

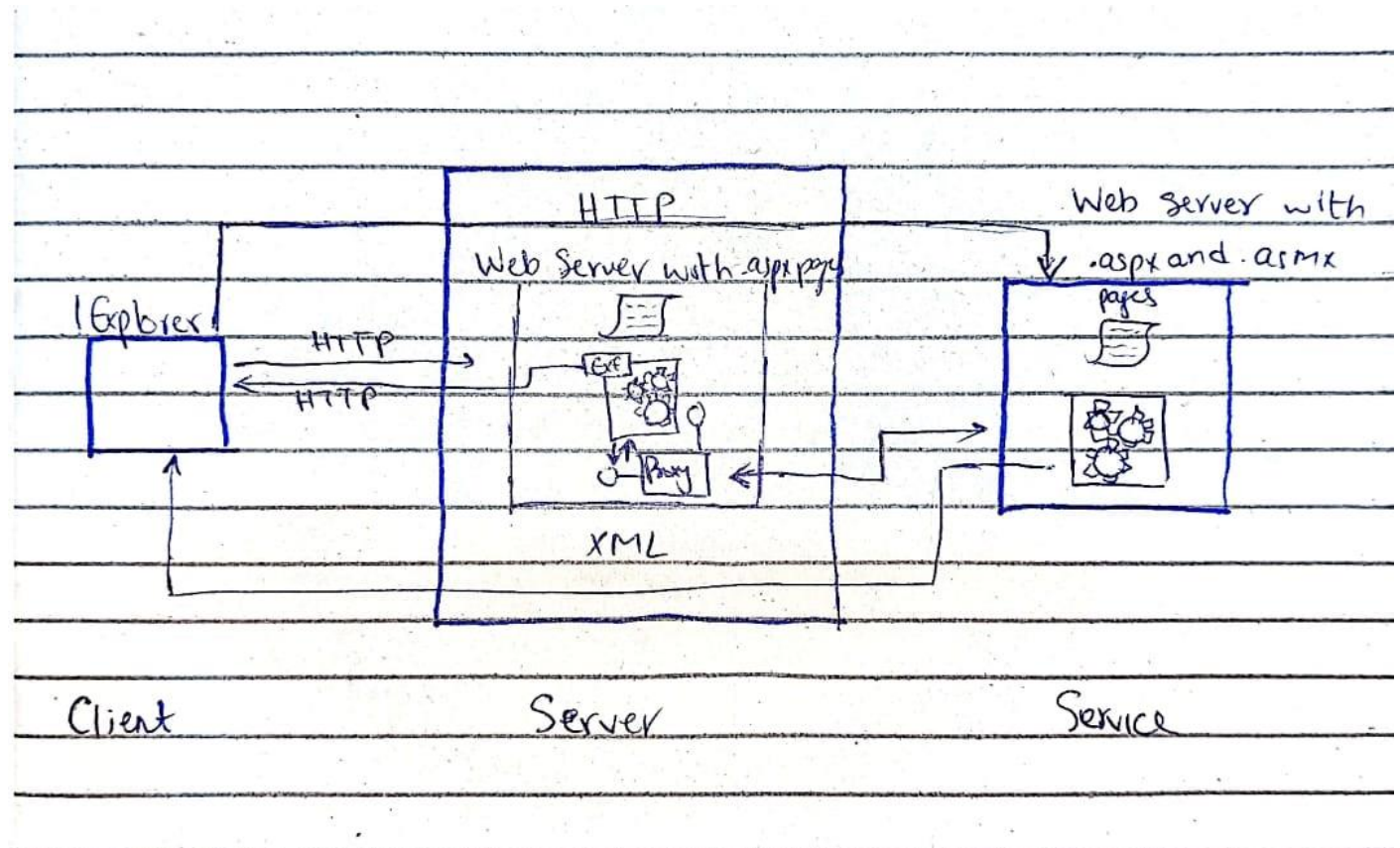
Internet Application Development
Web Services - Assignment

Dated: Thursday, 15th May 2025

Registration No: 03-3-1-002-2022

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Q1) Draw web services execution model?



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

- | | |
|--------------|--------------|
| (a) Add | (c) Multiply |
| (b) Subtract | (d) Divide |

Assume all above methods need two parameters and return a single value as string value.
Using guidelines provided in class write code for above web service.

Public Class WebService1

Inherits System.Web.Services.WebService

<WebMethod(>

```
Public Function Add(A As Integer, B As Integer) As String
    Return A + B
End Function
```

```
<WebMethod()>
Public Function Subtract(A As Integer, B As Integer) As String
    Return A - B
End Function
```

```
<WebMethod()>
Public Function Multiply(A As Integer, B As Integer) As String
    Return A * B
End Function
```

```
<WebMethod()>
Public Function Divide(A As Integer, B As Integer) As String
    Return A / B
End Function
```

End Class

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

MathLibService

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.

Using IIS manager create two separate applications as follows:

- MathLibService
- ServiceClient

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.

Enter First Number: Enter Second Number:
Select Operation:
Result: 2

Imports localhost

Partial Class _Default

Inherits System.Web.UI.Page

Protected Sub btnCalculate_Click(sender As Object, e As EventArgs) Handles

btnCalculate.Click

Try

Dim num1 As Integer = CInt(txtNum1.Text)

Dim num2 As Integer = CInt(txtNum2.Text)

Dim operation As String = ddlOperation.SelectedValue

Dim client As New MathLibService

Dim result As String

Select Case operation

Case "Add"

result = client.Add(num1, num2)

Case "Subtract"

result = client.Subtract(num1, num2)

Case "Multiply"

result = client.Multiply(num1, num2)

Case "Divide"

If num2 = 0 Then

lblResult.Text = "Cannot divide a number by 0"

```
        Return
    End If
    result = client.Divide(num1, num2)
Case Else
    lblResult.Text = "Invalid operation."
    Return
End Select

    lblResult.Text = $"Result: {result}"
Catch ex As Exception
    lblResult.Text = "Error: " & ex.Message
End Try
End Sub
End Class
```