

WSD LAB-6: Use of TCP, Named Pipe and HTTP bindings in WCF Service Host.

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After Add TCP & NamedPipe Binding

All files of Service

App.config

```
<?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="DemoWcfService.Service1">
                <host>
                    <baseAddresses>
                        <add baseAddress =
"http://localhost:8733/Design_Time_Addresses/DemoWcfService/Service1/" />
                    </baseAddresses>
                </host>
```

```

        <!-- Service Endpoints -->
        <!-- Unless fully qualified, address is relative to base address
supplied above -->
        <endpoint address="" binding="basicHttpBinding"
contract="DemoWcfService.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>

```

Iservice1.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Runtime.Serialization;
using System.ServiceModel;
using System.Text;

namespace DemoWcfService
{
    [ServiceContract]
    public interface IService1
    {
        [OperationContract]
        string GetData(int value);

        [OperationContract]
        string Calculate(int op1, int op2, string opr);
    }
}
```

Service1.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Runtime.Serialization;
using System.ServiceModel;
using System.Text;

namespace DemoWcfService
{
    public class Service1 : IService1
    {
        public string GetData(int value)
        {
            return string.Format("You entered: {0}", value);
        }

        public string Calculate(int op1 , int op2 , string opr)
```

```

{
    int ans = 0;
    switch (opr)
    {
        case "+":
            ans = op1 + op2;
            break;

        case "-":
            ans = op1 - op2;
            break;

        case "*":
            ans = op1 * op2;
            break;

        case "/":
            ans = op1 / op2;
            break;

        default:
            return "invalid operation";
    }
    return ans.ToString();
}
}
}

```

All Files of Host

App.Config

```

<?xml version="1.0" encoding="utf-8" ?>
<configuration>
    <startup>
        <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.7.2" />
    </startup>
</configuration>

```

Form1.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using DemoWcfService;
using System.ServiceModel;
using System.ServiceModel.Description;

namespace WcfServiceHost
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }
        ServiceHost sh= null;
        private void Form1_Load(object sender, EventArgs e)
        {
            /*
            Uri tcpa = new Uri("net.tcp://localhost:8010/TcpBinding");
            sh = new ServiceHost(typeof(Service1), tcpa);
            NetTcpBinding tcpb = new NetTcpBinding();
            ServiceMetadataBehavior mBehave = new ServiceMetadataBehavior();
            sh.Description.Behaviors.Add(mBehave);
            sh.AddServiceEndpoint(typeof(IMetadataExchange),
MetadataExchangeBindings.CreateMexTcpBinding(), "mex");
            sh.AddServiceEndpoint(typeof(IService1), tcpb, tcpa);
            sh.Open();
            label1.Text = "Service running";
            */

            /////////// after add named pipe
            Uri tcpa = new Uri("net.tcp://localhost:8010/TcpBinding");
            Uri bpa = new Uri("net.pipe://localhost/NetNamedPipeBinding");
            sh = new ServiceHost(typeof(Service1), tcpa,bpa);
```

```

        NetNamedPipeBinding pb = new NetNamedPipeBinding();
        NetTcpBinding tcpb = new NetTcpBinding();
        ServiceMetadataBehavior mBehave = new ServiceMetadataBehavior();
        sh.Description.Behaviors.Add(mBehave);

        sh.AddServiceEndpoint(typeof(IMetadataExchange),
            MetadataExchangeBindings.CreateMexTcpBinding(), "mex");
        sh.AddServiceEndpoint(typeof(IMetadataExchange),
            MetadataExchangeBindings.CreateMexNamedPipeBinding(), "mex");

        sh.AddServiceEndpoint(typeof(IService1), tcpb, tcpa);
        sh.AddServiceEndpoint(typeof(IService1), pb, bpa);

        sh.Open();
        label1.Text = "Service running";
    }
}
}

```

All Files of Client

App.Config

