

# SIMATIC TIPS

Totally Integrated Automation  
Application Notes

**Group**

PLC

**Topic and Author**

**S7 and Starter – Routing without Drive ES**

**Bernd Krueger**

## Overview

This document shows how to setup routing using Step 7 and Starter software with an S7 plc connected to a Sinamics drive. The routing can be accomplished for example: Ethernet on the plc to Profibus on the drive. This routing method also works with other Siemens drives – Micromaster for example.

## STEP by STEP

Step 1 thru 4 – setup of Hardware configuration

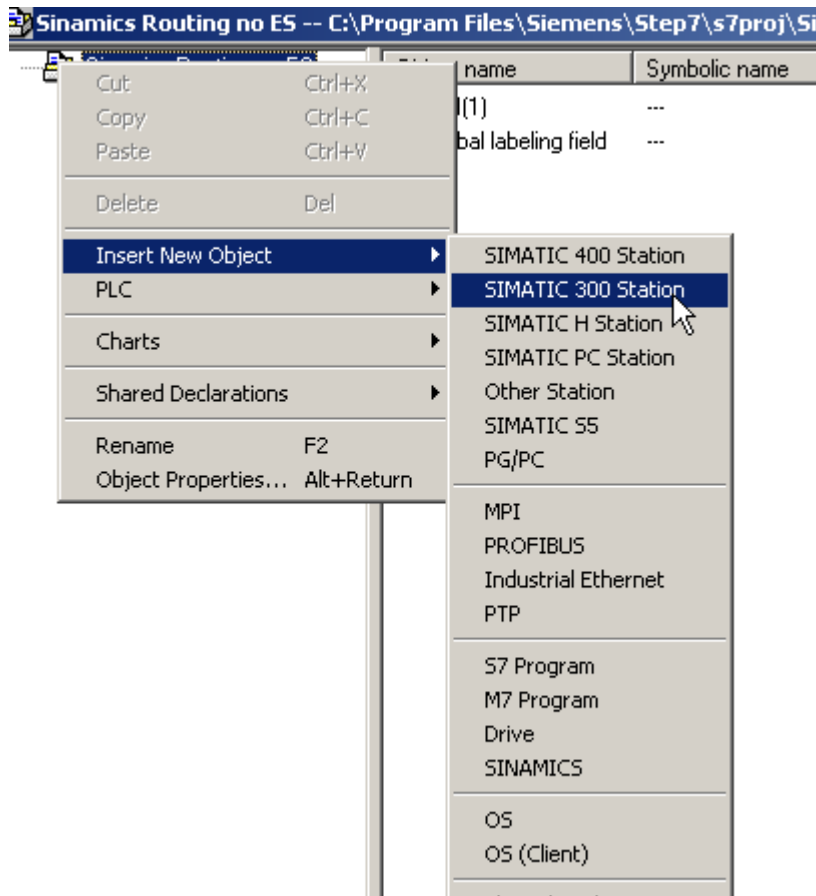
Step 5 thru 7 – configure Network

Step 8 thru 18 – configure the PG/PC interface

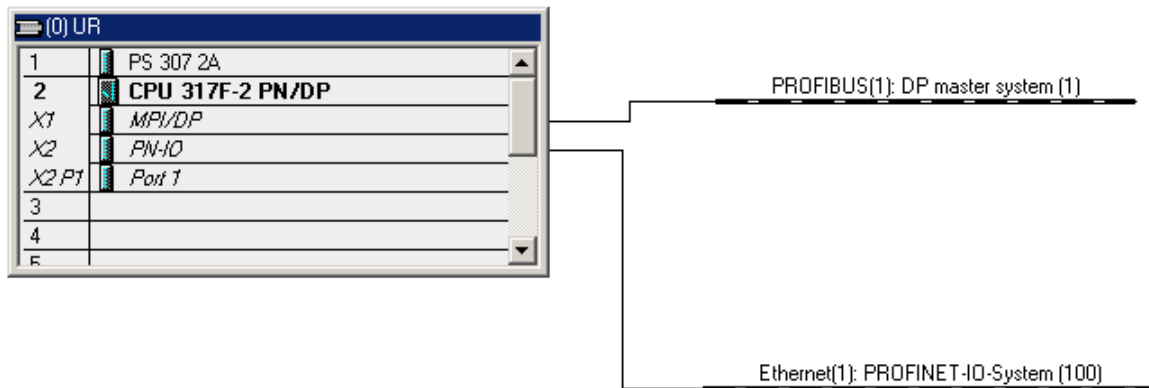
Step 19 thru 25 – configure the Starter software

