

How-To-Do

Communication to Siemens OPC Server via Ethernet

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1 General

1.1 Information

This 'How-To-Do' describes, how you can build up a S7 communication between an OPC Server from Siemens and a 300 PLC from VIPA via Ethernet.

It is required, that STEP7 and the software "OPC-Scout" from Siemens have been installed on the PC.

1.2 Reference

In this 'How-To-Do' the principal procedure is described by means of examples.

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2 Konfiguration des PC Station

2.1 Create a new Project

Create a new project in the SIMATIV Manager by "File -> New"

New Project	x				
User projects Libraries Multiproje	cts				
Name	Storage path				
015 Modbus TCP	E:\04_Eigene_Dokumente\Projel				
113156 AcyraColor BDR1_1	E:\04_Eigene_Dokumente\Projel				
140317_CPU001318	E:\04_Eigene_Dokumente\Projel				
300S_CPU_mit_DP-Slave	C:\Program Files (x86)\Siemens\S				
B 315-4EC12	E:\04_Eigene_Dokumente\Projel				
315-4EC12	E:\04_Eigene_Dokumente\Projel				
A III	E-INI Eigene Dekumentel Dreiel				
Add to current multiproject					
Name:	Type:				
PC_Station	Project				
	F Library				
Storage location (path):					
E:\04_Eigene_Dokumente\Temp	Browse				
OK Cancel Help					

pic 1: name the project

Confirm your input of the project name by <OK> (in the example: "PC_Station").



2.2 Insert the PC Station

PC_Station SIMATIC PC Station(1)	SIMATIC PC Station(1)	99 MPI(1)	

pic 2: insert the PC Station

You can insert a PC station by the menu item "Insert -> Station -> SIMATIC PC-Station".

2.3 Opening of the Hardware Configuration for the PC Station

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all use round - Darweith Lr. Seasourth froundlanapoul Lr ² Seasourt	0.0
Station Edit Inset PLC View Options Window Help	- # X
	Text atlail
	and a second sec
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4	* W PHOPEUS DP
5	T PTLP BLS PL
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7	a (2) (2000) (200
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	(b) T SBGLDC PC Based Control 300/408
4	(a) Q SHATCPC Staten
	-
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22	

Now please open the hardware configuration of the PC station. For it select the PC station then push the right mouse button for -> "Open Object". If the hardware catalog doesn't exist, please now open it.



HW Config - [SIMATIC PC Station(1) (Configuration) -- PC_Station Insert PLC View Edit 0 📽 🐂 🎙 🦓 🚳 🗠 🖻 💼 🎰 🚯 🗖 😤 📢 End nt ni Profile Standard ٠ OFIBUS DF OFINET ID TIC 300 400 TIC PC B (0) PC sx 🚺 Mod E General

2.4 Selection of the modules via Hardware Catalog

Now place your PC modules into this rack, link them and allocate the IP address. The IP address, which you have to allocate, is the address for your PC.

2.5 Projecting the OPC Server

200 PC Prof. Prof. 201 DPC Server PROFRUS DP 201 PC PROFRUS PA	2 I OPC Server 3 34 5 Image: I	<u>A</u>
OPC Server Module Formate MS advert 1 C 0 PC Formation SWR0.35PA SWR0.30PA 0 PC SWR0.100 SWR0.100 SWR0.100 1 Edmend Ferman SWR0.100 SWR0.100 1 SWR0.100 SWR0.100 SWR0.100 SWR0.100 1 SWR0.100 SWR0.100 SWR0.100 <th>1 OPC Server 3 T E E General 4 E E General 5 S 7 S SHATIC 400 SHATIC PC Server 5 SHATIC 400 SHATIC PC Server 5 SHATIC 400 SHATIC 200 SHATIC PC Server 5 SHATIC 400 SHATIC PC Server 5 SHATIC 400 SHATIC PC Server 5 SHATIC 400 5 SHATIC PC Server 5 SHA</th> <th></th>	1 OPC Server 3 T E E General 4 E E General 5 S 7 S SHATIC 400 SHATIC PC Server 5 SHATIC 400 SHATIC PC Server 5 SHATIC 400 SHATIC 200 SHATIC PC Server 5 SHATIC 400 SHATIC PC Server 5 SHATIC 400 SHATIC PC Server 5 SHATIC 400 5 SHATIC PC Server 5 SHA	
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Of Custom FCP V/2 1682 Stream F V/2 1682 6	SWV8.1.1	
	5WV812	
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Select the OPC Server in the hardware catalog and pull it to any slot via drag&drop. Now open the program "NetPro" and insert an unspecified S7 connection.



