

THE MEASURABLE DIFFERENCE.



DEWETRON

OXYGEN TRAINING > XCP



- > Enabling XCP
- > Creating a new project in CANape
- > Creating a new XCP device in CANape
- > OXYGEN a2I File
- > Transferring data from OXYGEN to CANape
- > Control OXYGEN recording/acquisition from CANape

ENABLING XCP IN OXYGEN



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- 1 Go to Remote Control in System Settings
- 2 Enable Remote Control
- 3 Enable XCP over Ethernet

Oxygen Setup

- Storing & Filename
- Startup Settings
- Advanced Settings
- Hardware
 - DAQ Hardware
 - Amplifier / RS232 / RS485
 - Sensors
- Remote Control
 - Remote Control (1)**
- User Interface
- Localization
- UI Options
- Advanced Graphics

Remote Control

☒ Enable remote control (2)

ACTIVE PROTOCOLS

- ☐ SCPI over Ethernet
Simple Command Protocol Interface via TCP
Vendor: Dewetron
Version: 1.29
- ☒ XCP over Ethernet (3)
XCP slave protocol interface via TCP/UDP
Vendor: Dewetron
Version: 1.6

CONFIGURATION

XCP OVER ETHERNET

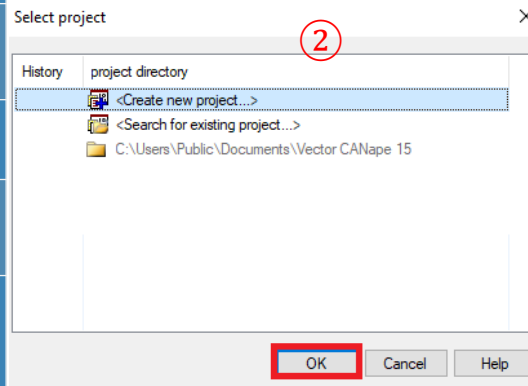
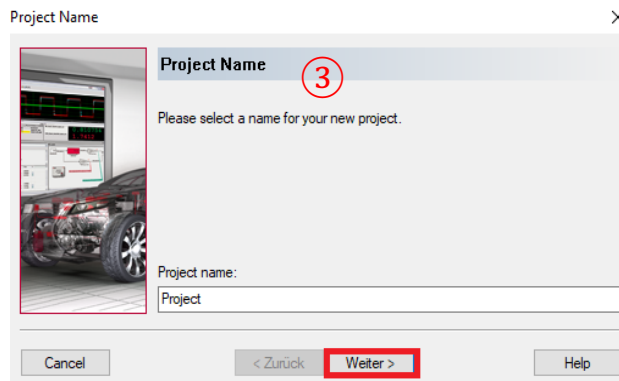
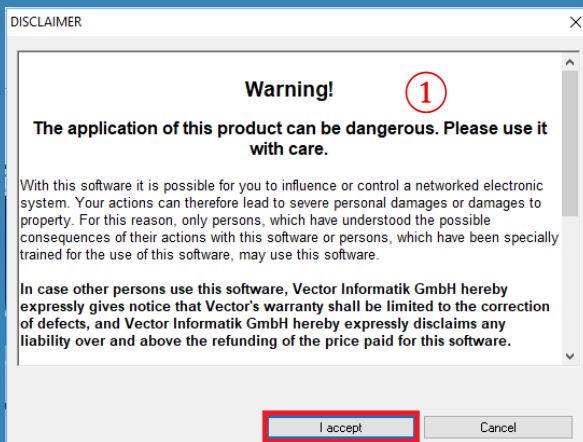
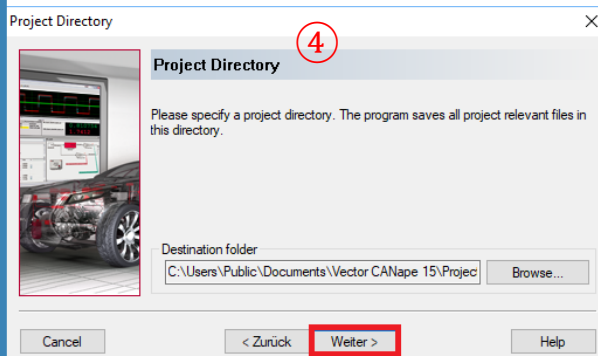
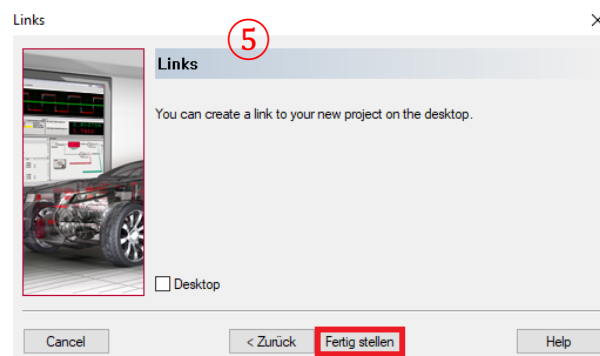
Communication type	TCP Server
IP address	192.168.100.25
Port number	55555
Sample output format	Float (32Bit)
Path for A2L file	s:\AT010048\AppData\Local\Temp\oxygen.a2l
Path for channel XML file	i:\AppData\Local\Temp\oxygen_channels.xml
XCP Protocol Version	1.0
Max. packed count (XCP 1.4)	2
Send delay	Enabled
Discard telegrams	0
Max. packet size	65