## Step7 and Starter

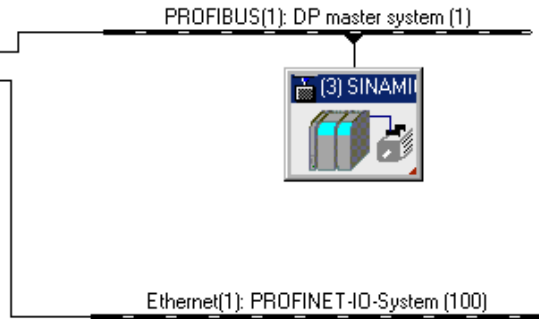
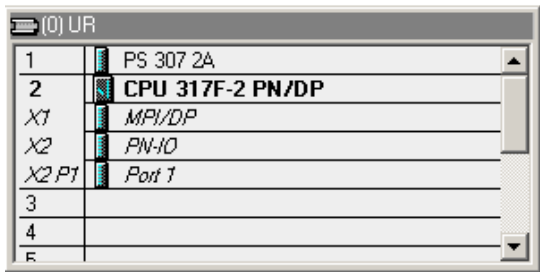
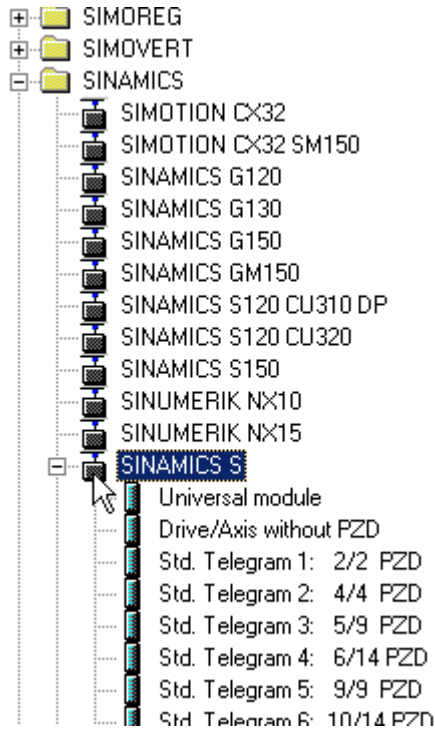
### Step 1 – Insert a “SIMATIC 300 Station” in the project



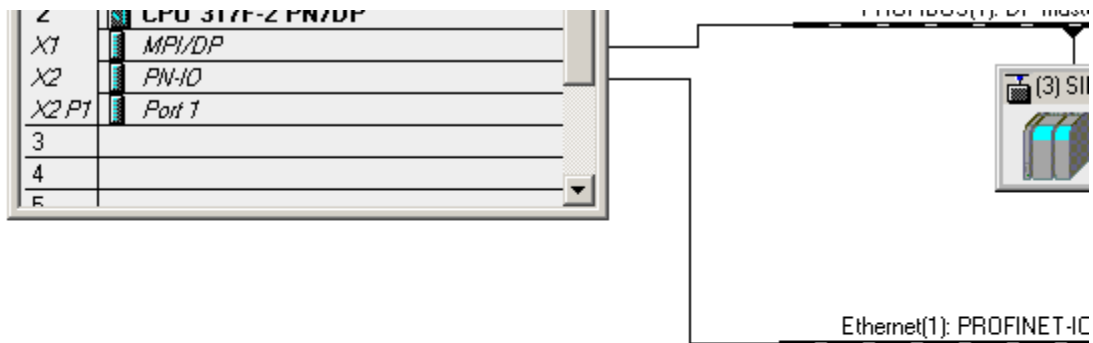
### Step 2 – Insert the CPU model and I/O hardware that you have



**Step 3 – Insert a SINAMICS Drive into the Profibus Network**

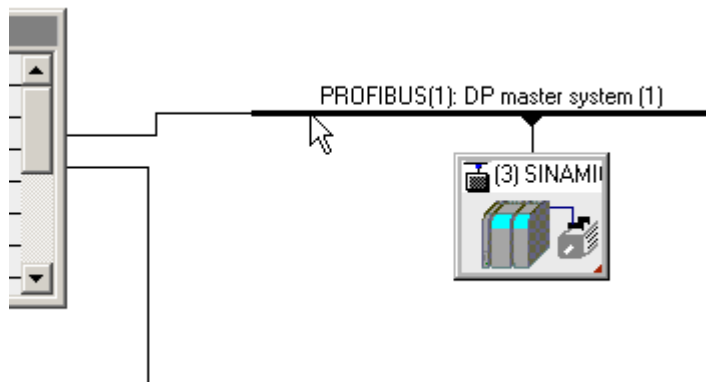


**Step 4 – Add a “Universal module” or Telegram to the SINAMICS drive**



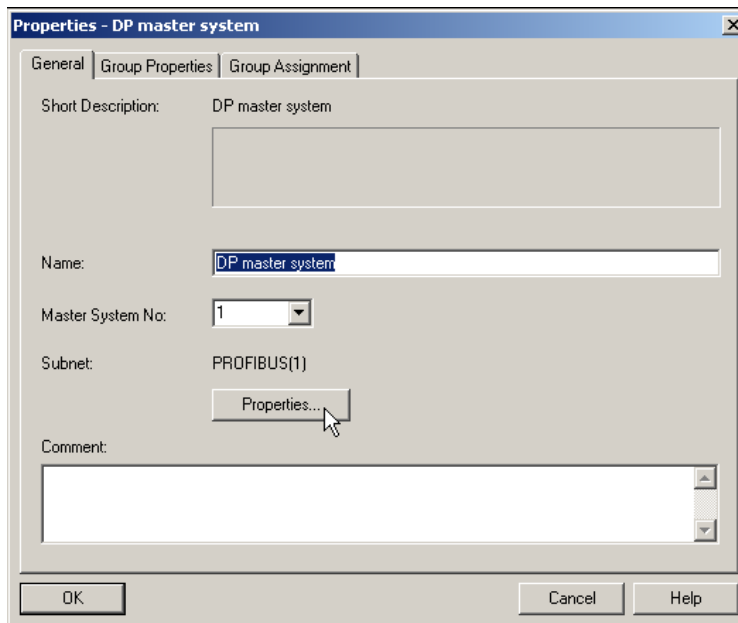
Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	0	Universal module			
2					

