

CONFIGURATION GUIDE

How to Configure *uaGate MB*
for Connecting Modbus PLCs via
OPC UA



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1. Preliminary Remarks

The IP addresses used in this configuration guide are shown for demonstration purposes. It is possible to use specific IP addresses of your installation instead.

2. Prepare Configuration Environment

2.1 Prepare Windows PC

- Set IP address to *192.168.1.251*
(or use your specific IP address instead)
- Open applications
 - Internet browser
 - **OPC UA Demo Client**
 - *Modbus Slave* (Modbus Simulator)
 - *Wireshark* Ethernet packet analyzer (optional)
- **Prepare *uaGate MB***
- Set IP address of *IT* port to *DHCP*
- Set IP address of *MACHINE* port to *192.168.1.111*
(or use your specific IP address instead)

3. Configure *uaGate MB*

3.1 Open *uaGate MB* Configuration

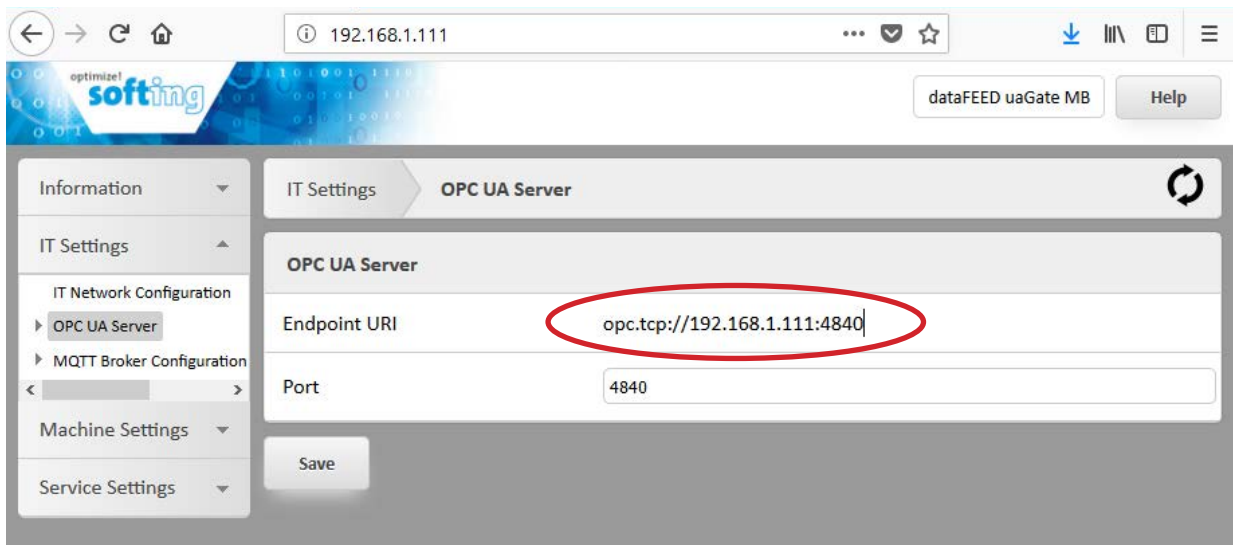
- Connect Windows PC to *MACHINE* port of ***uaGate MB***
- In Internet browser enter IP address of *MACHINE* port

NOTE:

See ***uaGate MB*** Quick Start Guide for additional help.