2.6 Object Properties of the S7 Connection

	ion End Point	Conn	ection identification —	
Configured	dynamic connection	Loca	I ID:	
Configured	at one end	S7 c	connection_1	
 Establish a 	n active connection	VFD	Name:	
Send oper	ating mode messages	JOPC	Server	
Connection Pa	th			
	Local		Partner	
End Point:	SIMATIC PC Station(1)/ OPC Server		VIPA CPU	
Interface:	IE General	•	Unspecified	v
Subnet:	Ethemet(1) [Industrial Ethemet]		[Industrial Ethemet]	
Address:	192.168.3.11		192.168.3.15	-
				Address Dataile
				Address Details

Because the connection is created "unspecified, you must fill in the IP address of the Partner.

2.7 Address Details of the S7 Connection

Address Details		×
	Local	Partner
End Point:	SIMATIC PC Station(1)/ OPC Server	VIPA CPU
Rack/Slot:		0
Connection Resource (hex):	10 💌	03 💌
TSAP:	10.12	03.00
S7 Subnet ID:	0179 - 0003	1
·	,	,
ОК		Cancel Help

Please here specify the slot of the CPU of the SIMATIC S7 Connection Partner.



3 Software "Station Configuration Editor"

3.1 Configuration and Load via "Import Station …"

Open the software "Station Configuration Editor", which is an icon on your desktop.

ation:	VORLAGE-WI	NXP	Mode:	RUN	_P		
Index	Name	Туре	Ring	Status	Run/Stop	Conn	^
1							
2							
3							
4							
5							
6							
7							
8							-
9							
10							
12							
12							
14							
15							
16							
17							~
	Add	Edit)elete		Ring ON	
Stat	ion Name	Import Station	1		Dis	able Stati	on

Click on the button "Import Station" and confirm the next window by <Yes>.



3.2 Search of the XDB file



Please specify the path, in which the XDB file can be found, in the browser window. The XDB file always must be created in the STEP7 project. (see pic 1: name the project)

3.3 Information from the XDB File

Index	Name	Туре	Status	Error	1
1					
2	OPC Server	OPC Server			
3	IE General	IE General	1	The MAC address of the confi	
4					
5					
6					
7					1
8					
9					
10					
11					
12					
13					
14					
15					
16					
<u>•</u>	The XDB import is p	ossible. Refer to t	he list abov	re for the conliguration.	
Work	k in offline mode (a d	download to this s	tation is the	en not possible)	

Please confirm this window by <OK>. Then the import has been finished and the project is loaded.



5 Starting the OPC-Scout

- 5.1 Start the OPC-Scout via "Start > Simatic > Simatic Net > OPC Scout"
- 5.2 Connect the OPC Server and Create a Group

(unknown) - SIEMENS AG - OPC Scout V	10					
File Edit Wess ServerExplorer Workbook	Tools Window Help					
L. B. S. M. M. I. D. S. M. D.	(00 D R .					
Server Explorer			+ # 3			
1			1.11			
Local COM server	ID	Value				
OPC.SimaticNET.DP	Status					
Back Constraint Update browsing Back Constraint Connect Back Constraint Connect Back Constraint Add server to project Back Constraint	Start time Version Vendor information	The serve is revolution reserved, 06/00/2019 07:56:45:01:45M 38:10102 SIMATC NET OPC-Server DataAccess-V2.05/2.0 [C] SEMENS AB 2000				
LiA server Veb services Last server used	Supported interfaces Locales	0PC DA 2.0/ 0PC DA 3.0 de DE / en-US				
	CuID Host name Photocol	OFC-SmunnetT BEEACEDD-ACES-1100-0917-00204/RA483CJ kosłbos CDM-DCDM				
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DA view 1						
	<		>			
			100			

Create a connection to the OPC server via right-click on "OPC.SimaticNet" and choosing "Add server to project".

5.3 OPC Navigator

III (unknown) - SIEMENS AG - OPC Scout V10			
Pile Edit View ServerExplorer Workbook To	ola Window Melo		
3. 3 3 3 4 4 . 3 9 W X	- A C S C .		
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Via a further double-click on the connection and "Objects" the tree with the potential objects appears, which can be applied.



4 Revision History

4.1 Changes:

DATUM	ÄNDERUNGEN	BEARBEITER
13.11.2012	Erstellung Dokument	Karsten Schmidt
13.11.2012	Überarbeitung	Fritz Dotzer
19.03.2014	Übersetzung Englisch	N. Schlimm
02.06.2014	Textanpassung und Screenshots (Englisch)	M. Dörnhöfer