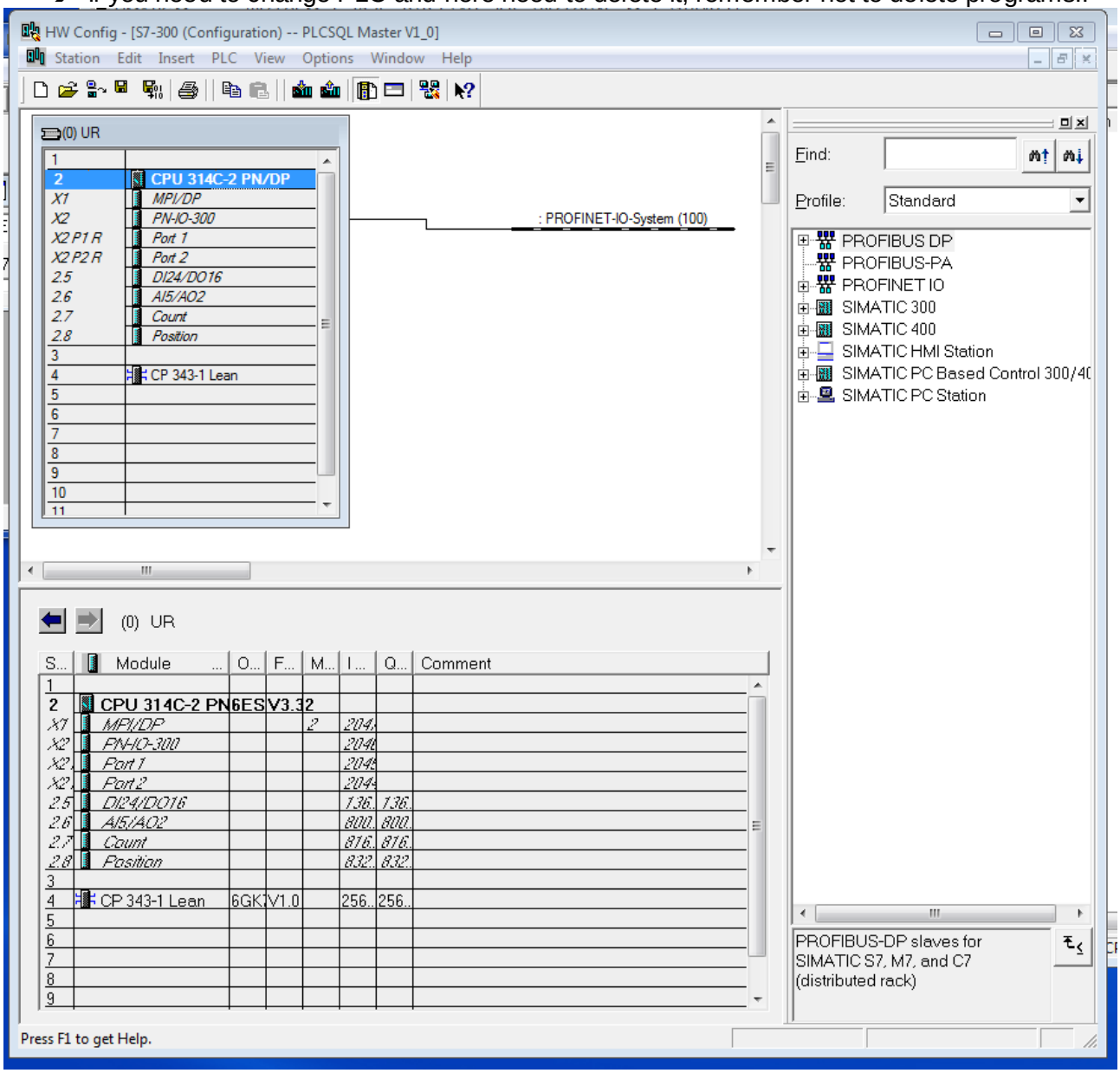
Issue: **How do I Set up a connection to SQL server, with CP Card. E.g. CP343-1 or CP443-1.**

Answer: **To setup a TCP-IP communication with a SQL server you must use "Netpro". In opposite to PN ports, a CP card manages its connections, with its own CPU.**

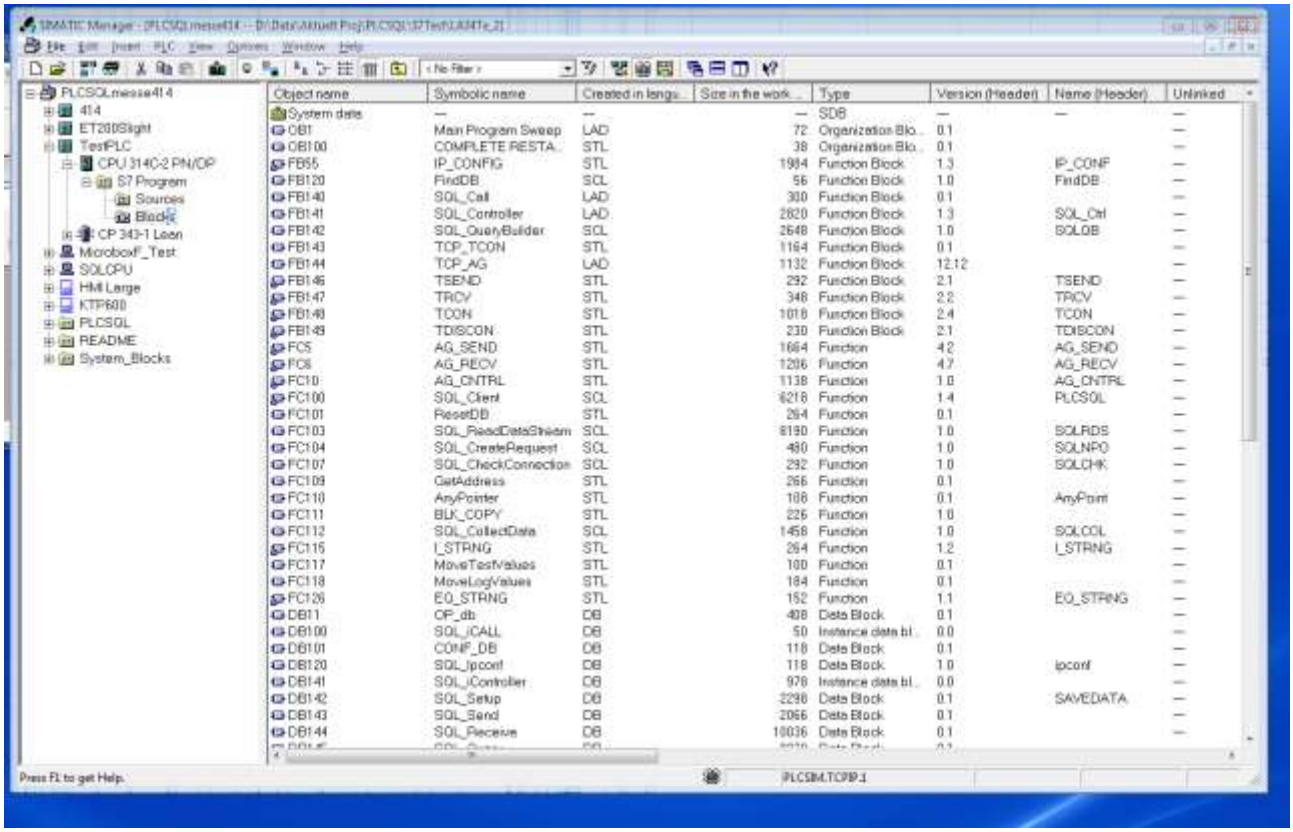
1: First!
Check that your hardware is consistent.
This is a View from our test setup, please make update for your environment

