



03-3-1-051-2022

SUBHAN AMJAD

Web Services - Assignment

Internet Application Development

Q1) Draw web services execution model?

ON THE LAST PAGE

Q2) Develop a web service with four web methods as follows:

WebService.asmx:

```
<%@ WebService Language="VB" Class="WebService" %>
```

WebService.vb:

```
Imports System.Web.Services
```

```
<WebService(Namespace:="http://tempuri.org/")>
```

```
<WebServiceBinding(ConformsTo:=WsiProfiles.BasicProfile1_1)>
```

```
Public Class WebService
```

```
    Inherits System.Web.Services.WebService
```

```
    <WebMethod()>
```

```
    Public Function Add(a As Double, b As Double) As String
```

```
        Return (a + b).ToString()
```

```
    End Function
```

```
    <WebMethod()>
```

```
    Public Function Subtract(a As Double, b As Double) As String
```

```
        Return (a - b).ToString()
```

```
    End Function
```

```
    <WebMethod()>
```

```
    Public Function Multiply(a As Double, b As Double) As String
```

```
        Return (a * b).ToString()
```

```
    End Function
```

```
    <WebMethod()>
```

```
    Public Function Divide(a As Double, b As Double) As String
```

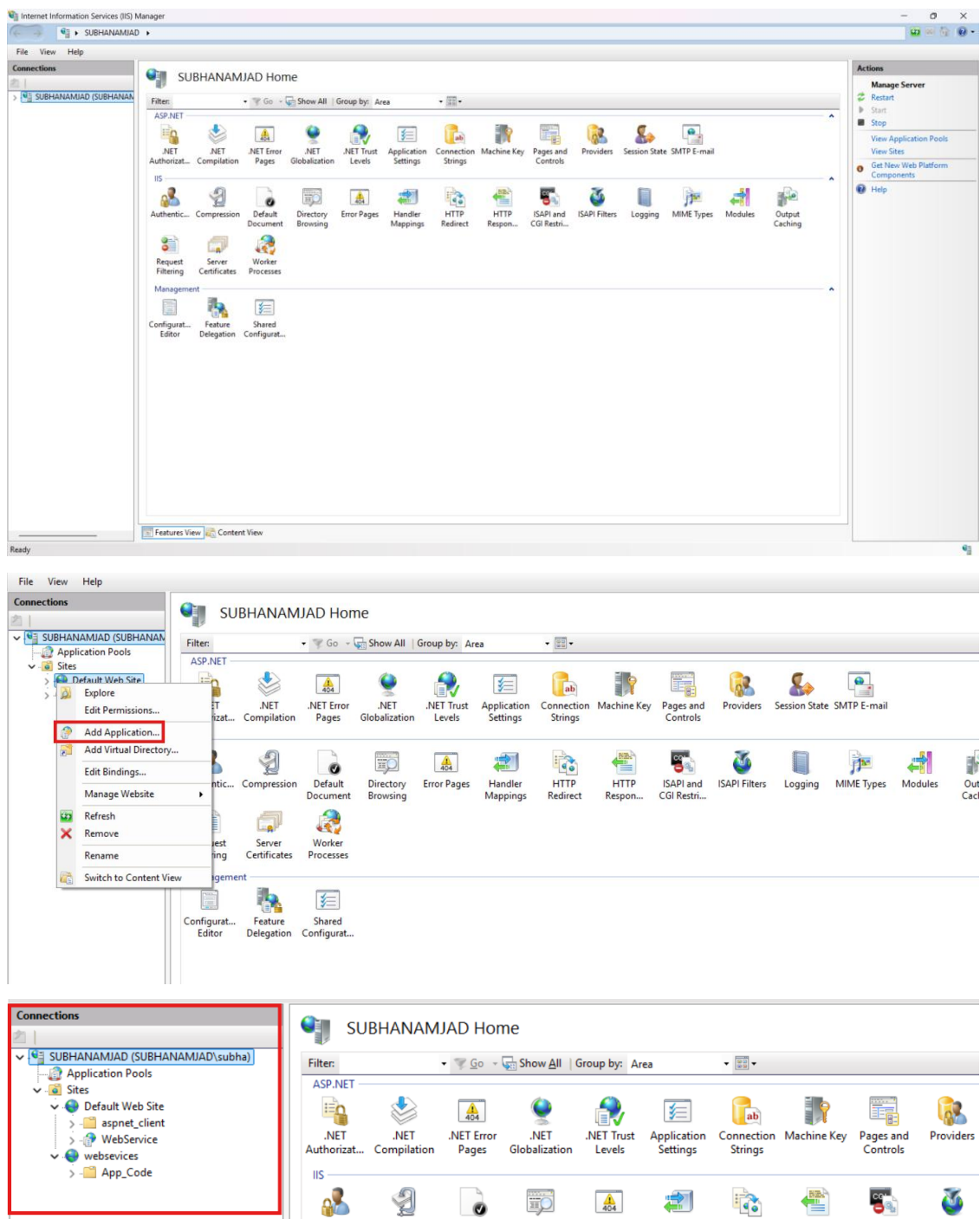
```

If b = 0 Then
    Return "Cannot divide by zero"
End If
Return (a / b).ToString()
End Function

End Class

