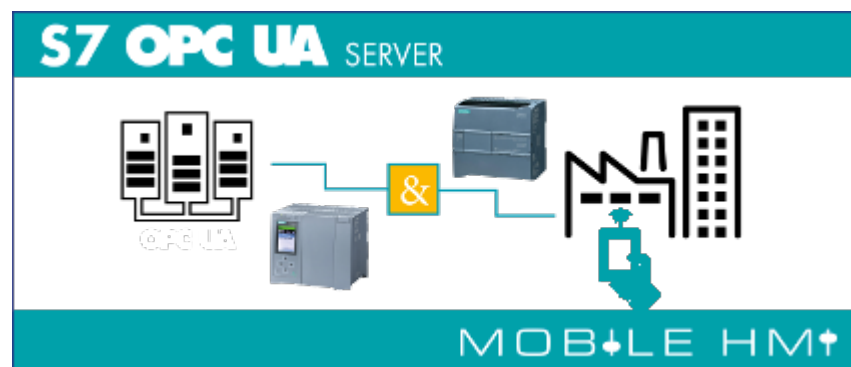


S7 OPC-UA Server



Version 1.36



SPS-Types

- S7-1500
- S7-1200
- S7-300/400 with TCP/IP on Board / PN or CP 343-x/443-x
- S7-300/400 MPI/Profibus with S7-LAN
- Win AC RTX
- S7-200 with CP 243-1
- S7-Soft-PLC
- SIMATIC-S5 over S5-LAN

Operating systems

Windows

- 10
- 8
- 7

Windows Server

- 2012 R2
- 2012
- 2008 R2
- 2008

Functions overview

- Visualization / control via web browser / mobile device (optional)
- OPC-UA-Server possible
- User account control
- Automatically generating the display
- To define your own scaling

Areas of application

- Visualisation
- Control
- Data transfer via OPC-UA

Installation

Start "S7 OPC UA & Mobile HMI Setup 1.0.36.0.exe". The installation checks whether you have installed the required software packages.

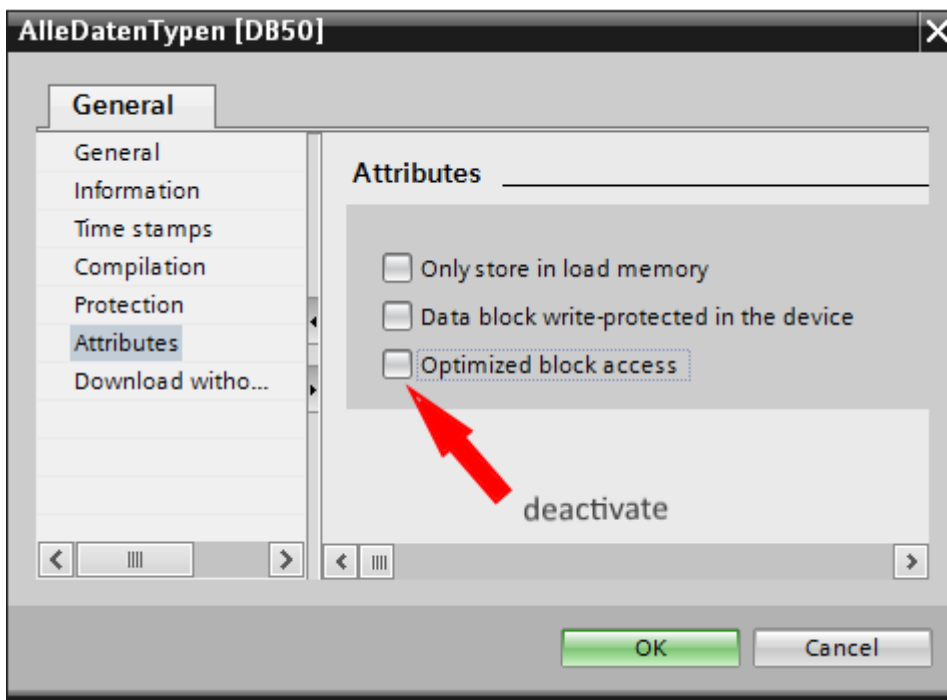
Deinstallation

- System Control → Programs and Features → S7 OPC UA & Mobile HMI → Uninstall
- Remove the folder where the configuration data is stored

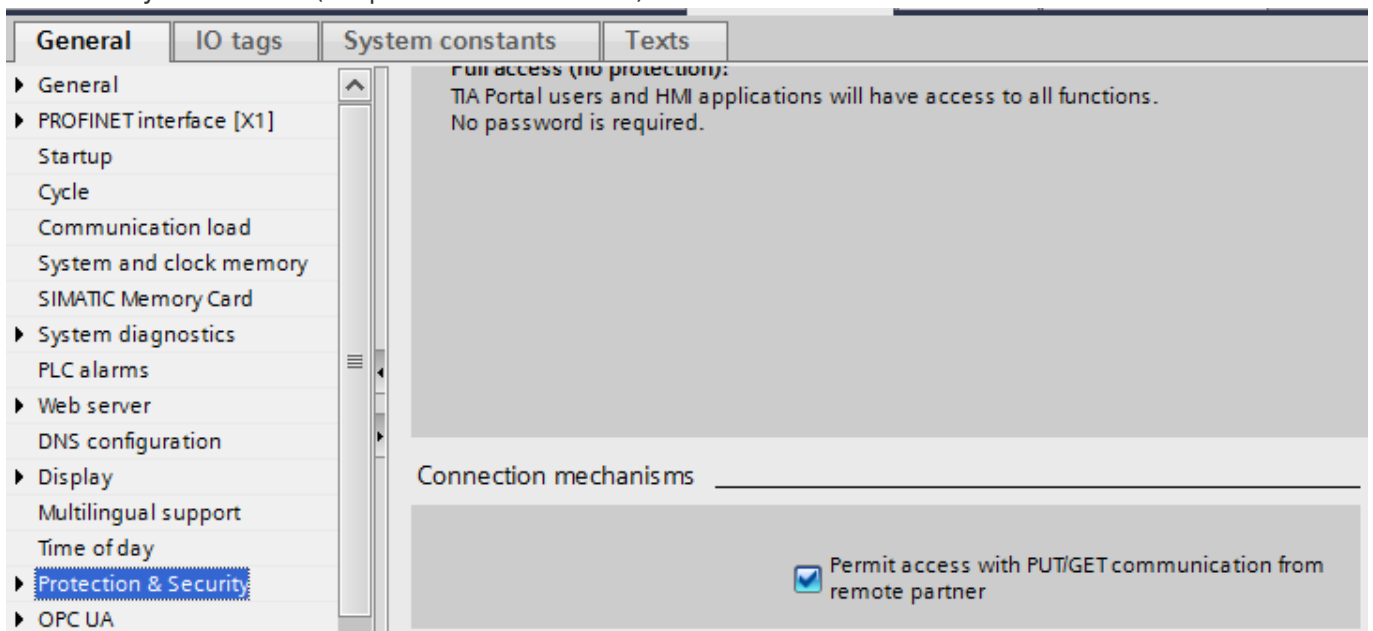
PLC - Settings

S7-1200/1500

The optimized block access needs to be deactivated in the data block attributes for access to the S7-1500 and S7-1200.