Then make a "Save and Compile". 

➔ If you need to change PLC and here need to delete it, remember not to delete programs!!



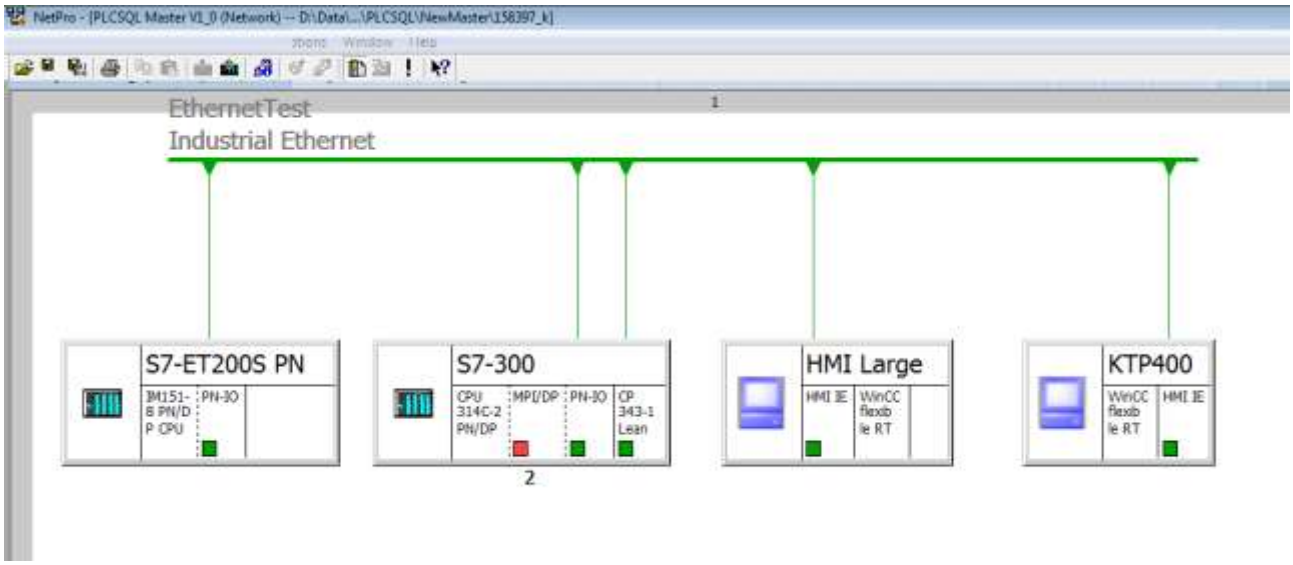
In Simatic Manager



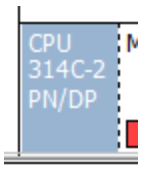
Click on: → Configure Network 

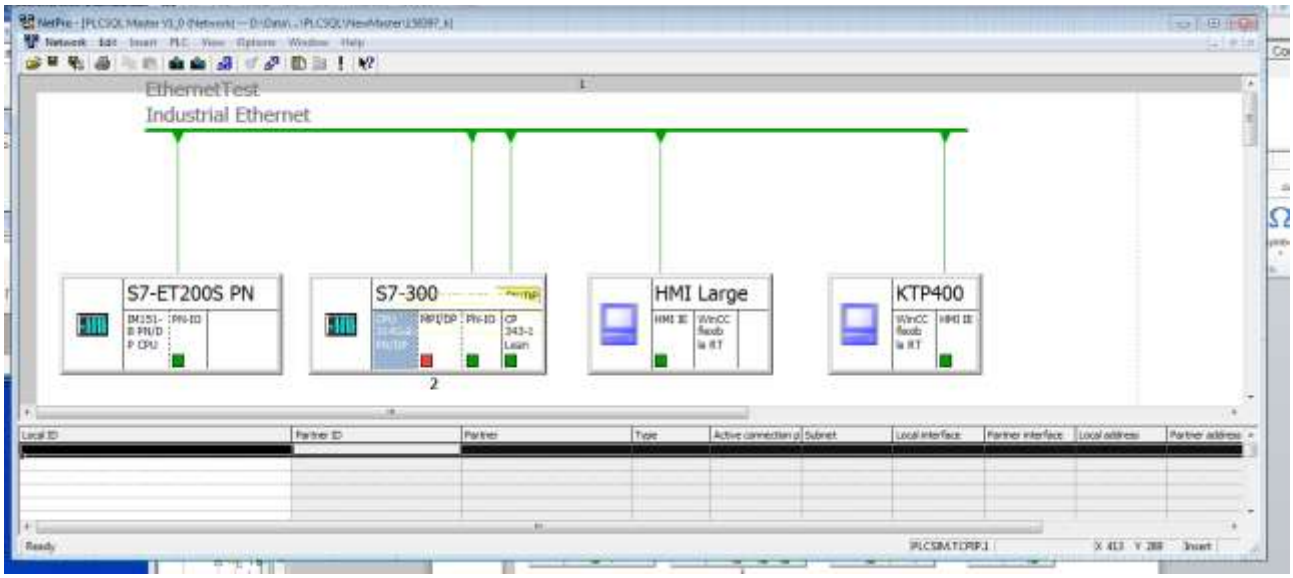
Now you get a Picture similar to this down below.
We use a S7-300 with PN and a CP Card.

