

Table of Contents

- General** 1
- What Does the Plugin Do?** 1
- Features** 1
- Supported OPC Protocols** 1
- Purpose & Use Cases** 2
- Installation** 2
- Configuration** 2
 - User Configuration 3
 - Accessing the OPC UA Server 4
- Diagnostics** 4
- Entities** 5
 - Interface 5
 - Channel 5
- Folders & Files** 6
 - Folders 6
 - Files 6
- About Versions** 6
 - This Document 6
 - Plugin 6
 - Assembly 6

OPC UA Server Interface Plugin

General

The OPC UA Server Interface Plugin allows you to connect to Codabix via the standardized OPC UA interface.

What Does the Plugin Do?

The interface allows to you to create OPC UA Servers using the **opc.tcp** protocol and expose Codabix Nodes to OPC UA Clients.

Features

- Browse CoDaBix® Nodes
- (Synchronously) read and write values to Nodes
- Create subscriptions to Nodes
- Access historic values of CoDaBix® Nodes using HDA (Historical Data Access)
- Remotely access files on the CoDaBix® host machine with the OPC UA filetype
- Supports the **SignAndEncrypt** policy for encrypted transport

Supported OPC Protocols

- opc.tcp (binary message encoding)
- http (binary and XML message encoding - in a future version)

Purpose & Use Cases

- Connect S7 Variables or other Nodes using OPC UA

Installation

This plugin is part of the CoDaBix® Setup. Please consult [CoDaBix® Setup and First Start](#) for more information on how to install and uninstall this plugin.

Configuration


The OPC UA Server Interface Plugin can be configured only in the Interface Node in CoDaBix® (/System/Interfaces/OPC UA Server Interface/Channels/Default Channel/Settings):

Name	Display Name	Description	Node Type	Path	Actual Value	Status Code
Port	Port	The TCP port on which t...	Int32		4840	Good
Start	Start	Specifies if the server sh...	Boolean		True	Good

Nodes:

Name	Type	Purpose
Application		
ApplicationCertificate	Blob	Contains the application instance certificate of the OPC UA Server in PKCS12 (.pfx) format.
Port	Int32	Specifies the TCP Port for the opc . tcp protocol.

Name	Type	Purpose
Application		
Security		
AutoAcceptUntrustedCertificates	Boolean	Specifies if the OPC UA Server should automatically accept unknown Client application certificates when using the Sign or SignAndEncrypt mode.
PolicyAlgorithm	String	Valid values: 0 : None (default) 1 : Basic128Rsa15
PolicyLevel	Int32	
PolicyMode	String	Valid values: 0 : None (default) 1 : Sign 2 : SignAndEncrypt

To change the settings, you can write a new Node value in the CoDaBix® Web Configuration by using the “Write a new value” button ()

To connect to the OPC UA Server, use the following URL (replace <Hostname> with your machine's hostname or IP Address (or “localhost” if connecting from the same machine), and replace <Port> with your port number):

```
opc.tcp://<Hostname>:<Port>/
```


User Configuration

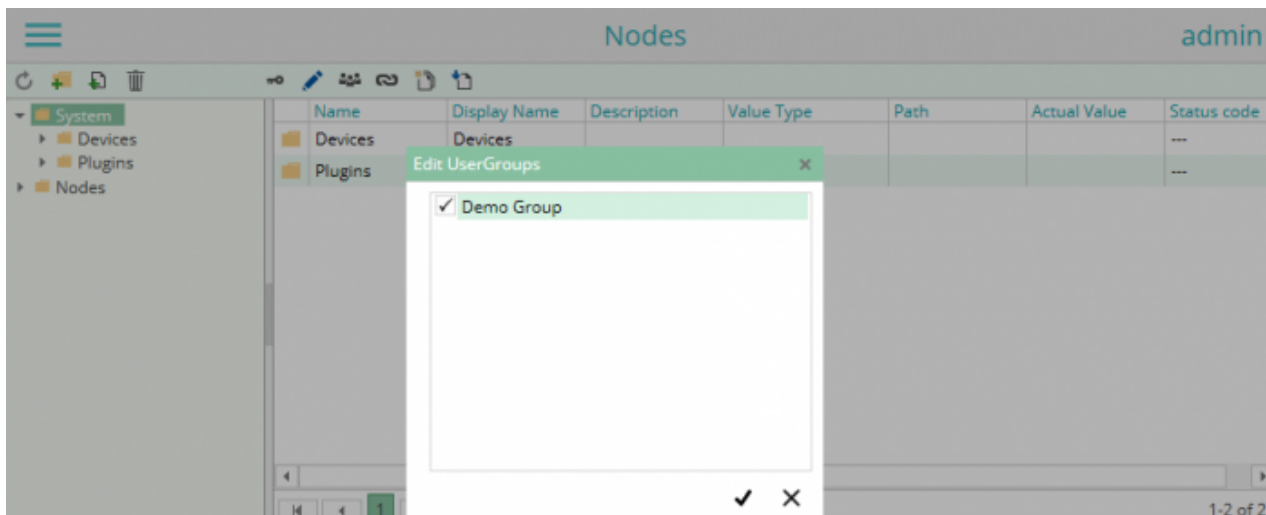
The OPC UA Server Interface Plugin requires that OPC UA Clients use the username authentication, which means you need to specify a username and password. The OPC UA Server uses the users configured in CoDaBix® (see [CoDaBix® Web Configuration](#)). Each user which is configured in CoDaBix® can connect to the OPC UA Server using the corresponding username and password.

