**Practical no 1**

**AIM:** Write a program to implement to create a simple web service that converts the temperature from Fahrenheit to Celsius and vice versa.

**Theory**

# **Steps:**

1. Create a Web Application of ”ASP.NET” using(.Net Framework 4.7).
2. Give a suitable title to the project and solution.
3. Initialize it as ”Empty” solution.
4. On Solution Explorer, right click and add a ”Web Service(asmx)” to the solution.
5. Moving ahead we already have the files initialized for returning ”Hello World”.
6. Remove/overwrite the ”Hello World” ”WebMethod” and add your own ”WebMethods” to the source file.
7. Save it and try out the web-service using the play button to host the web service on a local ”IIS Express” server.
8. Once the web service successfully runs and gives the desired output in form of XML documents; We will Proceed towards making client side pages.
9. In solution explorer, right click on the connected services tab and click on ”add service reference” option.
10. Next discover the web service we just created and click on the service you created and click ok.
11. Now you have successfully connected the web service to the solution.
12. Add a new WebForm in the same solution and start designing the client side UI.
13. After completing the UI design open the backend C# code.
14. Define methods for Button Clicks either explicitly or by double clicking the respective buttons in the design section of the form .
15. In the button click methods first create a SOAP object for the ”webservice.WebService1SoapClient()” class.
16. Using the SOAP object invoke the web-service methods and pass the appropriate data from the input field casted to the data type used in web-service method.
17. Next try running the ASPX page using the local server, add exception handling for handling exceptions if required.

**Code:**

**WebService1.asmx.cs**

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| --- |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Web;  using System.Web.Services;  namespace Temp  {    [WebService(Namespace = "http://tempuri.org/")]  [WebServiceBinding(ConformsTo = WsiProfiles.BasicProfile1\_1)]  [System.ComponentModel.ToolboxItem(false)]    public class WebService1 : System.Web.Services.WebService  {  [WebMethod]  public double celsius\_to\_farhenheit(double celsius)  {  return ((celsius \* 9 / 5) + 32);  }  [WebMethod]  public double farhenheit\_to\_celsius(double farhenheit)  {  return ((farhenheit - 32) \* 5 / 9);  }  }  } |

**WebForm1.aspx:**

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| <%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs" Inherits="Temp.WebForm1" %>  <!DOCTYPE html>  <html xmlns="http://www.w3.org/1999/xhtml">  <head runat="server">  <title></title>  </head>  <body>  <form id="form1" runat="server">  <div>  <asp:Label ID="Label1" runat="server" Text="Input Temperature"></asp:Label>  &nbsp;&nbsp;    <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>&deg;  <asp:DropDownList ID="DropDownList1" runat="server">    <asp:ListItem>Celsius</asp:ListItem>  <asp:ListItem>Farhenheit</asp:ListItem>    </asp:DropDownList>    <br/><br/>  <asp:Button ID="Button1" runat="server" Text="Convert\_to\_Farhenhiet" OnClick="Button1\_Click"/>  &nbsp;&nbsp;&nbsp;&nbsp;  <asp:Button ID="Button2" runat="server" Text="Convert\_to\_Celsius" OnClick="Button2\_Click" />  <br/><br/>  <asp:Label ID="Label3" runat="server" Text="Result :"></asp:Label>  &nbsp;  <asp:Label ID="Label2" runat="server" Text=""></asp:Label>  &nbsp;<asp:Label ID="Label4" runat="server" Text=""></asp:Label>  </div>  </form>  </body>  </html> |

**WebForm1.aspx.cs**

|  |
| --- |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Web;  using System.Web.UI;  using System.Web.UI.WebControls;  namespace Temp  {  public partial class WebForm1 : System.Web.UI.Page  {  protected void Page\_Load(object sender, EventArgs e)  {  }  protected void Button1\_Click(object sender, EventArgs e)  {  double result;  try  {  ServiceReference1.WebService1SoapClient client = new ServiceReference1.WebService1SoapClient();  result = client.celsius\_to\_farhenheit(Convert.ToDouble(TextBox1.Text));  if (DropDownList1.SelectedValue.Equals("Celsius"))  {  Label2.Text = result.ToString();  Label4.Text = "&deg;Farhenheit";  }  if (DropDownList1.SelectedValue.Equals("Farhenheit"))  {  Label2.Text = "Already in Farhenheit";  Label4.Text = "";  }  }  catch (System.FormatException)  {  Label2.Text = "Invalid Inputs";  Label4.Text = "";  }  }  protected void Button2\_Click(object sender, EventArgs e)  {  double result;  try  {  ServiceReference1.WebService1SoapClient client = new ServiceReference1.WebService1SoapClient();  result = client.farhenheit\_to\_celsius((Convert.ToDouble(TextBox1.Text)));  if (DropDownList1.SelectedValue.Equals("Celsius"))  {  Label2.Text = "Already in Celsius";  Label4.Text = "";  }  if (DropDownList1.SelectedValue.Equals("Farhenheit"))  {  Label2.Text = result.ToString();  Label4.Text = "&deg;celsius";  }  }  catch (System.FormatException)  {  Label2.Text = "Invalid Inputs";  Label4.Text = "";  }  }  }  } |

**Outputs:**