- ➔ When there is a PN connection it must be in use, so even if you do not want to use it, you must give it an IP-Address.



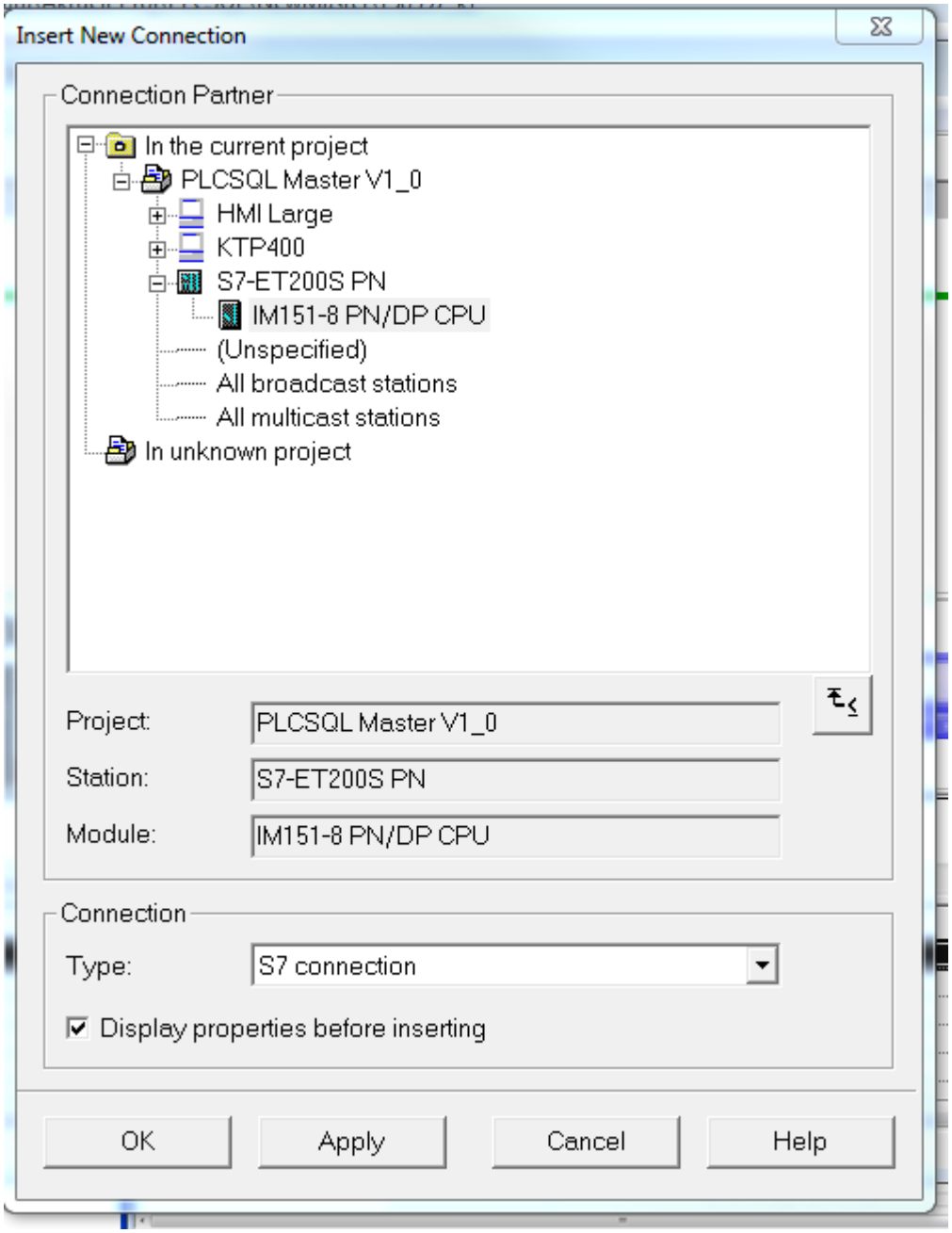
Now setup the connection for the CP Card.
Click with the mouse in the CPU field for S7-300



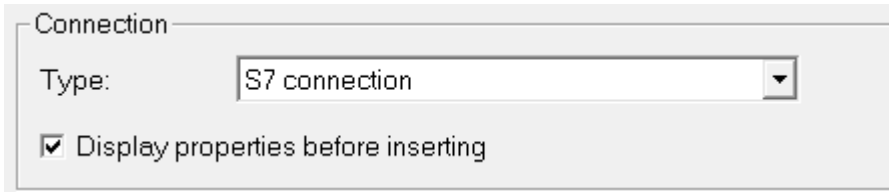


In bottom of Picture there is now shown data for connection.
Dobell Click with mouse in the empty field down below the text “Local ID”

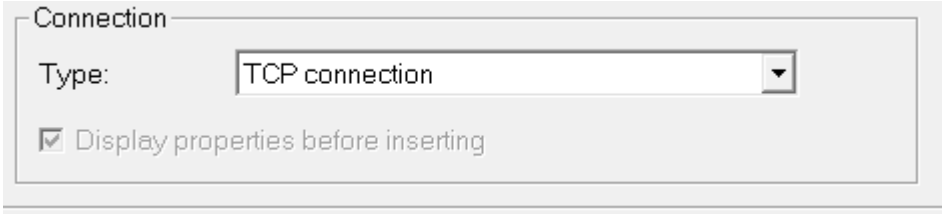
Picture “Insert New Connection” is opened.