**Step 5 – Double Mouse Click on the PROFIBUS network Line**



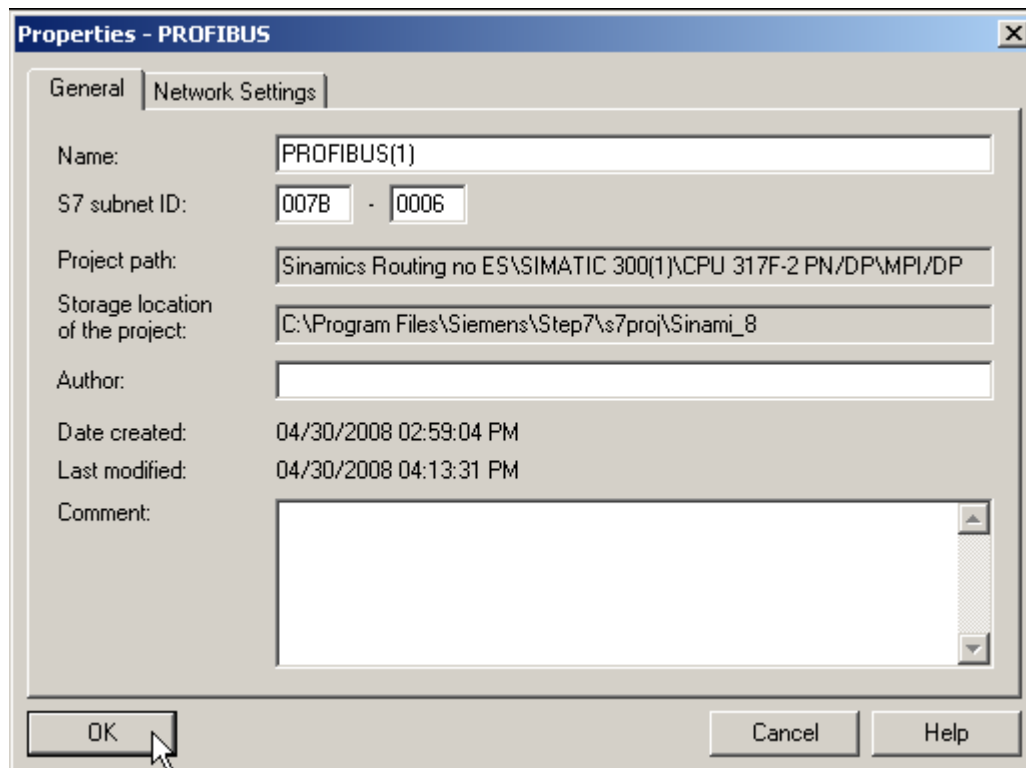
## Step7 and Starter

### Step 6 – Select the “Properties” button



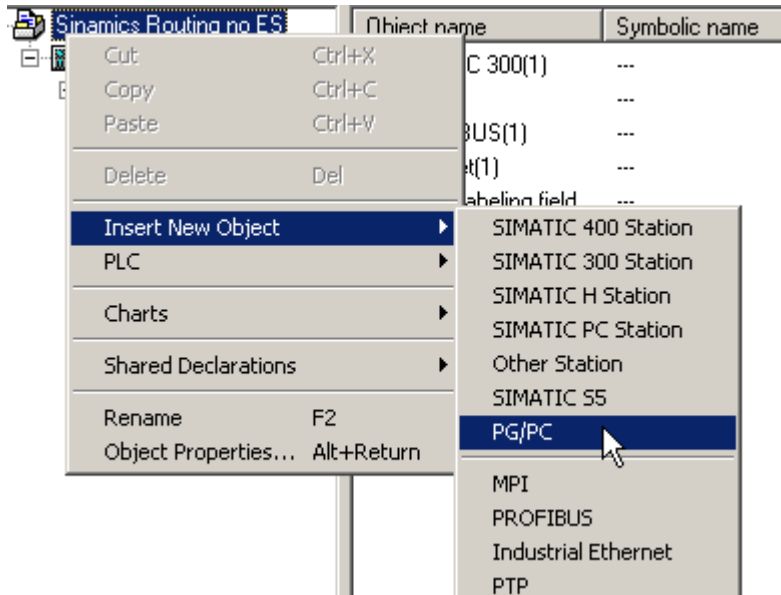
### Step 7 – Note the “S7 subnet ID”

