OPC UA Server functionality in u-create studio

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Quick Start Guide for OPC UA communication with u-create studio and u-create PROCON-WEB

Instructions for the first steps setting up an OPC UA server on UC20-SL2000

QSG0018v02

Revision history

Version	Date	Change log	Author
01	2019-12	First released version	w010843
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1. Content

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3. Abstract

The guide contains instructions how to create an OPC UA server on the UC20-SL2000-OLAC. It explains how to setup a u-create PROCON-WEB visualization as an OPC UA client and how to connect to the controller.

4. Requirements

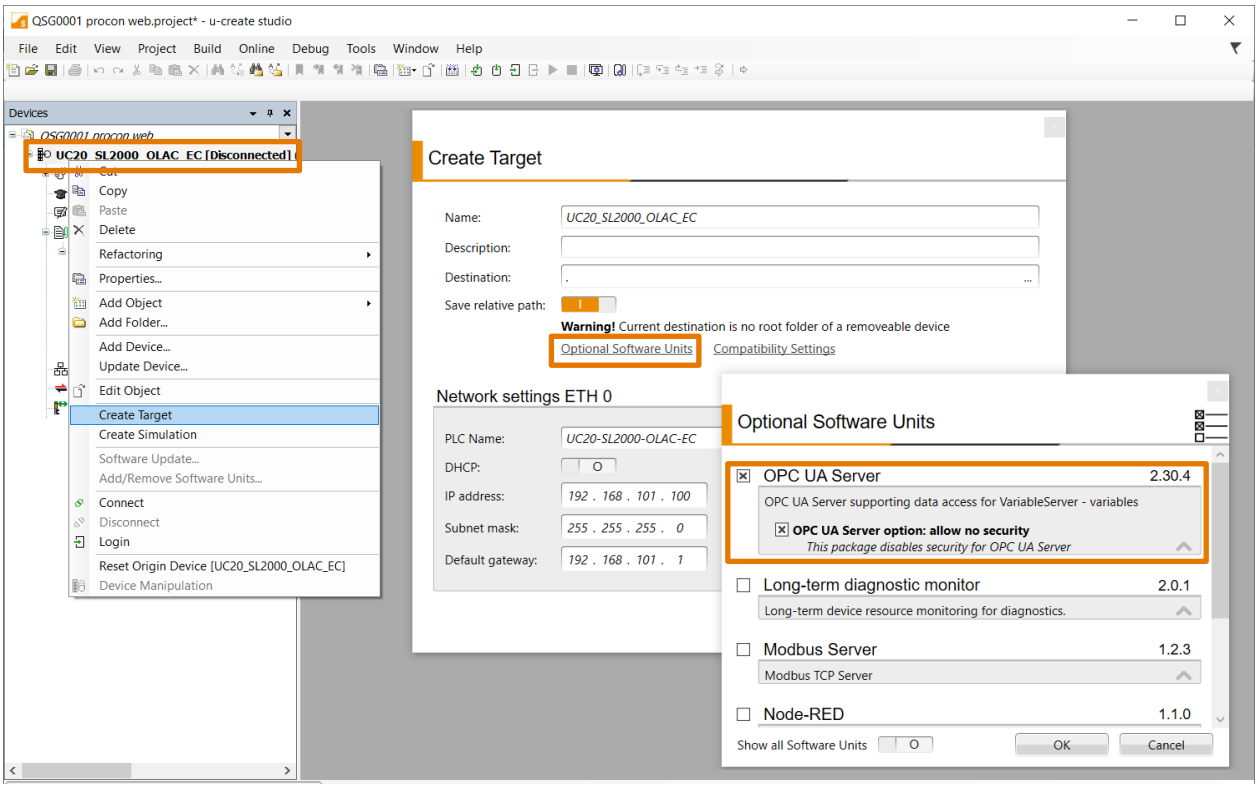
To create a visualization project for UC20-SL2000 please install the latest versions of the necessary development tools u-create studio and u-create PROCON-WEB. You might also use an alternative OPC UA client.