3.2 Determine OPC UA Server Endpoint URI

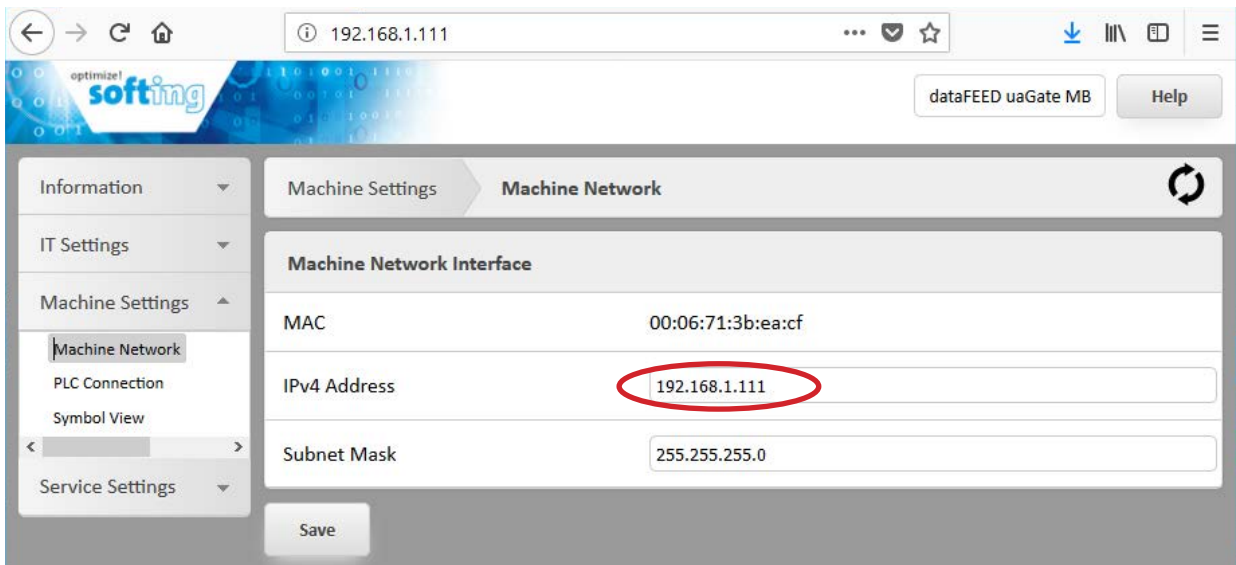
- Navigate to *IT Settings/OPC UA Server*