1. Make note of the “S7 subnet ID:” - in this system it is 007B-0006. Save and Compile, then download to PLC

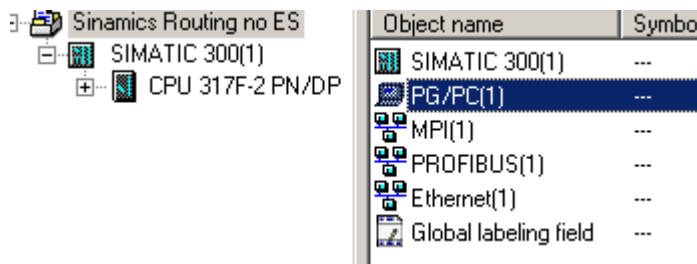


## Step7 and Starter

### Step 8 – In the Simatic Manager Project view add a “PG/PC” station

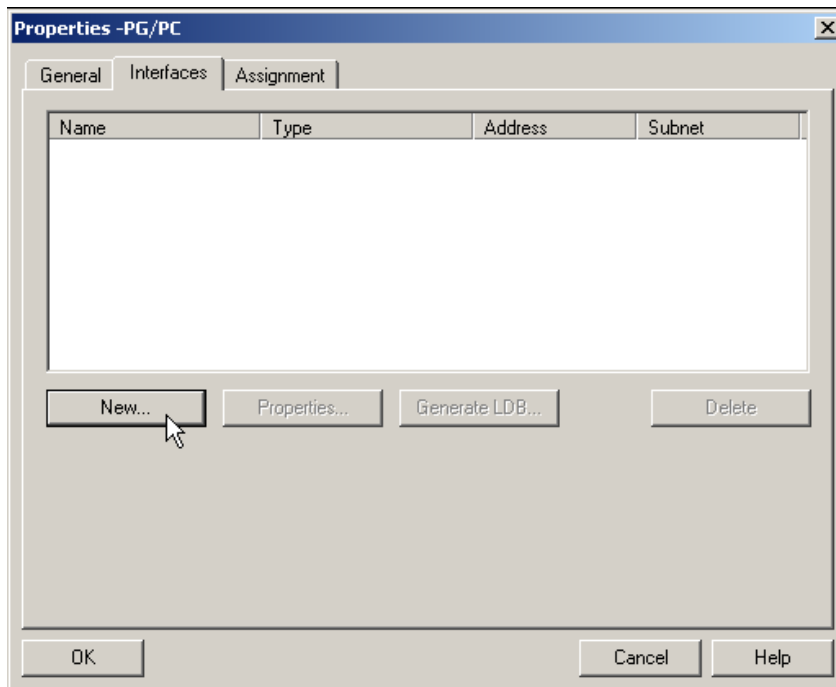


### Step 9 – Double Mouse Click on the “PG/PC” station



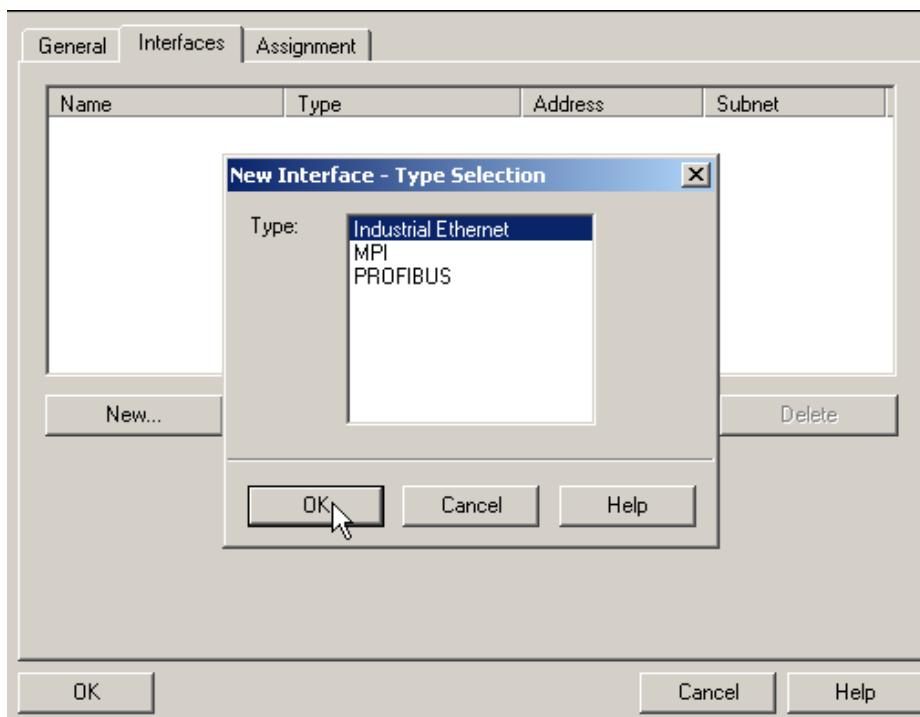
## Step7 and Starter

### Step 10 – Click on the “New” button

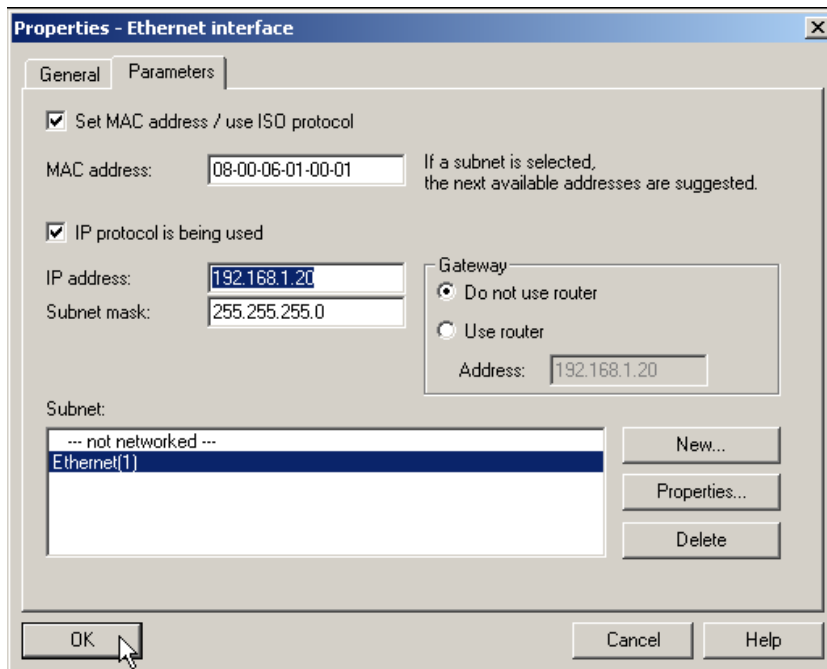


### Step 11 – Select the Interface Type

for the example we are using “Industrial Ethernet”, but this works similarly with MPI and Profibus adapters.

