aspx">Search Products</a>
17        </td>
18      </tr>
19      <tr>
20        <td>
21          <h3>Orders</h3>
22          <a href="Orders.aspx">Place New Order</a>
23        </td>
24        <td>
```

```
25         <h3>Admin</h3>
26         <a href="Admin.aspx">Update Catalog</a>
27     </td>
28 </tr>
29 </table>
30 </div>
31 </asp:Content>
```

Default.aspx

2.2 Default.aspx.vb (Code-Behind)

```
1 Imports System.Data
2 Imports System.Data.SqlClient
3 Imports System.Configuration
4
5 Public Class _Default
6     Inherits Page
7
8     Protected Sub Page_Load(ByVal sender As Object, ByVal e As EventArgs)
9         Handles Me.Load
10        ' Page logic here
11    End Sub
12 End Class
```

Default.aspx.vb

3 PRODUCT SEARCH FUNCTIONALITY

Implements the requirement for searching products by name or finish.

3.1 Search.aspx (Markup)

```
1 <%@ Page Title="" Language="vb" AutoEventWireup="false" MasterPageFile="~/Site.  
  Master" CodeBehind="Search.aspx.vb" Inherits="Lab04_Solution.Search" %>  
2  
3 <asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">  
4   <div style="font-family: Arial; padding: 20px;">  
5     <h3>Product Search</h3>  
6     <hr />  
7     <div style="margin-bottom: 20px;">  
8       <label>Search Name or Category:</label><br />  
9       <asp:TextBox ID="txtSearch" runat="server" Style="padding: 5px;  
10      width: 250px;"></asp:TextBox>  
11      <asp:Button ID="btnSearch" runat="server" Text="Search" OnClick="  
12      btnSearch_Click" Style="padding: 5px;" />  
13    </div>  
14    <div>  
15      <asp:GridView ID="gvProducts" runat="server" border="1" CellPadding=  
16      "10" Style="border-collapse: collapse; width: 100%;">  
17        <HeaderStyle BackColor="#e6e6e6" />  
18      </asp:GridView>  
19      <br />  
20      <asp:Label ID="lblSearchMsg" runat="server" ForeColor="Red"></asp:  
  Label>  
</div>  
</div>  
</asp:Content>
```

Search.aspx

3.2 Search.aspx.vb (Code-Behind)

```
1 Imports System.Data  
2 Imports System.Data.SqlClient  
3 Imports System.Configuration  
4  
5 Public Class Search  
6   Inherits Page  
7  
8   Protected Sub Page_Load(ByVal sender As Object, ByVal e As EventArgs)  
9     Handles Me.Load  
10    If Not IsPostBack Then  
11      gvProducts.DataSource = GetProducts()  
12      gvProducts.DataBind()  
13    End If  
14  End Sub  
15  
16  Public Function GetProducts() As DataTable  
17    Dim dt As New DataTable()  
18    Dim connStr As String = ConfigurationManager.ConnectionStrings("FurnitureDB").ConnectionString  
19    Using con As New SqlConnection(connStr)
```

```

19         Dim query As String = "SELECT PRODUCT_ID, PRODUCT_DESCRIPTION,
PRODUCT_FINISH, STANDARD_PRICE FROM Product_T"
20         Dim cmd As New SqlCommand(query, con)
21         Dim adapter As New SqlDataAdapter(cmd)
22         con.Open()
23         adapter.Fill(dt)
24     End Using
25     Return dt
26 End Function
27
28 Protected Sub btnSearch_Click(sender As Object, e As EventArgs) Handles
btnSearch.Click
29     Dim searchText As String = txtSearch.Text.Trim().ToLower()
30     Dim allProducts As DataTable = GetProducts()
31     Dim results As DataTable = allProducts.Clone()
32
33     For Each row As DataRow In allProducts.Rows
34         If row("PRODUCT_DESCRIPTION").ToString().ToLower().Contains(
searchText) Or
35         row("PRODUCT_FINISH").ToString().ToLower().Contains(searchText)
36     Then
37         results.ImportRow(row)
38     End If
39     Next
40     gvProducts.DataSource = results
41     gvProducts.DataBind()
42 End Sub
End Class

```

Search.aspx.vb

4 CUSTOMER REGISTRATION

Handles the insertion of new customer data into the database.

4.1 Register.aspx (Markup)