CREATING A NEW PROJECT IN CANAPE



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- 1 Start CANape and accept the disclaimer
- 2 Select *Create new project...* and click on *OK*
- 3 Enter a *Project Name* and click on *Next*.
- 4 Select the *Project Directory* and click on *Next*
- 5 If desired, you can create a link to your new project on the desktop and click on *Finish*

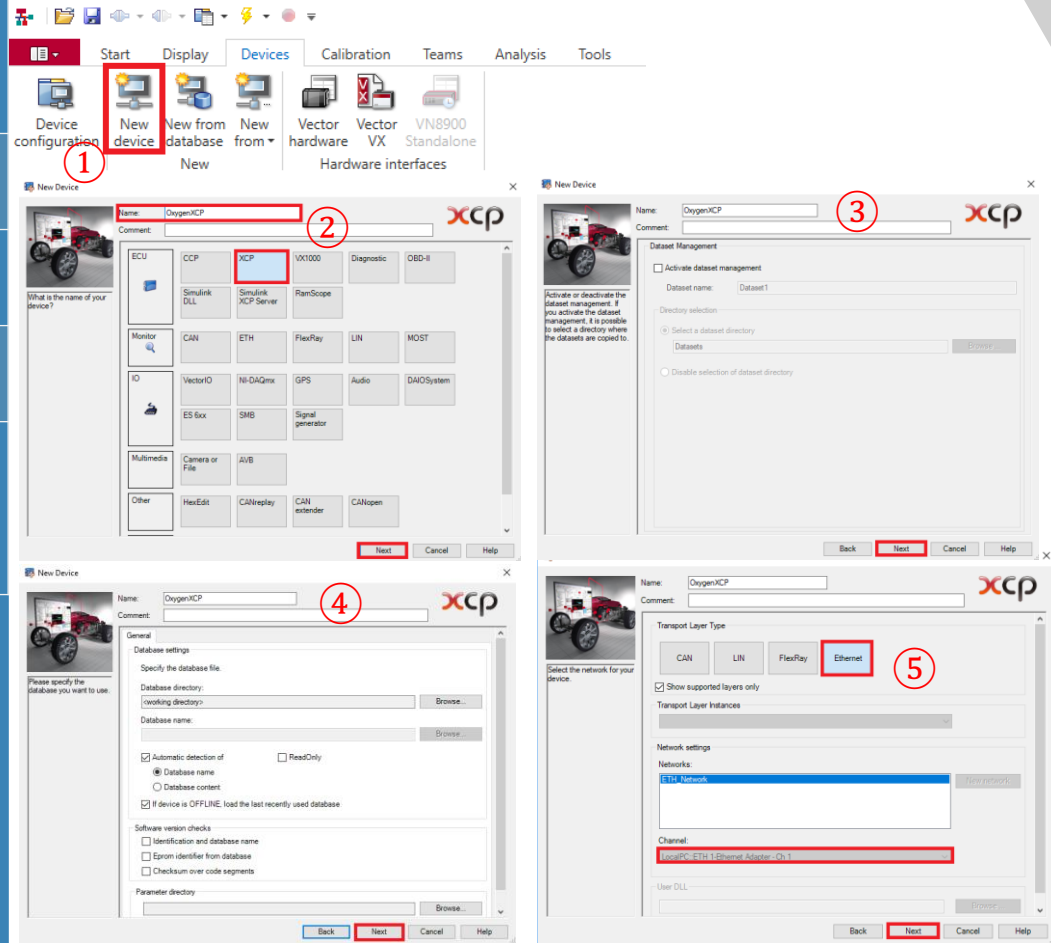


CREATING A NEW XCP DEVICE IN CANAPE



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- 1 After creating or opening a project in CANape, go to the Devices ribbon and click on New device
- 2 Enter a device Name, select ECU XCP and click on Next
- 3 The Dataset Management settings can remain untouched:
- 4 The Database settings can remain untouched as well
- 5 Select Transport Layer Type: Ethernet, select the Channel: LocalPC: ETH 1-Ethernet Adapter – Ch 1 and click on Next





