# Installation and Configuration of Tani OPC UA Components on Ubuntu 16.04 LTS

## References

1. <https://www.tanindustrie.de/en/Manuals.php>
2. <http://manpages.ubuntu.com/manpages/zesty/man1/xdotool.1.html>
3. <http://inee.pl/produkty/tani-opc-server>
4. <https://sklep.inee.pl/portal/view/kat/60543/OPC+Communication+OPC+Servers+OPC+Server+TANI+INAT+Extensions>

## Prerequisites

1. Install Ubuntu (Desktop or Server) 16.04 LTS 64-bit and helper tools.

## OPC Server Install Procedure

1. Download and install the xdotool package if performing a command line only install.
   1. Note: the x11-utils package (second command) is optional

sudo apt-get install xdotool

sudo apt-get install x11-utils

1. Download the Tani OPC UA Server package and user manual.
2. Open a terminal session and navigate to the folder containing the install file.
   1. If on the Desktop:

cd /home/$USER/Desktop

1. Install the Tani software
   1. If performing a command line only install, don’t click anything in the GUI after the second command and perform the next step.
   2. If performing a GUI install, skip the next step.

sudo chmod u+x OpcServerInstaller-1.17.14-i64

sudo ./OpcServerInstaller-1.17.14-i64

1. Open a second terminal session to run the xdotool commands for command line only install.

xdotool search --classname "OpcServerInstaller" key --window %2 Return sleep 0.5

xdotool search --classname "OpcServerInstaller" key --window %3 Tab sleep 0.5 key --window %3 Return sleep 0.5

xdotool search --classname "OpcServerInstaller" key --window %2 Return sleep 0.5

xdotool sleep 5

xdotool search --classname "OpcServerInstaller" key --window %3 Return sleep 0.5

xdotool search --classname "OpcServerInstaller" key --window %2 Tab sleep 0.5 key --window %2 Return sleep 0.5

1. You need opening the following ports in the firewall
   1. Port 4444 for OpcPipe
   2. Port 4840 for OPC UA
   3. Port 2468 for remote configuration

sudo ufw allow 4444

sudo ufw allow 4840

sudo ufw allow 2468

## OPC Client Install Procedure

1. Download and install the xdotool package if performing a command line only install.
   1. Note: the x11-utils package (second command) is optional

sudo apt-get install xdotool

sudo apt-get install x11-utils

1. Download the Tani OPC UA Client package and user manual.
2. Open a terminal session and navigate to the folder containing the install file.
   1. If on the Desktop:

cd /home/$USER/Desktop

1. Install the Tani software prerequisites (KDE)

sudo add-apt-repository ppa:kubuntu-ppa/backports && sudo apt-get update

sudo apt-get install plasma-desktop

1. Install the Tani software
   1. If performing a command line install, don’t click anything in the GUI after the second command and perform the next step.
   2. If performing a GUI install, skip the next step.

sudo chmod u+x NetTestInstaller-1.5.5-i64

sudo ./NetTestInstaller-1.5.5-i64

1. Open a second terminal session to run the xdotool commands for command line install.

xdotool search --classname "NetTestInstaller" key --window %2 Return sleep 0.5

xdotool search --classname "NetTestInstaller" key --window %3 Tab sleep 0.5 key --window %3 Return sleep 0.5

xdotool search --classname "NetTestInstaller" key --window %2 Return sleep 0.5

xdotool sleep 5

xdotool search --classname "NetTestInstaller" key --window %2 Tab sleep 0.5 key --window %2 Return sleep 0.5

1. You need opening the following ports in the firewall
   1. Port 4444 for OpcPipe
   2. Port 4840 for OPC UA
   3. Port 2468 for remote configuration

sudo ufw allow 4444

sudo ufw allow 4840

sudo ufw allow 2468

1. Pin the following programs to the Launcher
   1. Programs to pin
      1. Tani Network and OPC Test
   2. Procedure to pin
      1. Open search icon from the Launcher (uppermost icon)
      2. Search for the program name
      3. Click it to run it
      4. Right-click the icon in the Launcher and select ‘Lock to Launcher’