- u-create studio 01.20.2 or later
- u-create PROCON-WEB Designer 6.4 or later
- OPC UA Server Runtime License (e.g. U-CREATE-STUDIO-RT-OPCUA or similar)
- a micro SD card is required to flash the controller

5. Workflow

5.1. Create a target with optional software unit OPC UA Server

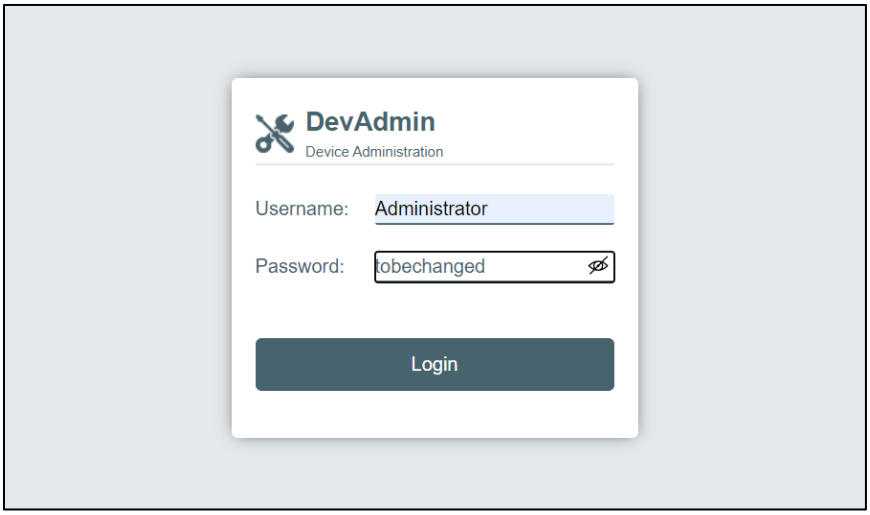
If the target image that currently running on your controller does not contain the OPC UA software unit, create a new target and install the software unit on the controller. This is explained in detail in QSG0006. The screenshot below shows the configuration used in this example.



Please note that **OPC UA Server option: allow no security** is checked as well in this example. This allows to evaluate the OPC UA functionality without any authentication required.