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CREATING A NEW XCP DEVICE IN CANAPE CONT'D

- ⑥ The *Map File Settings* can remain untouched
- ⑦ The *Memory image file settings* can remain untouched as well
After clicking on *OK*, the *Device Settings* will open.
- ⑧ Go to the *Transport Layer* menu and enter the ethernet settings
 - > *Host*: IP address of the OXYGEN PC
 - > *Port*: Port for data transmission
 - > *Protocol*: TCP or UDP
- ⑨ Swap to OXYGEN and enter the same settings in the *Configuration for XCP over Ethernet* settings
 - > *Communication Type*: TCP or UDP
 - > *IP address*: LAN port IP address of the OXYGEN PC (not IP address of the CANape PC)
 - > *Port*: Port for data transmission



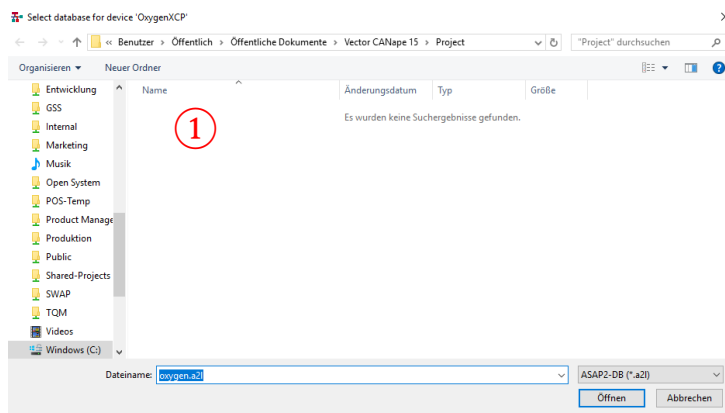
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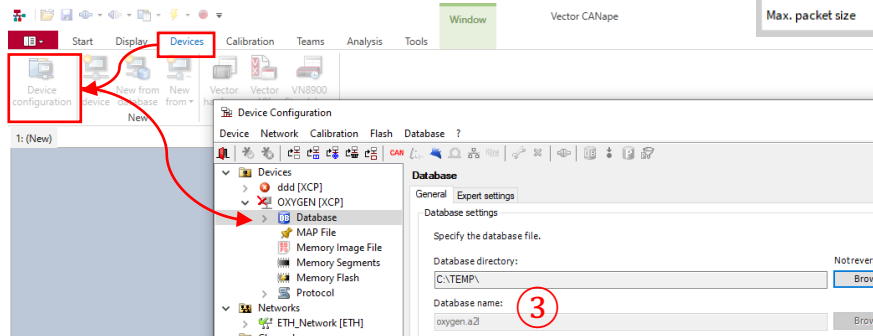
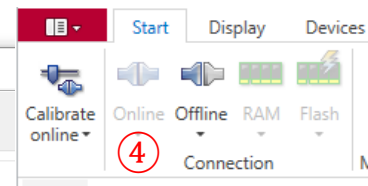
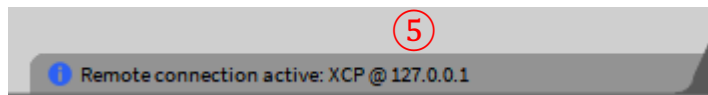
OXYGENS A2L-FILE

- 1 After finishing the device configuration, the proper a2l-file has to be selected
- 2 The path the a2l-file is stored can be edited in OXYGEN
- 3 The a2l-file can be selected in the menu Devices → Device Configuration → Database as well
- 4 The connection to OXYGEN is established automatically after selecting the proper a2l-file and can be manually enabled/disabled in the Canape Start menu
- 5 When the remote connection is active, a hint will be displayed in OXYGEN and the screen is locked

The a2l-file is a description file and includes information about all available channels in an OXYGEN setup
It is created automatically when enabling XCP and during acquisition restart (i.e. software startup or setup load)



XCP OVER ETHERNET	
Communication type	TCP Server
IP address	192.168.100.25
Port number	55555
Sample output format	Float (32Bit)
Path for A2L file	rs\AT010048\AppData\Local\Temp\oxygen.a2l
Path for channel XML file	rs\AppData\Local\Temp\oxygen_channels.xml
XCP Protocol Version	1.0
Max. packed count (XCP 1.4)	2
Send delay	Enabled
Discard telegrams	0
Max. packet size	65



