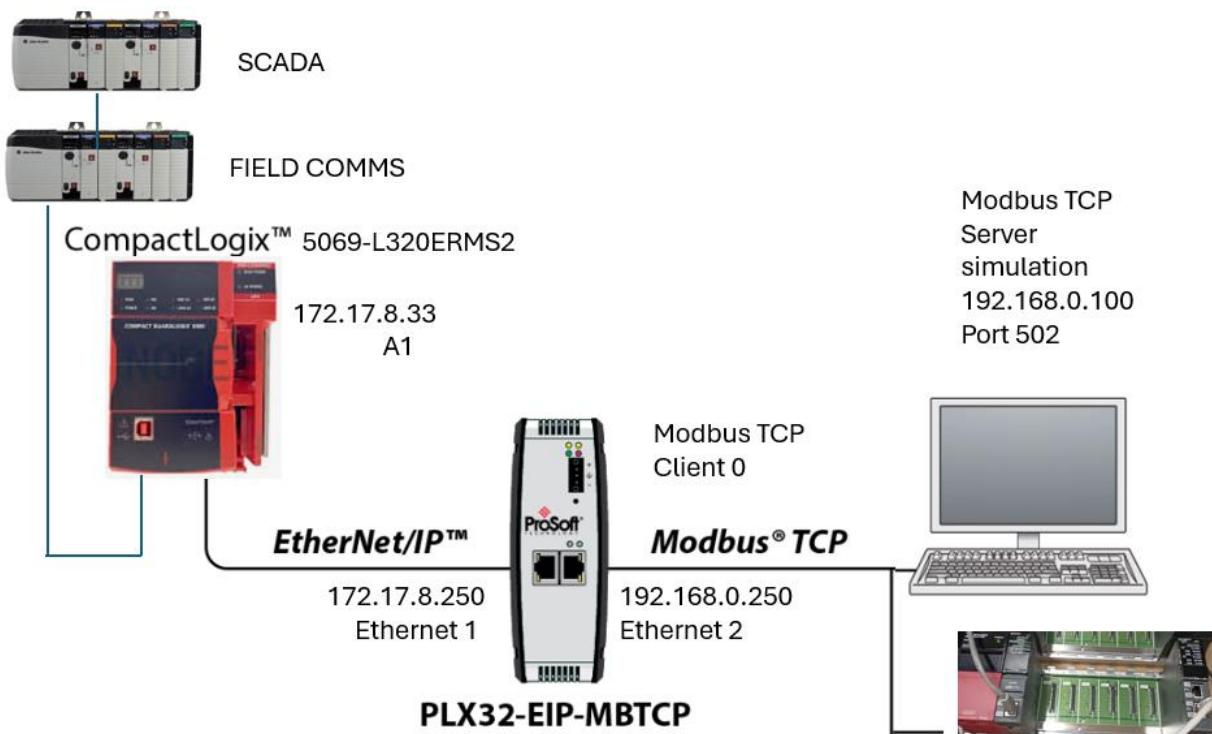


# Configuring Prosoft ETHIP to MODBUS PLX32-EIP-MBTCP

## Contents

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## Test Layout



# Configuring the module

Follow the instructions on the video to configure the Prosoft module

Start Prosoft Configuration Builder.

[https://www.youtube.com/watch?v=H\\_rMW2oBYQ](https://www.youtube.com/watch?v=H_rMW2oBYQ)