```

<?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>
      <netNamedPipeBinding>
        <binding name="NetNamedPipeBinding_IService1" />
      </netNamedPipeBinding>
      <netTcpBinding>
        <binding name="NetTcpBinding_IService1">
          <security>

```

```

        <transport sslProtocols="None" />
    </security>
</binding>
</netTcpBinding>
</bindings>
<client>
    <endpoint
address="http://localhost:8733/Design_Time_Addresses/DemoWcfService/Service1/"
        binding="basicHttpBinding" bindingConfiguration="BasicHttpBinding_IService1"
        contract="ServiceReference1.IService1" name="BasicHttpBinding_IService1" />
    <endpoint address="net.tcp://localhost:8010/TcpBinding" binding="netTcpBinding"
        bindingConfiguration="NetTcpBinding_IService1" contract="tcp.IService1"
        name="NetTcpBinding_IService1">
        <identity>
            <userPrincipalName value="DESKTOP-6G0C49F\user1" />
        </identity>
    </endpoint>
    <endpoint address="net.pipe://localhost/NetNamedPipeBinding"
        binding="netNamedPipeBinding"
bindingConfiguration="NetNamedPipeBinding_IService1"
        contract="tcp.IService1" name="NetNamedPipeBinding_IService1">
        <identity>
            <userPrincipalName value="DESKTOP-6G0C49F\user1" />
        </identity>
    </endpoint>
</client>
</system.serviceModel>
</configuration>

```

Client Side

Form1.cs

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.ServiceModel;
using System.ServiceModel.Description;
using System.Text;

```

```

using System.Threading.Tasks;
using System.Windows.Forms;
//using WindowsFormsApp2.ServiceReference1;
using DemoWcfService;

namespace WindowsFormsApp2
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();

            private void textBox1_TextChanged(object sender, EventArgs e)
            {

            }

            private void textBox2_TextChanged(object sender, EventArgs e)
            {

            }

            private void button1_Click(object sender, EventArgs e)
            {

                tcp.Service1Client client = new tcp.Service1Client("NetTcpBinding_IService1");
                tbans.Text = client.Calculate(int.Parse(tbop1.Text), int.Parse(tbop2.Text), tbopr.Text);

            }

            private void Form1_Load_1(object sender, EventArgs e)
            {

            }

        }
    }
}

```


Form1

Service running

Form1

5 + 10 = 15
Calculated by TCP

15
Calculated by pipe

Calculate


```

<?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>
      <netNamedPipeBinding>
        <binding name="NetNamedPipeBinding_IService1" />
      </netNamedPipeBinding>
      <netTcpBinding>
        <binding name="NetTcpBinding_IService1">
          <security>
            <transport sslProtocols="None" />
          </security>
        </binding>
      </netTcpBinding>
    </bindings>
    <client>
      <endpoint
address="http://localhost:8733/Design_Time_Addresses/DemoWcfService/Service1/"
        binding="basicHttpBinding" bindingConfiguration="BasicHttpBinding_IService1"
        contract="ServiceReference1.IService1" name="BasicHttpBinding_IService1" />
      <endpoint address="net.tcp://localhost:8010/TcpBinding" binding="netTcpBinding"
        bindingConfiguration="NetTcpBinding_IService1" contract="serviceRef.IService1"
        name="NetTcpBinding_IService1">
        <identity>
          <userPrincipalName value="DESKTOP-6G0C49F\user1" />
        </identity>
      </endpoint>
      <endpoint address="net.pipe://localhost/NetNamedPipeBinding"
        binding="netNamedPipeBinding"
bindingConfiguration="NetNamedPipeBinding_IService1"
        contract="serviceRef.IService1" name="NetNamedPipeBinding_IService1">
        <identity>
          <userPrincipalName value="DESKTOP-6G0C49F\user1" />
        </identity>
      </endpoint>
    </client>
  </system.serviceModel>
</configuration>

```