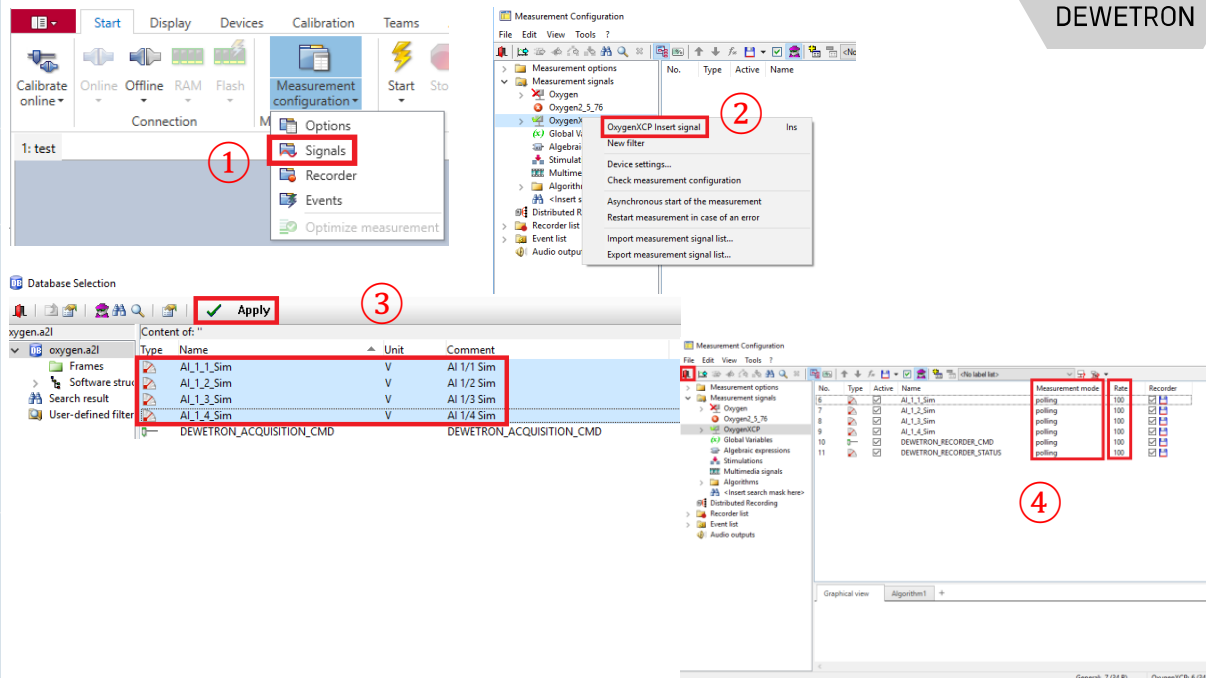


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TRANSFERRING DATA FROM OXYGEN TO CANAPE

- 1 Go to the *Start* ribbon and click on *Signals* in the *Measurement configuration*
- 2 Select your device, perform a right click and click on *Insert signal*
- 3 The *Database Selection* will open and list all available signals from the device
Select your desired analog signals and click on *Apply*
The *Database Selection* menu can be left again by clicking on the *Door* button
- 4 Select a *Measurement mode*, i.e. polling (Program sends a cyclic request for the current value)
close the *Measurement Configuration* with the *Door* button



The following *Measurement Modes* are currently supported:

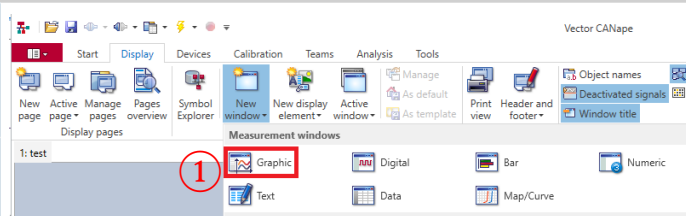
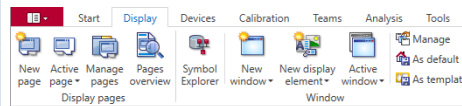
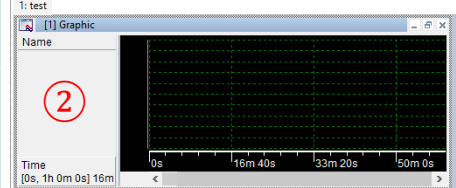
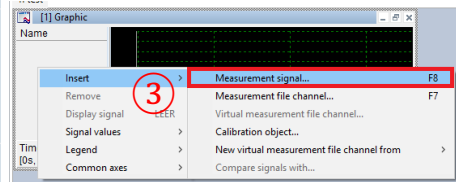
- *Polling*: Program sends a cyclic request for the current value
- *1s (average)*: Value will be measured by an ECU event
- *100ms (average)*: Value will be measured by an ECU event
- *10ms (average)*: Value will be measured by an ECU event
- *1ms (average)*: Value will be measured by an ECU event
- *100µs (average)*: Value will be measured by an ECU event