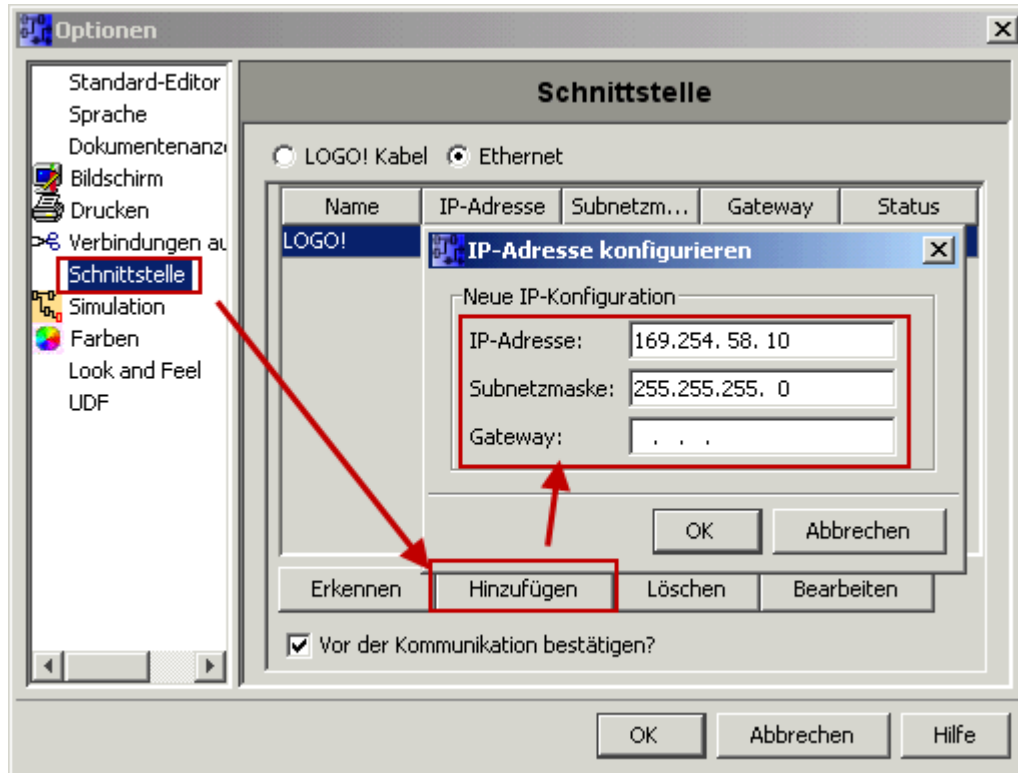


In the S7-1500 must be enabled in the communication setting in addition to the PUT / GET access . How this works you see here (snapshot from TIA Portal) .

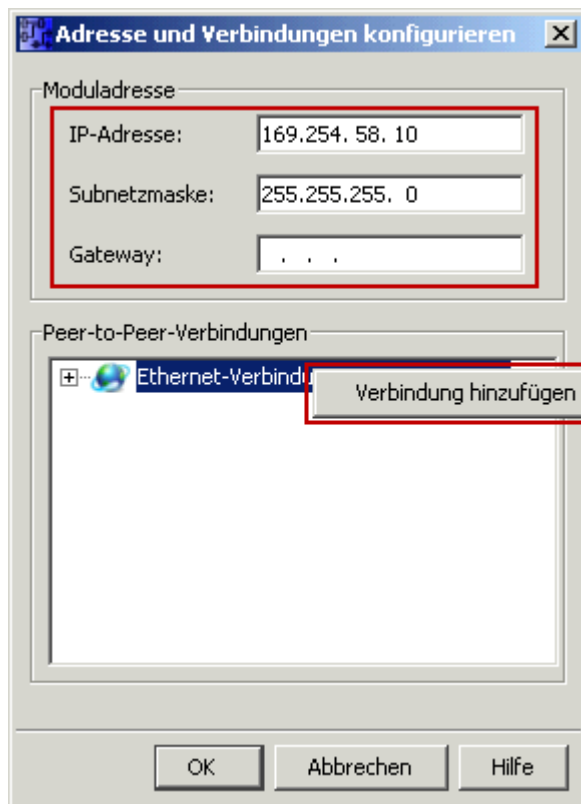


LOGO!

1. Use the Logo Soft Comfort the IP address of a logo! PLCs:



2. Configure PLCs so that connections from an HMI device accepted the Logo!. To do so, go to "Tools- > Ethernet Connections" and then add a new connection.



3. Double-click on the newly created connection to access the properties.

Verbindung1(Server)

☐ Clientverbindung: fordert Datenübertragung zwischen lokalem PC und dezentraler SPS an

☒ Server-Verbindung: antwortet auf Verbindungsanforderungen dezentraler Clients

Eigenschaften lokaler Verbindungen (Server)

TSAP 02.00

☒ Mit Operator Panel (OP) verbinden

☒ Alle Verbindungsanforderungen akzeptieren.

Nur diese Verbindung: . . .

Dezentrale Eigenschaften (Client)

TSAP 02.00

Keep Alive (Verbindungskontrolle)

☐ Keep-Alive-Funktion für diese Verbindung aktivieren

Keep-Alive-Intervall: 0 Sekunden

OK Abbrechen Hilfe

Select:

1. Server Connection
2. Local TSAP: 02:00 - 02:00 decentralized TSAP
3. accept all connections.

You can access DB1, inputs , outputs, flags , counters and timers with IP -S7 -LINK . Now put on " Tools- > VM parameter map " the variables that are to be transferred to the DB1.

WinCC (TIA-Portal) Variablentabelle

Standard-Variablentabelle				
Name	Datentyp	Verbindung	...	Adresse
Ein-/Ausschaltverzögerung	Word	Verbindung_1	...	VW 0
<Hinzufügen>				

LOGO!Soft Comfort

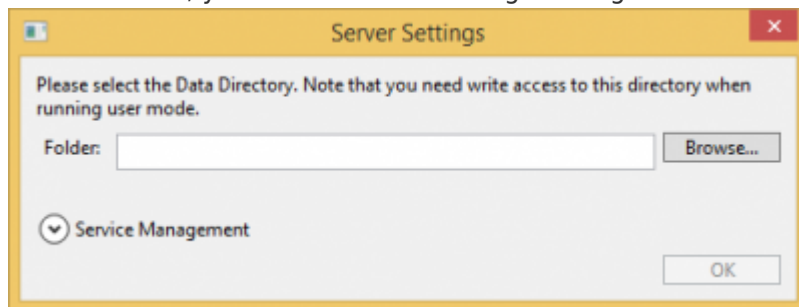
The screenshot shows the LOGO!Soft Comfort interface. At the top, a ladder logic diagram features a coil labeled 'B002' (Ein-/Ausschaltverzögerung) connected to a coil 'Q1'. Below this, the 'Konfiguration des variablen Speichers' (Configuration of variable memory) dialog box is open. It contains a table for parameter-VM assignment:

ID	Block	Parameter	Typ	Adresse
1	B002 [Ein-/Ausschaltverzögerung]	Aktualwert	Word	0
2				

Below the table, there are buttons for 'OK', 'Abbrechen', and 'Hilfe'. The dialog also shows other variables like 'B001 [Analogverstärkung]' and 'B002 [Ein-/Ausschaltverzögerung]' in a list. Red boxes and arrows indicate the mapping of the variable 'B002' from the WinCC table to its configuration in the LOGO!Soft Comfort dialog.