```
1 <%@ Page Title="Registration Form" Language="vb" AutoEventWireup="false"
  MasterPageFile="~/Site.Master" CodeBehind="Register.aspx.vb" Inherits="
  Lab04_Solution.Register" %>
2
3 <asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
4   <div style="font-family: Arial; padding: 20px; max-width: 400px;">
5     <h3>New Customer Registration</h3>
6     <hr />
7     <div style="margin-bottom: 10px;">
8       <label>Customer ID:</label><br />
9       <asp:TextBox ID="txtID" runat="server" Style="width: 100%; padding:
10      5px;"></asp:TextBox>
11     </div>
12     <div style="margin-bottom: 10px;">
13       <label>Full Name:</label><br />
14       <asp:TextBox ID="txtName" runat="server" Style="width: 100%; padding
15       : 5px;"></asp:TextBox>
16     </div>
17     <div style="margin-bottom: 10px;">
18       <label>Address:</label><br />
19       <asp:TextBox ID="txtAddress" runat="server" Style="width: 100%;
20       padding: 5px;"></asp:TextBox>
21     </div>
22     <div style="margin-bottom: 10px;">
23       <label>City:</label><br />
24       <asp:TextBox ID="txtCity" runat="server" Style="width: 100%; padding
25       : 5px;"></asp:TextBox>
26     </div>
27     <div style="margin-bottom: 10px;">
28       <label>State (2 Letters):</label><br />
29       <asp:TextBox ID="txtState" runat="server" MaxLength="2" Style="width
30       : 50px; padding: 5px;"></asp:TextBox>
31     </div>
32     <div style="margin-bottom: 10px;">
33       <label>Postal Code:</label><br />
34       <asp:TextBox ID="txtZip" runat="server" Style="width: 100%; padding:
35       5px;"></asp:TextBox>
36     </div>
37     <div style="margin-top: 20px;">
38       <asp:Button ID="btnRegister" runat="server" Text="Register Customer"
39       OnClick="btnRegister_Click" Style="padding: 10px; cursor: pointer;" />
40     </div>
41     <br />
42     <asp:Label ID="lblMsg" runat="server"></asp:Label>
43   </div>
44 </asp:Content>
```

Register.aspx

4.2 Register.aspx.vb (Code-Behind)

```
1 Imports System.Configuration
2 Imports System.Data.SqlClient
3
4 Public Class Register
5     Inherits System.Web.UI.Page
6
7     Protected Sub btnRegister_Click(sender As Object, e As EventArgs) Handles
      btnRegister.Click
8         Dim connStr As String = ConfigurationManager.ConnectionStrings("
      FurnitureDB").ConnectionString
9         Using con As New SqlConnection(connStr)
10            Dim query As String = "INSERT INTO customer_T (CUSTOMER_ID,
      CUSTOMER_NAME, CUSTOMER_ADDRESS, CUSTOMER_CITY, CUSTOMER_STATE, POSTAL_CODE)
      " &
11            "VALUES (@id, @name, @addr, @city, @state, @zip
      )"
12            Dim cmd As New SqlCommand(query, con)
13            cmd.Parameters.AddWithValue("@id", txtID.Text)
14            cmd.Parameters.AddWithValue("@name", txtName.Text)
15            cmd.Parameters.AddWithValue("@addr", txtAddress.Text)
16            cmd.Parameters.AddWithValue("@city", txtCity.Text)
17            cmd.Parameters.AddWithValue("@state", txtState.Text)
18            cmd.Parameters.AddWithValue("@zip", txtZip.Text)
19            con.Open()
20            cmd.ExecuteNonQuery()
21            lblMsg.Text = "Customer Registered Successfully!"
22        End Using
23    End Sub
24 End Class
```

Register.aspx.vb

5 ORDER MANAGEMENT

Facilitates placing new orders and linking them to specific products and customers.

5.1 Orders.aspx (Markup)

```
1 <%@ Page Title="Order" Language="vb" AutoEventWireup="false" MasterPageFile="~/
2 Site.Master" CodeBehind="Orders.aspx.vb" Inherits="Lab04_Solution.Orders" %>
3 <asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
4     <div style="font-family: Arial; padding: 20px; max-width: 500px;">
5         <h3>Place New Order</h3>
6         <hr />
7         <div style="margin-bottom: 15px;">
8             <label>Select Customer:</label><br />
9             <asp:DropDownList ID="ddlCustomers" runat="server" Style="width:
10 100%; padding: 5px;"></asp:DropDownList>
11         </div>
12         <div style="margin-bottom: 15px;">
13             <label>Select Product:</label><br />
14             <asp:DropDownList ID="ddlProducts" runat="server" Style="width:
15 100%; padding: 5px;"></asp:DropDownList>
16         </div>
17         <div style="margin-bottom: 15px;">
18             <label>Ordered Quantity:</label><br />
19             <asp:TextBox ID="txtQty" runat="server" TextMode="Number" Style="
20 width: 100px; padding: 5px;"></asp:TextBox>
21         </div>
22         <div style="margin-top: 20px;">
23             <asp:Button ID="btnPlaceOrder" runat="server" Text="Submit Order"
24             OnClick="btnPlaceOrder_Click" Style="padding: 10px; background-color: #4CAF50
25             ; color: white; border: none; cursor: pointer;" />
26         </div>
27         <br />
28         <asp:Label ID="lblOrderMsg" runat="server"></asp:Label>
29     </div>
30 </asp:Content>
```

Orders.aspx

5.2 Orders.aspx.vb (Code-Behind)