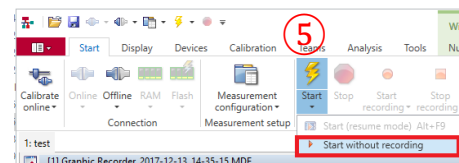
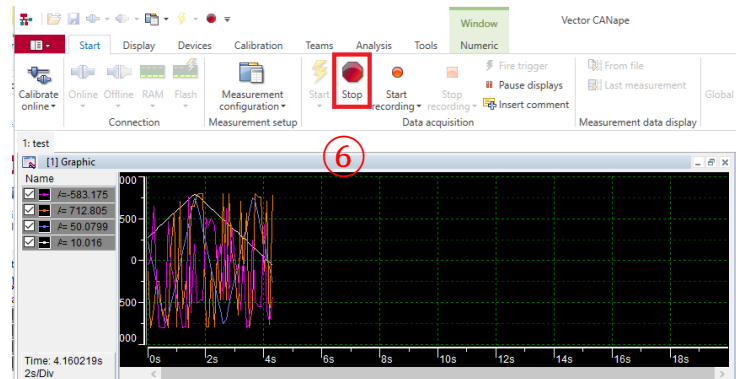
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DISPLAYING DATA IN CANAPE

- 1 Go to the *Display* ribbon, select *New window* and select a *Measurement window*, i.e. *Graphic*
- 2 The *Graphic* window is added to the display which will show the time dependent signal trend
- 3 To assign channel(s) to the window, right click into the grey space, select *Insert* and click on *Measurement signal...*
- 4 Select the desired signals from the list, click on *Apply* and leave the selection menu by clicking on the *Door* button
- 5 Go to the *Start* ribbon go to the select the data acquisition section and click on *Start without recording*
- 6 Data is now transferred from OXYGEN to CANape until the *Stop* button is pressed



No.	Type	Active	Name	Measurement...	Rate	Recorded
0	Measurement options					
	Measurement signals					
	Oxygen					
	Oxygen2_5_76					
	OxygenXCP					
	Global Variables					
	Algebraic expressions					
	Stimulations					
	Multimedia signals					
1			AL_1_1_Sim	polling	100	
2			AL_1_2_Sim	polling	100	
3			AL_1_3_Sim	polling	100	
4			AL_1_4_Sim	polling	100	
5			DEWETRON_RECORDER_CMD	polling	100	
			DEWETRON_RECORDER_STATUS	polling	100	





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Control OXYGEN recording/acquisition from CANape

- ① Go to the *Start* ribbon and click on *Signals* in the *Measurement configuration*
- ② Select your device, perform a right click and click on *Insert Signal*
- ③ The *Database Selection* will open and list all available signals from the device
Select *DEWETRON_RECORDER_CMD* for editing the recording state in of OXYGEN
The *Database Selection* menu can be left again by clicking on the *Door* button
- ④ Go to the *Display* ribbon, click on the *New window* section and select *Parameter*
- ⑤ Select the signal *DEWETRON_RECORDER_CMD* from the list, click on *Apply* and leave the setup with the *Door* button
- ⑥ OXYGEN's recording state can be controlled by the signal *DEWETRON_RECORDER_CMD* via the *Parameter* window

The following recording commands are available:

- 0 ... Default value
- 1 ... Start Recording
- 2 ... Pause Recording
- 3 ... Stop Recording
- 4 ... Resume Recording

The screenshots illustrate the process: 1. In the 'Start' ribbon, the 'Signals' button is highlighted. 2. A right-click context menu is shown with 'Insert signal' selected. 3. The 'Database Selection' dialog lists various signals, with 'DEWETRON_RECORDER_CMD' highlighted. 4. In the 'Display' ribbon, the 'New window' section is shown with 'Parameter' selected. 5. The 'Parameter' window shows the 'DEWETRON_RECORDER_CMD' signal selected. 6. The 'Parameter' window shows the 'DEWETRON_RECORDER_CMD' signal selected, with the value '0' entered in the 'Value' field.