

Installation guide ctrlX & Factory I/O

Installation of ctrlX

1. Install ctrlX WORKS 1.18.1 or higher version
2. Use Virtual Control with the following settings:

The screenshot shows the ctrlX WORKS interface for a device named 'VirtualControl-1'. The interface is divided into two main sections: 'Device overview' and 'Device-centered engineering'. The 'Device overview' section includes a 'Go to documentation' button. The 'Device-centered engineering' section includes a 'Go to documentation' button. Below these sections is a table with the following data:

Name	State	Type	IP addresses	Actions
VirtualControl-1	Online	ctrlX COREVirtual	192.168.1.1	[Play] [Check] [Refresh]

On the right side, there is a configuration panel with the following settings:

- Network adapter: VirtualControl-DE-AD-BE-00-00-01
- CPU cores: 4
- Hardware acceleration: Intel® Hardware Accelerated Execution Manager
- Start image version: 1.18.1
- User name: Sgo114ge.user.qcow2

Buttons for 'Save' and 'Cancel' are visible at the bottom of the configuration panel. A note indicates that the asterisk (*) denotes required information.

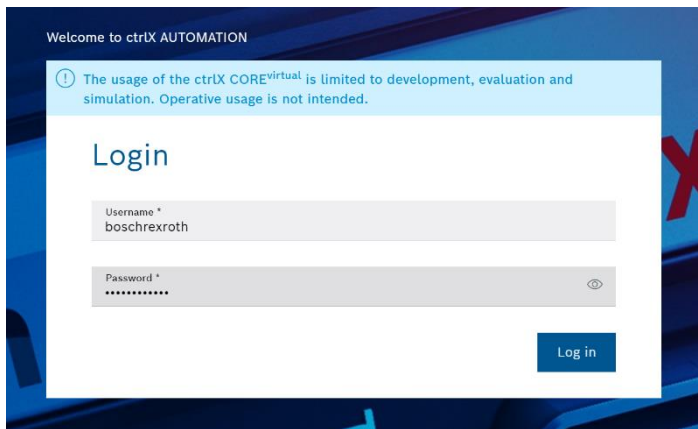
3. Start Virtual Control and log in by clicking „Virtual Control-1“

The screenshot shows the ctrlX WORKS interface with the 'Devices' list selected. The 'VirtualControl-1' device is highlighted in the list. The interface includes a sidebar with navigation options: 'Devices', 'Engineering Tools', and 'App Build Environments'. The main content area shows the 'Device overview' and 'Device-centered engineering' sections, along with the table from the previous screenshot. A tooltip is visible over the 'VirtualControl-1' entry in the table, displaying the text: 'Open VirtualControl-1 page: https://[f80-dcad-bdff-f600-1]'.

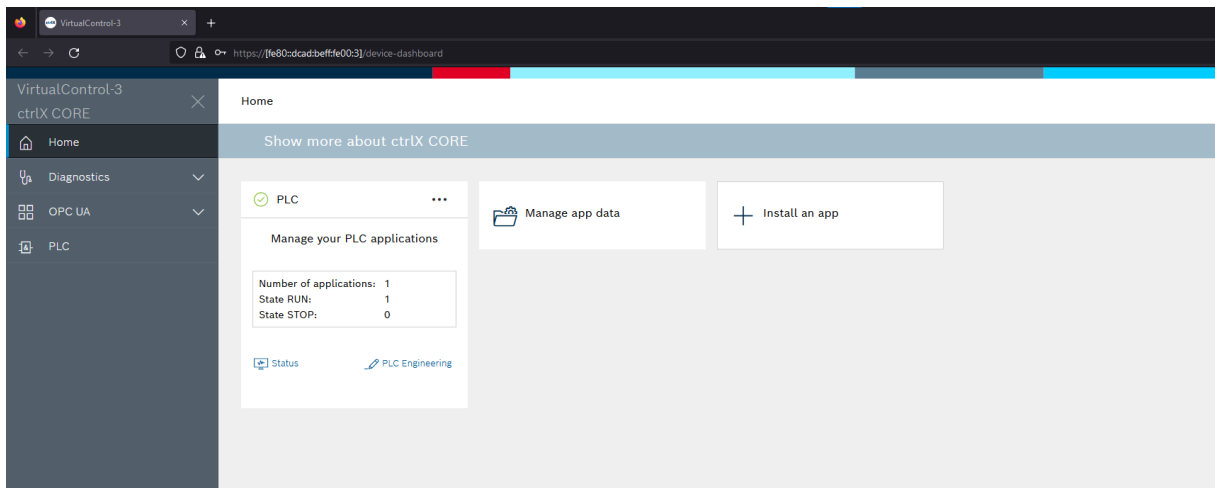
4. Credentials:

user: boschrexroth

password: boschrexroth



5. Click field „Install an app“



6. Install PLC and OPC-UA app from local directory → files in downloaded demo folder

Installed apps



7. Go to Server Settings → activate „NONE Mode“ and save changes

The screenshot shows the 'Server' configuration page in the VirtualControl 3 interface. The 'Server' table has the following data:

Name	Endpoint url	Active sessions	Status	Actions
Server	opc.tcp://VirtualControl-3-4840	0	RUNNING	[Edit]

The 'Setup Server' dialog is open, showing the 'Endpoint' tab. The 'Security Configurations' table is as follows:

Policy	Mode	Sign	Sign and Encrypt	Action
NONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[Edit]
BASIC256 SHA256	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[Edit]
AS128_S HA256_RS A0AEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[Edit]
AFS256_S HA256_RS APSS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[Edit]

The 'User Token Configurations' table is as follows:

Type	Policy	Action
ANONYMOUS	NONE	[Edit]
USERNAME	NONE	[Edit]
USERNAME	AS128_S HA256_RS APSS	[Edit]

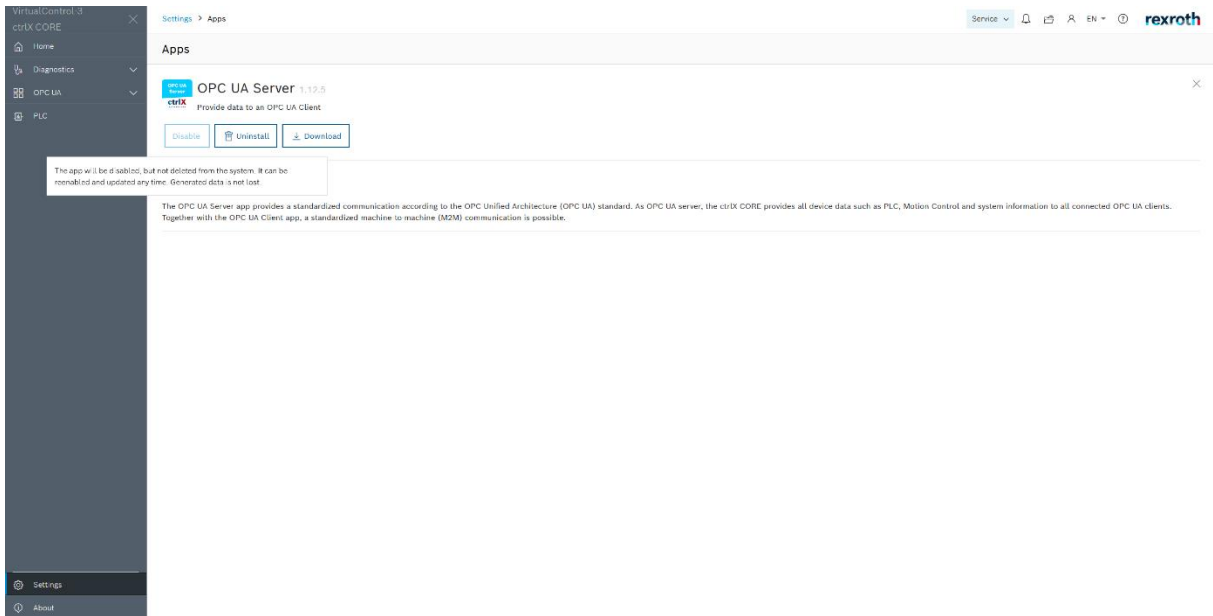
8. Change PLC from „Operating“ to „Service“

The screenshot shows the 'Home' page in the VirtualControl 3 interface. The 'PLC' status is 'Operating'. The 'Status' button is highlighted, and the 'Service' option is selected in the dropdown menu.