## Configuring IP addresses on all setup

Use different subnets for Port 1 and 2

Laptop is the Modbus server on address 192.168.0.100

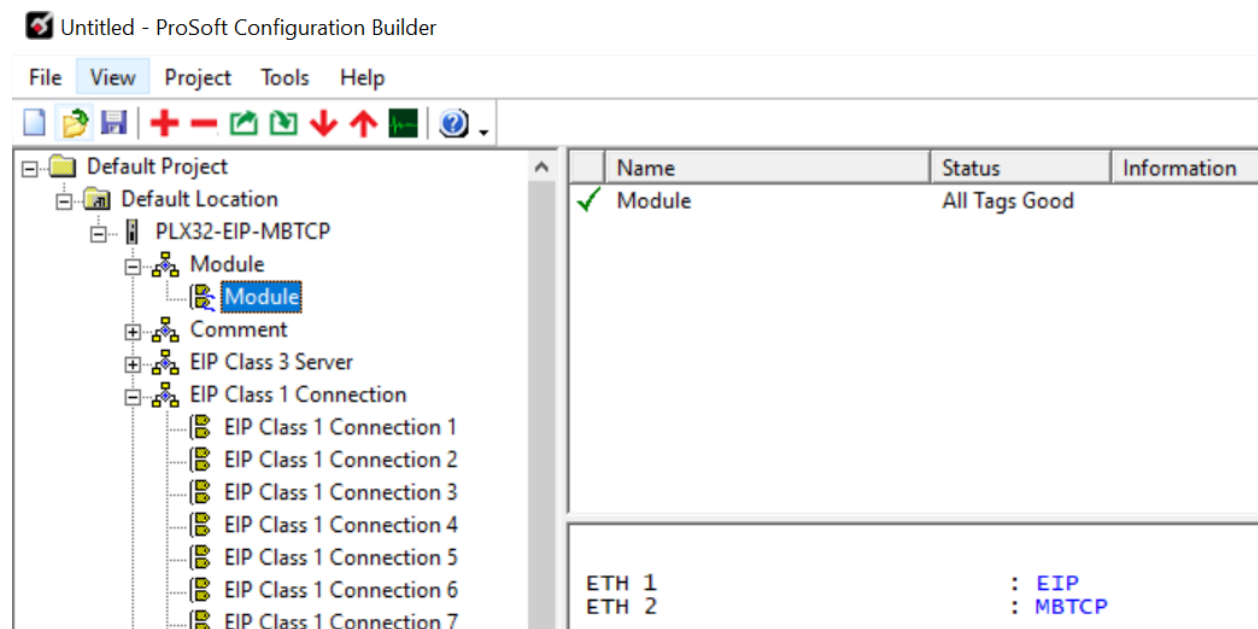
PC identifier: CATPROLP1003-23

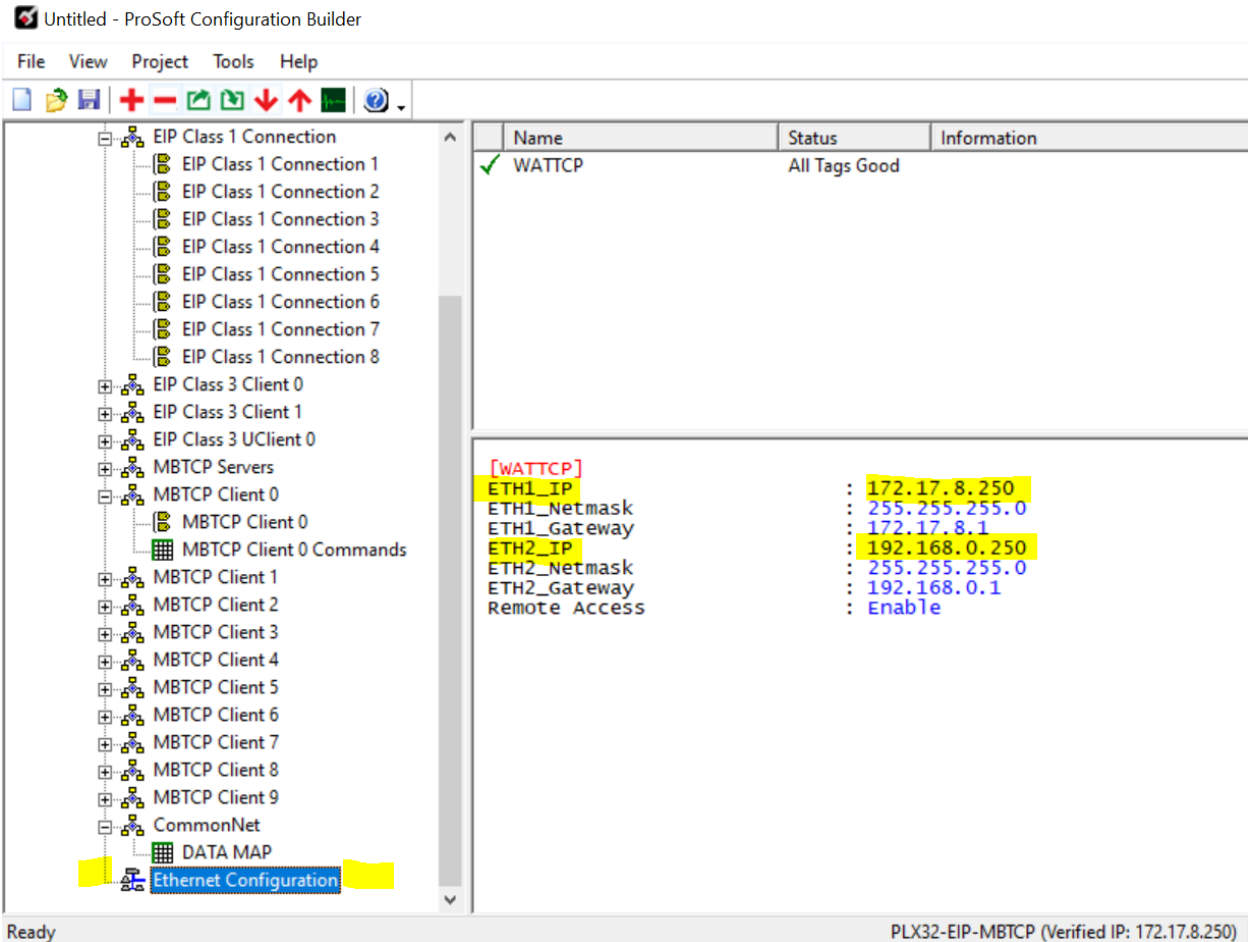
Ethernet Port 1 is 192.168.0.250

Ethernet Port 2 is 172.17.8.250

PLC address is 172.17.8.33

Run Prosoft Configuration Builder to set up the Prosoft IP address





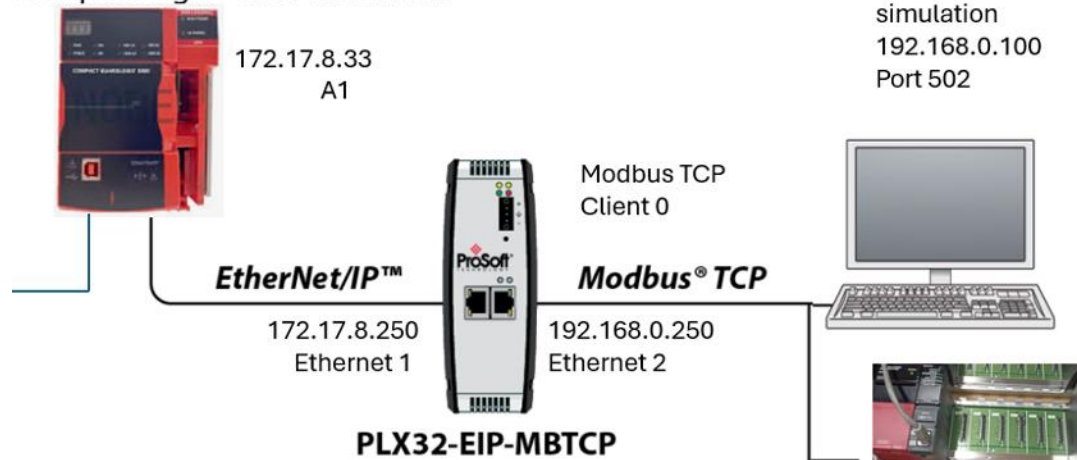
Download configuration to Prosoft device using Eth1

Then unplug patchcord between PC and Prosoft and plug Patchcord between PLC and Prosoft