- Determine *Endpoint URI*

3.3 Enter IP Address of *MACHINE* Port

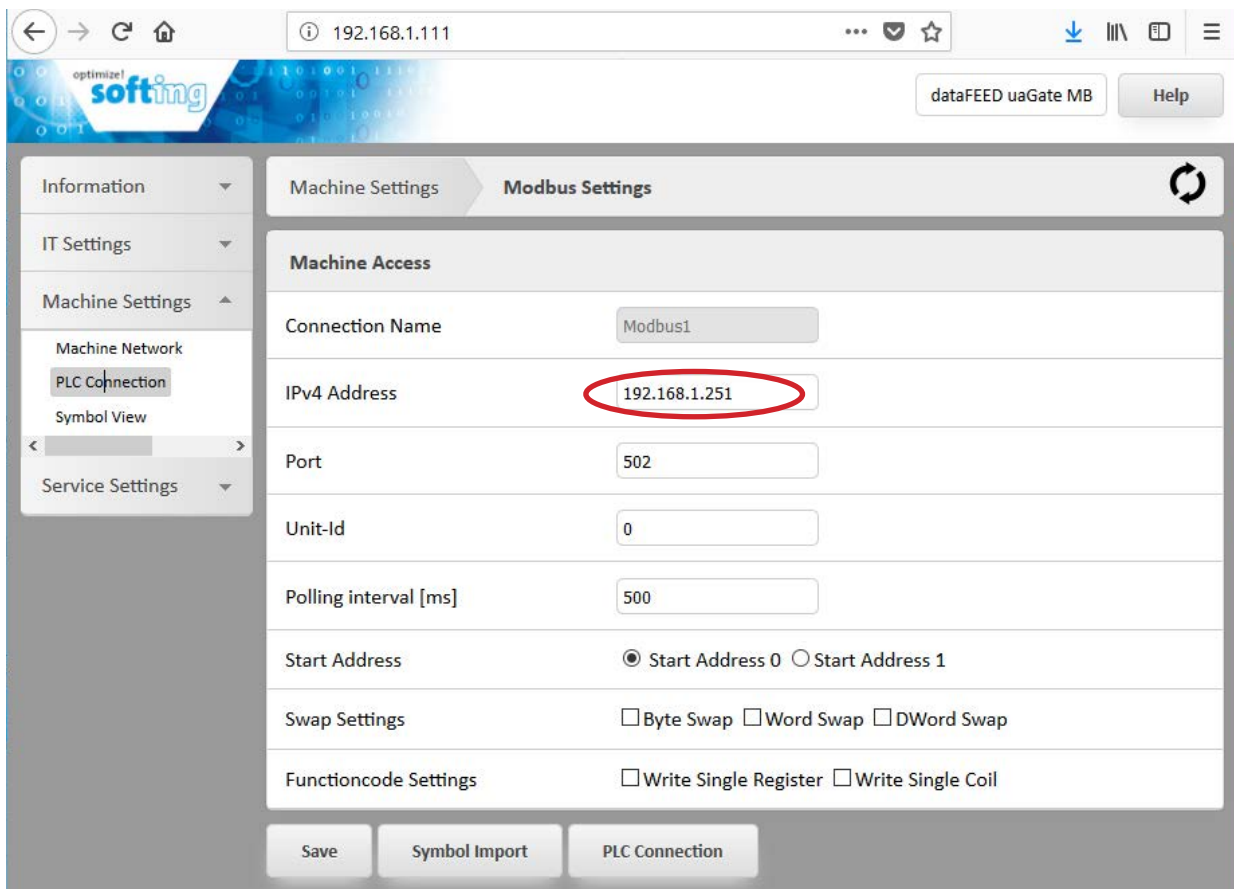
- Navigate to *Machine Settings/Machine Network*



- Enter IP address of *MACHINE* port in *IPv4 Address* field

3.4 Add Modbus TCP Connection

- Navigate to *Machine Settings/PLC Connection*



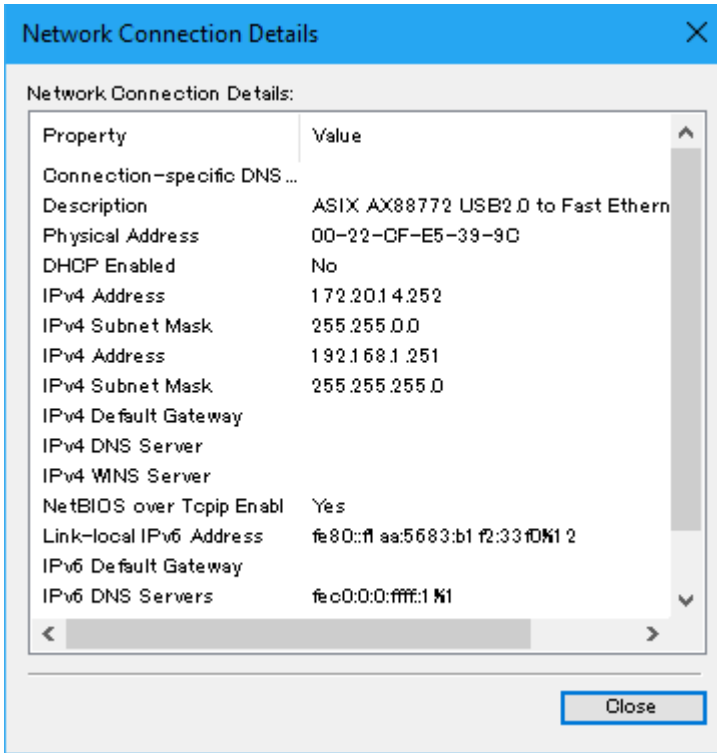
- Enter IP address of Modbus Slave in *IPv4 Address* field

