



DEWESoft®
measurement innovation

OPC UA Server plugin manual

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1. Revision history

Table 1: Revision history

Revision	Plugin Version	Author	Date	Comment
1.0	1.0.0	Urban Baš	8.6.2018	



2. General information about the OPC UA Server plugin

The OPC UA Server plugin enables Dewesoft to publish data using OPC UA protocol. It enables control and measurement by using Dewesoft OPC UA Client plugin or any other 3rd party OPC UA clients.

Current plugin version: 1.0.0

3. Licensing

The plugin requires a valid Dewesoft license. To test the plugin, you can use an Evaluation license.

3.1. Requesting an Evaluation license

You can request an Evaluation license from our homepage on the following [LINK](#).

- Click on Evaluation license
- Fill out all the required fields
- Click the Request license button

The screenshot shows a web form titled 'Evaluation licence' with three tabs: 'Online registration', 'Offline registration', and 'Evaluation licence'. Below the tabs is a paragraph: 'To receive a fully functional 30-day evaluation license for DEWESoft X software fill out and submit the form below. Data marked with (*) are required. Please provide a valid email address to which we can send the evaluation license.' The form contains the following fields:

- LICENSE***: A dropdown menu with 'Select license version' and a downward arrow.
- FIRSTNAME***: A text input field.
- LASTNAME***: A text input field.
- COMPANY***: A text input field.
- COUNTRY***: A dropdown menu.
- EMAIL***: A text input field.
- PHONE***: A text input field.
- APPLICATION***: A dropdown menu with 'Automotive' selected.

At the bottom right of the form is a red button labeled 'Request license'.

Figure 1: Evaluation licence



3.2. Activating the Evaluation license

When you have received your trial licence key, open Dewesoft, go to Options → Settings, select Licensing and expand the Create new license section. Enter the license code (3) and click the Register online (4) button. Then your new license key will show up in the list and have the *Status Valid*.

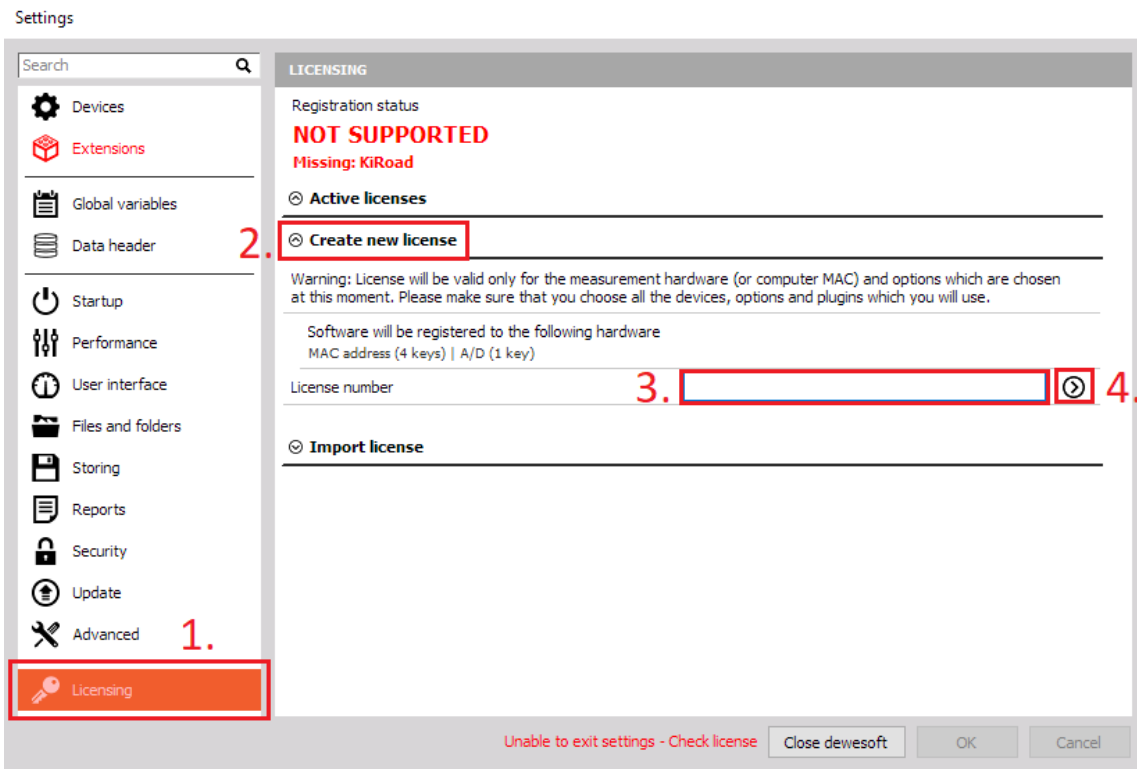


Figure 2: Enter license key

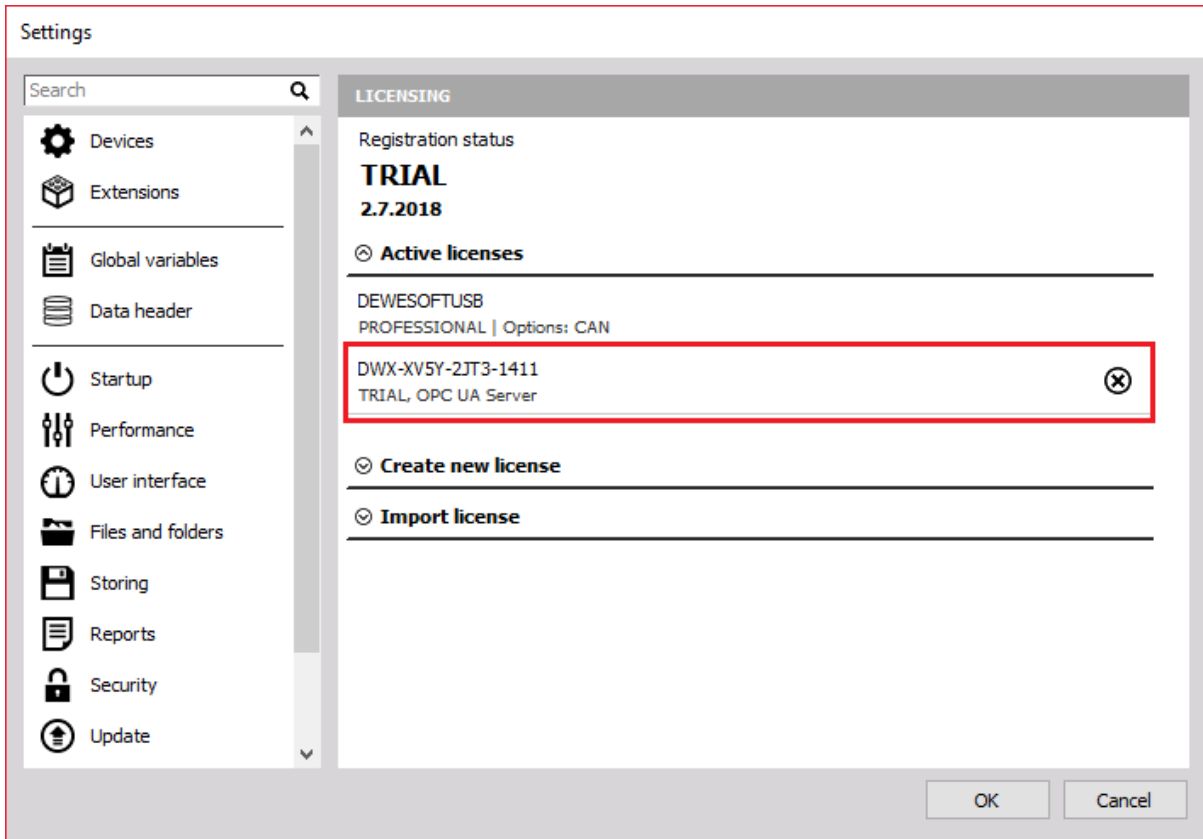


Figure 3: Valid trial license



3.3. Plug-in Installation

Simply extract the contents of **OpcUaServer.zip** archive into the Addons folder of your Dewesoft installation. (e.g., C:\DEWESoft\Bin\X3\Addons\).

Then you can start Dewesoft as an administrator and register the plugin (aka. extension). Click *Options* → *Settings*, select *Extensions* and click the *plus sign*. Then find the OPCUA Server plugin in the list and activate it (i.e. click the check-box in Figure 4) - when the plugin does not show up in the list, you may need to register it first.

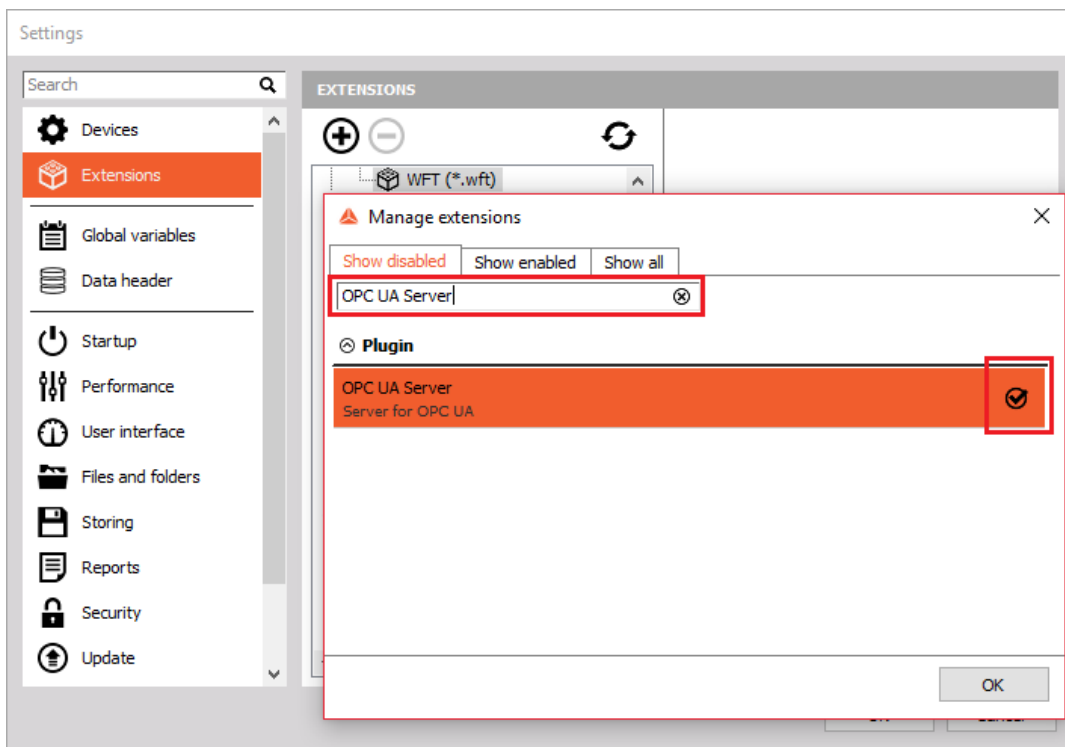


Figure 4: Add OPC UA Server extension

3.4. Registering the plugin

Before you can use Plugins in Dewesoft®, they must be registered once. When Dewesoft® is started it will try to register all plugins (*.dll files) that it finds in the Addons folder. In order to do that, Dewesoft® requires administrator permissions (because it must write to the Windows® registry). When Dewesoft® is not run with administrator permissions, the registration cannot be done automatically.

When the plugin does not show up in the Extensions list, you must press the Refresh button (Figure 5 - Update extensions list). Note: you may need to start Dewesoft as administrator (depending on the UAC settings of your Windows user/installation). When you have pressed the Refresh button, the registration Window will be shown for a short time (Figure 6). After that, you must restart Dewesoft.

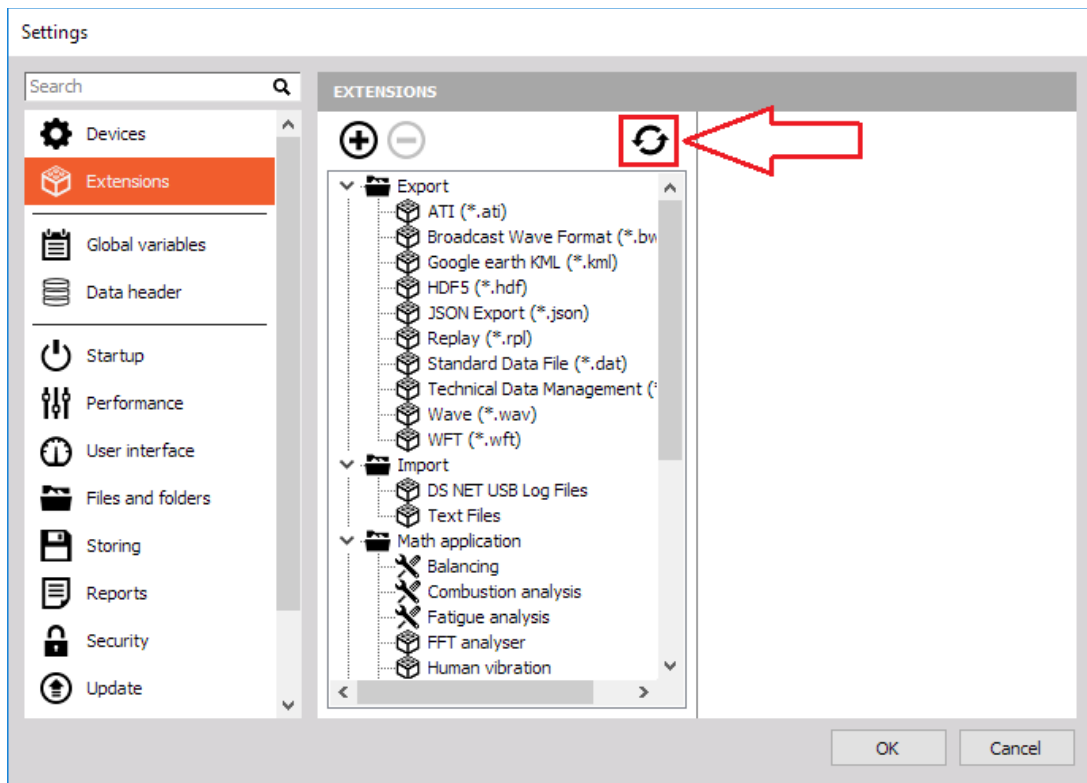


Figure 5: Update extensions list

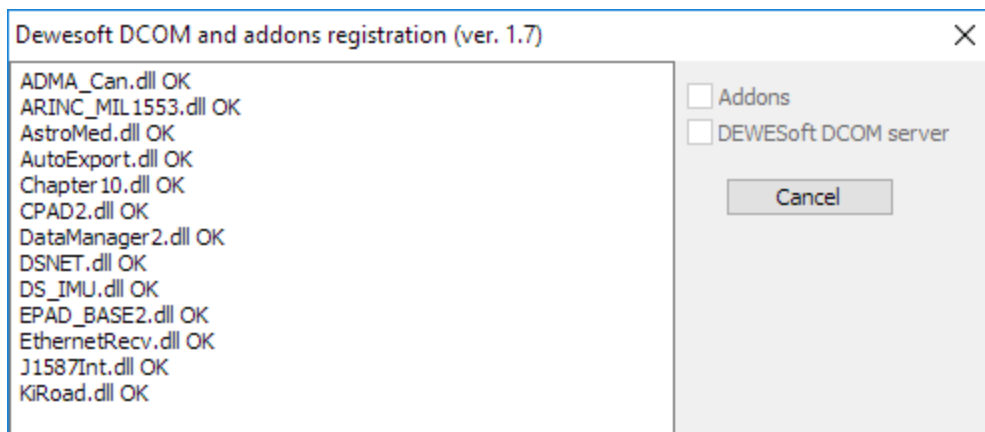


Figure 6: Addons registration

4. Extensions setup

In the Extensions you can click on the OPC UA Server and the right the settings for the plugin will open on the right side. Here you can set the **port** number on which server accepts incoming requests. After you have selected your wanted port number you can save the settings by clicking "OK".

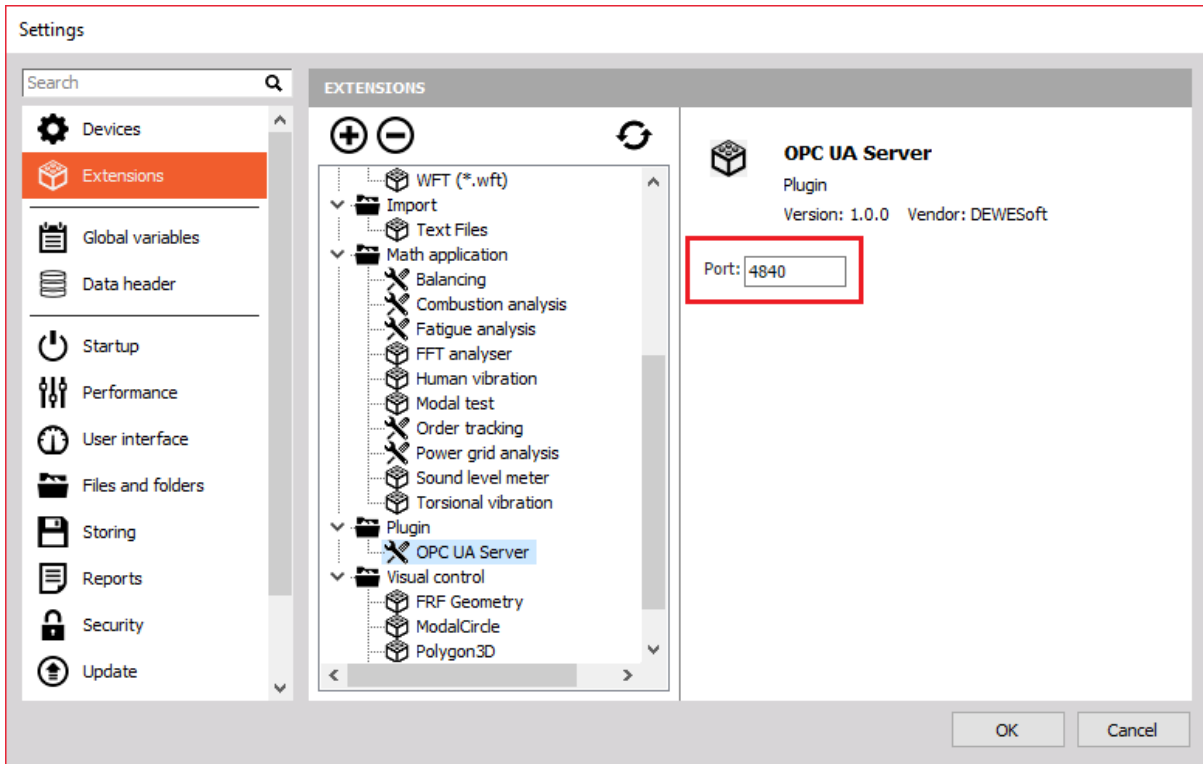


Figure 7: OPC UA Server plugin settings

5. OPC UA Server setup screen

The setup screen allows you to select which channels you want to publish. This can be set in the **Publish** column. As seen on Figure 8 the plugin distributes the channels into groups (AI, math, AI, control channels, ...).

On this setup screen you can see the name, description, current value, units and permissions of the channels.

ID	Publish	Name	Description	Value	Unit	Permissions
-- AI --						
1;0	Published	Voltage	-	0	V	Read
1;1	Published	Current	-	0	A	Read
-- AO --						
200000;0;0	Published	AO 1	-	0	-	Read
200000;0;1	Unpublished	AO 2	-	0	-	Read
-- Math --						
7000;0;0;0	Published	Voltage/IIR filter	-	0	V	Read
7000;1;0;0	Published	Sine	-	-0.19	-	Read
7000;2;0;1	Published	Frequency	-	NaN	Hz	Read
7000;2;0;1000007	Unpublished	U_rm_L1	-	NaN	V	Read
7000;2;0;1000008	Unpublished	I_rm_L1	-	NaN	A	Read
7000;2;0;1000010	Published	P_L1	-	NaN	W	Read
7000;2;0;1000011	Unpublished	Q_L1	-	NaN	VAr	Read
7000;2;0;1000012	Unpublished	S_L1	-	NaN	VAr	Read
7000;2;0;1000013	Unpublished	PF_L1	-	NaN	-	Read
7000;2;0;1000014	Unpublished	U_rms_L1	-	NaN	V	Read
7000;2;0;1000015	Unpublished	I_rms_L1	-	NaN	A	Read
7000;2;0;1000016	Unpublished	D_L1	-	NaN	VAr	Read
7000;2;0;1000017	Unpublished	DH_L1	-	NaN	VAr	Read
7000;2;0;1000018	Unpublished	QH_L1	-	NaN	VAr	Read
7000;2;0;1000020	Published	P_L1_H1	-	NaN	W	Read
7000;2;0;1000021	Unpublished	Q_L1_H1	-	NaN	VAr	Read
7000;2;0;1000022	Unpublished	S_L1_H1	-	NaN	VAr	Read
7000;2;0;1000024	Unpublished	cos_phi_L1_H1	-	NaN	-	Read
7000;2;0;1000025	Published	U_L1_H1	-	NaN	V	Read
7000;2;0;1000026	Unpublished	I_L1_H1	-	NaN	A	Read
7000;2;0;1000027	Unpublished	phi_L1_H1	-	NaN	deg.	Read
-- Control channels --						
1100000;0;1	Published	Control out 1	-	NaN		Read/Write

Figure 8: OPC UA Server setup screen

6. Reading the channels from a client

Figure 9 shows Dewesoft OPC UA information model, which is accessible from OPC UA clients. Clients can:

- start and stop Dewesoft acquisition with “StartAcquisition” and “StopAcquisition” methods,
- view measure start time and sample rate,
- read channels properties:
 - Name,



- Description
- Current value (CurrentScaledValue) - is used to read live data form 3rd party clients.
- Offset
- Sample rate
- Scale
- Unit

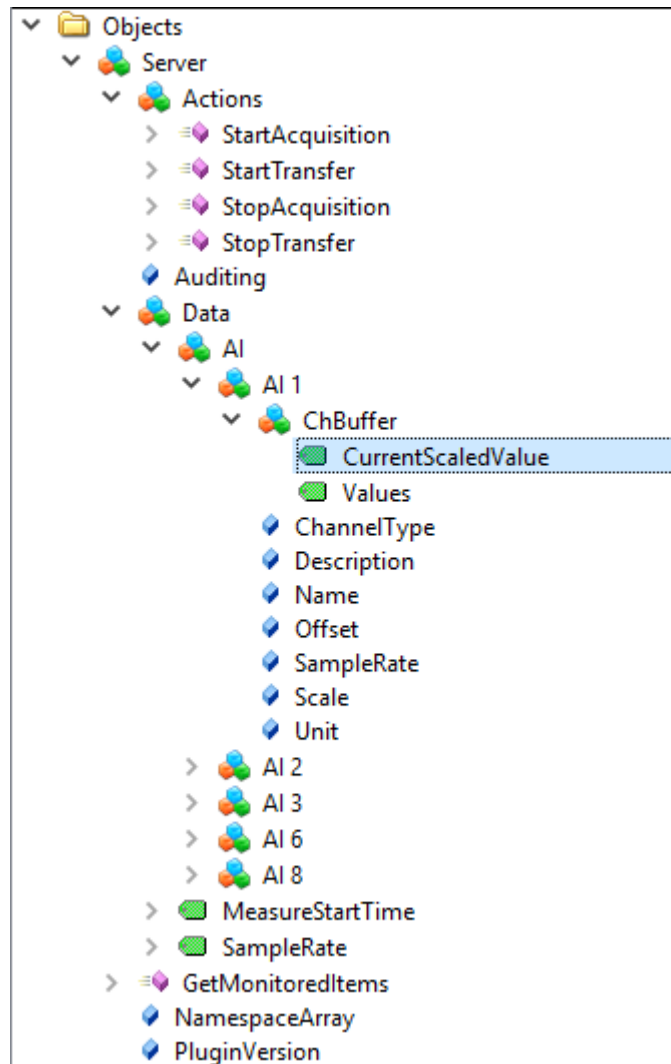


Figure 9: Information module