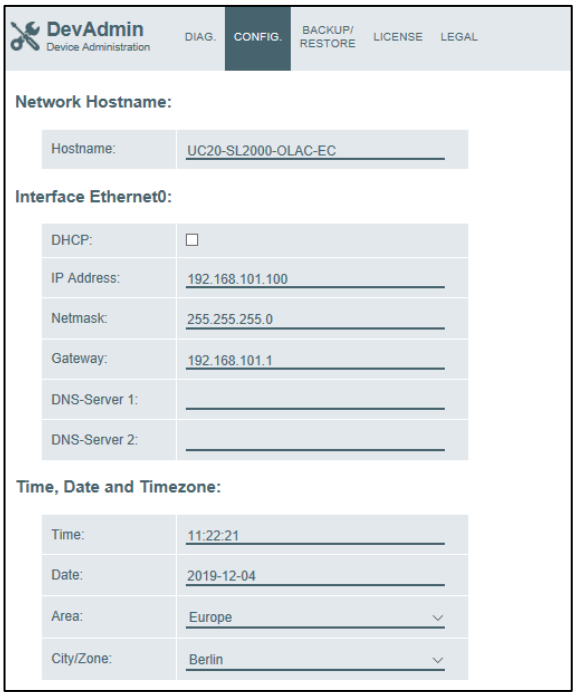
5.2. Configure the controller

1. Use a web browser to navigate to the u-control web interface (http://192.168.101.100 as default) and login:



> The default credentials are:
> User: Administrator
> Password: tobechanged

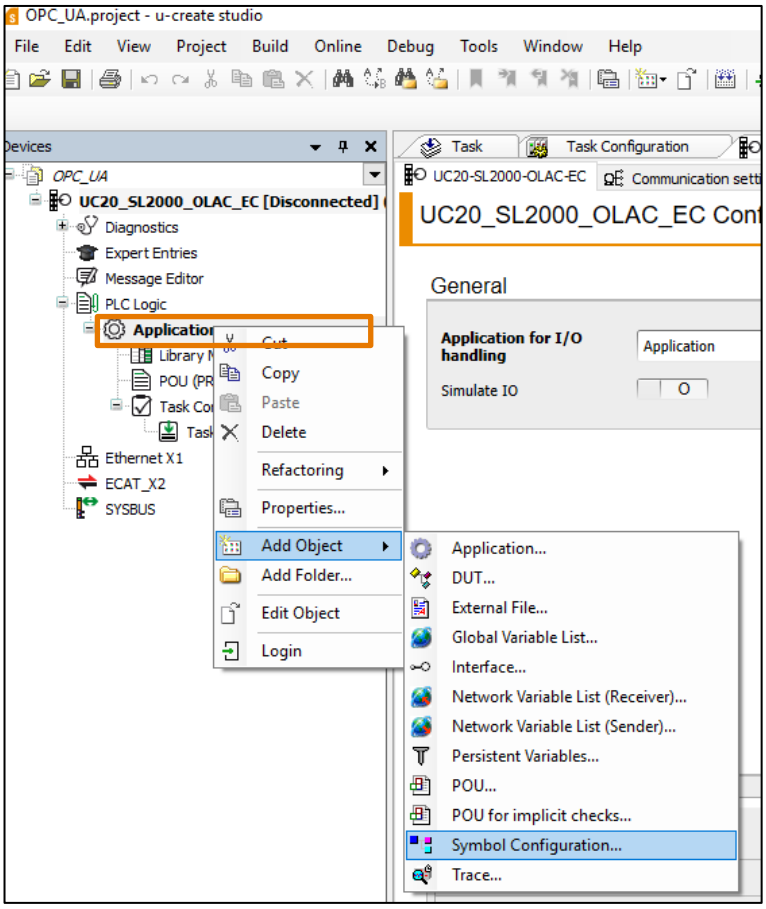
2. Change to the tab **Config** and set the Time and Date.



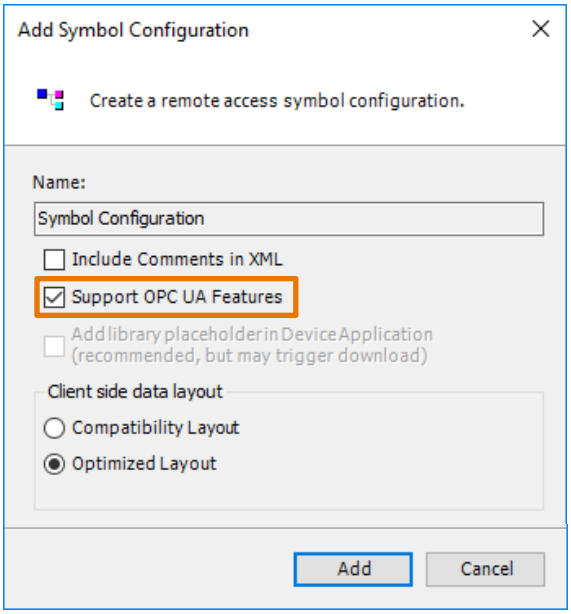
3. Change to the **License** tab and activate your OPC UA license and runtime license. (Skip this step if you have already activated your license)
4. Reboot your controller.

5.3. Create a PLC program for OPC UA communication

1. Open u-create studio and create a new project.
2. Right-click on the application in the device tree and create a symbol configuration.