NOTES:

- Default settings are used within this configuration manual
- Required information is shown by *Modbus Slave*
- IP address of *Modbus Slave* is IP address of Windows PC

3.5 Check Network Settings

- Check all network settings of PC for correct addresses

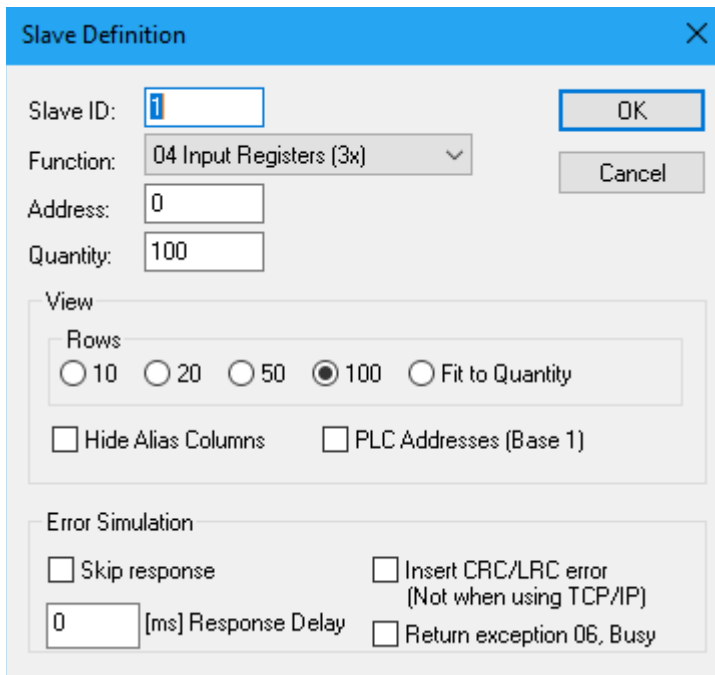


- Check network settings of *Modbus Slave* for correct IP address

For Help, press F1. [192.168.1.251]: 502

3.6 Define and Export Modbus Symbols

- Enter Modbus symbols in Modbus Slave



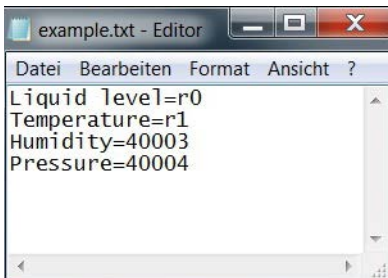
- Export Modbus symbols in text file for later import in *uaGate MB*

NOTE:

It is also possible to create the symbol file manually:

Create new text file and define symbols using format `<Item Name>=<Modbus Register>`

(see *uaGate MB* online help for full syntax information)