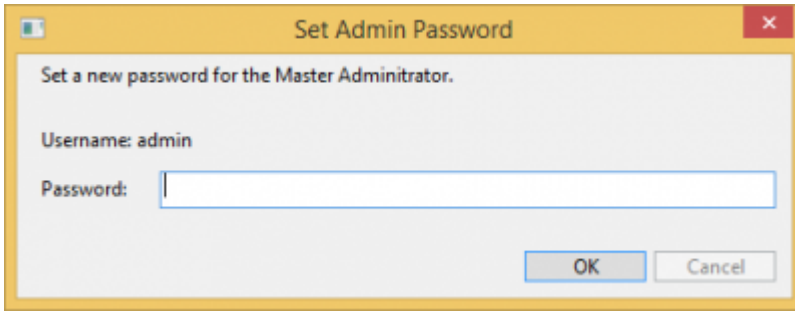
First Start

After the start, you receive the following message:



Select the location for the server data and click OK.

You are then prompted to set the admin password:



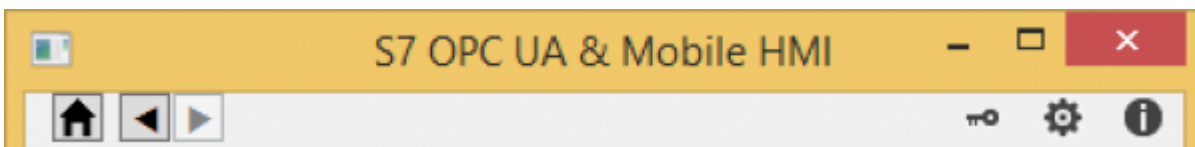
In the following start window, log in as admin and your chosen password:



The application

The application is divided into the menu and display area.

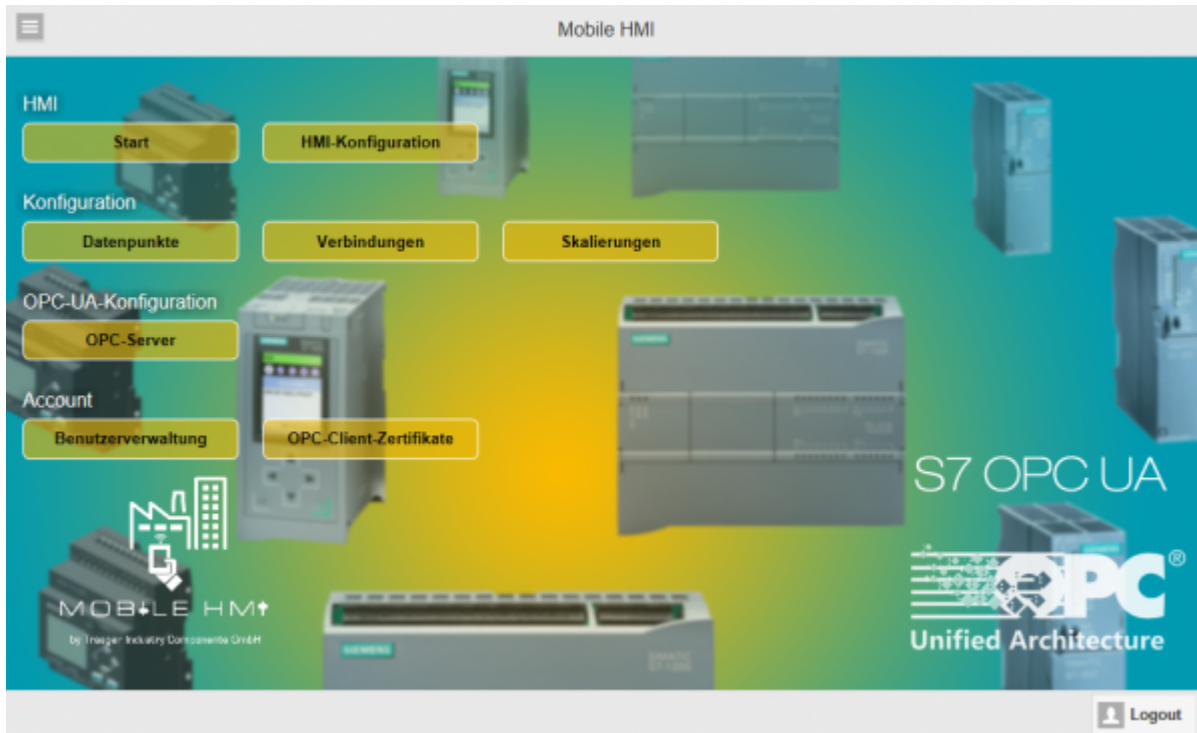
Area of the menu



Name	Description
	call Start page
	one page backward
	one page forward
	Generate Machine Code, enter license key

Name	Description
	Call the server settings
	Information about the product and licensing

Display area



Displays the currently selected page with the available data and options.

Im obigen Bild sehen Sie z.B. die Startseite.

Fields marked with * are required.

Configuration menu

You can access all available pages by clicking on . The following menu items are available:

Home	>
Datenpunkte	>
Verbindungen	>
Skalierungen	>
HMI-Konfiguration	>
OPC-UA-Konfiguration	
OPC-Server	>
Account	
Benutzerverwaltung	>
OPC-Client-Zertifikate	>

Menu	Description / task
Home	Call start page
Benutzerverwaltung	Manage your users and set permissible access to the data
Verbindungen	Establish the connections to your Siemens PLCs
Datenpunkte	Link the connections with the desired data addresses in the PLC. The tree structure allows you to pre-sort your data immediately
Skalierungen	Here you have the possibility to define various control and input elements for the view
HMI-Config	Design the desired view with main and sub-pages and add the desired data points to the respective data groups
OPC-Konfiguration	Sammelmenü für OPC-Einstellungen
OPC-Server	Create and manage OPC UA Server
OPC-Client Zertifikate	Certificates from OPC UA clients for the authenticated connection to the OPC UA server. You also assign the rights granted to the user

Standard functions in the menu item:

Funktion	Task
	Add new settings
	Edit settings
	Delete settings

User administration

User Administration						
ID	Full Name	Is Active	Login Name	Admin Groups	User Groups	Edit
1	Master Administrator	✓	admin	A1 A2 A3		 
2	Mustermann	✓	MusterA	A1		 
3	Mayer Hans	✓	MayerHans		U1	 
4	Huber Max	✓	HuberMax		U2	 
10 < 1 >						

Overview of existing users.

By clicking on  a new user will be added and you get the following dialog:

Edit (ID: 2) 

ID2

Full Name

Mustermann



Is Active

☒

Login Name

MusterA

Password

.....