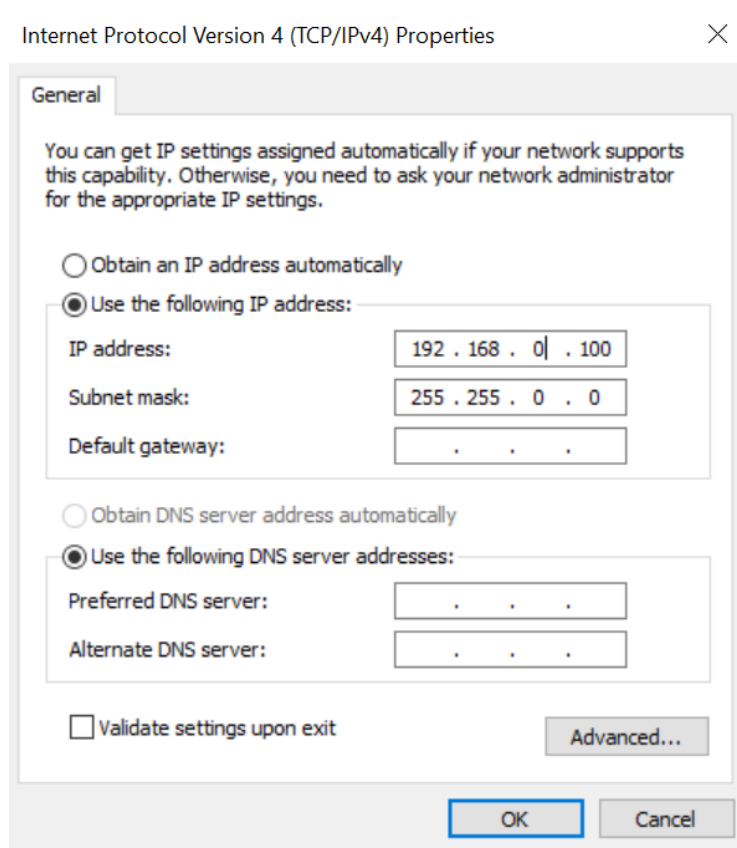
So swap patchcords

Using layout configuration

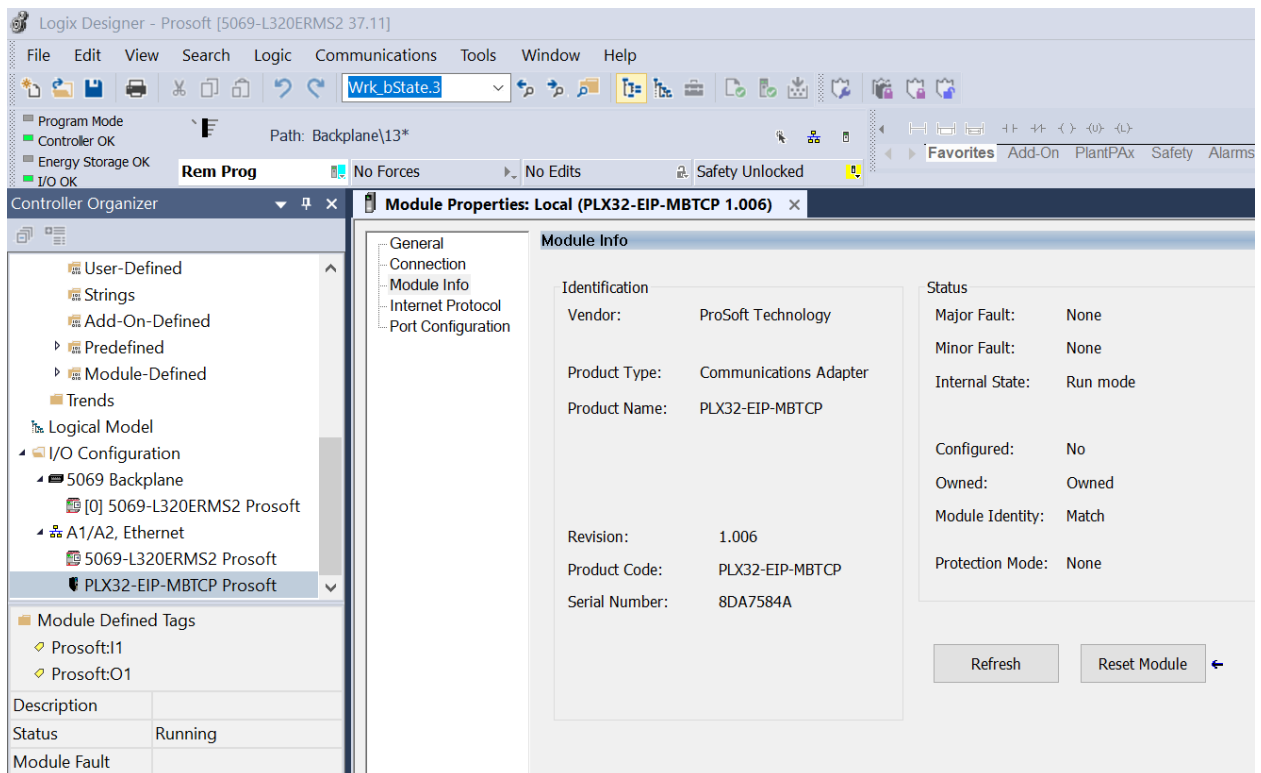
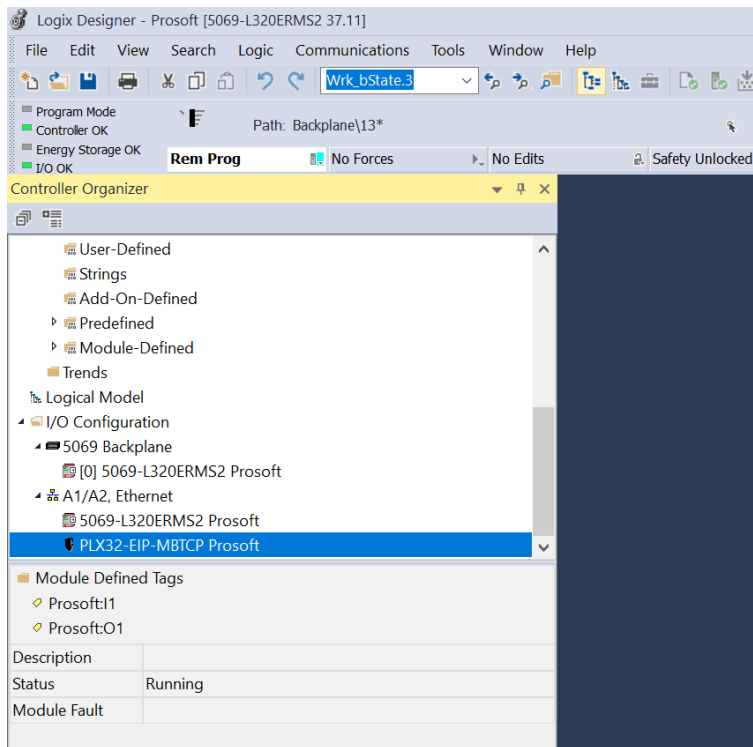
CompactLogix™ 5069-L320ERMS2

