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## **=> Soap messages**

### **Request :**

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <Action s:mustUnderstand="1"
xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">http://tempuri.org/I
Service1/GetData</Action>
  </s:Header>
  <s:Body>
    <GetData xmlns="http://tempuri.org/">
      <value1>5</value1>
      <value2>9</value2>
      <op>43</op>
    </GetData>
  </s:Body>
</s:Envelope>
```

### **Response :**

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header />
  <s:Body>
    <GetDataResponse xmlns="http://tempuri.org/">
```

```

        <GetDataResult>Your Result is : 14</GetDataResult>
    </GetDataResponse>
</s:Body>
</s:Envelope>

```

## => WSDL Content

```

<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
xmlns:wsap="http://schemas.xmlsoap.org/ws/2004/08/addressing/policy"
xmlns:msc="http://schemas.microsoft.com/ws/2005/12/wsdl/contract"
xmlns:wsp="http://schemas.xmlsoap.org/ws/2004/09/policy"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility
-1.0.xsd" xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:tns="http://tempuri.org/" xmlns:wsa10="http://www.w3.org/2005/08/addressing"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing" name="Service1"
targetNamespace="http://tempuri.org/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
    <wsdl:types>
        <xsd:schema targetNamespace="http://tempuri.org/Imports">
            <xsd:import namespace="http://tempuri.org/" />
            <xsd:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
        </xsd:schema>
    </wsdl:types>
    <wsdl:message name="IService1_GetData_InputMessage">
        <wsdl:part name="parameters" element="tns:GetData" />
    </wsdl:message>
    <wsdl:message name="IService1_GetData_OutputMessage">
        <wsdl:part name="parameters" element="tns:GetDataResponse" />
    </wsdl:message>
    <wsdl:portType name="IService1">
        <wsdl:operation name="GetData">
            <wsdl:input wsaw:Action="http://tempuri.org/IService1/GetData"
message="tns:IService1_GetData_InputMessage" />

```

```

        <wsdl:output wsaw:Action="http://tempuri.org/IService1/GetDataResponse"
message="tns:IService1_GetData_OutputMessage" />
        </wsdl:operation>
    </wsdl:portType>
    <wsdl:binding name="BasicHttpBinding_IService1" type="tns:IService1">
        <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="GetData">
            <soap:operation soapAction="http://tempuri.org/IService1/GetData"
style="document" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
    </wsdl:binding>
    <wsdl:service name="Service1">
        <wsdl:port name="BasicHttpBinding_IService1"
binding="tns:BasicHttpBinding_IService1">
            <soap:address
location="http://localhost:8733/Design_Time_Addresses/CalculatorService/Service1/" />
        </wsdl:port>
    </wsdl:service>
</wsdl:definitions>

```

## => Service Code

```

namespace CalculatorService
{

```

```

    public class Service1 : IService1
    {
        public string GetData(int value1 , int value2 , char op)
        {
            double res ;
            switch(op)

```

```

    {
        case '+': res = value1 + value2; break;
        case '-': res = value1 - value2; break;
        case '*': res = value1 * value2; break;
        case '/': res = value1 / value2; break;

        default: return "Invalid Operation";
    }

    return string.Format("Your Result is : {0}",res);
}

}
}

```

## => Client Code

```

namespace Forms
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void label1_Click(object sender, EventArgs e)
        {
        }

        private void button1_Click(object sender, EventArgs e)
        {
        }
    }
}

```

```

        char opr = ' ';
        if (op.Text.Equals("+")) opr = '+';
        if (op.Text.Equals("-")) opr = '-';
        if (op.Text.Equals("*")) opr = '*';
        if (op.Text.Equals("/")) opr = '/';
        ServiceReference2.Service1Client sc = new ServiceReference2.Service1Client();
        label1.Text = sc.GetData(int.Parse(value1.Text), int.Parse(value2.Text), opr);
    }
}
}

```

## => Service Config File

```

<?xml version="1.0" encoding="utf-8" ?>
<configuration>

    <appSettings>
        <add key="aspnet:UseTaskFriendlySynchronizationContext" value="true" />
    </appSettings>
    <system.web>
        <compilation debug="true" />
    </system.web>
    <!-- When deploying the service library project, the content of the config file must be
added to the host's
app.config file. System.Configuration does not support config files for libraries. -->
    <system.serviceModel>
        <services>
            <service name="CalculatorService.Service1">
                <host>
                    <baseAddresses>
                        <add baseAddress =
"http://localhost:8733/Design_Time_Addresses/CalculatorService/Service1/" />
                    </baseAddresses>
                </host>
                <!-- Service Endpoints -->
                <!-- Unless fully qualified, address is relative to base address supplied above -->

```

```
<endpoint address="" binding="basicHttpBinding"
contract="CalculatorService.IService1">
  <!--
```

Upon deployment, the following identity element should be removed or replaced to reflect the

identity under which the deployed service runs. If removed, WCF will infer an appropriate identity automatically.

```
-->
  <identity>
    <dns value="localhost"/>
  </identity>
</endpoint>
<!-- Metadata Endpoints -->
<!-- The Metadata Exchange endpoint is used by the service to describe itself to
clients. -->
```

<!-- This endpoint does not use a secure binding and should be secured or removed before deployment -->

```
<endpoint address="mex" binding="mexHttpBinding"
contract="IMetadataExchange"/>
</service>
</services>
<behaviors>
  <serviceBehaviors>
    <behavior>
      <!-- To avoid disclosing metadata information,
      set the values below to false before deployment -->
      <serviceMetadata httpGetEnabled="True" httpsGetEnabled="True"/>
      <!-- To receive exception details in faults for debugging purposes,
      set the value below to true. Set to false before deployment
      to avoid disclosing exception information -->
      <serviceDebug includeExceptionDetailInFaults="False" />
    </behavior>
  </serviceBehaviors>
</behaviors>
</system.serviceModel>
```

```
</configuration>
```

## => Client Config File

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <startup>
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.7.2" />
  </startup>
  <system.serviceModel>
    <bindings>
      <basicHttpBinding>
        <binding name="BasicHttpBinding IService1" />
      </basicHttpBinding>
    </bindings>
    <client>
      <endpoint
        address="http://localhost:8733/Design_Time_Addresses/CalculatorService/Service1/"
        binding="basicHttpBinding"
        bindingConfiguration="BasicHttpBinding IService1"
        contract="ServiceReference2.IService1"
        name="BasicHttpBinding IService1" />
    </client>
  </system.serviceModel>
</configuration>
```

## => Outputs

A screenshot of a Windows application window titled "Form1". The window has a standard Windows title bar with minimize, maximize, and close buttons. The main area of the form contains three input fields labeled "value1", "value2", and "operation". The "value1" field contains the number "5", the "value2" field contains the number "6", and the "operation" field contains the plus sign "+". Below these fields, the text "Your Result is : 11" is displayed. At the bottom center, there is a button labeled "Calculate".

A screenshot of a Windows application window titled "Form1". The window has a standard Windows title bar with minimize, maximize, and close buttons. The main area of the form contains three input fields labeled "value1", "value2", and "operation". The "value1" field contains the number "5", the "value2" field contains the number "6", and the "operation" field contains the minus sign "-". Below these fields, the text "Your Result is : -1" is displayed. At the bottom center, there is a button labeled "Calculate".



Form1

value1  
5

value 2  
6

operation  
\*

Your Result is : 30

Calculate

Form1

value1  
10

value 2  
2

operation  
/

Your Result is : 5

Calculate