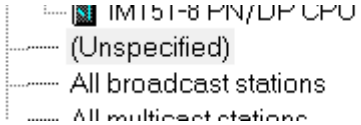
First: Setup Connection



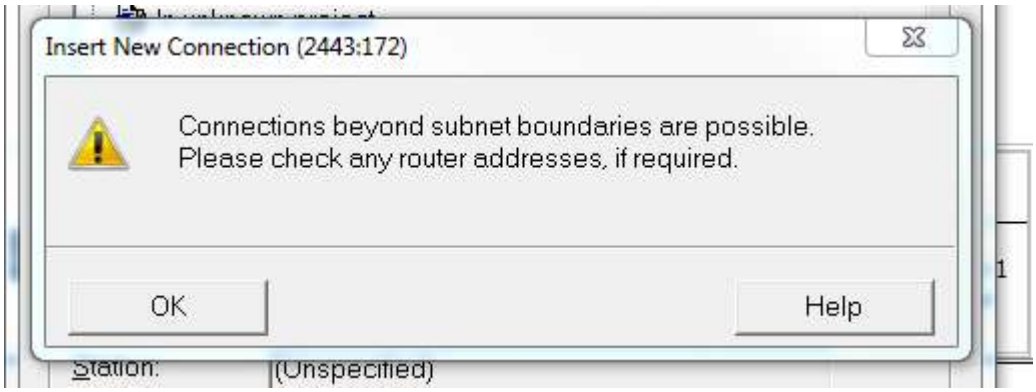
Chose to make it a “TCP Connection”



Then Chose an (Unspecified) connection

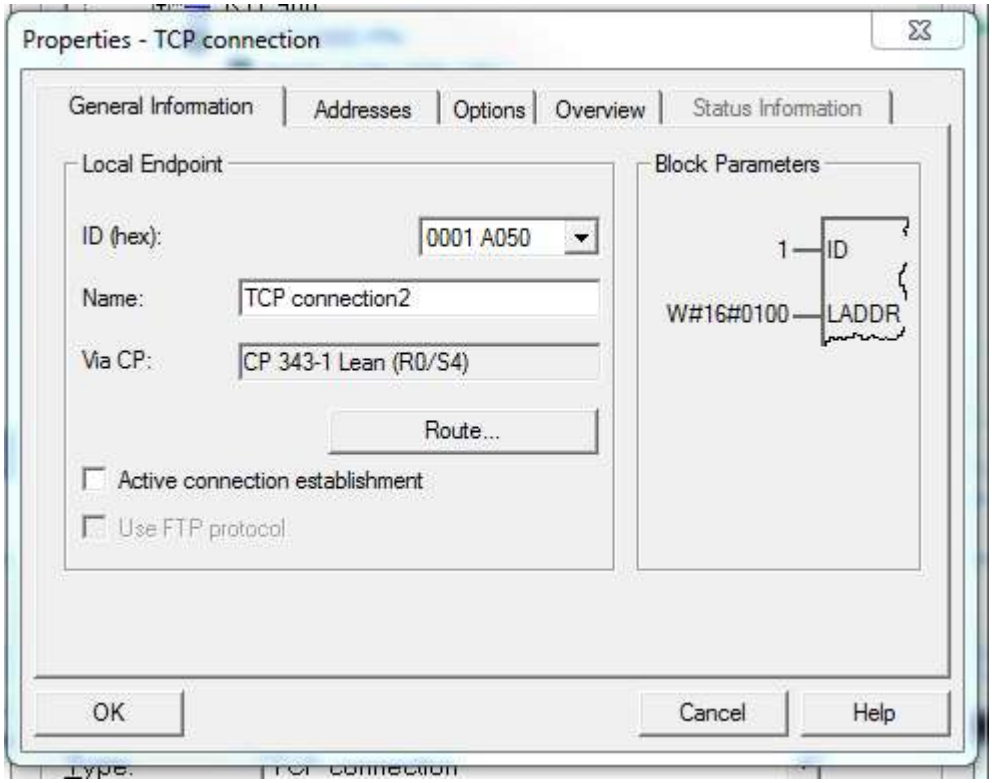


If this box is opened, it inform you about that if you have PLC in one IP and wish to Connect to another with the CP-Card, then remember to setup a router.



Click “OK”

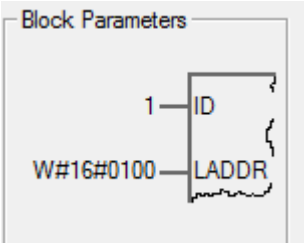
Setup Properties – TCP connection is opened.



If you have more than one Cp-Card, use “Route” to setup witch one there is in use.