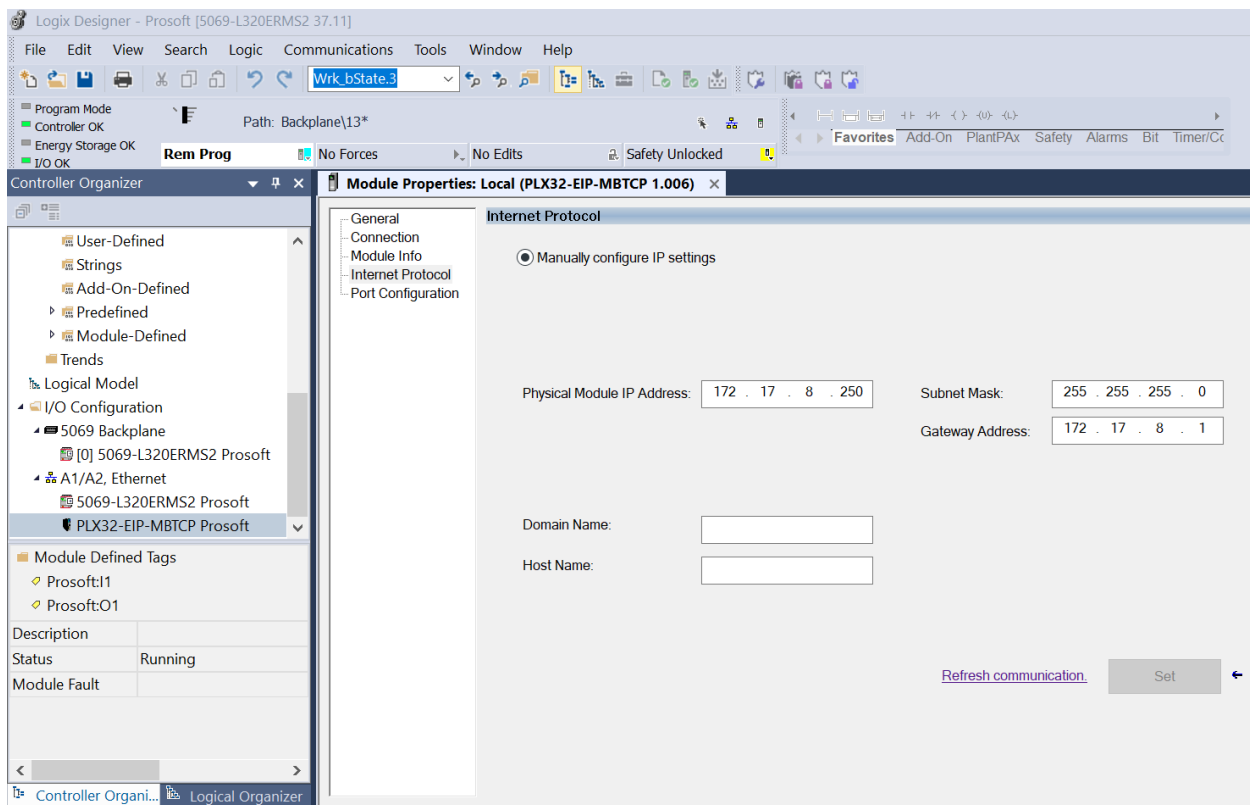


## Change IP settings on computer

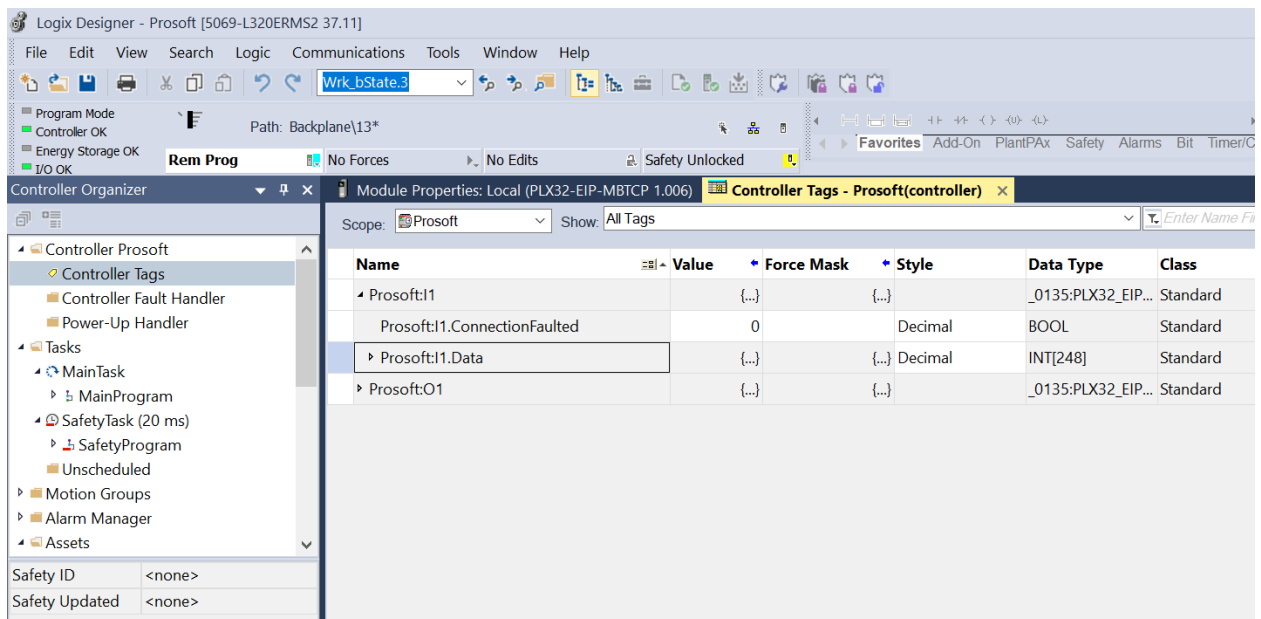


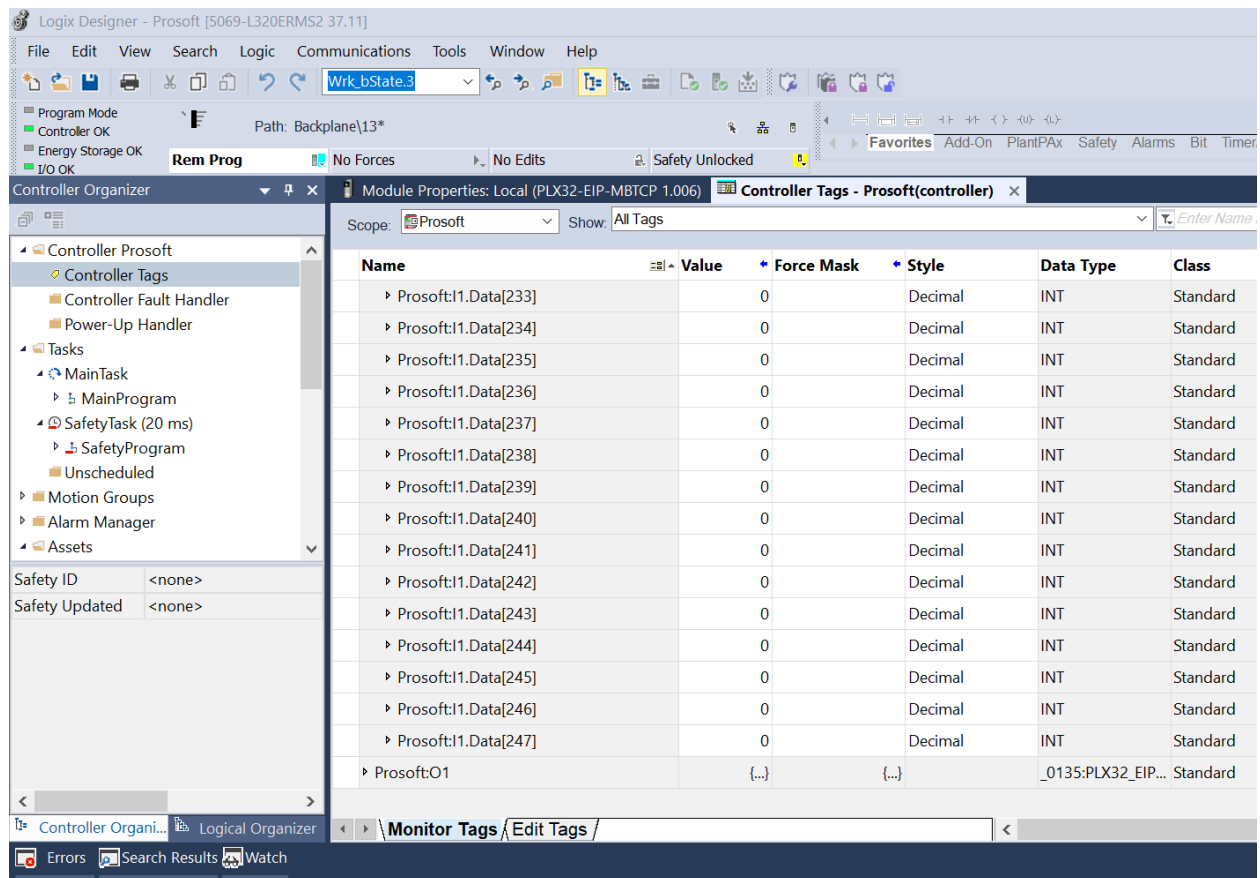