Admin Groups

A1A2A3

☒☐☐

User Groups

U1U2U3U4U5U6U7U8

☐☐☐☐☐☐☐☐

 OK

 Cancel

Name	Function
ID	User-assigned ID
Full Name	Username is displayed
Is Active	User can log on
Login Name	Name zur Identifikation des Benutzers
Password	Password for login
Admin Groups	Assign to the desired admin group (s). See user group table
User Groups	Assignment to the desired user group (s). See user group table
User group	Function
A1	Admin without restriction
A2	OPC-Admin, Data points and OPC relevant data
A3	HMI-Admin, Manage data points and HMI pages

User group	Function
U1 - U8	User groups 1 to 8. User groups can be used to group multiple users. You can then assign different data points to this group, adapted to your requirements. For example: user group U1 = all layer leaders (sees all machines and can control them), U2 = machine operator H2 (only sees the machines in its task area)

PLC-Connections

Connections						
ID	* Name	* IP-Adresse	* Rack	* Slot	Ref	Edit
1	Halle 1	192.168.0.80	0	2	25	 
10						
< 1 >						

Overview of configured Siemens PLC connections.

Connections (ID: 1)

ID	1
* Name	Halle 1
* IP-Adresse	192.168.0.80
* Rack	0
* Slot	2
* Gerätetyp	S7300_400
* Verbindungstyp	OperationPanel
* Connect Timeout	5000
* Receive Timeout	5000
* Transmit Timeout	5000
* BreakDetection Timeout	5000
Use Break Detection	☐
Ref	25

Test this Config...

OK Cancel

Name	Function
ID	System-assigned ID
Name	Name of the connection in the display
IP-Adresse	IP address under which the PLC can be reached
Rack	Rack number of the CPU
Slot	Slot of the CPU

Name	Function
Gerätetyp	Type designation of the PLC. Available types: Logo S7200 S7300_400 S71200 S71500
Connection type	Default: Standard connection to the PLC (OperationPanel) OperationPanel: Connection via the OP channel ProgrammerDevice: Connection via the PG channel Other: Connection via the Other channel
Connect Timeout	Timeout in ms for connection setup
Recieve Timeout	Timeout in ms for receiving the data from the PLC
Transmit Timeout	Timeout in ms for sending to the PLC
BreakDetection Timeout	Keep Alive-Time for monitoring the TCP / IP connection (interesting at large intervals)
User Break Detection	Set Break Detection Timeout is used
Ref	Number of data points that point to this connection

Data point definition

Halle 1

Heizung

Lager

Schichtführer

Umkleide Dusche

Umkleide Raum 1

Umkleide Raum 2

Maschine

Extruder 1 Abfüllung

Extruder 1 Einfüllung

Extruder 2 Abfüllung

Extruder 2 Einfüllung

Extruder Aktion

Mischer 1500 Abfüllung

Mischer 1500 Einfüllung

Mischer 2006 Abfüllung

Mischer 2600 Einfüllung

Licht

Eingangstor

Extruder 1 Abfüllung

Extruder 1 Einfüllung

Datapoint Definitions

ID	* Name	* Adresse	Ref	Edit
205	Lager	DB1000.DBD 210	3	 
206	Schichtführer	DB1000.DBD 214	3	 
207	Umkleide Dusche	DB1000.DBD 218	3	 
208	Umkleide Raum 1	DB1000.DBD 222	3	 
209	Umkleide Raum 2	DB1000.DBD 226	3	 

10

< 1 >

The addresses of the data points, which serve as data sources, are defined here.
The first node is always the connection. One connection can be added one

- New node
- New datapoint

Name	Description
Left 	Adds a new node under the selected node
Right 	Add a datapoint
	Rename the selected point
	Delete the selected point

Datapoint Definitions (ID: 203)
✕

ID 203

* Name

* Verbindung Heizung

* Adresse

* Datentyp

* Arraylänge

* Aktualisierungsintervall (ms)

Nur Lesen ☐

Ist Aktiv ☒

Ref 0

✓ OK
✕ Cancel

Name	Description
ID	System-assigned ID
Name	Display name of the data point. If empty, the Data address (without spaces) is used as name.
Verbindung	Is added to this connection (the connection must already have been created)
Adresse	Data address to be processed in the PLC. DB1.DBB 0 for data block 1, data byte 0
Datentyp	Specifies the data type that the software driver reads from the PLC Please select... Bool Byte UInt16 Int16 UInt32 Int32 UInt64 Int64 SingleFP DoubleFP String
Arraylänge	Length of the array to be read

Name	Description
Anzahl der zu erstellenden, konsequente DPs	Several consecutive data points can be created automatically. If the number is greater than 1, the end address of a data point is calculated and the address is entered as the next data point. Example: Name: Temperature, Address: DBW100.DBD10 , Type: Int16 , Number: 3 Generated: Name: Temperature_1 Address: DBW100.DBD10 Name: Temperature_2 Address: DBW100.DBD12 Name: Temperature_3 Address: DBW100.DBD14
Aktualisierungsintervall (ms)	Time grid of data updating
Nur lesen	Data can only be read. Even if this is entered as a setpoint in the GUI, this DP can not be written anymore
Ist Aktiv	Data point can be used
Ref	Number of references used

Move sample data points:

[beispiel_datenpunkt_verschieben.mp4](#)

PLC address variables:

Operand

Name	Abbreviation (Siemens, DE)	Abbreviation(IEC)
Input	E	I
Output	A	Q
Flag	M	M
Peripherals	P	P
Counter	Z	C
Data Block	DB	DB
Timer	T	16

Data types

Name	Abbreviation	Bit size	Range	Description	Array
BOOL	X	1	0 to 1	single bit representing true (1) or false (0)	x
BYTE	B	8	0 to 255	unsigned 8-bit	x
WORD	W	16	0 to 65.535	unsigned 16-bit (Word)	x
DWORD	D	32	0 to $2^{32}-1$	unsigned 32-bit (Double Word)	x
CHAR	B	8	A+00 to A+ff	ASCII-Code unsigned 8-bit character	x
INT	W	16	-32.768 to 32.767	signed 16-bit integer	x
DINT	D	32	-2^{31} to $2^{31}-1$	signed 32-bit integer (Double Word)	x
REAL	D	32	+ -1.5e-45 to + -3.4e38	IEEE754 32-bit single precision floating point number	x
S5TIME	W	16	00.00:00:00.100 to 00.02:46:30.000	binary coded decimal (BCD) number representing a time span	

Name	Abbreviation	Bit size	Range	Description	Array
TIME	D	32	00.00:00:00.000 to 24.20:31:23.647	signed 16-bit integer representing a time span in milliseconds	
TIME_OF_DAY	D	32	00.00:00:00.000 to 00.23:59:59.999	unsigned 16-bit integer representing a time span in milliseconds	
DATE	W	16	01.01.1990 to 31.12.2168	unsigned 16-bit integer representing a date in days	
DATE_AND_TIME	D	64	00:00:00.000 01.01.1990 to 23:59:59.999 31.12.2089	binary coded decimal (BCD) number representing a date and time	
S7String	B	any	A+00 to A+ff	ASCII-Code, max. 254 Bytes	

The variables are composed of operand and data type. Examples:

Examples	Data type	Example Siemens	Example IEC
Input Byte 1, Bit 0	BOOL	E 1.0	I 1.0
Output Byte 1, Bit 7	BOOL	A 1.7	Q 1.7
Flag Byte 10, Bit 1	BOOL	M 10.1	M 10.1
Data Block 1, Byte 1, Bit 0	BOOL	DB1.DBX 1.0	DB1.DBX 1.0
Input Byte 1	BYTE	EB 1	IB 1
Output Byte 10	BYTE	AB 10	QB 10
Flag Byte 100	BYTE	MB 100	MB 100
Peripherals Input Byte 0	BYTE	PEB 0	PIB 0
Peripherals Output Byte 1	BYTE	PAB 1	PQB 1
Data Block 1, Byte 1	BYTE	DB1.DBB 1	DB1.DBB 1

Data Block 1, Data Block 1 Typ bool, Address 1.0 → DB1.DBX 1.0

Data Block 1, Data Block Typ Byte, Address 1 → DB1.DBB 1

Peripherals Input, Typ DWORD, Address 0 → PED 0

Help:

DB#.DBB # = Data Block#.Data Block Byte #

DB#.DBW # = Data Block#.Data Block Word #

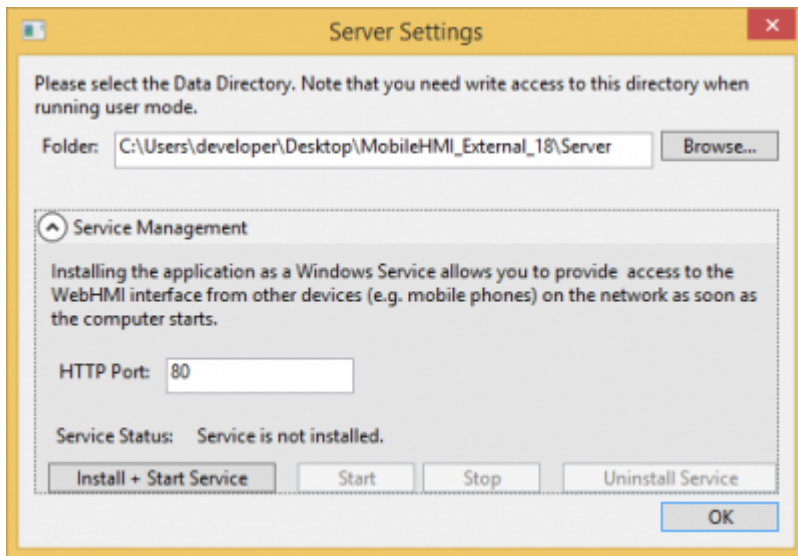
DB#.DBD # = Data Block#.Data Block Doubleword #

= Address

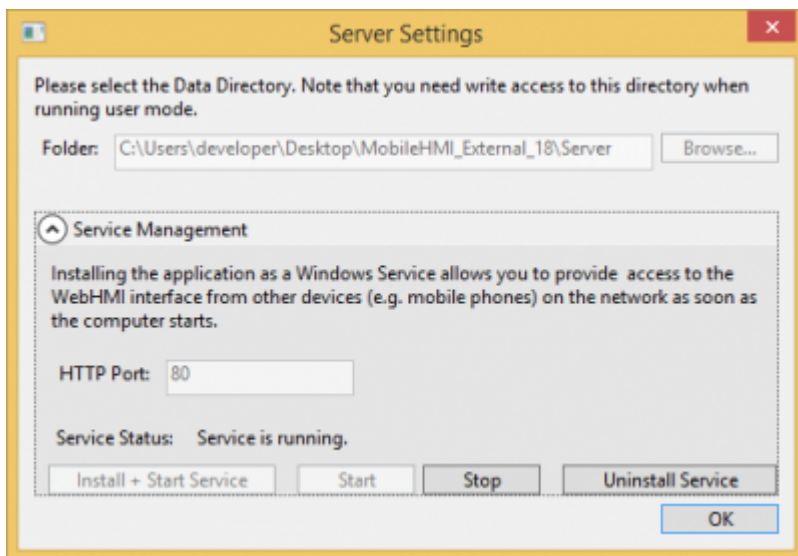
Service settings

- Among  You will find the settings for the service.

Service not installed:



Service installed:



Name	Description
HTTP Port	Port for the web interface of the configuration / display
Install + Start Service	Installs the application as a service and starts it automatically
Start	manual start teh service
Stop	Stop the service, e.g. for changes
Uninstall Service	Remove the installed service

If you want to change the port, stop the service and make the desired change and restart it.

For external users to access the application, the following firewall rules must be added:

- Under Service set port
- If necessary, set OPC Server Ports

OPC Server configuration



Function	Description
Restart all Servers	Restarts all OPC servers
Server Name	Display name for internal administration
User Access	Authorized user groups are displayed. General and OPC administrators generally have access to each server
Everyone Access	E1 = Anonymous login enabled no display = only user groups assigned have access
URI	Address for the connection setup
OPC-Status	Status of the OPC server with the possibility of controlling the server When you move the mouse over the status image, a tooltip appears for the current status
	Status
	Server has not started yet
	Server is started / stopped
	Server is active
	An error has occurred
	Action
	Start OPC-Server
	Restart OPC-Server
	Stop OPC-Server

Create new server ():

Edit (ID: 2)

ID

2

Server Name

OPC http

Transport

HTTP

Hostname

localhost

Port

80

URI Path

Halle1

Automatically create rejected user certificates

☒

User Access

U1 U2 U3 U4 U5 U6 U7 U8

☒ ☒ ☐ ☐ ☐ ☐ ☐ ☐

Everyone Access

E1

☐

URI

http://localhost:80/Halle1

OK

Cancel

Name	Description	TCP	HTTP
Server Name	Display name		
Transport	Type of data transmission	Binary Protocol, is more efficient than HTTP	Uses HTTP web services, higher compatibility with firewalls

Name	Description	TCP	HTTP
Hostname	Server name or IP address for access	Only relevant for the creation of the certificate	Relevant for the creation of the certificate, and specifies the host HTTP header via which the HTTP request is assigned to the OPC server
Port	OPC server target port	A separate port must be used for each OPC server, since each socket is used for each OPC connection	The same port as for the configuration (eg: 80) and for other (HTTP) OPC server because an HTTP handler is registered for the port, hostname, and URI path
URI Path	Destination address of the OPC server	Not relevant, since the OPC server is identified by the port	Specifies the URL path under which HTTP requests are assigned to this OPC server
Automatically create rejected user certificates	Rejected certificate is automatically saved and can then be processed under client certificates		
User Access	Allowed user groups		
Everyone Access	Permission, the non-defined user can also connect to the server		

When creating the OPC-UA server, you have the option to upload a certificate or to automatically create a certificate. The stored data is displayed automatically.

Example OPC server via TCP

- Server Name: Halle 1
- Transport: TCP
- Hostname: localhost
- Port: 20000
- Automatically create rejected user certificates: ☒
- Generate new self-signed Certificate: ☒
- Erlaubte Benutzergruppen: U1 and U3

OPC Server Configuration (ID: [New])

ID

[New]

Server Name

Halle 1

Transport

TCP

Hostname

localhost

Port

20000

URI Path

Automatically create rejected user certificates

☒

Server Certificate

☒ Generate new self-signed Certificate or Upload a Certificate:

Durchsuchen...