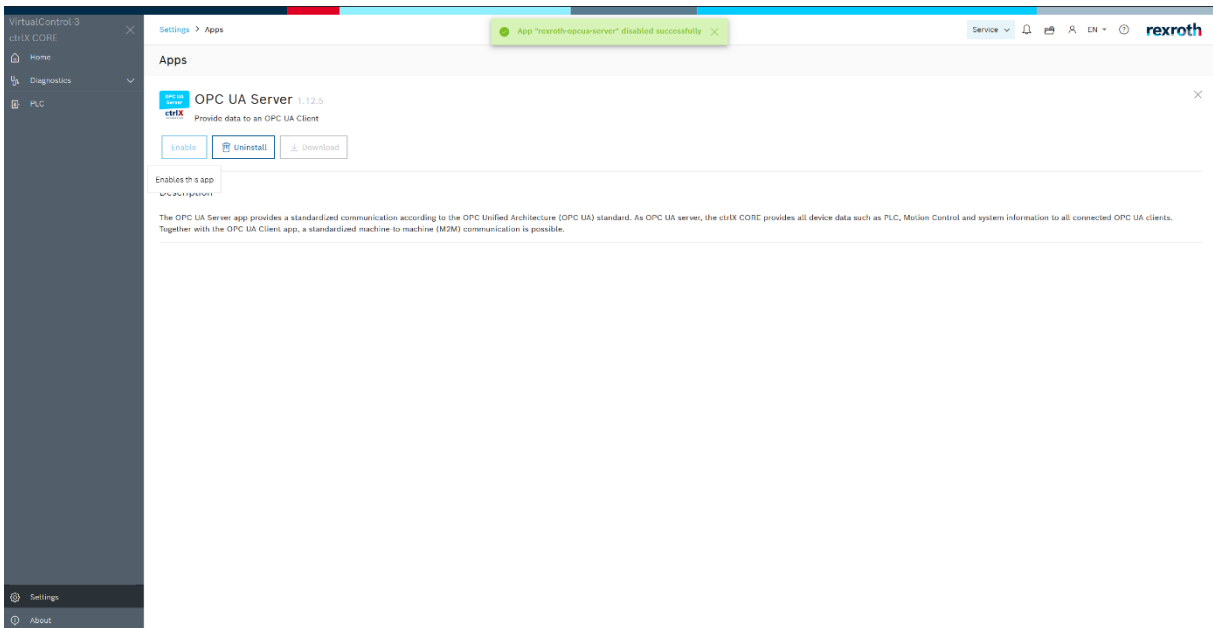
9. Click button „Install an app“

10. Choose OPC UA Server

11. Activate button „Disable“



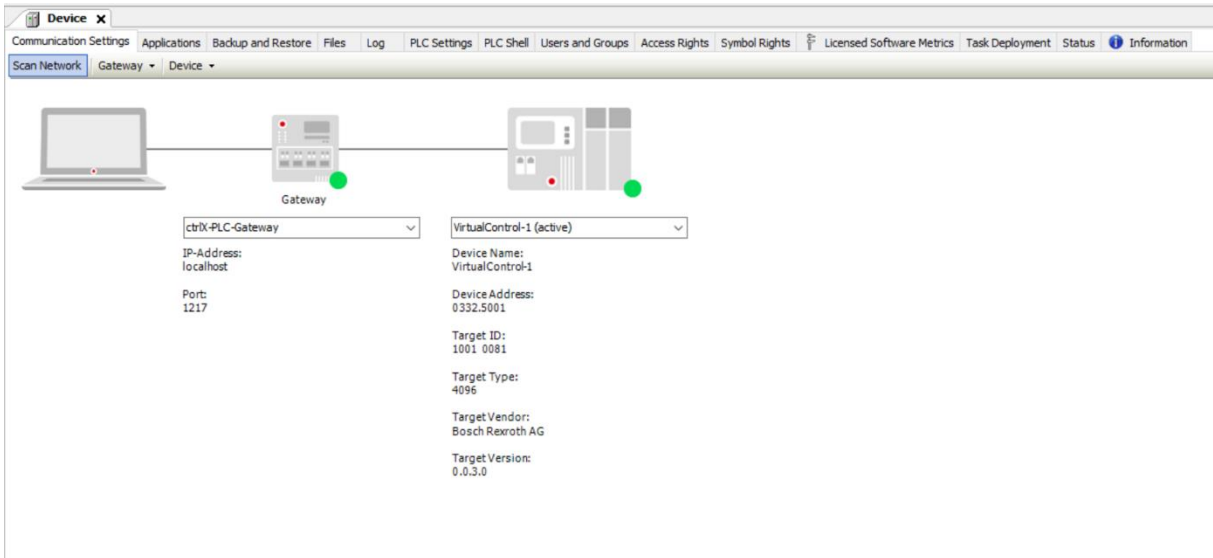
12. Click button „Enable“ to save changes