## OPC Server Configuration Client Install Procedure

1. Download and install the xdotool package if performing a command line only install.
   1. Note: the x11-utils package (second command) is optional

sudo apt-get install xdotool

sudo apt-get install x11-utils

1. Download the Tani OPC Server Configuration Client package and user manual.
2. Open a terminal session and navigate to the folder containing the install file.
   1. If on the Desktop:

cd /home/$USER/Desktop

1. Install the Tani software prerequisites (KDE)

sudo add-apt-repository ppa:kubuntu-ppa/backports && sudo apt-get update

sudo apt-get install plasma-desktop

1. Install the Tani software
   1. If performing a command line install, don’t click anything in the GUI after the second command and perform the next step.
   2. If performing a GUI install, skip the next step.

sudo chmod u+x ConfigurationClientInstaller-1.11.10-i64

sudo ./ConfigurationClientInstaller-1.11.10-i64

1. Open a second terminal session to run the xdotool commands for command line install.

xdotool search --classname "ConfigurationClientInstaller" key --window %2 Return sleep 0.5

xdotool search --classname "ConfigurationClientInstaller" key --window %3 Tab sleep 0.5 key --window %3 Return sleep 0.5

xdotool search --classname "ConfigurationClientInstaller" key --window %2 Return sleep 0.5

xdotool sleep 20

xdotool search --classname "ConfigurationClientInstaller" key --window %2 Tab sleep 0.5 key --window %2 Return sleep 0.5

1. You need opening the following ports in the firewall
   1. Port 4444 for OpcPipe
   2. Port 4840 for OPC UA
   3. Port 2468 for remote configuration

sudo ufw allow 4444

sudo ufw allow 4840

sudo ufw allow 2468

1. Pin the following programs to the Launcher
   1. Programs to pin
      1. Tani Configuration Client
   2. Procedure to pin
      1. Open search icon from the Launcher (uppermost icon)
      2. Search for the program name
      3. Click it to run it
      4. Right-click the icon in the Launcher and select ‘Lock to Launcher’

## Maintenance Commands

1. Start & Stop the Config Server

sudo /opt/plcengine/etc/user/start\_configserver

sudo /opt/plcengine/etc/user/stop\_configserver

1. Start & Stop the PLC Engine

sudo /opt/plcengine/etc/user/start\_plcengine

sudo /opt/plcengine/etc/user/stop\_plcengine

## Miscellaneous Notes

1. Manual access to the Tani configuration files.
   1. To open the folder with the config files:
      1. Open a terminal session and run following command:

nautilus /opt/plcengine/bin/

* 1. To open the folder with the config Sqlite DB:
     1. Open a terminal session and run following command:

nautilus /etc/Tani/

1. Example OPC UA Client connection to a Prosys OPC UA Server
   1. On localhost
      1. Settings

|  |  |
| --- | --- |
| **Config Item** | **Value** |
| Name of Connection | OpcUaSim on Localhost |
| Destination IP Addr | 127.0.0.1 |
| Destination Port | 53530 |
| Additional Params | OPCUA/SimulationServer |

* + 1. Manual Items to Add (for testing)

|  |
| --- |
| **Config Item** |
| OpcUaSim on Localhost.Objects.Simulation.Expression1 |
| OpcUaSim on Localhost.Objects.Simulation.Sinusoid1 |
| OpcUaSim on Localhost.Objects.Simulation.Random1 |

* 1. On remote host
     1. Settings

|  |  |
| --- | --- |
| **Config Item** | **Value** |
| Name of Connection | OpcUaSim on Remote |
| Destination IP Addr | ubuntu-opcuasim |
| Destination Port | 53530 |
| Additional Params | OPCUA/SimulationServer |

* + 1. Manual Items to Add (for testing)

|  |
| --- |
| **Config Item** |
| OpcUaSim on Remote.Objects.Simulation.Expression1 |
| OpcUaSim on Remote.Objects.Simulation.Sinusoid1 |
| OpcUaSim on Remote.Objects.Simulation.Random1 |