Now Clik on “Active connection establishment”
→ if “On” the Cp-Card will make the connection to remote for you

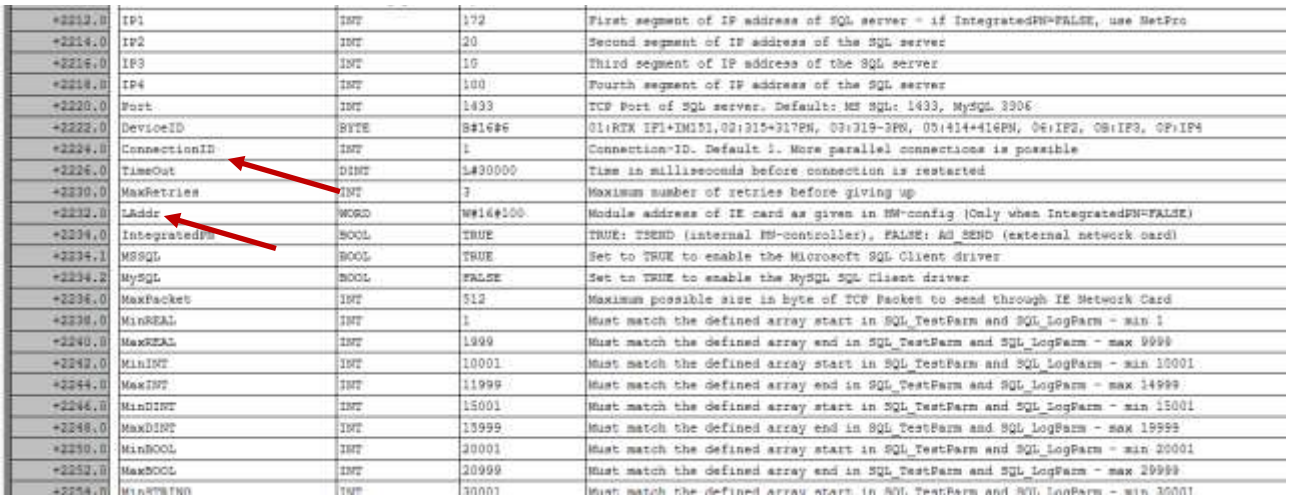
Write down these parameters shown here: → ID=#1; LADDR=W#16#0100 is in Hex(Dec= 256)



The noted “Block adress” is to be inserted in DB “SQL_Setup”

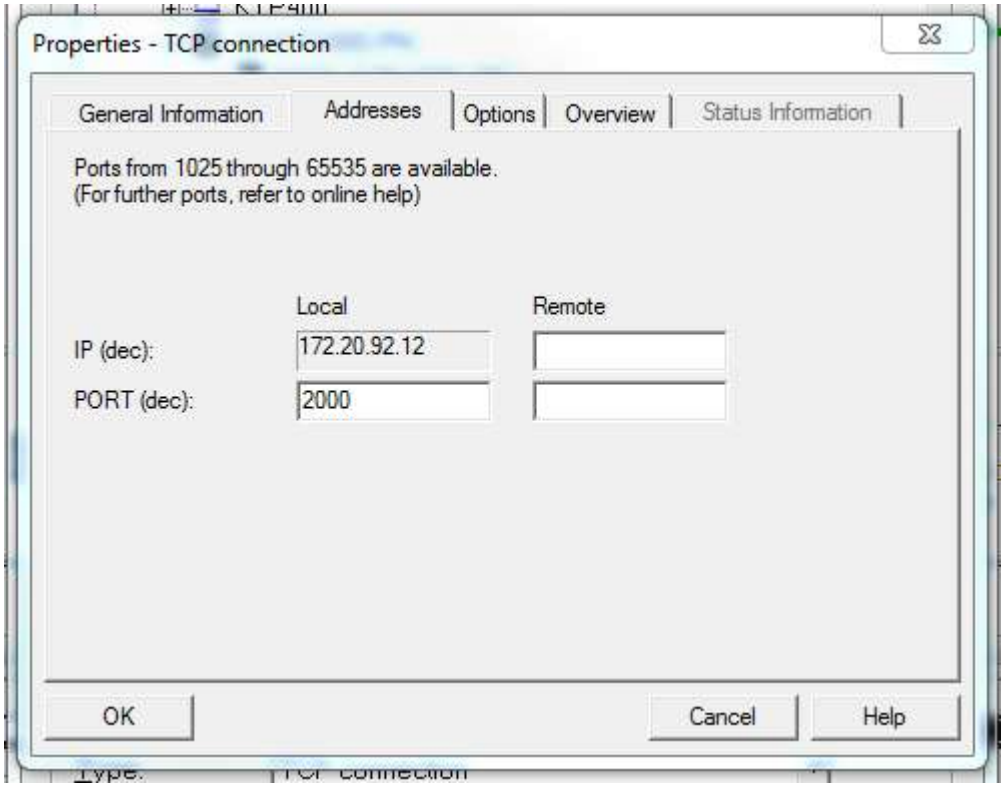
ConnectionID: Defines the Connection nr. Made in Netpro.

Laddr: Is the logical address for the connection, in Hex.



+2212.0	IP1	INT	172	First segment of IP address of SQL server - if IntegratedPN=FALSE, use NetPro
+2214.0	IP2	INT	20	Second segment of IP address of the SQL server
+2216.0	IP3	INT	10	Third segment of IP address of the SQL server
+2218.0	IP4	INT	100	Fourth segment of IP address of the SQL server
+2220.0	Port	INT	1433	TCP Port of SQL server. Default: MS SQL: 1433, MySQL 3306
+2222.0	DeviceID	BYTE	B#16#6	01:RTX IF1+IM151,02:315-317PN, 03:319-3PN, 05:414-416PN, 06:IP2, 08:IP3, 0F:IP4
+2224.0	ConnectionID	INT	1	Connection-ID. Default 1. More parallel connections is possible
+2226.0	TimeOut	DINT	L#30000	Time in milliseconds before connection is restarted
+2230.0	MaxRetries	INT	3	Maximum number of retries before giving up
+2232.0	LAddr	WORD	W#16#100	Module address of IE card as given in HW-config (Only when IntegratedPN=FALSE)
+2234.0	IntegratedPN	BOOL	TRUE	TRUE: TSEND (internal PN-controller), FALSE: AG_SEND (external network card)
+2234.1	MSSQL	BOOL	TRUE	Set to TRUE to enable the Microsoft SQL Client driver
+2234.2	MySQL	BOOL	FALSE	Set to TRUE to enable the MySQL SQL Client driver
+2236.0	MaxPacket	INT	512	Maximum possible size in byte of TCP Packet to send through IE Network Card
+2238.0	MinREAL	INT	1	Must match the defined array start in SQL_TestParm and SQL_LogParm - min 1
+2240.0	MaxREAL	INT	1999	Must match the defined array end in SQL_TestParm and SQL_LogParm - max 9999
+2242.0	MinINT	INT	10001	Must match the defined array start in SQL_TestParm and SQL_LogParm - min 10001
+2244.0	MaxINT	INT	11999	Must match the defined array end in SQL_TestParm and SQL_LogParm - max 14999
+2246.0	MinDINT	INT	15001	Must match the defined array start in SQL_TestParm and SQL_LogParm - min 15001
+2248.0	MaxDINT	INT	15999	Must match the defined array end in SQL_TestParm and SQL_LogParm - max 19999
+2250.0	MinBOOL	INT	20001	Must match the defined array start in SQL_TestParm and SQL_LogParm - min 20001
+2252.0	MaxBOOL	INT	20999	Must match the defined array end in SQL_TestParm and SQL_LogParm - max 29999
+2254.0	MinSTRING	INT	30001	Must match the defined array start in SQL_TestParm and SQL_LogParm - min 30001