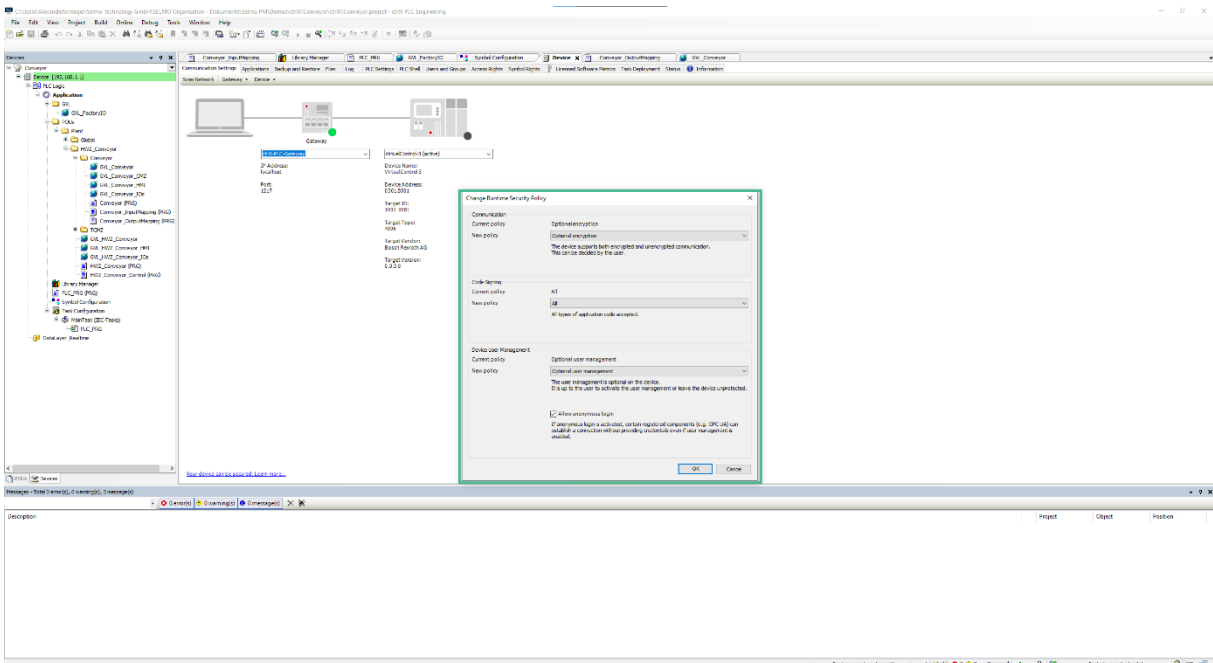
You will find the settings for the ctrlX PLC project on the next page.

Settings ctrlX PLC project:


1. „Scan Network“ → Search for active devices and log in with your IP address




2. Active „Allow anonymous login“:




3. Install ctrlX library

 = Rexroth License Service, 0.1.0.0 (Bosch Rexroth AG)