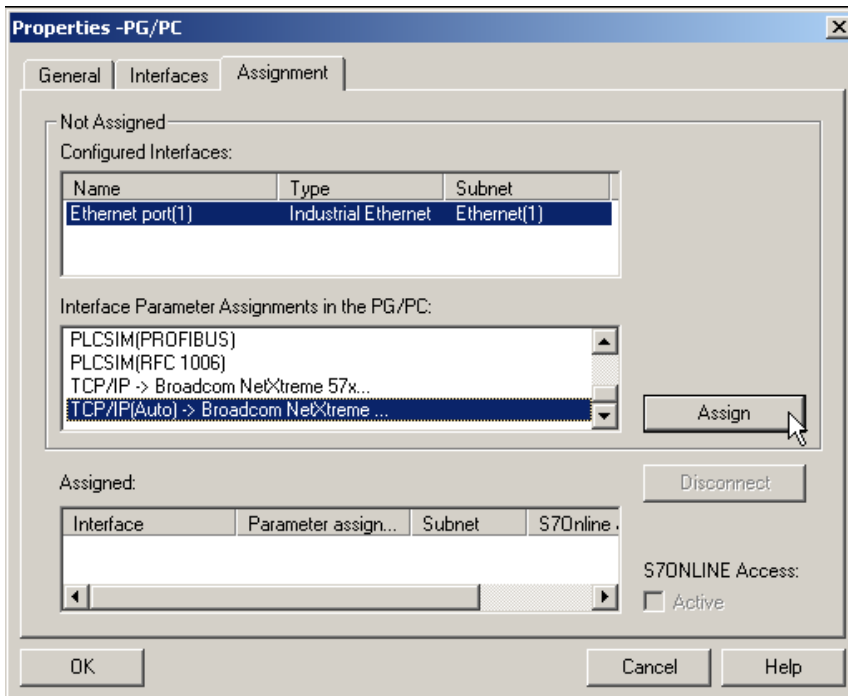


**Step 12 – Enter the IP Address of the programming computer**

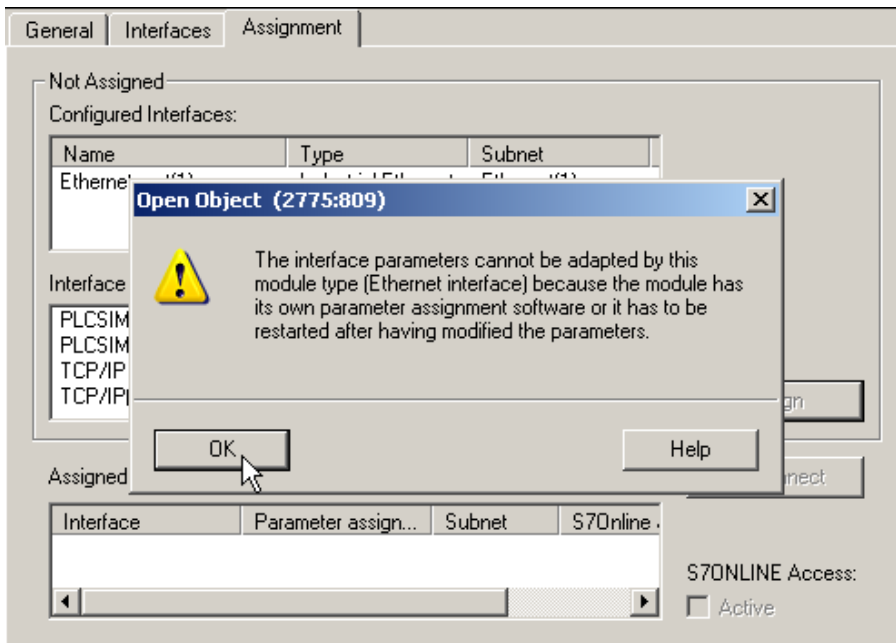


**Step 13 – Select the adapter for communication**

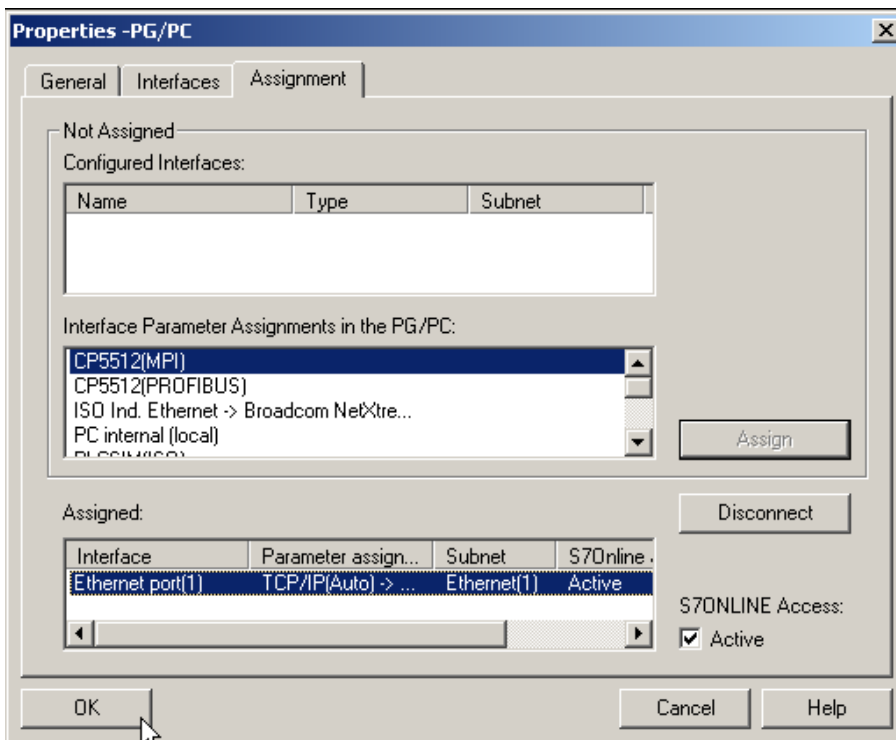
Select the “TCP/IP(Auto)” which is connected to the computer Ethernet port that will be used to communicate to the PLC. Select “Assign”.