Now the Prosoft module does not gives timeout error





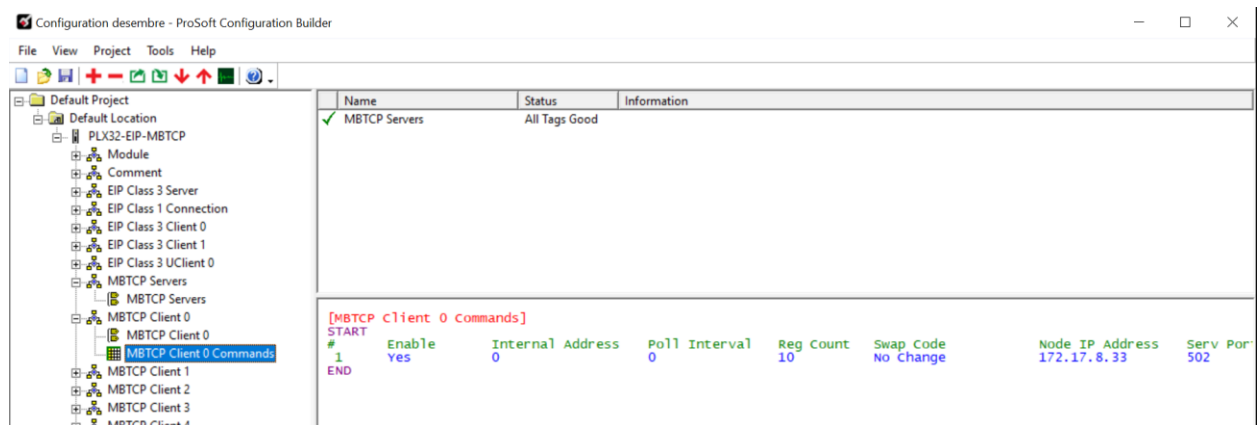
We have the PLC Tags on Controller Tags corresponding to Prosoft Module, if we use class 1.