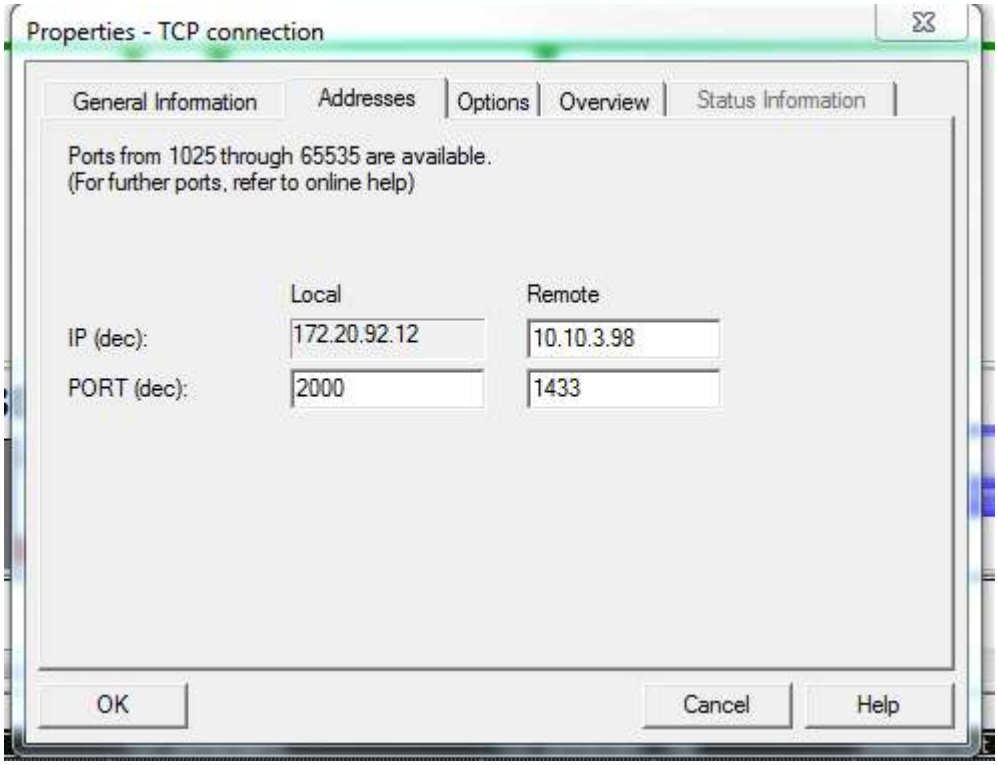
Now change to show properties for “Addresses”



Data for Remote IP must be given.:

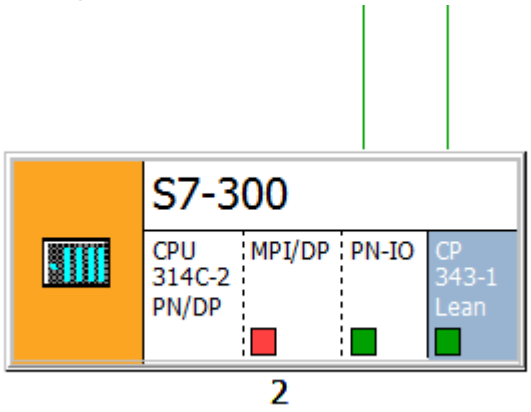
Remote Port is always = 1433
Remote IP (dec) must be given by you:

In our test project we do use setup to another subnet.