User Access

U1 U2 U3 U4 U5 U6 U7 U8
☒ ☐ ☒ ☐ ☐ ☐ ☐ ☐

Everyone Access

E1

☐

URI

OK

Cancel

After save:

The following entry appears in the overview:

After saving, you can start the server by clicking on .

Example OPC server via HTTP

- Server Name: Halle 1
- Transport: HTTP
- Hostname: localhost
- Port: 80
- URI Path: Halle1
- Benutzergruppen: U1 and U2

After save:

The following entry appears in the overview:

Halle 1	U1 U2	http://localhost:80/Halle_1						
---------	-------	-----------------------------	--	--	--	--	--	--

After saving, you can start the server by clicking on .

TIP:

If you have not already created the application as a service, or you are not running the application as an administrator, the following error message appears:

Since http connections run via a web service, you need administrative rights.

OPC Client Certificate



OPC Client Certificate Management

★ New

ID	Name	Is Active	Subject	Admin Groups	User Groups	Edit
3	RejectedCertificate 2015-05-04 06:59 Z		CN=developer			 
4	Mustermann A.	✓	CN=developer	A1		 
5	Mayer Hans	✓	CN=developer		U1	 
6	Huber Max	✓	CN=developer		U2	 
7	Admin	✓	CN=developer	A1		 

10

< 1 >

Add OPC user (★):

Edit (ID: [New])

ID

[New]

Name

Is Active

☒

Certificate File

Durchsuchen...

Subject

<Displayed after uploading>

Issuer

<Displayed after uploading>

Valid not before

<Displayed after uploading>

Valid not after

<Displayed after uploading>

Fingerprint (SHA-1)

<Displayed after uploading>

Admin Groups

A1 A2 A3

☐ ☐ ☐

User Groups

U1 U2 U3 U4 U5 U6 U7 U8

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

OK

Cancel

Field	Description
Name	Free
Is Active	☒ User can access the OPC servers
Certificate File	Upload certificate file
Zertifikatsdaten	
Subject	Certificate number CN: common name DC =
Issuer	Certificate Issuer
Valid not before	valid from
Valid not after	Expiration date certificate
Fingerprint (SHA-1)	Fingerprint of the certificate

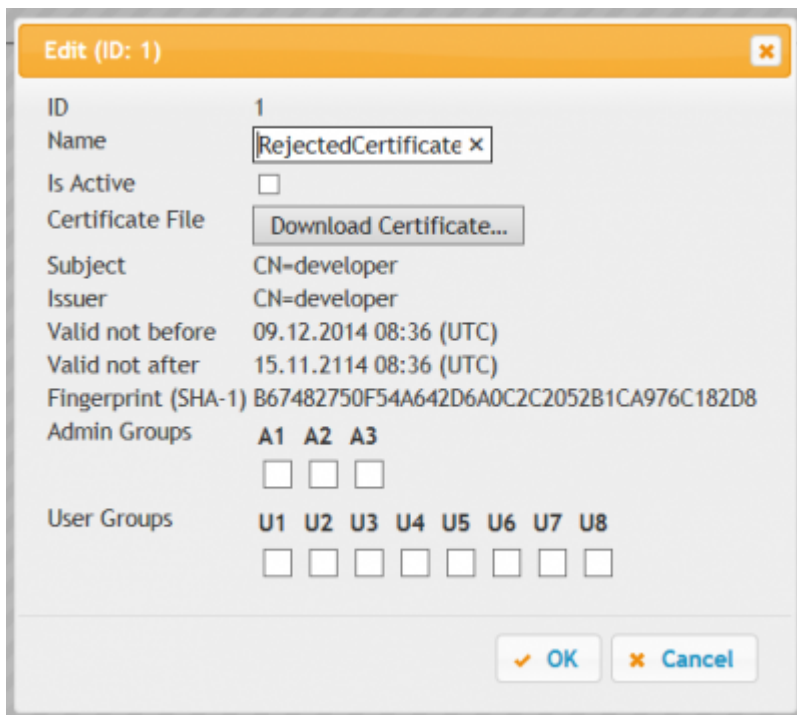
- Enter a name

- Download the certificate
- Set the desired authorization(s)
- Restart all OPC servers

If you have set the rejected certificates in the OPC server, you will see a connection attempt after a connection attempt. Following entry in your administration:

1	RejectedCertificate	2015-05-04 06:43	CN=developer	 
	Z			

- Click the Edit icon



Edit (ID: 1)

ID: 1

Name: RejectedCertificate

Is Active: ☐

Certificate File: Download Certificate...

Subject: CN=developer

Issuer: CN=developer

Valid not before: 09.12.2014 08:36 (UTC)

Valid not after: 15.11.2114 08:36 (UTC)

Fingerprint (SHA-1): B67482750F54A642D6A0C2C2052B1CA976C182D8

Admin Groups: A1 A2 A3

☐ ☐ ☐

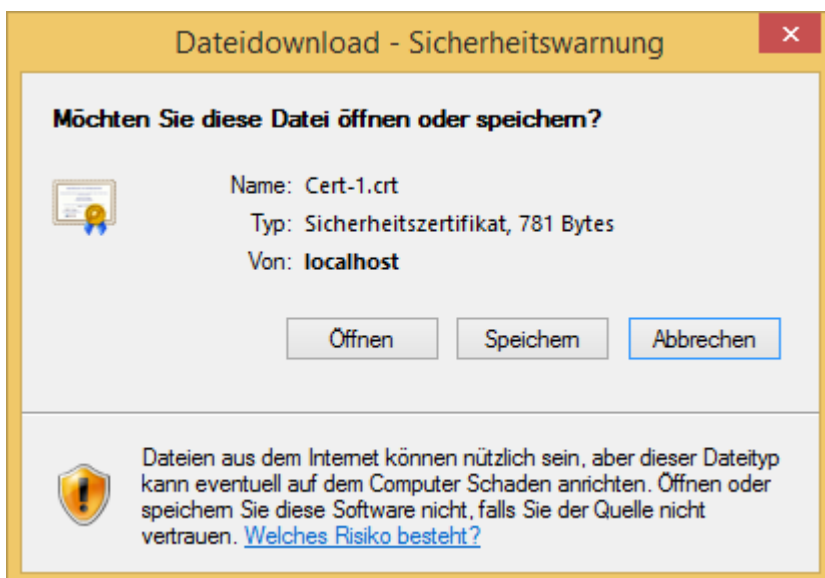
User Groups: U1 U2 U3 U4 U5 U6 U7 U8

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

OK Cancel

If you click on Download Certificate, you can get the certificate

- Open
- Save



Dateidownload - Sicherheitswarnung

Möchten Sie diese Datei öffnen oder speichern?