```
1 Imports System.Data.SqlClient
2 Imports System.Configuration
3
4 Public Class Orders
5     Inherits System.Web.UI.Page
6     Dim connStr As String = ConfigurationManager.ConnectionStrings("FurnitureDB"
7     ).ConnectionString
8
9     Protected Sub Page_Load(ByVal sender As Object, ByVal e As EventArgs)
10    Handles Me.Load
11        If Not IsPostBack Then LoadData()
12    End Sub
13
14    Private Sub LoadData()
```

```

13     Using con As New SqlConnection(connStr)
14         con.Open()
15         Dim cmdCust As New SqlCommand("SELECT CUSTOMER_ID, CUSTOMER_NAME
FROM customer_T", con)
16         ddlCustomers.DataSource = cmdCust.ExecuteReader()
17         ddlCustomers.DataTextField = "CUSTOMER_NAME"
18         ddlCustomers.DataValueField = "CUSTOMER_ID"
19         ddlCustomers.DataBind()
20         ddlCustomers.Items.Insert(0, New ListItem("-- Select Customer --", "
0"))
21     End Using
22
23     Using con As New SqlConnection(connStr)
24         con.Open()
25         Dim cmdProd As New SqlCommand("SELECT PRODUCT_ID,
PRODUCT_DESCRIPTION FROM Product_T", con)
26         ddlProducts.DataSource = cmdProd.ExecuteReader()
27         ddlProducts.DataTextField = "PRODUCT_DESCRIPTION"
28         ddlProducts.DataValueField = "PRODUCT_ID"
29         ddlProducts.DataBind()
30         ddlProducts.Items.Insert(0, New ListItem("-- Select Product --", "0"
))
31     End Using
32 End Sub
33
34 Protected Sub btnPlaceOrder_Click(sender As Object, e As EventArgs) Handles
btnPlaceOrder.Click
35     Try
36         Using con As New SqlConnection(connStr)
37             con.Open()
38             Dim randomOID As Integer = New Random().Next(2000, 9999)
39             Dim queryOrder As String = "INSERT INTO Order_T (ORDER_ID,
CUSTOMER_ID, ORDER_DATE) VALUES (@oid, @cid, @date)"
40             Dim cmdOrder As New SqlCommand(queryOrder, con)
41             cmdOrder.Parameters.AddWithValue("@oid", randomOID)
42             cmdOrder.Parameters.AddWithValue("@cid", ddlCustomers.
SelectedValue)
43             cmdOrder.Parameters.AddWithValue("@date", DateTime.Now)
44             cmdOrder.ExecuteNonQuery()
45
46             Dim queryLine As String = "INSERT INTO Order_Line_T (ORDER_ID,
PRODUCT_ID, ORDERED_QUANTITY) VALUES (@oid, @pid, @qty)"
47             Dim cmdLine As New SqlCommand(queryLine, con)
48             cmdLine.Parameters.AddWithValue("@oid", randomOID)
49             cmdLine.Parameters.AddWithValue("@pid", ddlProducts.
SelectedValue)
50             cmdLine.Parameters.AddWithValue("@qty", txtQty.Text)
51             cmdLine.ExecuteNonQuery()
52
53             lblOrderMsg.Text = "Success! Order #" & randomOID & " placed."
54             Response.Redirect("Payment.aspx?OrderID=" & randomOID)
55         End Using
56     Catch ex As Exception
57         lblOrderMsg.Text = "Error: " & ex.Message
58     End Try
59 End Sub
60 End Class

```


6 CATALOG ADMINISTRATION

Allows authorized users to add new inventory items.

6.1 Admin.aspx (Markup)