```

Q3) Test the web service using browser on local pc.



localhost/webService/WebService.aspx

WebService

The following operations are supported. For a formal definition, please review the [Service Description](#).

- [Add](#)
- [Divide](#)
- [Multiply](#)
- [Subtract](#)

This web service is using <http://tempuri.org/> as its default namespace.
Recommendation: Change the default namespace before the XML Web service is made public.

Each XML Web service needs a unique namespace in order for client applications to distinguish it from other services on the Web. <http://tempuri.org/> is available for XML Web services that are under development, but published XML Web services should use a more permanent namespace.

Your XML Web service should be identified by a namespace that you control. For example, you can use your company's Internet domain name as part of the namespace. Although many XML Web service namespaces look like URLs, they need not point to actual resources on the Web. (XML Web service namespaces are URIs.)

For XML Web services created using ASP.NET, the default namespace can be changed using the WebService attribute's Namespace property. The WebService attribute is an attribute applied to the class that contains the XML Web service methods. Below is a code example that sets the namespace to "<http://microsoft.com/webservices/>":

C#

```
[WebService(Namespace="http://microsoft.com/webservices/")]
public class MyWebService {
    // implementation
}
```

Visual Basic

```
<WebService(Namespace="http://microsoft.com/webservices/")> Public Class MyWebService
    ' implementation
End Class
```

C++

```
[WebService(Namespace="http://microsoft.com/webservices/")]
public ref class MyWebService {
    // implementation
};
```

WebService

Click [here](#) for a complete list of operations.

Add

Test

To test the operation using the HTTP POST protocol, click the 'Invoke' button.

Parameter	Value
a:	34
b:	21

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<string xmlns="http://tempuri.org/">55</string>
```

Q4) Implement a web application "ServiceClient" which will use the MathLibService as a web service. Develop a suitable web page for its demonstration. Use some text boxes to take input from user. Use proxy class to get answer (response from web service) and display it on page to user.

Default.aspx:

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Default.aspx.vb" Inherits="_Default" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Math Service Client</title>
</head>
<body>
    <form id="form1" runat="server">
```

```

<div>
    <h2>Math Operations</h2>
    <asp:Label ID="Label1" runat="server" Text="Enter Number 1: " />
    <asp:TextBox ID="txtNum1" runat="server" /><br /><br />

    <asp:Label ID="Label2" runat="server" Text="Enter Number 2: " />
    <asp:TextBox ID="txtNum2" runat="server" /><br /><br />

    <asp:Button ID="btnAdd" runat="server" Text="Add" OnClick="btnAdd_Click" />
    <asp:Button ID="btnSubtract" runat="server" Text="Subtract" OnClick="btnSubtract_Click" />
    <asp:Button ID="btnMultiply" runat="server" Text="Multiply" OnClick="btnMultiply_Click" />
    <asp:Button ID="btnDivide" runat="server" Text="Divide" OnClick="btnDivide_Click" /><br /><br />

    <asp:Label ID="lblResult" runat="server" Font-Bold="true" Font-Size="Large" ForeColor="Blue" />
</div>
</form>
</body>
</html>

```

Default.aspx.vb:

Partial Class _Default

Inherits System.Web.UI.Page

' Create an instance of the web service client

Dim service As New MathRef.WebService()

Protected Sub btnAdd_Click(sender As Object, e As EventArgs)

Dim num1 As Double = Double.Parse(txtNum1.Text)

Dim num2 As Double = Double.Parse(txtNum2.Text)

lblResult.Text = service.Add(num1, num2)

End Sub

Protected Sub btnSubtract_Click(sender As Object, e As EventArgs)

Dim num1 As Double = Double.Parse(txtNum1.Text)

Dim num2 As Double = Double.Parse(txtNum2.Text)

lblResult.Text = service.Subtract(num1, num2)

End Sub

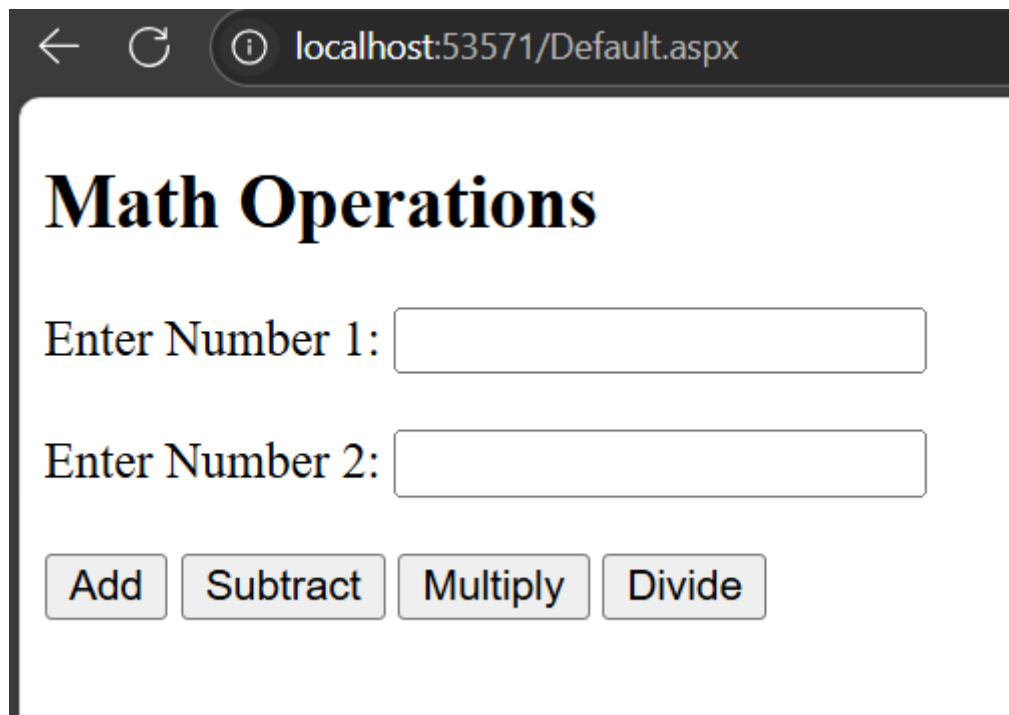
Protected Sub btnMultiply_Click(sender As Object, e As EventArgs)

Dim num1 As Double = Double.Parse(txtNum1.Text)

```
Dim num2 As Double = Double.Parse(txtNum2.Text)
lblResult.Text = service.Multiply(num1, num2)
End Sub

Protected Sub btnDivide_Click(sender As Object, e As EventArgs)
Dim num1 As Double = Double.Parse(txtNum1.Text)
Dim num2 As Double = Double.Parse(txtNum2.Text)
lblResult.Text = service.Divide(num1, num2)
End Sub

End Class
```



← ↻ ⓘ localhost:53571/Default.aspx

Math Operations

Enter Number 1:

Enter Number 2:

Math Operations

Enter Number 1:

Enter Number 2:

100

Math Operations

Enter Number 1:

Enter Number 2:

Add

Subtract

Multiply

Divide

12

Math Operations

Enter Number 1:

Enter Number 2:

Add

Subtract

Multiply

Divide

2464

Math Operations

Enter Number 1:

Enter Number 2:

Add

Subtract

Multiply

Divide

1.27272727272727

