

Apel serviciu WCF din interiorul altui serviciu WCF

Exemplu complet - cu tot cu fisiere de configurare – binding de tip net.tcp

I. Asiminoaei

Exemplu complet de apel serviciu WCF din cadrul altui serviciu WCF

1. Serviciul **IIntern** are doua metode expuse: *SayHello* si *GetName*.
2. Vom crea un serviciu – numit **IExtern** – ce va apela metoda *GetName*. In serviciul extern aceasta metoda se numeste *ApelGetName*.
3. Vom crea un host pentru serviciul **IIntern** – numit *ServerIntern*.
4. Vom crea un host pentru serviciul **IExtern** – numit *ServerExtern*.
5. Testul functionarii se face cu **WcfTestClient.exe**.

Va trebui sa adaugati referintele la **ServiceModel**, **Runtime.Serialization**.

In continuare este dat codul si fisierele de configurare folosite.

### Serviciul IIntern – este de tip ClassLibrary.

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

namespace WCFIntern
{
    [ServiceContract]
    interface IIntern
    {
        [OperationContractAttribute]
        string SayHello(string msg);

        [OperationContract]
        string GetName();
    }

    public class Intern: IIntern
    {
        string IIntern.SayHello(string msg)
        {
            return "Hello " + msg; //throw new NotImplementedException();
        }

        string IIntern.GetName()
        {
            return "Apel GetName"; // throw new NotImplementedException();
        }
    }
}
```

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## Host pentru serviciu Intern

Adaugati referinta la classlibrary creat mai sus si apoi using...

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

using WCFIntern;

namespace ServerIntern
{
    class ServerIntern
    {
        static void Main(string[] args)
        {
            ServiceHost host = new ServiceHost(typeof(WCFIntern.Intern),
                new Uri("net.tcp://localhost:8181/intern"));
            host.Open();
            Console.WriteLine("Server intern started...");
            Console.ReadLine();
            host.Close();
        }
    }
}
```

Fisierul de configurare pentru acest host:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <system.serviceModel>
    <services>
      <!-- name="namespace.NameClass" -->
      <service name="WCFIntern.Intern"
        behaviorConfiguration="ComportareServiciuIntern">
        <endpoint address="net.tcp://localhost:8181/intern"
          binding="netTcpBinding"
          bindingConfiguration="" contract="WCFIntern.IIntern" />
        <!-- Valori din fisierul de configurare la nivel de masina-->
        <endpoint address="mex" binding="mexTcpBinding"
          contract="IMetadataExchange" />
      </service>
    </services>
    <behaviors>
      <serviceBehaviors>
        <behavior name="ComportareServiciuIntern" >
          <serviceMetadata />
        </behavior>
      </serviceBehaviors>
    </behaviors>
  </system.serviceModel>
</configuration>
```

Lanasam serverul fi folsind utilitarul svcutil.exe extragem metadata necesara pentru serviciul extern (va apela metoda GetName din serviciul intern).

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Aceasta metadata o vom adauga la serviciul extern, descris in continuare.

## Serviciul IExtern – tip class library

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

namespace WCFExtern
{
    [ServiceContract]
    interface IExtern
    {
        [OperationContract]
        string SayGoodbye(string msg);
        [OperationContract]
        string ApelGetName();
    }

    public class Extern: IExtern
    {
        string IExtern.SayGoodbye(string msg)
        {
            return "Bye " + msg;
        }

        string IExtern.ApelGetName()
        {
            // aici se apeleaza GetName din serviciul intern

            using (InternClient ic = new InternClient())
            {
                string msg = ic.GetName();
                return msg;
            }
        }
    }
}
```

La acest proiect adaugam metadata obtinuta anterior.

Tot aici avem un fisier de configurare – obtinut cu svcutil.exe:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <system.serviceModel>
    <bindings>
      <netTcpBinding>
        <binding name="NetTcpBinding_IIntern" closeTimeout="00:01:00"
          openTimeout="00:01:00" receiveTimeout="00:10:00"
          sendTimeout="00:01:00">
```

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```
        transactionFlow="false" transferMode="Buffered"
        transactionProtocol="OleTransactions"
        hostNameComparisonMode="StrongWildcard" listenBacklog="10"
        maxBufferPoolSize="524288" maxBufferSize="65536"
        maxConnections="10"
        maxReceivedMessageSize="65536">
<readerQuotas maxDepth="32" maxStringContentLength="8192"
        maxArrayLength="16384"
        maxBytesPerRead="4096" maxNameTableCharCount="16384" />
<reliableSession ordered="true" inactivityTimeout="00:10:00"
        enabled="false" />
<security mode="Transport">
    <transport clientCredentialType="Windows"
        protectionLevel="EncryptAndSign" />
    <message clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
</bindings>
<client>
    <endpoint address="net.tcp://localhost:8181/intern"
        binding="netTcpBinding"
        bindingConfiguration="NetTcpBinding_IIntern" contract="IIntern"
        name="NetTcpBinding_IIntern">
        <identity>
            <userPrincipalName value="iasimin-PC\iasimin" />
        </identity>
    </endpoint>
</client>
</system.serviceModel>
</configuration>
```

Build project.



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## Construim serverul extern – pentru serviciul IExtern.

Codul este

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

namespace ServerExtern
{
    class Program
    {
        static void Main(string[] args)
        {
            ServiceHost host = new ServiceHost(typeof(WCFExtern.Extern),
new Uri("net.tcp://localhost:8182/extern"));
            host.Open();
            Console.WriteLine("Server extern started...");
            Console.ReadLine();
            host.Close();
        }
    }
}
```

Fisierul de configurare pentru host extern este (am folosit editorul de configurare din SDK Tools, sectiunea client este adaugata manual):

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <system.serviceModel>
    <services>
      <service name="WCFExtern.Extern"
        behaviorConfiguration="ComportareServiciuExtern">
        <endpoint address="net.tcp://localhost:8182/extern"
          binding="netTcpBinding"
          bindingConfiguration=""
          contract="WCFExtern.IExtern" />
        <!-- Valori din fisierul de configurare la nivel de masina-->
        <endpoint address="mex"
          binding="mexTcpBinding"
          contract="IMetadataExchange" />
      </service>
      <service name="InternClient"
        behaviorConfiguration="ComportareServiciuExtern">
        <endpoint address="net.tcp://localhost:8181/intern"
          binding="netTcpBinding"
          bindingConfiguration=""
          contract="IIntern" />

        <endpoint address="mex"
          binding="mexTcpBinding"
          contract="IMetadataExchange" />
      </service>
    </services>
  </system.serviceModel>
</configuration>
```

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```
</services>
<behaviors>
  <serviceBehaviors>
    <behavior name="ComportareServiciuExtern" >
      <serviceMetadata />
    </behavior>
  </serviceBehaviors>
</behaviors>
<!--adaugat manual -->
<client>
  <endpoint address="net.tcp://localhost:8181/intern"
    binding="netTcpBinding"
    bindingConfiguration="" contract="IIIntern"
    name="NetTcpBinding_IIIntern">
    <identity>
      <userPrincipalName value="iasimin-PC\iasimin" />
    </identity>
  </endpoint>
</client>

</system.serviceModel>
</configuration>
```

In continuare testam cele doua servicii folosind **wcfTestClient** sau construind un client.