# Configure Modbus Transaction

## Configuring Prosoft Client 0



Enable	Yes
Internal Address	0
Poll Interval	0
Reg Count	10
Swap Code	No Change
** Node IP Address	172.17.8.33
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

Enable

Yes

Definition:  
0, 1, 2  
This field defines whether or not the command is to be executed and under what conditions.  
  
0 = The command is disabled and will not be executed in the normal polling sequence.  
1 = The command is executed each scan of the command list if the Poll Interval Time is set to zero. If the Poll Interval time is set, the command is executed when the interval

Reset Tag

Reset All

OK

Cancel

We will use the internal address (Prosoft) 0 to store the data coming from the server (PC)



Edit - Row 1

Enable	Yes
Internal Address	0
Poll Interval	0
Reg Count	10
Swap Code	No Change
** Node IP Address	172.17.8.33
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

Internal Address

0

Definition:

This field specifies the database address in the module's internal database to be associated with the command. If the command is a read function, the data received in the response message is placed at the specified location. If the command is write function, data used in the command is sourced from the specified data area.

Reset Tag Reset All

OK Cancel

Poll interval 10 (The Modbus Transaction will be made each second)

Edit - Row 1

Enable	Yes
Internal Address	0
Poll Interval	10
Reg Count	10
Swap Code	No Change
Node IP Address	192.168.0.100
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

Poll Interval

10

Definition:

0 to 65535  
This parameter specifies the minimum interval to execute continuous commands (Enable code of 1). The parameter is entered in 1/10th of a second. Therefore, if a value of 100 is entered for a command, the command executes no more frequently than every 10 seconds.

Reset Tag    Reset All

OK    Cancel

Server (PC) address

Edit - Row 1

Enable	Yes
Internal Address	0
Poll Interval	0
Reg Count	10
Swap Code	No Change
Node IP Address	192.168.0.100
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

Node IP Address

192 . 168 . 0 . 100

Definition:

xxx.xxx.xxx.xxx  
The IP address of the device being addressed by the command.

Reset Tag    Reset All

OK    Cancel

Slave address (PC) as 1

Edit - Row 1

Enable	Yes
Internal Address	0
Poll Interval	0
Reg Count	10
Swap Code	No Change
Node IP Address	192.168.0.100
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

Slave Address

1

Definition:

1 to 255 (0 is a broadcast)  
This parameter specifies the Modbus slave node address on the network to be considered. Values of 1 to 255 are permitted. Most Modbus devices only accept an address in the range of 1 to 247 so be careful. If the value is set to zero, the command will be a broadcast message on the network. The Modbus protocol permits broadcast commands for write operations. Do not use this node address for read

Reset Tag    Reset All

OK    Cancel

We are going to read from Server (PC)

Edit - Row 1
✕

Enable	Yes
Internal Address	0
Poll Interval	0
Reg Count	10
Swap Code	No Change
Node IP Address	192.168.0.100
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

ModBus Function

FC 3 - Read Holding Registers(4)

Definition:

1,2,3,4,5,6,15,16.  
This parameter specifies the Modbus function to be executed by the command. These function codes are defined in the Modbus protocol. The following table defines the purpose of each function supported by the module. More information on the protocol is available from the Schneider Electric web site ([www.modicon.com](http://www.modicon.com)).  
1 = Read Coil (0X)  
2 = Read Input (1x)

Reset Tag

Reset All

OK

Cancel

Starting memory address on Server device (PC) as 0

Edit - Row 1

Enable	Yes
Internal Address	0
Poll Interval	0
Reg Count	10
Swap Code	No Change
Node IP Address	192.168.0.100
Serv Port	502
Slave Address	1
ModBus Function	FC 3 - Read Holding Registers
MB Address in Device	0
Comment	

MB Address in Device

0

Definition:

This parameter specifies the starting Modbus register or digital point address to be considered by the command in the Modbus slave device. Refer to the documentation of each Modbus slave device on the network for their register and digital point address assignments. The FC determines the addresses range and that this value will be the register or bit OFFSET into a given data range. For instance, if the