By default, CoDaBix® comes with a demo user (username “demo@user.org”, password “demo”) which is added to the “Demo Group” usergroup.

By default, a user cannot access any CoDaBix® Node. To change this, you need to add the user to a UserGroup, then allow access from this UserGroup to a Node. For further information, see [CoDaBix® Web Configuration](#).

For example, to allow the demo user (demo@user.org) to access the “System” Node:

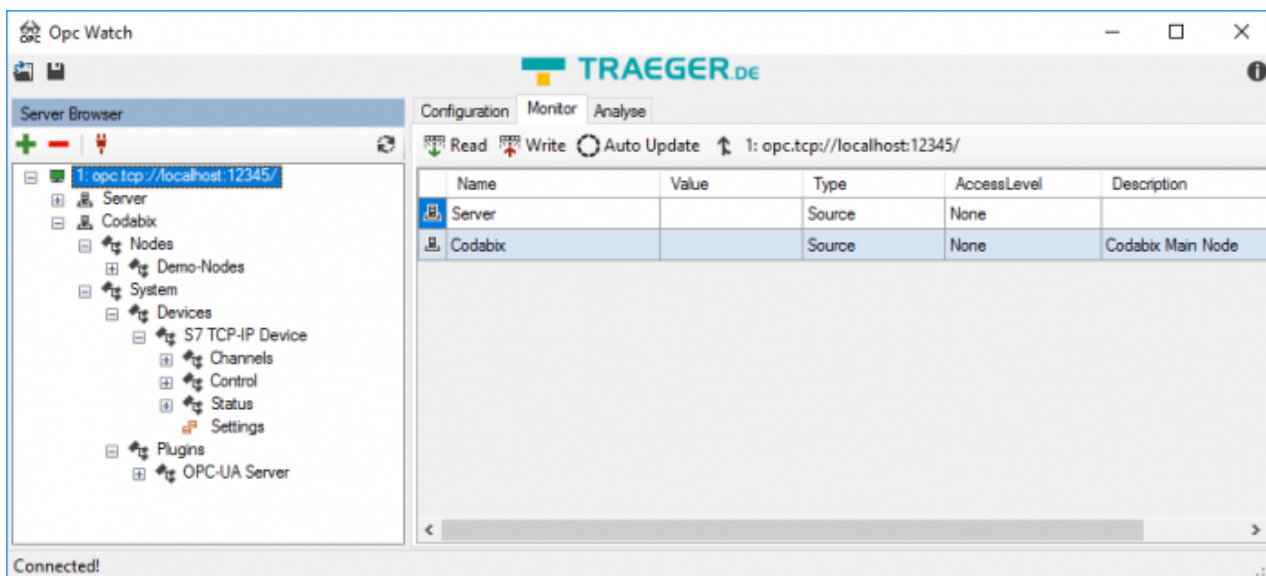
1. Open the CoDaBix® Web Configuration
2. Go to Nodes
3. Select the “System” Node
4. Click the “UserGroups” icon ()
5. Select the “Demo Group” in the “Edit UserGroups” dialog



Accessing the OPC UA Server

After configuring the users, you can then access the OPA UA Server e.g. with our tool **OPC Watch** using the following configuration:

- ServerAddress: `opc.tcp://localhost:4840/`
- UserIdentity / Username: `demo@user.org`
- UserIdentity / Password: `demo`