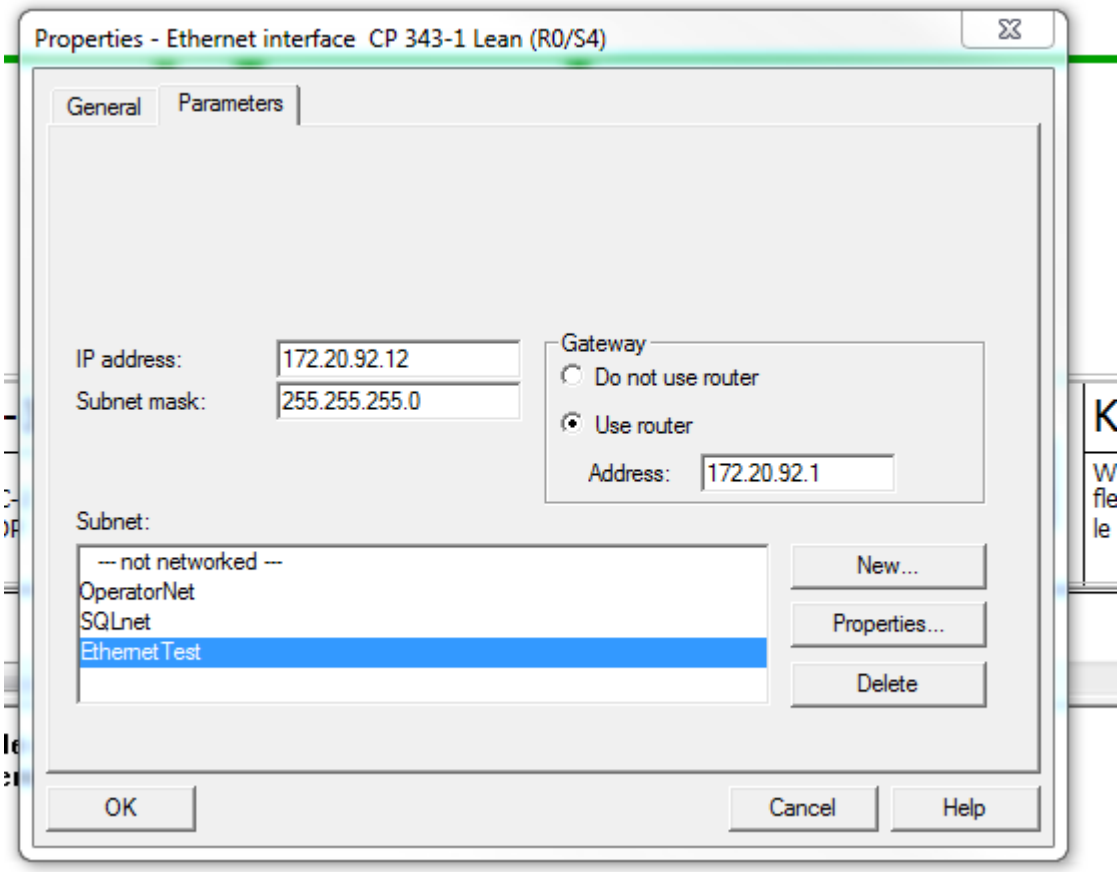


The 2 last Properties is not in use.
So Click “OK”.

Now double Click on the CP-Card. When Click do it on the “Green” Square, otherwise you will get the setup for the CP-Card and not for the IP-Port.



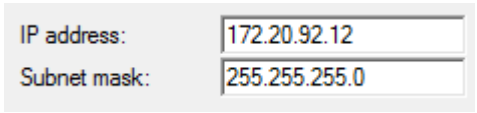
The picture show the setup and IP-address for this CP-Card.



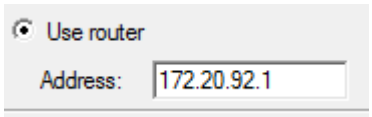
We are in test working with 3 types of nets, and therefore you can see 3 net, we have chosen Ethernet Test.

The most important here is the setup of router if you will use 2 IP-net as we do here.

Type in your IP address:

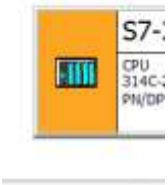


Type in your Router address, if in use:



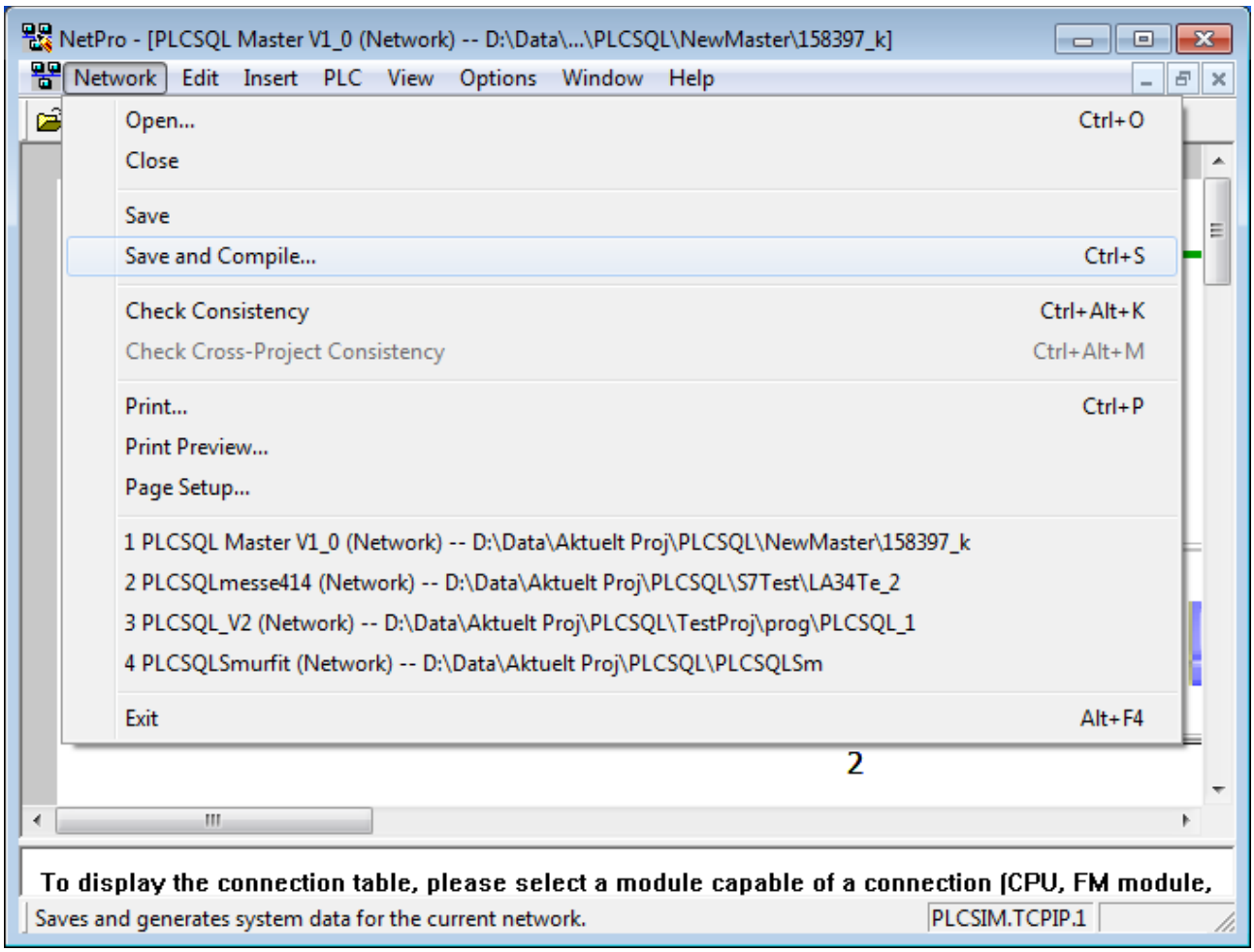
Click “OK”

In your project the CPU is turned to be “Red”.