Rexroth_License_Service 0.1.0.0 

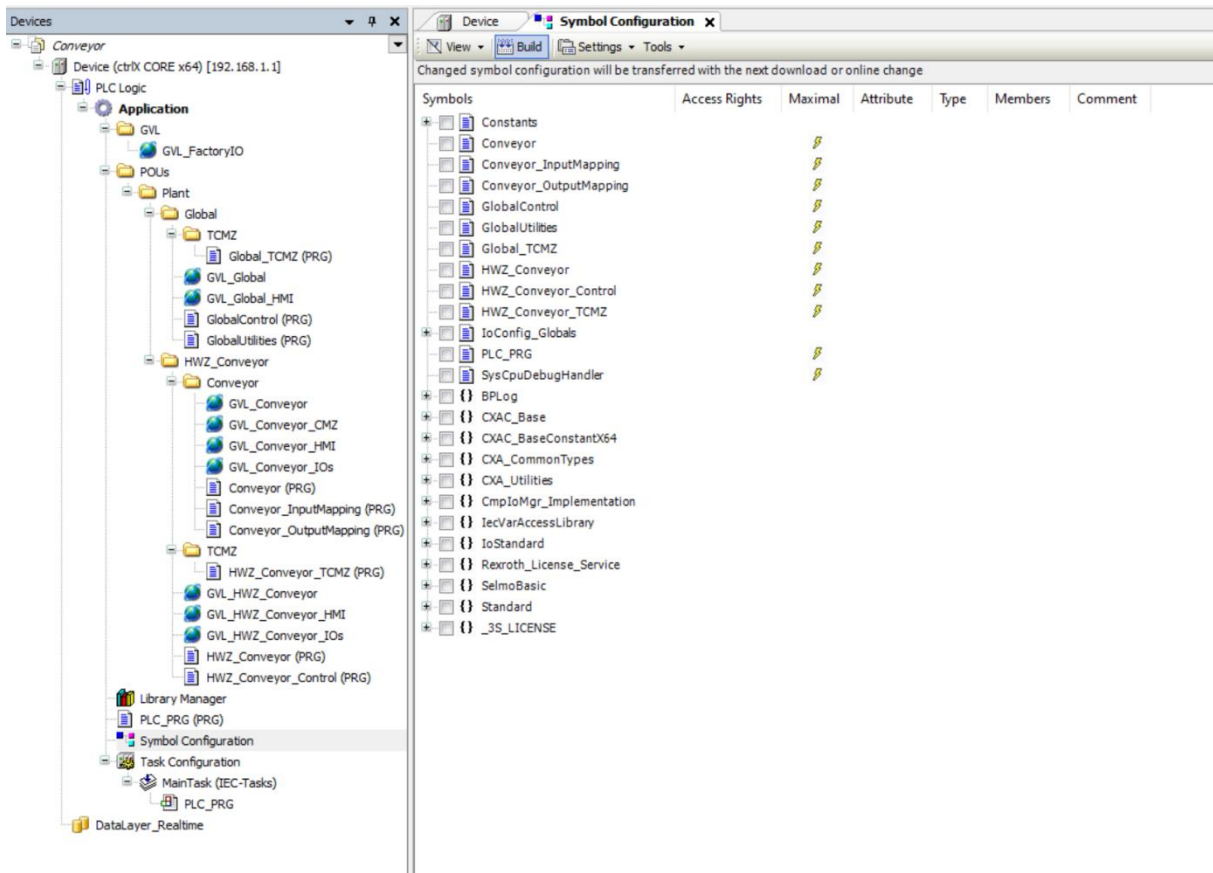
4. Install Selmo library

 Selmo Basic = Selmo Basic, 3.0.3.13 (Selmo Technology GmbH)

SelmoBasic 3.0.3.13 

(The library files can be found in the downloaded demo folder.)

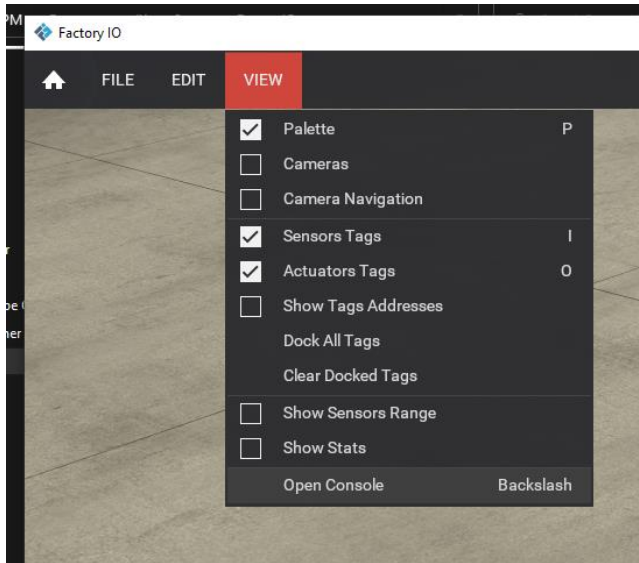
5. Tab „Symbol Configuration“ → click „Build“:



Continue to Factory I/O settings on the next page.

Settings Factory I/O:

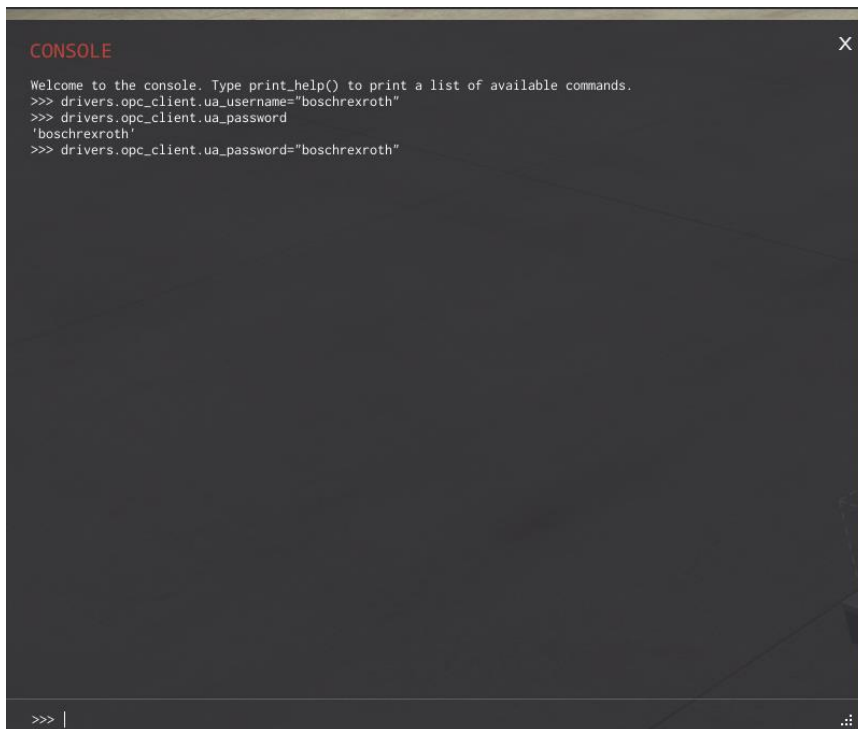
1. Tab „VIEW“ → choose „Open Console“



2. Change user name for OPC-UA login to:
`drivers.opc_client.ua_username="boschrexroth"`

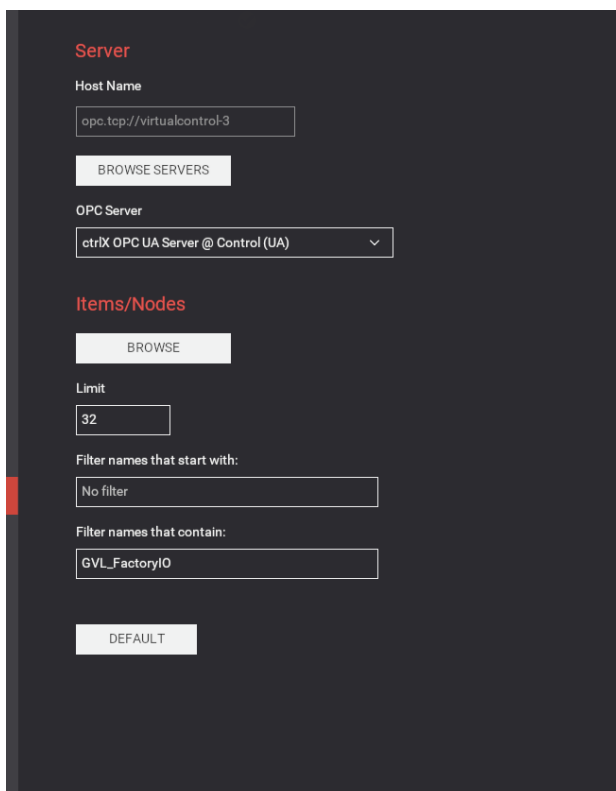


3. Change password for OPC-UA login to:
`drivers.opc_client.ua_password="boschrexroth"`



```
CONSOLE
Welcome to the console. Type print_help() to print a list of available commands.
>>> drivers.opc_client.ua_username="boschrexroth"
>>> drivers.opc_client.ua_password
'boschrexroth'
>>> drivers.opc_client.ua_password="boschrexroth"
>>> |
```

4. Search in the field "Host name" for the server: `opc.tcp://virtualcontrol`
Make sure that the following settings are configured:



Server

Host Name

OPC Server

Items/Nodes

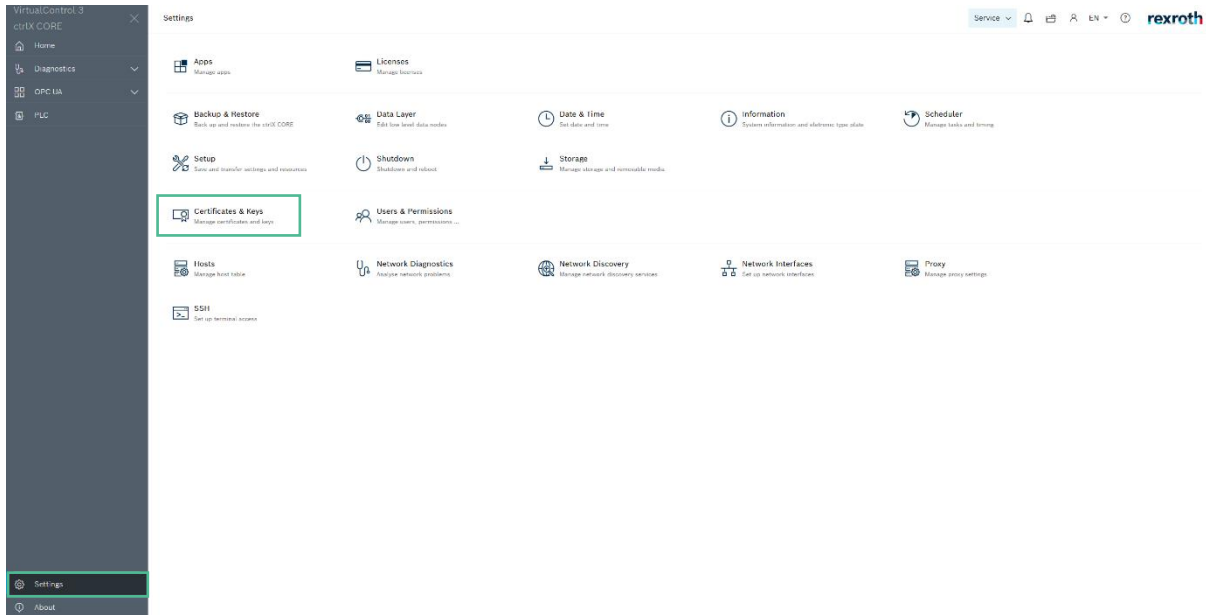
Limit

Filter names that start with:

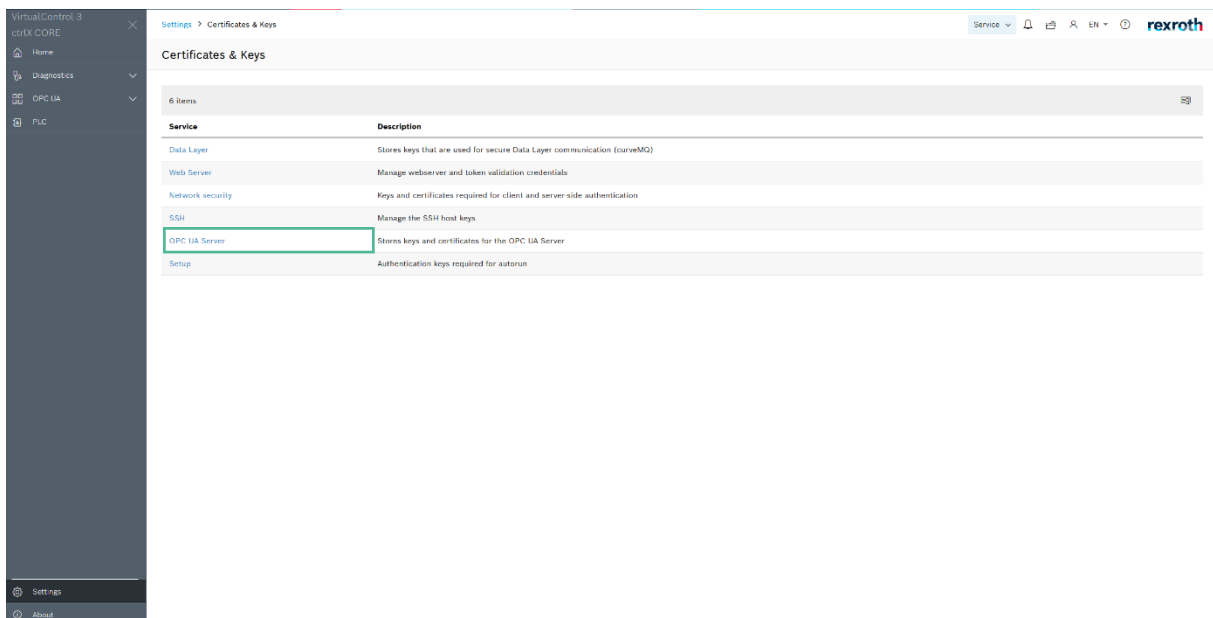
Filter names that contain:

Continue in Virtualcontrol

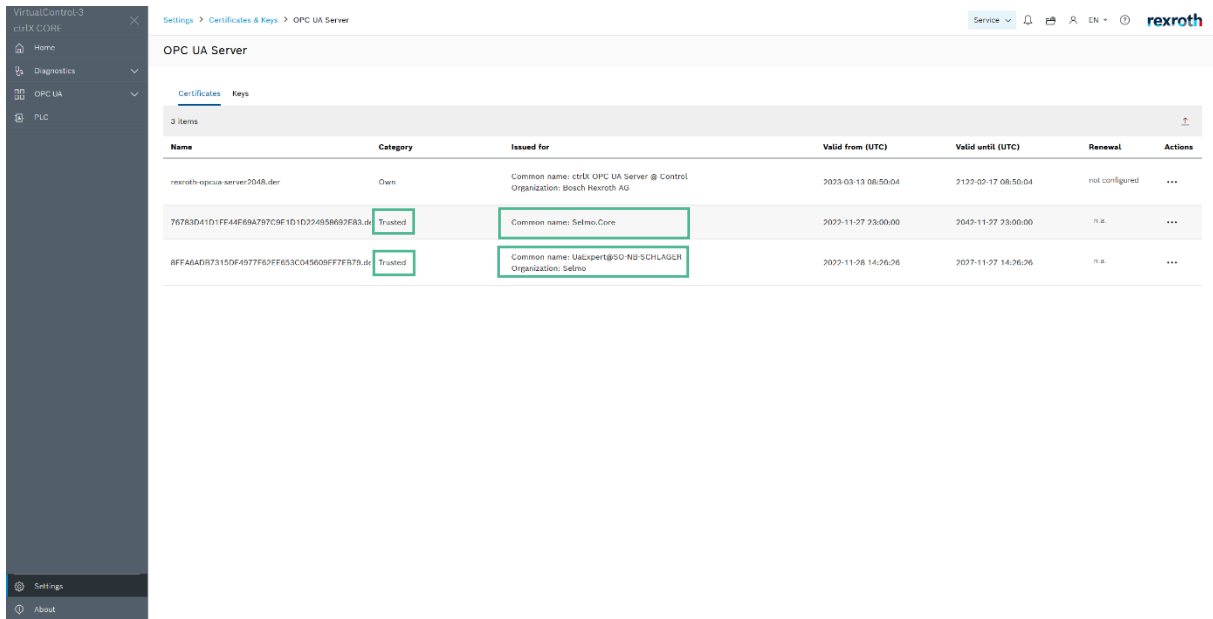
1. Enabling the respective UPC-UA clients by clicking „Settings“ & „Certificates & Keys“ after the first login attempt (Selmo Studio & FactoryIO)



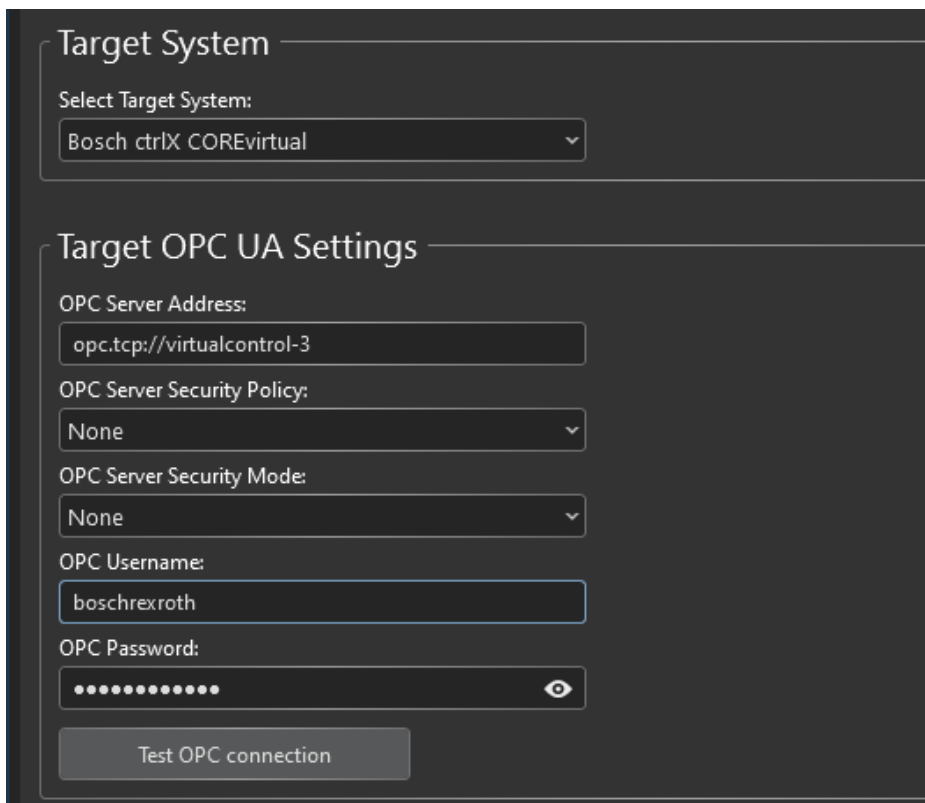
2. Choose „OPC UA Server“ under Service



3. Mark them as „Trusted“



Selmo Studio OPC-UA settings:



Credentials:

Password: boschrexroth

OPC Server Address: specify the Virtual Control used