 Name: Cert-1.crt
Typ: Sicherheitszertifikat, 781 Bytes
Von: localhost

Öffnen Speichern Abbrechen

 Dateien aus dem Internet können nützlich sein, aber dieser Dateityp kann eventuell auf dem Computer Schaden anrichten. Öffnen oder speichern Sie diese Software nicht, falls Sie der Quelle nicht vertrauen. [Welches Risiko besteht?](#)

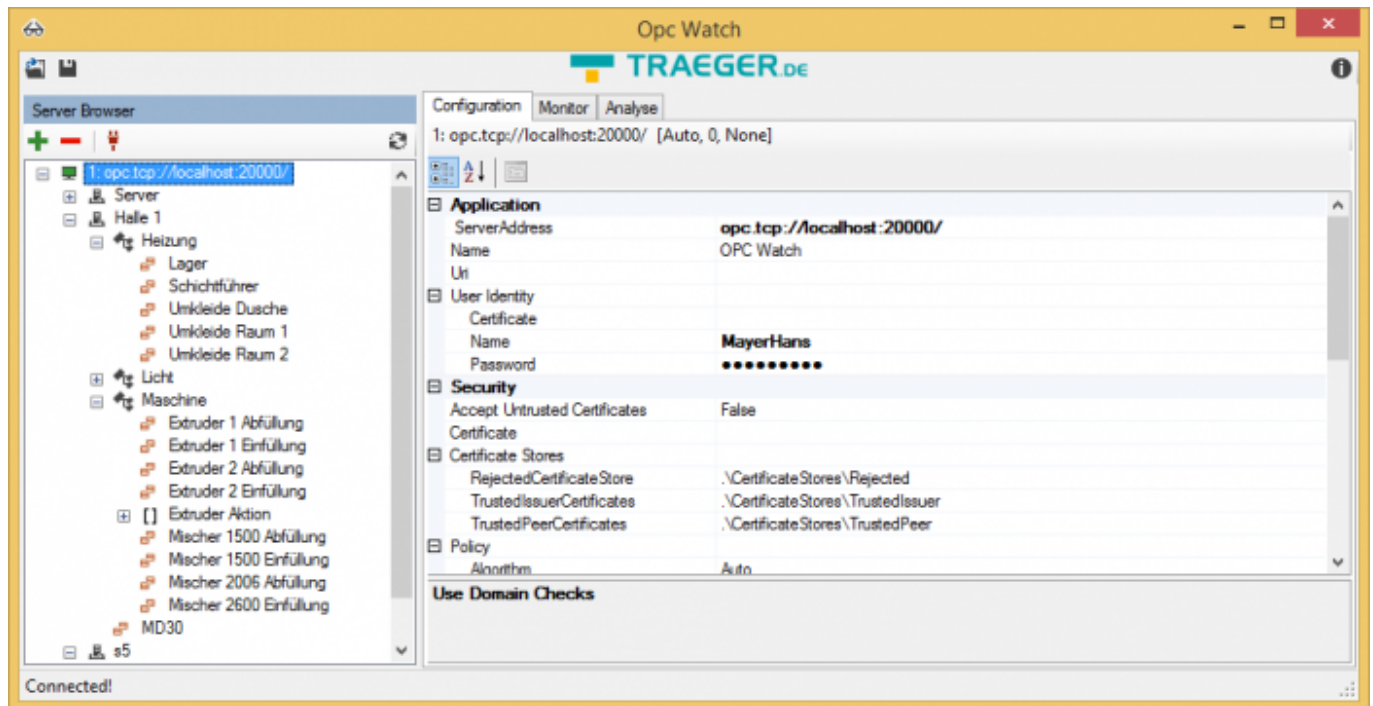
- Check the box "Is active"
- Set the desired permission(s)

- Restart all OPC servers

Testing the OPC UA server

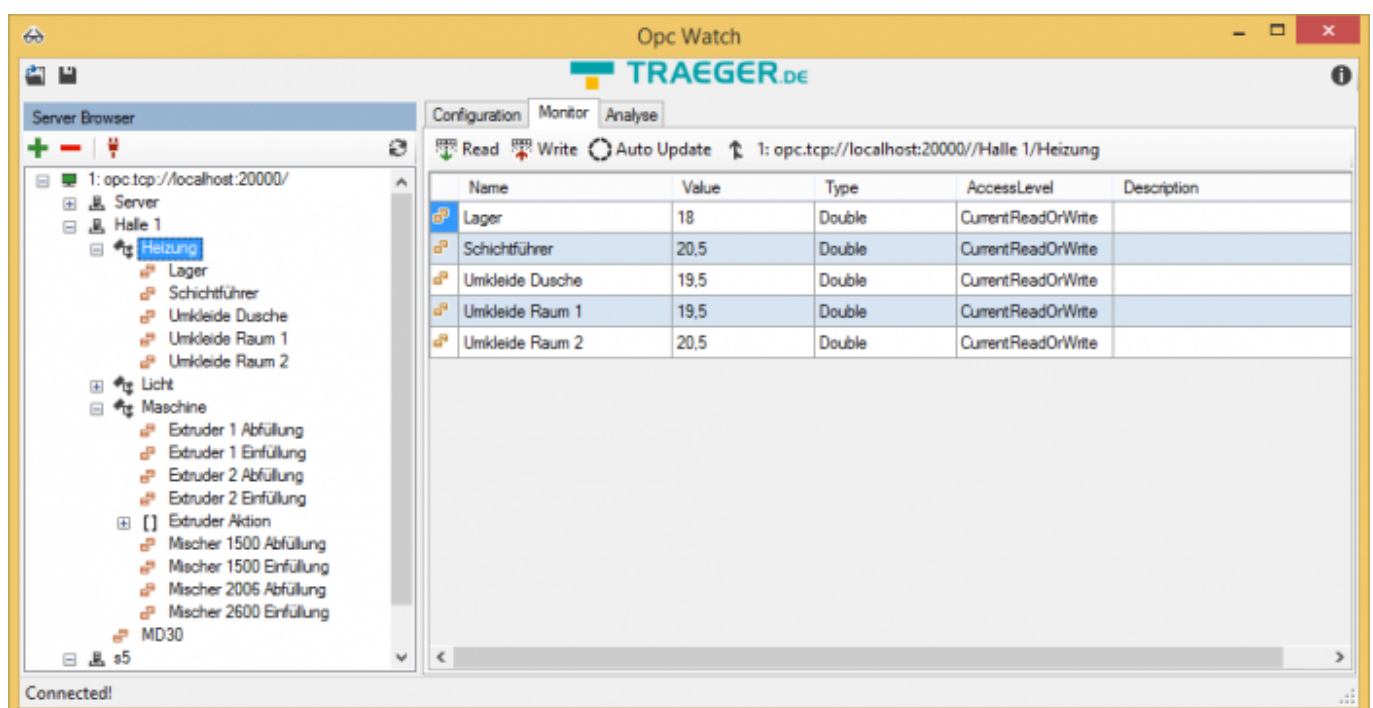
With OPC-Watch (OPC UA Client)

With our free “OPC-Watch” tool, you can connect to OPC servers, which are standard OPC servers. This allows them to access prepared data and view and test settings from the OPC server.