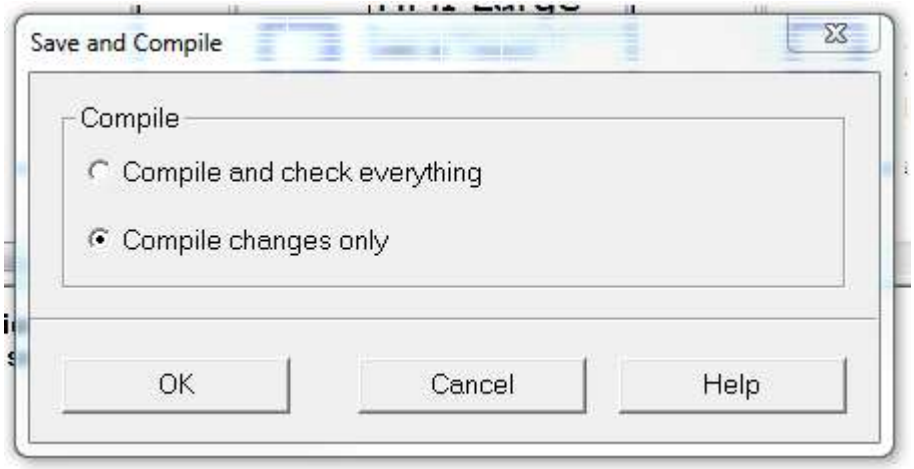


Then make a “Save and Compile”.
It can be done here:

Or by the “Network”

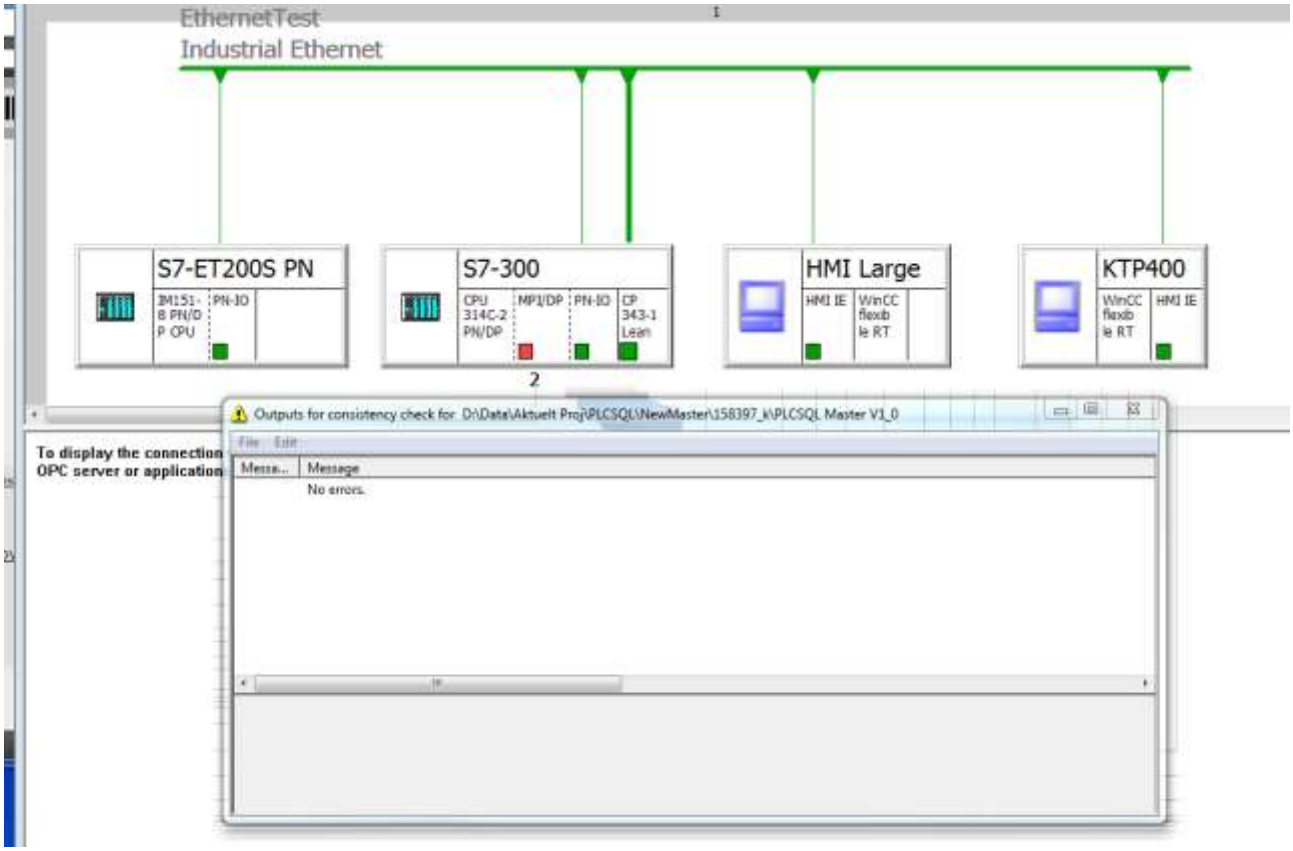


Depending of the actual state it will show this picture:



Either with check in “Compile and check everything” or “Compile changes only”, but just let the pc chose and check the “OK”.

Output is like this:



The most important is that all CPU is White = OK.

Now chose the S7-300 CPU and download: