Sym3 Operator Server - WCF interface

This is a coded example for developers showing how to view and change Sym3 Tag values via a WCF interface. You will need Visual Studio in order to use this.

These examples are provided "as is" and "with all faults." We make no representations or warranties of any kind concerning the safety, suitability, lack of viruses, inaccuracies, typographical errors, or other harmful components of these examples. It is the responsibility of the developer using these examples to determine the suitability of this code.

Sym3 Operator Server provides a WCF interface for programmer to set a tag value and subscribe to tag changes.

## Add References

To be able to use this interface, in Visual Studio, your program needs to add a reference to System.ServiceModel and this assembly:

"C:\Program Files (x86)\Sym3\Sym3 Operator\Server\BCS.Sym3.Operator.WCF.Contracts.dll"

## Configure your application

Edit your app.config file and copy this following section:

<system.serviceModel>

<bindings>

<netTcpBinding>

<binding name="Sym3OperatorBinding" closeTimeout="00:00:03" openTimeout="00:00:03" receiveTimeout="00:00:03" sendTimeout="00:00:03" transactionFlow="false" transferMode="Buffered" transactionProtocol="OleTransactions" hostNameComparisonMode="StrongWildcard" listenBacklog="10" maxBufferPoolSize="4524288" maxBufferSize="2262144" maxConnections="10" maxReceivedMessageSize="2262144">

<readerQuotas maxDepth="32" maxStringContentLength="8192" maxArrayLength="2262144" maxBytesPerRead="4096" maxNameTableCharCount="16384"/>

<reliableSession ordered="true" inactivityTimeout="00:00:30" enabled="true"/>

<security mode="None">

<transport clientCredentialType="Windows" protectionLevel="EncryptAndSign"/>

<message clientCredentialType="Windows"/>

</security>

</binding>

</netTcpBinding>

</bindings>

<client>

<endpoint address="net.tcp://localhost:20005/Sym3/Operator/WCF/TagValueProvider" binding="netTcpBinding" bindingConfiguration="Sym3OperatorBinding" contract="BCS.Sym3.Operator.WCF.Contracts.ITagValueProvider" name="TagValueProviderEndpoint"/>

</client>

</system.serviceModel>

## Code

Create a class that implements the callback interface ‘BCS.Sym3.Operator.WCF.Contracts.ITagValueProviderCallback’

You can access the service using those lines:

System.ServiceModel.InstanceContext instance = new System.ServiceModel.InstanceContext(this);

var service = new BCS.Sym3.Operator.WCF.Contracts.TagValueProviderProxy(instance);

## Interface methods

This service provides those methods:

|  |  |
| --- | --- |
| SetTag | To set the value of a tag.   The first parameter is the tag name.   The second parameter is the new value  Returns true if success |
| SubscribeToTag | To subscribe to a tag and receive tag updates via the callback interface  The parameter is the tag name to subscribe to  Returns the subscription id |
| UnSubscribeToTag | Unsubscribe to a tag  The parameter is the subscription id returned by the subscription method  Returns void |
| SubscribeAll | To subscribe to a list of tag and receive tag updates via the callback interface  The parameter is a list of string that contains all tag names to subscribe to  Returns a list of subscription id |
| UnSubscribeAll | Unsubscribe all  Returns void |

## Examples – Source code

Please see the two examples provided:

* SetTag: a console program to set a tag value
* SubscribeToTag: a console program, to subscribe to a tag and display the value every time it changes