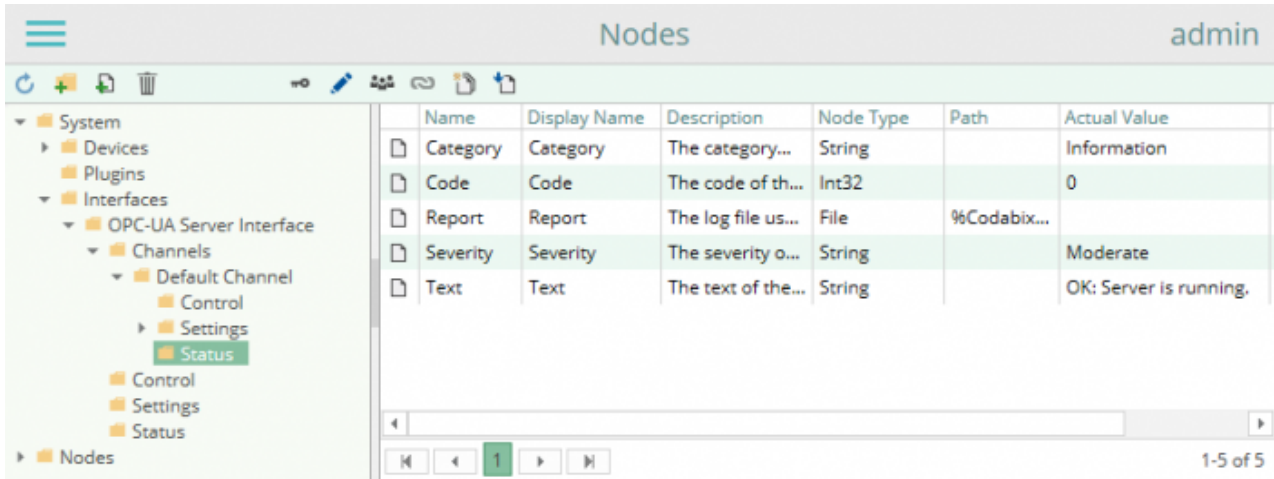


OPC Namespace: The CoDaBix® Nodes use the OPC UA Namespace URI "codabix://opc.server/". By default, this namespace will have the namespace index "2".

Diagnostics

The OPC UA Server Interface Plugin provides diagnostics information in the Status Node of

the channel.



Node	Description
Code	Defines the numeric expression / identifier of the status. A negative value means that the Server could not be started, whereas 0 or a positive value indicates that the Server started successfully.
Category	Classifies the status into Information, Warning and Error and therefore indicates the general type of status information.
Severity	Rates the status information into Low, Moderate, High and Critical and therefore indicates the urgency of an intervention.
Text	Describes the status information identified by the Code property.

Entities

As an interface plugin, the OPC UA Server Interface Plugin extends the basic CoDaBix® [Interface Model](#).

Interface

The plugin's interface type `OpcServerInterface` also defines the `OpcServerInterfaceChannel` and therefore extends the basic `CodabixInterface` and `CodabixInterfaceChannel` entities. While the `OpcServerInterface` just represents a concretization of the `CodabixInterface`, the `OpcServerInterfaceChannel` extends the `CodabixInterfaceChannel`.

Channel

Each channel represents an OPC UA Server instance that can be configured, started and stopped.

Folders & Files

Folders

Content	Path	Usage
Assembly	<CodabixInstallDir>/plugins/OpcUaServerInterfacePlugin/	Contains the plugin's assembly file.
Config	<CodabixDataDir>/plugins/OpcUaServerInterfacePlugin/	Contains the plugin's configuration file.

Files

Type	Path	Usage
Assembly	[AssemblyFolder]/CoDaBix.OpcUaServerInterfacePlugin.dll	The plugin's assembly file.

About Versions

This Document

Date	2016-12-21
Version	1.3

Plugin

Name	OPC UA Server
Node	/System/Interfaces/OPC-UA Server Interface
Version	1.0.9

Assembly

Name	CoDaBix.OpcUaServerInterfacePlugin.dll
Date	2018-02-01
Version	1.0.9.0

From:
<https://www.codabix.com/> - **CoDaBix®**

Permanent link:
<https://www.codabix.com/en/plugins/interface/opcuaserverinterfaceplugin>

Last update: **2021/07/30 13:41**

