**Practical Number 14: Build a web application to create and use web service in ASP.net**

**1. Create New ASP.NET Web Forms App**

* Open Visual Studio
* Create a new project:  
  **ASP.NET Web Application (.NET Framework)**  
  → Name it: CalculatorApp  
  → Template: **Empty**  
  → Check: **Web Forms**  
  → Click **Create**

**2. Add ASMX Web Service**

* Right-click project → **Add** → **New Item**
* Select **Web Service (ASMX)**
* Name it: CalculatorService.asmx

**CalculatorService.asmx.cs**

using System.Web.Services;

namespace CalculatorApp

{

/// <summary>

/// Web service for basic calculator operations

/// </summary>

[WebService(Namespace = "http://tempuri.org/")]

[WebServiceBinding(ConformsTo = WsiProfiles.BasicProfile1\_1)]

public class CalculatorService : WebService

{

[WebMethod]

public int Add(int a, int b)

{

return a + b;

}

[WebMethod]

public int Subtract(int a, int b)

{

return a - b;

}

}

}

**3. Add a Web Form**

* Right-click project → **Add** → **New Item**
* Choose **Web Form** → Name: Default.aspx

**Default.aspx**

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

<!DOCTYPE html>

<html>

<head runat="server">

<title>Calculator Web Service Client</title>

</head>

<body>

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

<div>

Number 1: <asp:TextBox ID="txtA" runat="server" /><br />

Number 2: <asp:TextBox ID="txtB" runat="server" /><br /><br />

<asp:Button ID="btnAdd" runat="server" Text="Add" OnClick="btnAdd\_Click" />

<asp:Button ID="btnSub" runat="server" Text="Subtract" OnClick="btnSub\_Click" /><br /><br />

Result: <asp:Label ID="lblResult" runat="server" Text="" />

</div>

</form>

</body>

</html>

**4. Add the Service Reference (Self Reference)**

* Build the project first (Ctrl+Shift+B)
* Right-click the project → **Add Service Reference**
* Address: http://localhost:<your-port>/CalculatorService.asmx
  + (Run the project and copy the URL from the browser)
* Namespace: CalcRef
* Click **OK**

**5. Code-Behind for Default.aspx.cs**

using System;

using CalculatorApp.CalcRef;

namespace CalculatorApp

{

public partial class Default : System.Web.UI.Page

{

CalculatorServiceSoapClient client;

protected void Page\_Load(object sender, EventArgs e)

{

client = new CalculatorServiceSoapClient();

}

protected void btnAdd\_Click(object sender, EventArgs e)

{

int a = int.Parse(txtA.Text);

int b = int.Parse(txtB.Text);

int result = client.Add(a, b);

lblResult.Text = "Result: " + result;

}

protected void btnSub\_Click(object sender, EventArgs e)

{

int a = int.Parse(txtA.Text);

int b = int.Parse(txtB.Text);

int result = client.Subtract(a, b);

lblResult.Text = "Result: " + result;

}

}

}