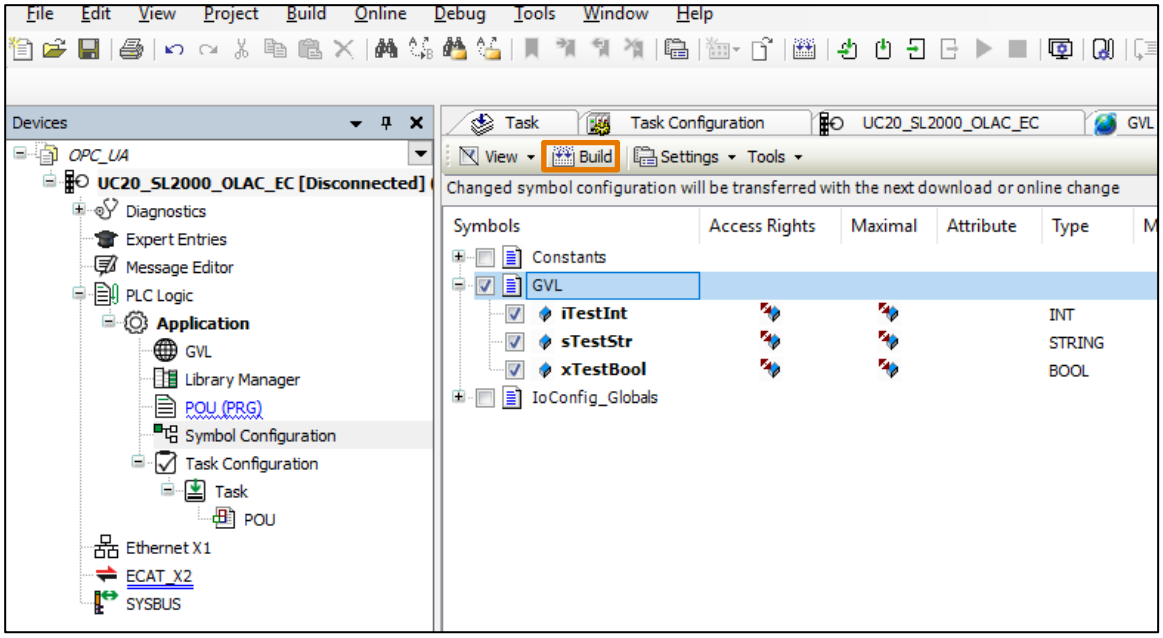


3. Select the option **Support OPC UA Features**

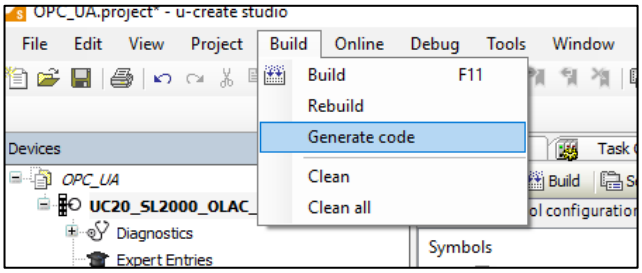


4. Click **Build** to update the symbol configuration and to select variables.
   Note: Only variables that are used in the program are available in the Symbol configuration.

5. Configure the variables that should be visible for the OPC UA client.



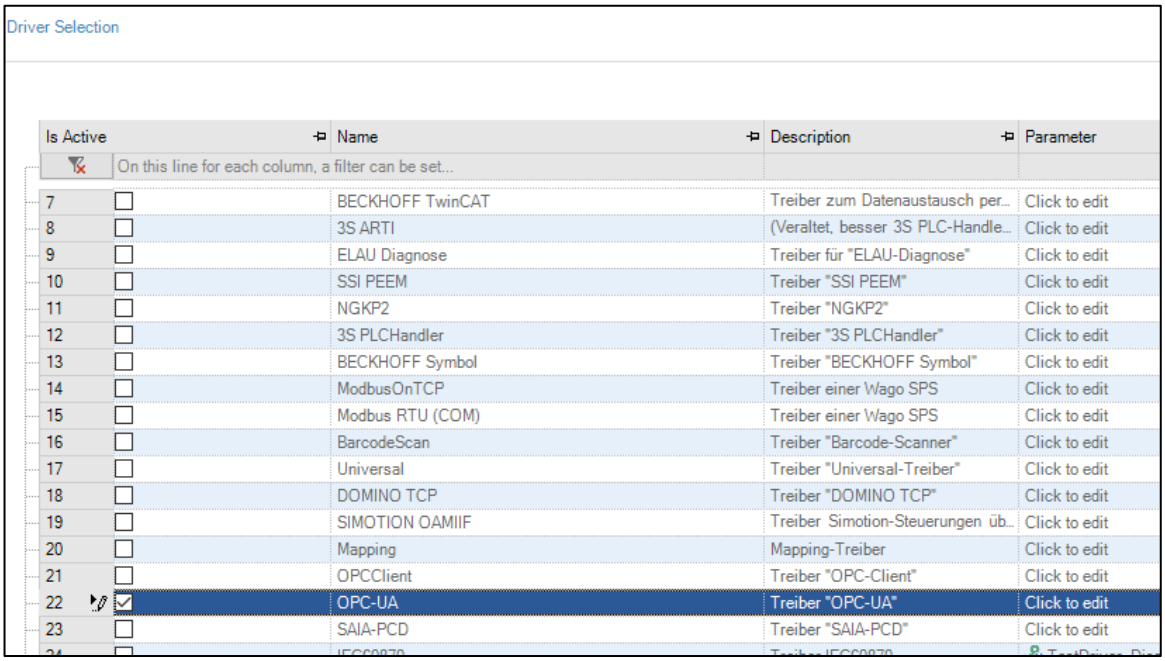
6. Once you've finished creating your program, select **Build** and **Generate code** to create the OPC UA variables for the client.