Reset Tag

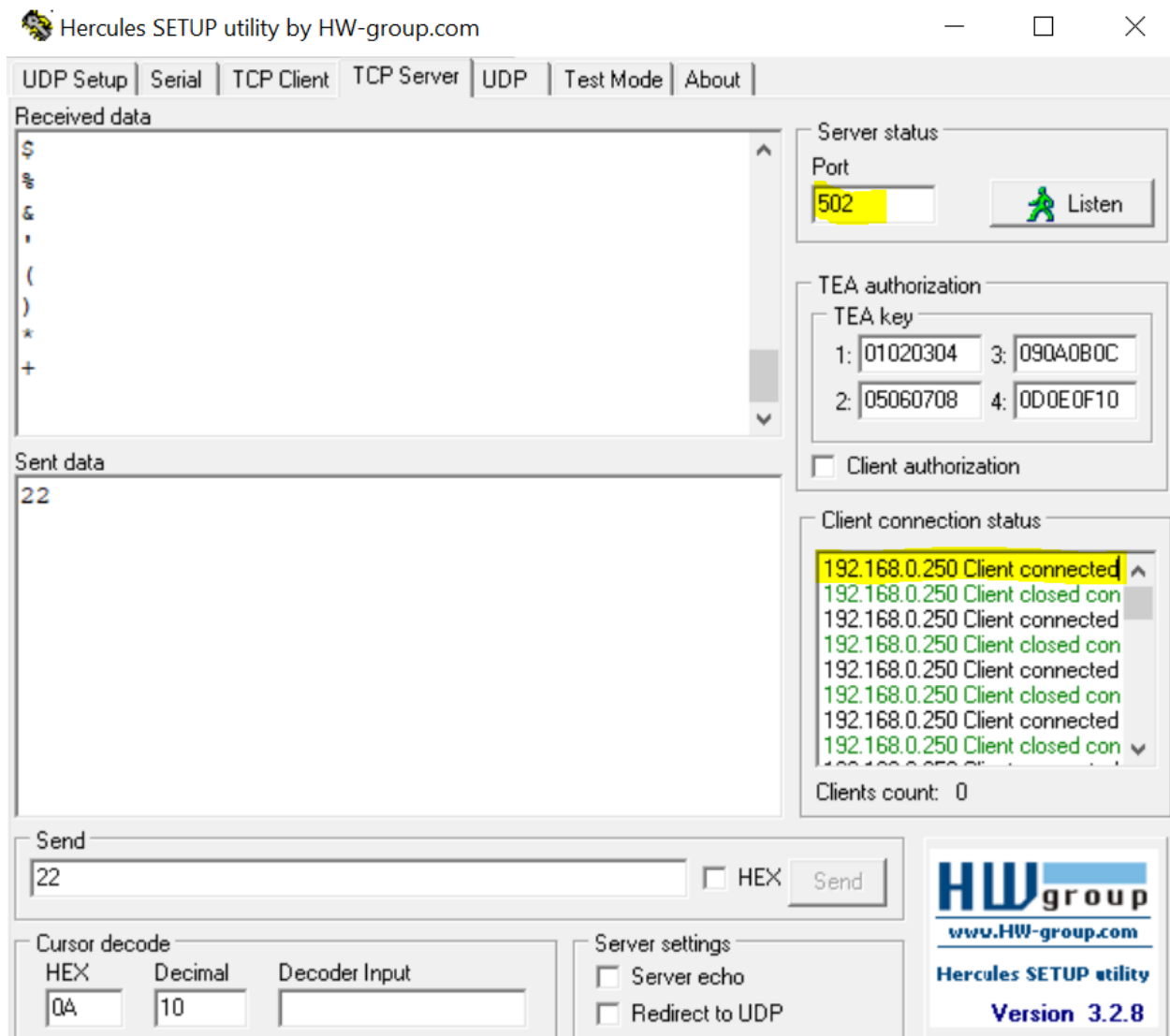
Reset All

OK

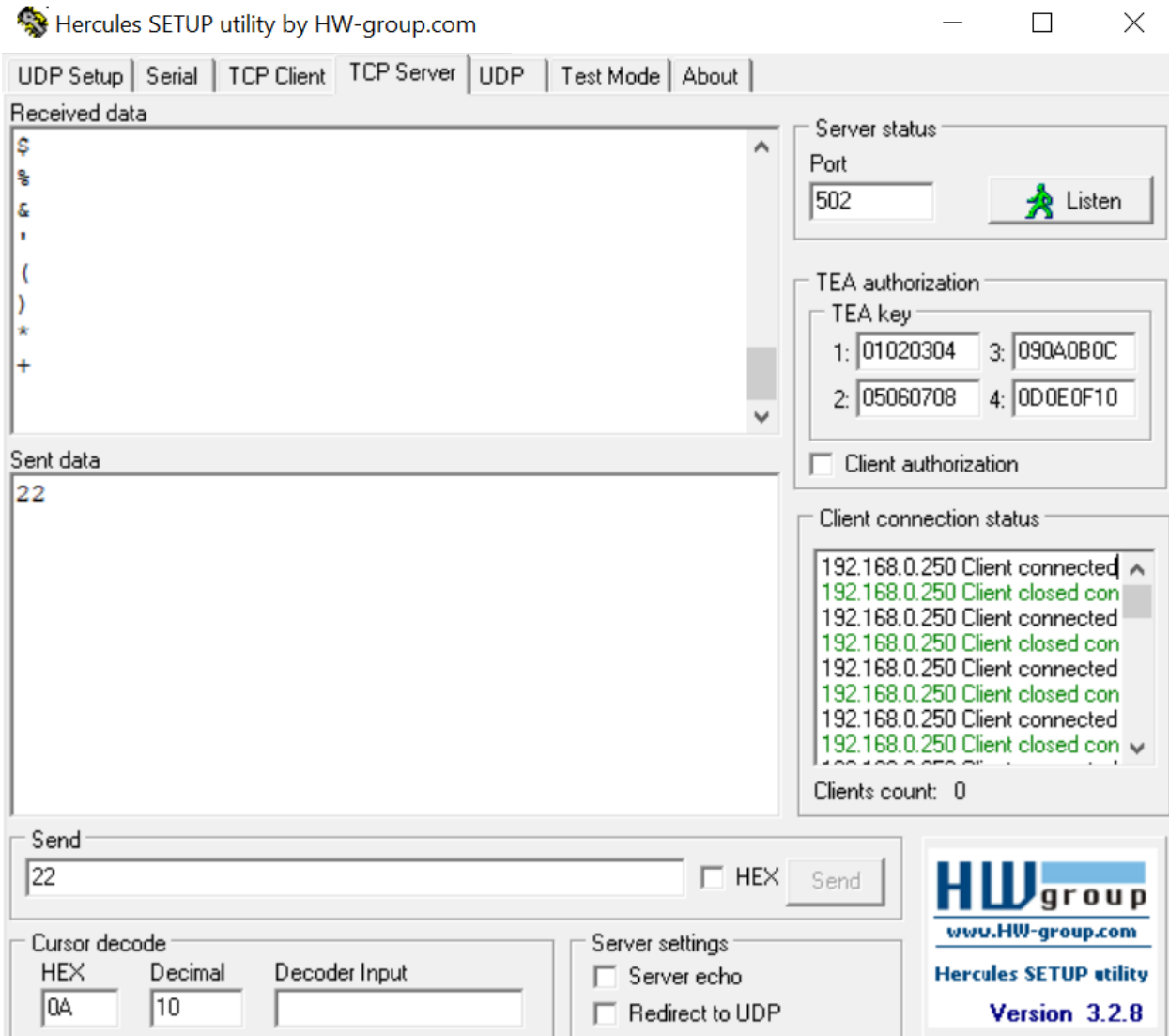
Cancel

## Testing the connection

We see that each second the client (Prosoft) is connected to the server (PC) on port 502

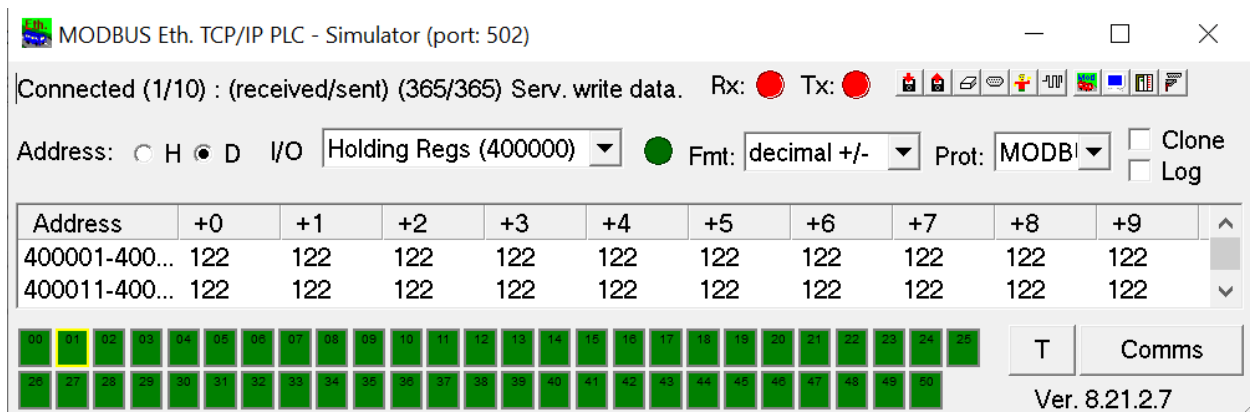


But still we are getting errors on Prosoft Module (Error LED blinking)



But we need another software to be able to use a Server memory map

Let's try with this one, with a incrementing value on all addresses each 5 seconds





With this configuration

Ethernet TCP/IP Settings

Status

Supporting 10 simultaneous connections.

Local IP

CATPROLP1003-23