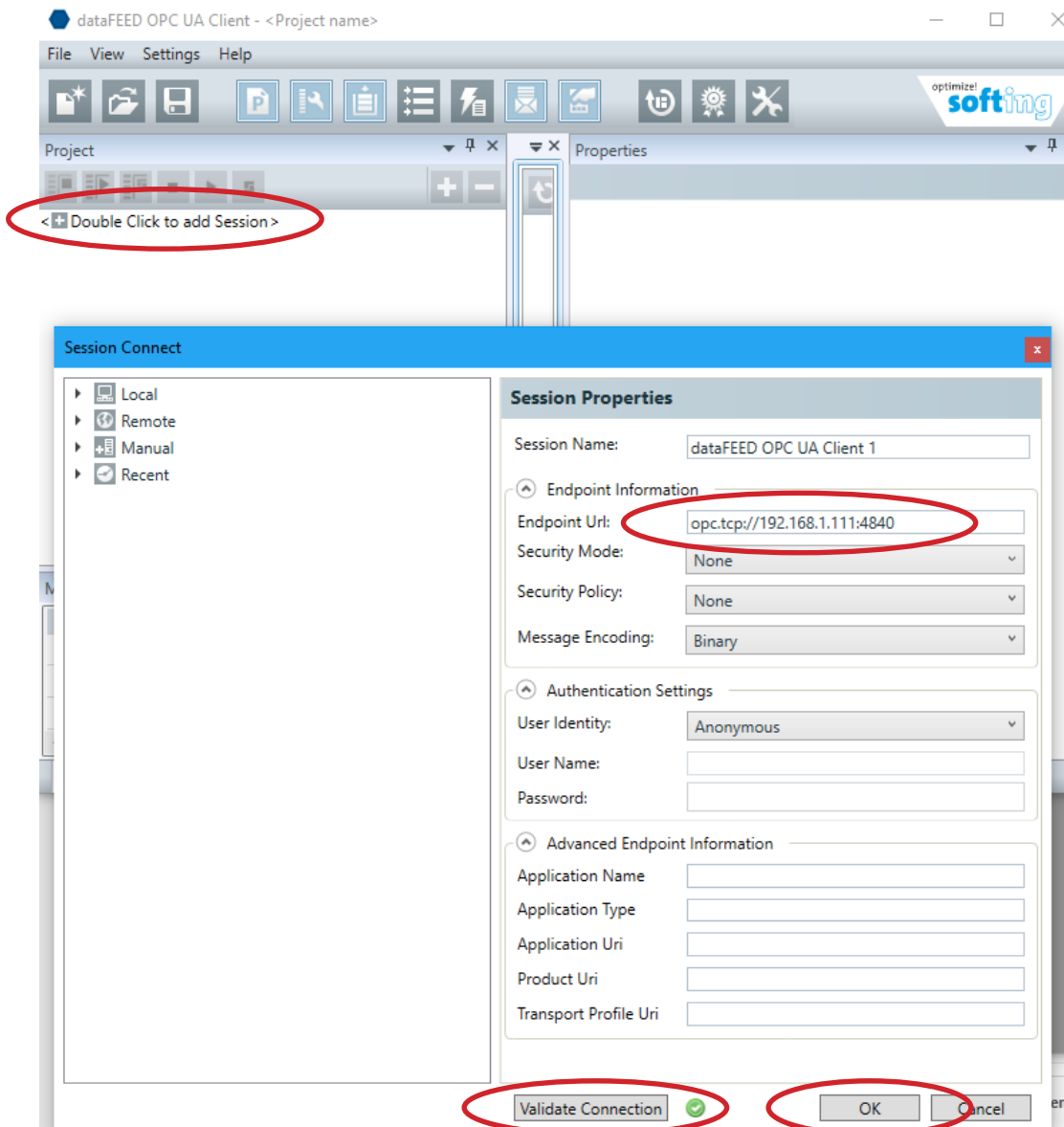
3.7 Import Modbus Symbols into *uaGate MB*

- Navigate to *Machine Settings/Modbus Connection/Symbol View*
- Import Modbus symbols as exported in *Modbus Slave* or defined manually (see *Define and Export Modbus Symbols* section) to *uaGate MB*
- Navigate to *Machine Settings/Symbol View* for verifying the correct symbol import