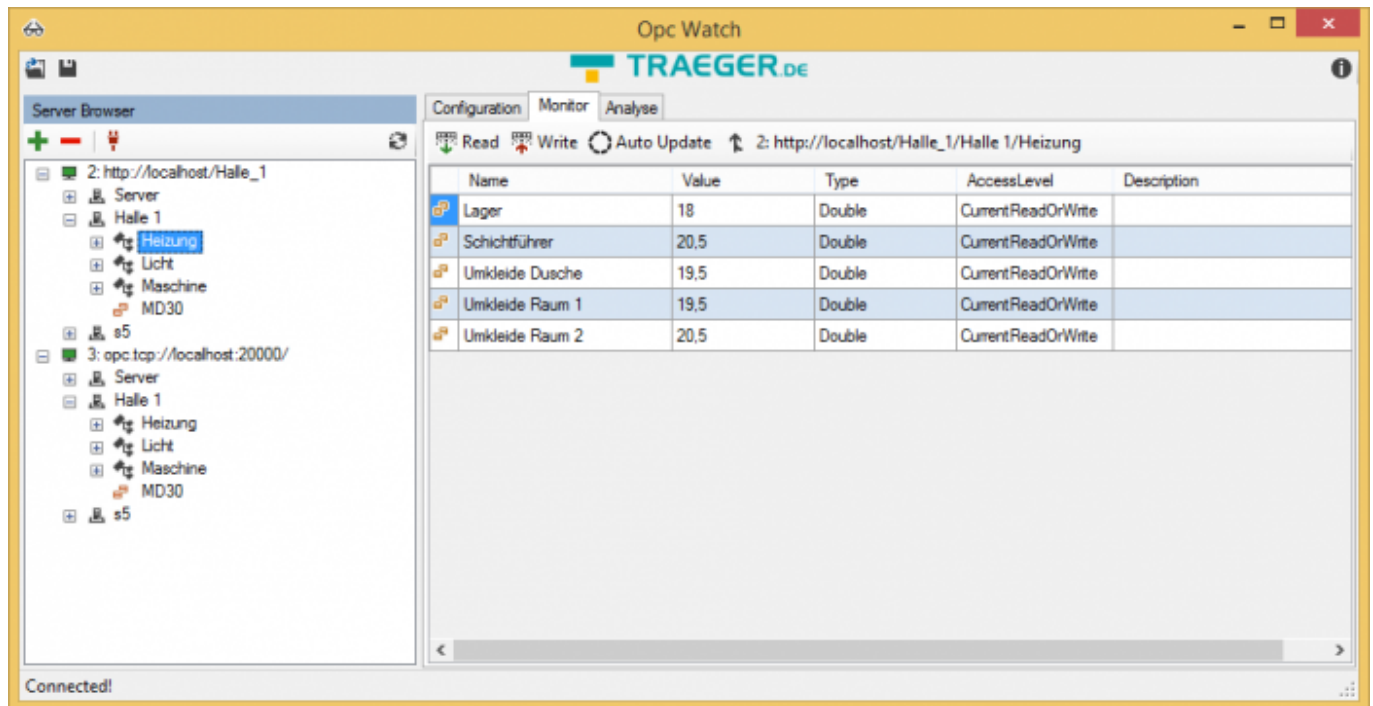


All entries are automatically displayed as shown in “Data points”.

Connection via TCP:



Connection via HTTP:



With OPC UA framework (C # example)

```
OpcCertificateManager.AutoCreateCertificate = true;

OpcClient client = new OpcClient("opc.tcp://localhost:20000/");
client.UserIdentity = new UserIdentity("MayerHans", "MayerHans");
client.UseDomainChecks = false;

//Zertifikat automatisch akzeptieren
client.Configuration.SecurityConfiguration.AutoAcceptUntrustedCertificates = true;

OpcNodeId nodeId = new OpcNodeId("Halle_1/Heizung/Lager", 2);

client.Connect();

Console.WriteLine("ReadNode: {0}", client.ReadNode(nodeId));

try
{
    client.WriteNode(nodeId, 14);
}
catch (Exception ex)
{
    Console.WriteLine(ex.Message);
}

Console.WriteLine("ReadNode: {0}", client.ReadNode(nodeId));

client.Disconnect();
Console.ReadKey(true);
```


Overview Menu structure

S7 OPC UA & MobileHMI

- Home
 - Visualisierung start
- Benutzerverwaltung
 - Name
 - Login Name
 - Passwort
 - Benutzergruppe
 - Admingruppen A1-A3
 - Benutzergruppen U1-U8
- Verbindungen
 - Name
 - IP-Adresse
 - Rack
 - Slot
 - Gerätetyp
 - Logo
 - S7200
 - S7300_400
 - S71200
 - S71500
 - Verbindungstyp
 - Default
 - Operation Panel
 - Programmer Device
 - Other
 - Timeouts
 - Connect
 - Recieve
 - Transmit
 - BreakDetection
- Datenpunkte
 - Verbindung(en)
 - Datenpunkt(e)
 - Knoten
 - Datenpunkt(e)
 - Unterknoten
 - Datenpunkt(e)
 - Name
 - Adresse
 - Datentyp
 - Bool
 - Byte
 - UInt16
 - Int16
 - UInt32
 - Int32

- UInt64
 - Int64
 - SingleFP (23 bit Mantisse, 8 bit Exponent, 1 bit Vorzeichen)
 - DoubleFP (52 bit Mantisse, 11 bit Exponent, 1 bit Vorzeichen)
 - String
- Arraylänge
- Anzahl der zu erstellenden, konsekutiven Datenpunkte
- Aktualisierungsintervall
- Nur lesen
- Skalierungen
 - Name
 - Skalierung
 - Text/String
 - Stufentext
 - Linear
 - Eingabeart
 - Textfeld
 - Numerisches Textfeld
 - Schieberegler
 - Auswahlfeld oder Schalter/Taster
- HMI-Config
 - Seite(n)
 - Datenpunktgruppe(n)
 - Datenpunkt(e)
 - Unterseite
 - Datenpunktgruppe(n)
 - Datenpunkt(e)
 - Seite anlegen
 - Titel
 - Datenpunktgruppe anlegen
 - Titel
 - Datenpunkt zuweisen
 - Titel
 - Istwert-DP
 - Istwert-Skalierung
 - Sollwert-DP
 - Sollwert-Skalierung
 - Taster-Anzeigewert
 - Taster-Skalierung
 - Numerischer Istwert-Min
 - Numerischer Istwert-Max
- OPC Server
 - Alle Server neustarten
 - Neuen Server anlegen
 - Server Name
 - Transport
 - TCP
 - HTTP
 - Hostname

- Port
- URI Path
- Automatically create rejected user certificates
- Server Certificate
- User Access
- Everyone Acces
- URI
- Server starten
- Server stoppen
- Server neustarten
- OPC Client Zertifikate
 - Name
 - Is active
 - Certificate File
 - Admingruppe festlegen
 - Benutzergruppe festlegen
- Recipe Manager
 - Clear Selection
 - Product
 - Commission
 - Recipe
 - Rezept laden
 - Recept speichern

Table of Contents

SPS-Types	2
Operating systems	2
Functions overview	2
Areas of application	2
Installation	2
Deinstallation	3
PLC - Settings	3
S7-1200/1500	3
LOGO!	4
First Start	6
The application	7
Area of the menu	7
Display area	8
Configuration menu	8
User administration	9
PLC-Connections	11
Data point definition	12
Operand	14
Data types	14
Service settings	15
OPC Server configuration	17
OPC Client Certificate	20
Testing the OPC UA server	23
With OPC-Watch (OPC UA Client)	23
With OPC UA framework (C # example)	24
Overview Menu structure	25