**Step 14 – Read the message and select “OK”**



**Step 15 – “S7Online Access” is now active – select “OK”**

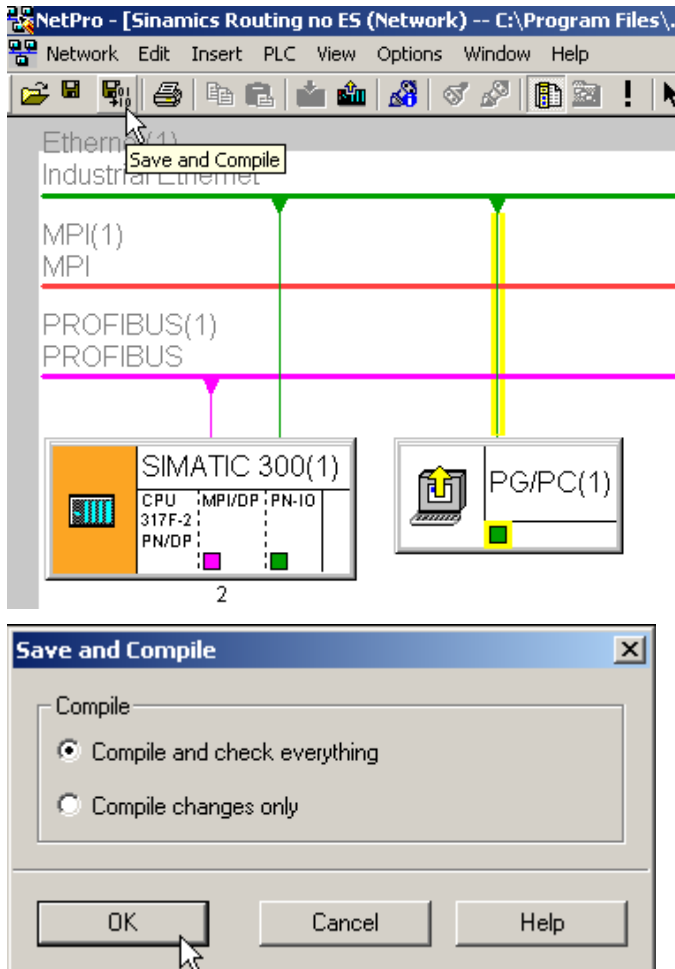


## Step7 and Starter

### Step 16 – Configure the Network with NetPro

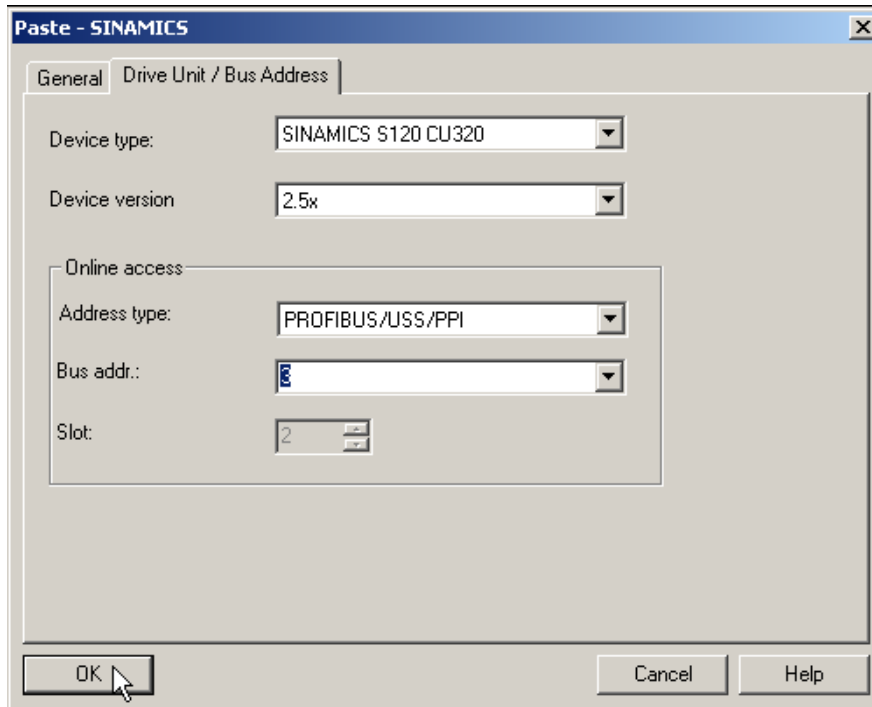


### Step 17 – Save and Compile the new Routing Table data

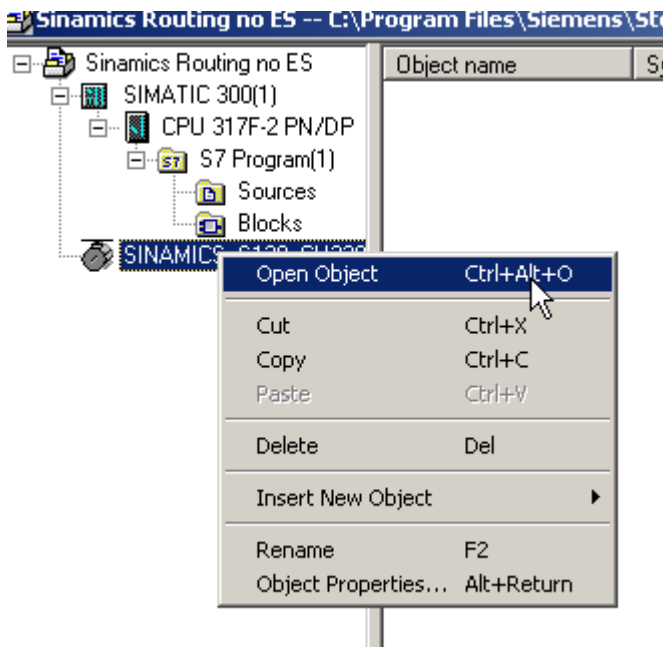




**Step 20 – Select the Drive Hardware, firmware versions and bus addr.**

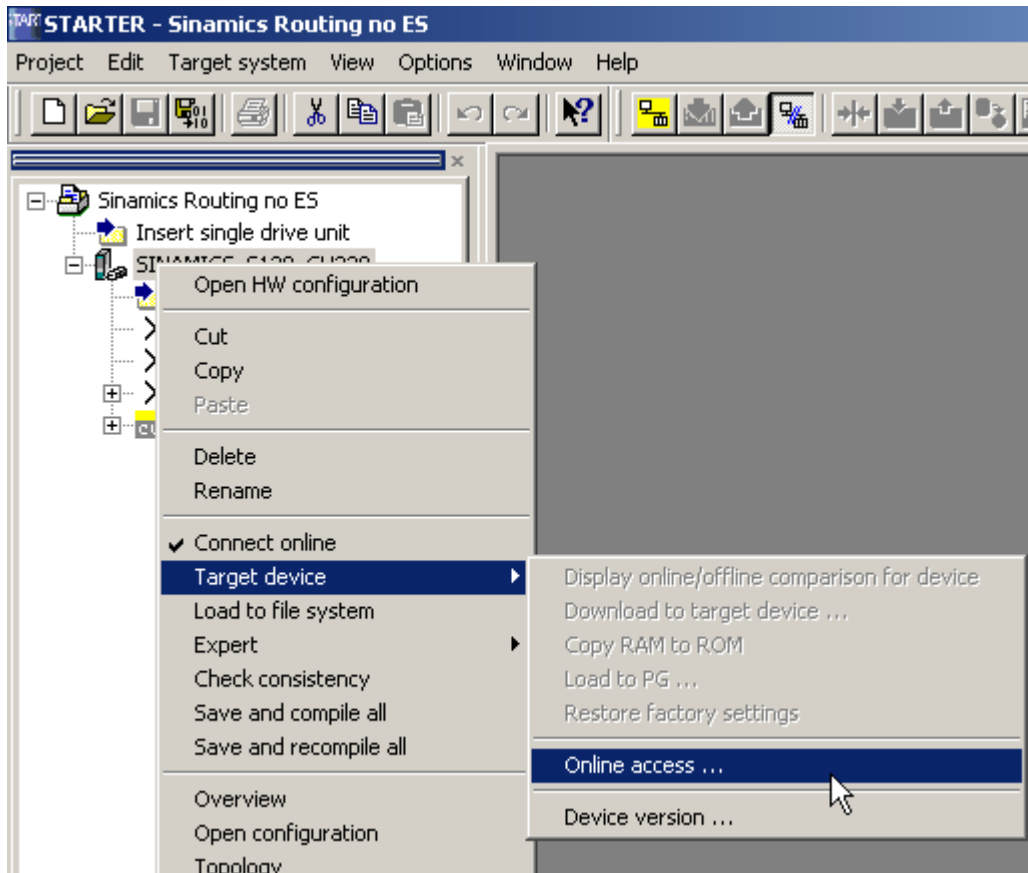


**Step 21 – Right mouse Click on the Sinamics drive and “Open Object”**

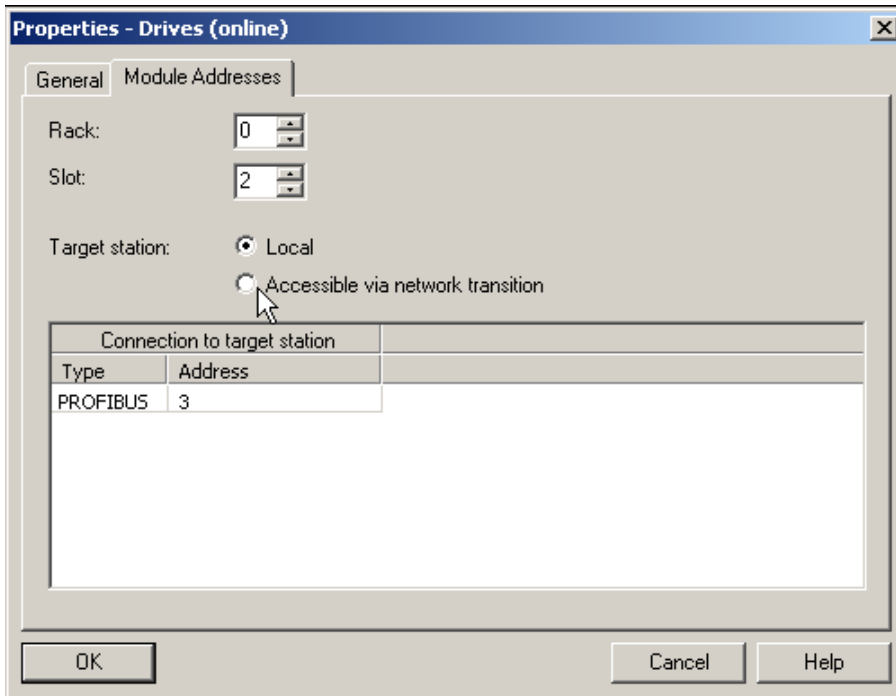


### Step 22 – The Starter software will open

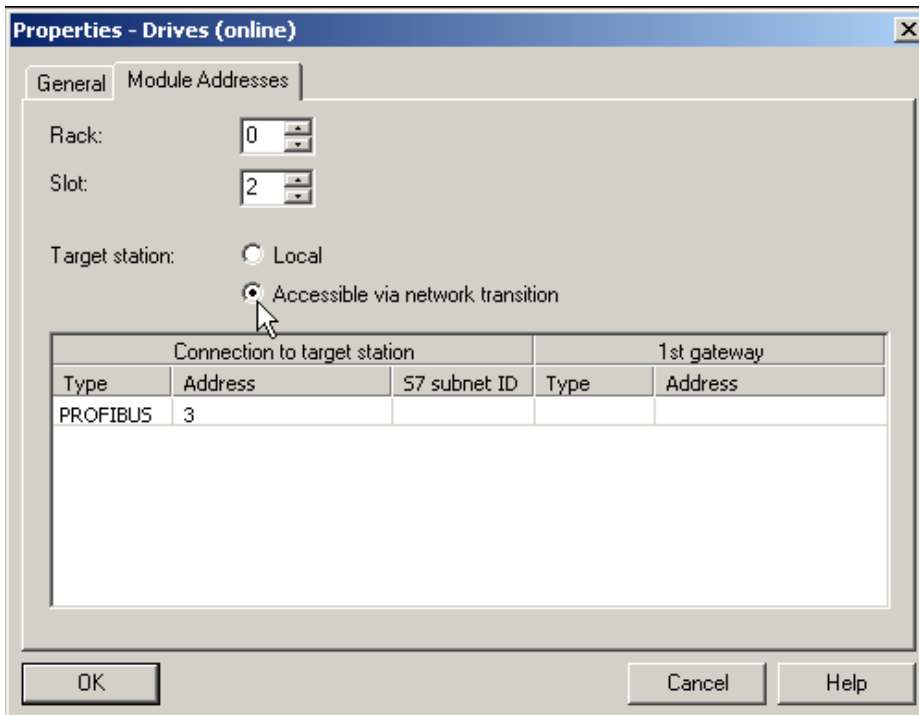
Right Mouse Click on the SINAMICS Drive and select “Target Device” “Online access”.