Name	Type	Item	Access Rights
InputRegs_0	Int	IR0.100	r

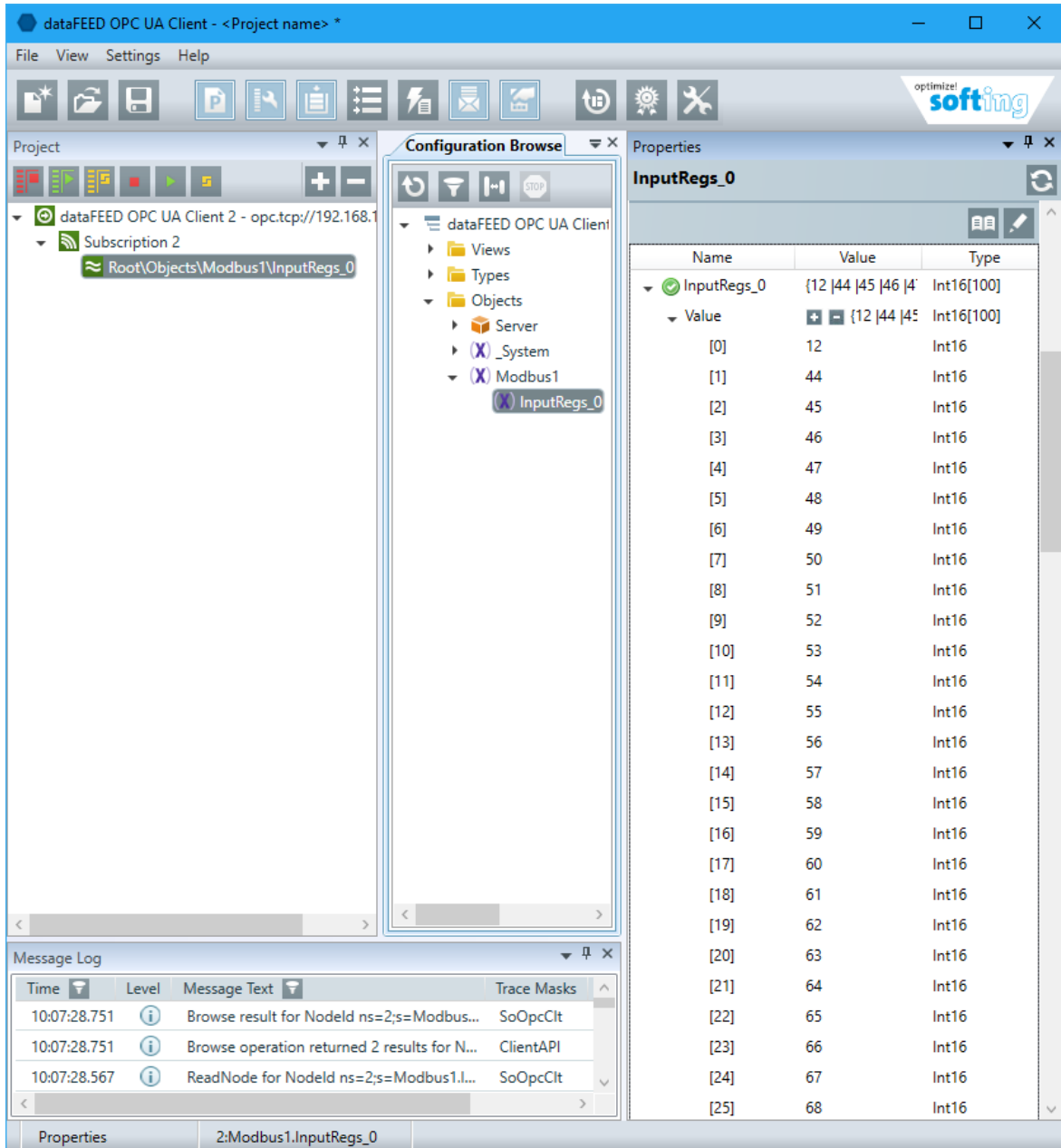
3.8 Set-up OPC UA Demo Client

- Start **OPC UA Demo Client**



- Add new session
- Enter OPC UA Endpoint URI as determined in *Determine OPC UA Server Endpoint URI* section in **Endpoint URI** field
- Press **Validate Connection** button
- Press **OK** button