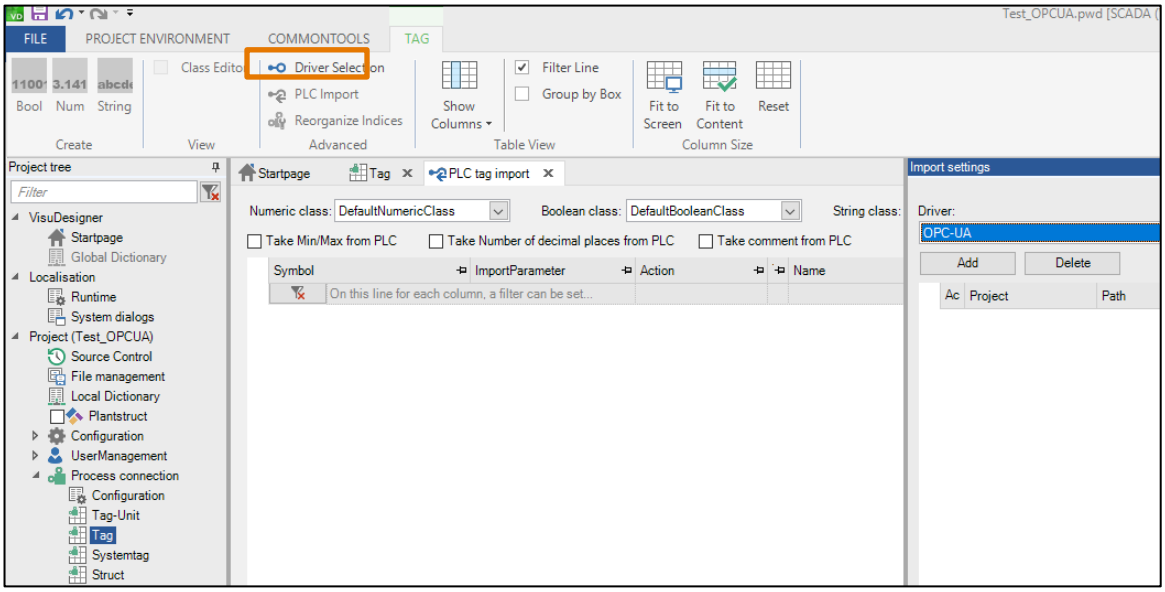
7. Download the project to the controller.