**Step 23 – Select the “Module Address” Tab**

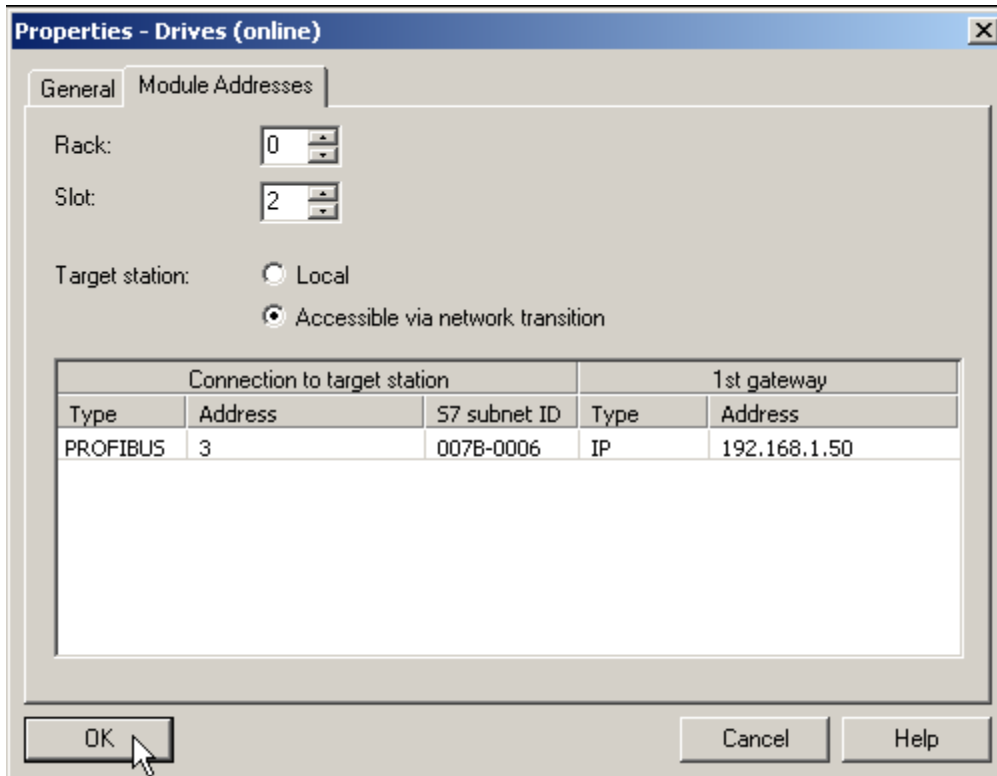


**Step 24 – Change to “Accessible via network transition”**



### Step 25 – Enter the “S7subnet ID” from the PLC hardware config.

Change the Type to “IP” and enter the PLC Ethernet address. Select “OK” and routing is now configured. You can now go online with the Drive using the Ethernet connection which is routed through the S7 PLC.



### Hardware and Software Considerations

Step 7 V5.4 SP4

Starter V4.1

Sinamics S120 Drive

### General Notes

The SIMATIC Application Tips are provided to give users of Siemens' Simatic products some indication as to how, from the view of programming technique, certain tasks can be solved. These instructions do not purport to cover all details or variations in equipment, nor do they provide for every possible contingency. Use of the Simatic Application Tips is free.

Siemens reserves the right to make changes in specifications shown herein or make improvements at any time without notice or obligation. It does not relieve the user of responsibility to use sound practices in application, installation, operation, and maintenance of the equipment purchased. Should a conflict arise between the general information contained in this publication, the contents of drawings or supplementary material, or both, the latter shall take precedence.

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