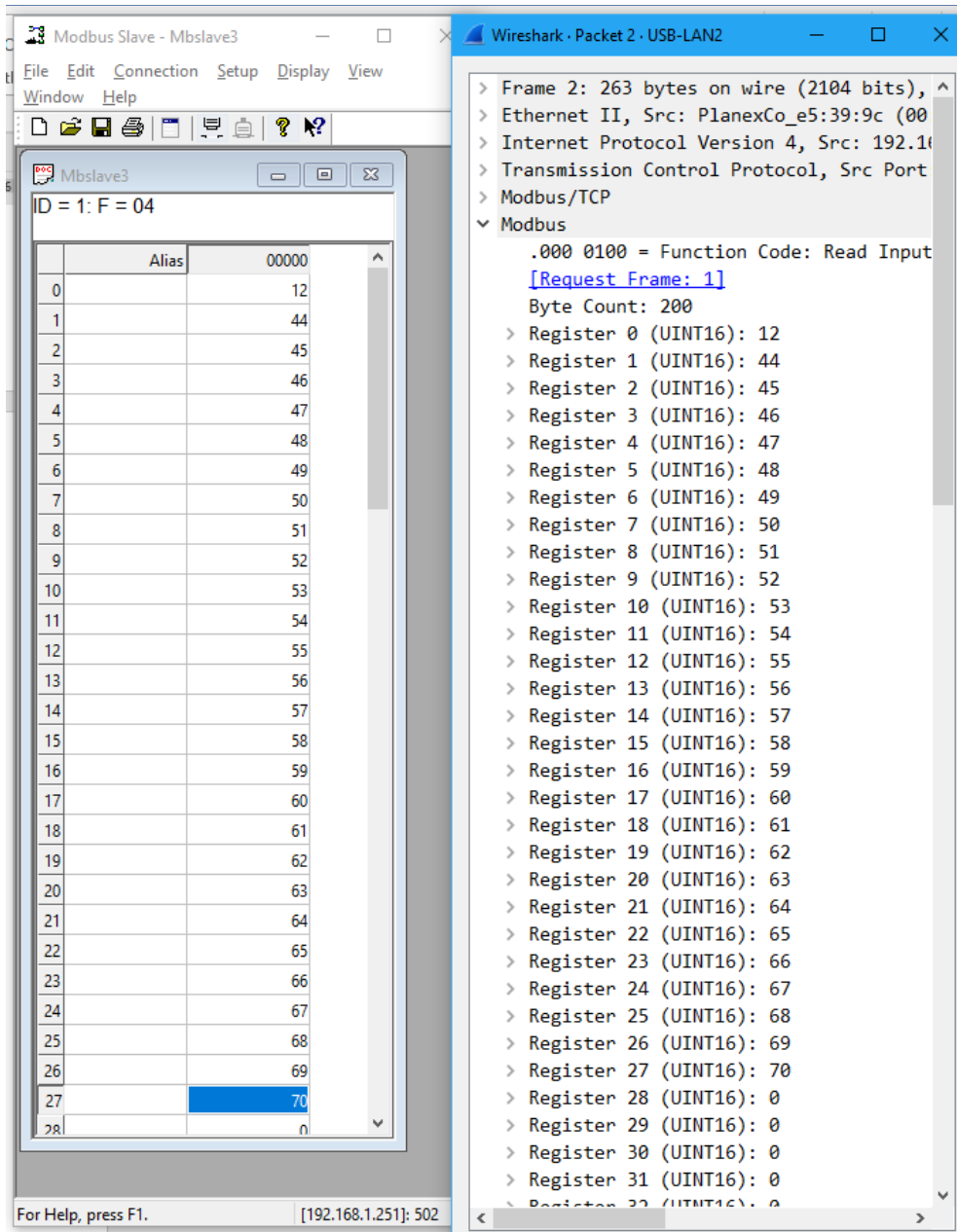
- In *Configuration Browse* window navigate to individual OPC UA item



- Double-click on OPC UA item for subscribing

3.9 Verify OPC UA Connection

- Enter values of some OPC UA items using *OPC UA Demo Client*
- Check update of Modbus register value using *Modbus Slave* or *Wireshark*



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