Remote IP

192.168.0.250

OK

Cancel

Server settings

# Server connections

10

Port (502)

502

Alternate port

501

Socket Timeout (sec)

100

(10 to 1000 sec)

Responsiveness (ms)

0

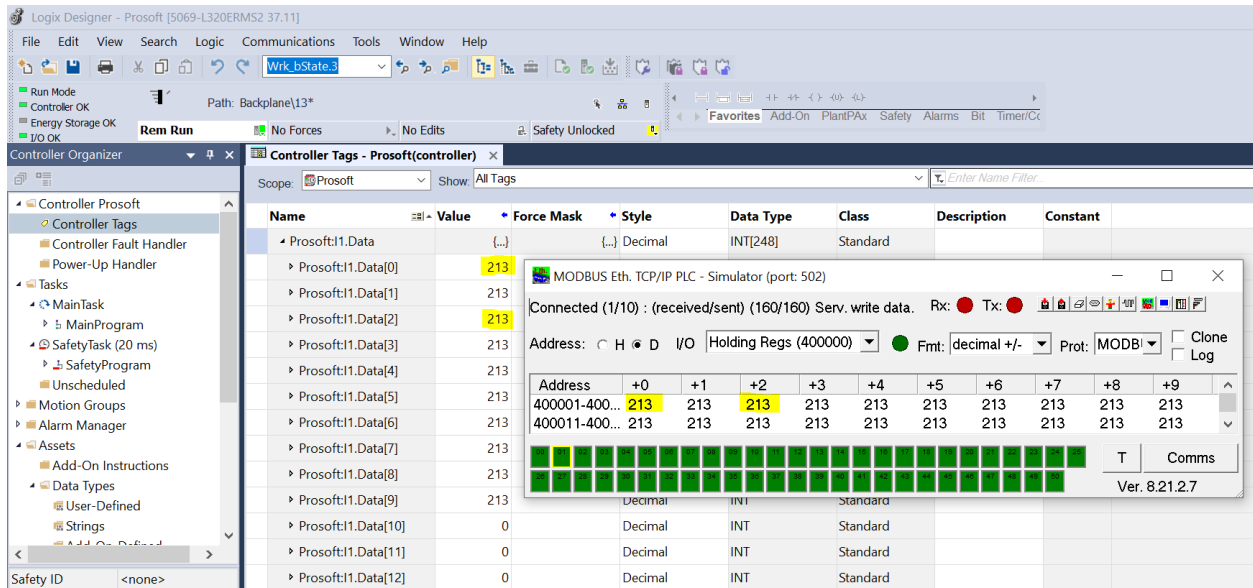
(0 to 10 000 ms)

☐ Load register values at startup.

☐ Units are all off at startup

☐ Linger on close of socket (SO\_LINGER)

Now the transactions are successful!!



As you can see on this video

<https://youtu.be/yglcjhCR0w0>

You can find the code here including PLC program and Prosoft configuration file here on github

<https://github.com/xavierflorensa/Prosoft-EtherNet-IP-to-Modbus-TCP.git>