```
1 <%@ Page Title="Product Catalog" Language="vb" AutoEventWireup="false"
  MasterPageFile="~/Site.Master" CodeBehind="Admin.aspx.vb" Inherits="
  Lab04_Solution.Admin" %>
2
3 <asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
4   <div style="font-family: Arial; padding: 20px; max-width: 500px;">
5     <h3>Product Catalog Management</h3>
6     <hr />
7     <div style="margin-bottom: 10px;">
8       <label>Product ID:</label><br />
9       <asp:TextBox ID="txtProdID" runat="server" Style="width: 100%;
padding: 5px;"></asp:TextBox>
10    </div>
11    <div style="margin-bottom: 10px;">
12      <label>Description:</label><br />
13      <asp:TextBox ID="txtDesc" runat="server" Style="width: 100%; padding
: 5px;"></asp:TextBox>
14    </div>
15    <div style="margin-bottom: 10px;">
16      <label>Finish:</label><br />
17      <asp:TextBox ID="txtFinish" runat="server" Style="width: 100%;
padding: 5px;"></asp:TextBox>
18    </div>
19    <div style="margin-bottom: 10px;">
20      <label>Price:</label><br />
21      <asp:TextBox ID="txtPrice" runat="server" Style="width: 100%;
padding: 5px;"></asp:TextBox>
22    </div>
23    <asp:Button ID="btnAddProduct" runat="server" Text="Add Product" OnClick
="btnAddProduct_Click" Style="padding: 10px; background-color: #f0ad4e;
cursor: pointer;" />
24    <br /><asp:Label ID="lblAdminMsg" runat="server"></asp:Label>
25  </div>
26 </asp:Content>
```

Admin.aspx

6.2 Admin.aspx.vb (Code-Behind)

```
1 Imports System.Data.SqlClient
2 Imports System.Configuration
3
4 Public Class Admin
5     Inherits System.Web.UI.Page
6     Dim connStr As String = ConfigurationManager.ConnectionStrings("FurnitureDB"
).ConnectionString
7
8     Protected Sub btnAddProduct_Click(sender As Object, e As EventArgs) Handles
btnAddProduct.Click
9         Try
```

```

10         Using con As New SqlConnection(connStr)
11             Dim query As String = "INSERT INTO Product_T (PRODUCT_ID,
PRODUCT_DESCRIPTION, PRODUCT_FINISH, STANDARD_PRICE) VALUES (@id, @desc,
@finish, @price)"
12             Dim cmd As New SqlCommand(query, con)
13             cmd.Parameters.AddWithValue("@id", txtProdID.Text)
14             cmd.Parameters.AddWithValue("@desc", txtDesc.Text)
15             cmd.Parameters.AddWithValue("@finish", txtFinish.Text)
16             cmd.Parameters.AddWithValue("@price", txtPrice.Text)
17             con.Open()
18             cmd.ExecuteNonQuery()
19             lblAdminMsg.Text = "Product added successfully!"
20             lblAdminMsg.ForeColor = System.Drawing.Color.Green
21         End Using
22     Catch ex As Exception
23         lblAdminMsg.Text = "Error: " & ex.Message
24         lblAdminMsg.ForeColor = System.Drawing.Color.Red
25     End Try
26 End Sub
27 End Class

```

Admin.aspx.vb

7 PAYMENT AND USER GUIDANCE

Covers payment simulation and the help documentation.

7.1 Payment.aspx.vb (Code-Behind Logic)

```
1 Imports System.Data.SqlClient
2 Imports System.Configuration
3
4 Public Class Payment
5     Inherits System.Web.UI.Page
6     Dim connStr As String = ConfigurationManager.ConnectionStrings("FurnitureDB"
7     ).ConnectionString
8
9     Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs)
10        Handles Me.Load
11        If Not IsPostBack Then
12            If Request.QueryString("OrderID") IsNot Nothing Then
13                txtOrderID.Text = Request.QueryString("OrderID")
14            End If
15        End If
16    End Sub
17
18    Protected Sub btnProcessPayment_Click(sender As Object, e As EventArgs)
19        Handles btnProcessPayment.Click
20        Using con As New SqlConnection(connStr)
21            Dim query As String = "SELECT COUNT(*) FROM Order_T WHERE ORDER_ID =
22            @oid"
23            Dim cmd As New SqlCommand(query, con)
24            cmd.Parameters.AddWithValue("@oid", txtOrderID.Text)
25            con.Open()
26            If Convert.ToInt32(cmd.ExecuteScalar()) > 0 Then
27                lblPaymentMsg.Text = "Payment processed for Order #" &
28                txtOrderID.Text
29                lblPaymentMsg.ForeColor = System.Drawing.Color.Green
30            Else
31                lblPaymentMsg.Text = "Error: Order ID not found."
32                lblPaymentMsg.ForeColor = System.Drawing.Color.Red
33            End If
34        End Using
35    End Sub
36 End Class
```

Payment.aspx.vb

7.2 Help.aspx (Markup)

```
1 <asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
2     <div style="font-family: Arial; padding: 20px;">
3         <h2>User Guidance & Help</h2>
4         <hr />
5         <ul>
6             <li><strong>Search:</strong> Filter by name or wood finish.</li>
7             <li><strong>Registration:</strong> Add new customers.</li>
8             <li><strong>Orders:</strong> Link customers to products.</li>
9             <li><strong>Admin:</strong> Manage inventory updates.</li>
```

```
10     </ul>
11   </div>
12 </asp:Content>
```

Help.aspx