5.4. Create an OPC UA client with u-create PROCON-WEB

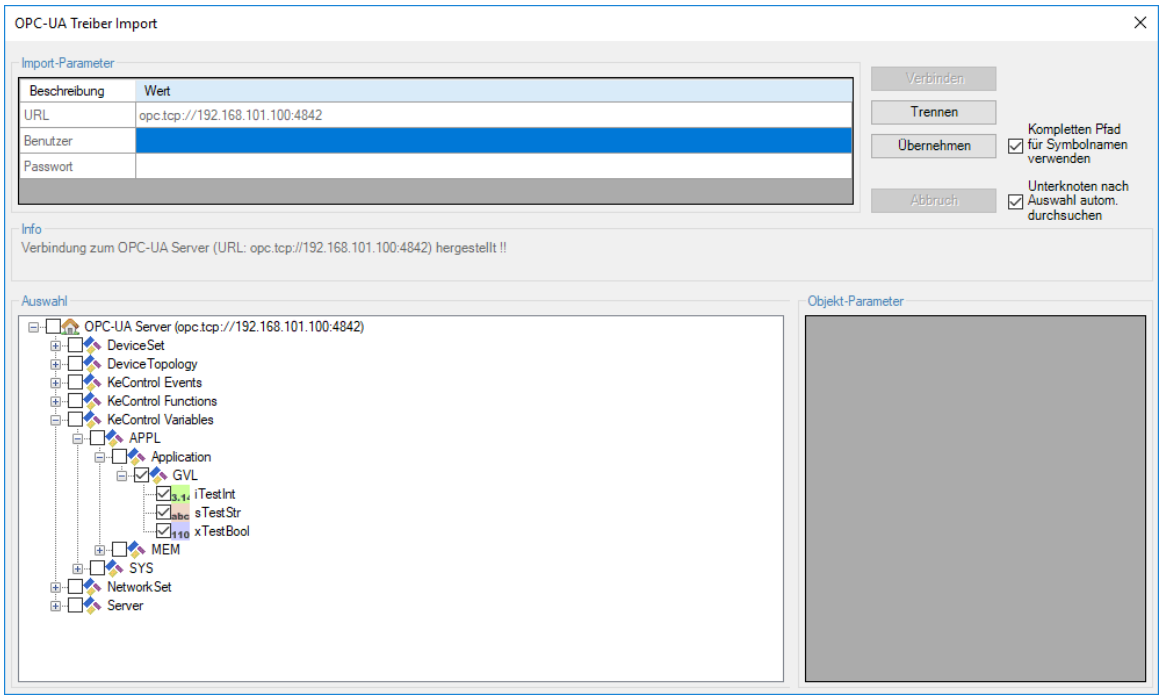
1. Open the PROCON-WEB Designer and create a new **SCADA** project.
2. Expand **Process connection** in the project tree and open **Tag**. Open the **Driver selection** and select the OPC UA client driver.



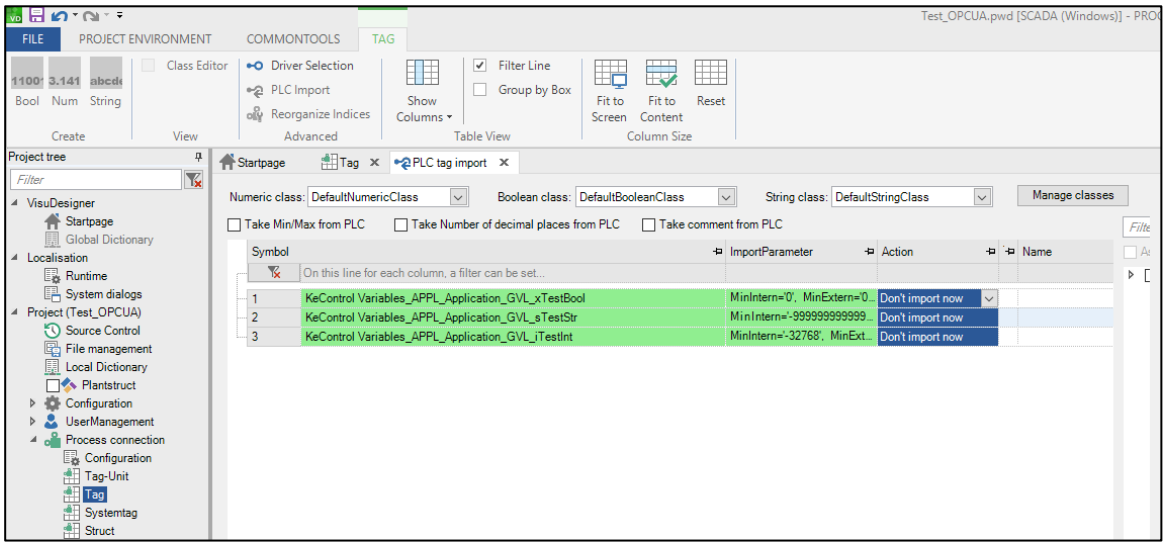
3. Select the PLC Import and select the OPC UA driver and push Add.



4. Enter the OPC UA server address (the plc's address, opc.tcp://192.168.101.100:4842 as default) in the URL box and connect to the server.



5. Select the variables that should be used in the project and apply the changes. Then go back and push "Read Symbols". Now it is possible to import the variables to the project.



6. Once you've finished creating your visualization, click **Create** to build it. **Start browser** opens the visualization in your default web browser as shown below.