

Advantech SE Technical Share Document

Date	2019 / 11 / 20	Related			
Category	□ FAQ ■ SOP	Product	CODESYS		
	Driver Tech Note				
Abstract	How to create trace and	trend			
Keyword	visualization, trace, trend	l, historical data,			
Related OS					
	R	Revision History			
Date	Version	Author	Reviewer	Description	
2019/11/20	V1.0				
2019/12/03	V1.1			Change photo	

Problem Description & Architecture:

You can use trace or trend when you want to monitor changes in values · The difference between the two is that trace is an real-time graphic and trend can store data for a cycle of time. You can view the previous data by dragging the toolbar.

- Brief Solution Step by Step:
- 1. First you need to generate some data

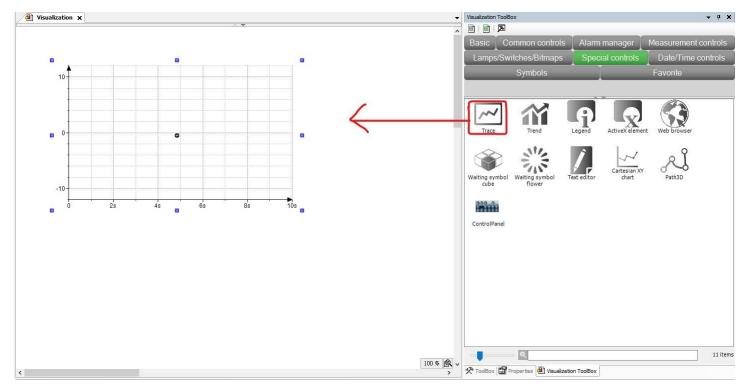
PROGRAM POU			
VAR iVar : INT; rSin : REAL; rVar : REAL;	1 2 3 4 5 € 7	PROGRAM POU VAR iVar : INT; rSin : REAL; rVar : REAL; END_VAR	
END_VAR			
iVar := iVar + 1;	1	iVar := iVar + 1;	
iVar := iVar MOD 33;	2	iVar := iVar + 1; iVar := iVar MOD 33;	
	3		
	4	rVar := rVar + 0.1;	
rVar := rVar + 0.1;	5	rSin := 30 * SIN(rVar);	
rSin := 30 * SIN(rVar);			

2. Add the Visualization

Dutitled2	
🗐 🚺 Device (Advantech Control x86 RTE V3 x64)	
😑 🗐 PLC Logic	
🖹 🧔 Application	
📲 🎁 Library Manager	
PLC_PRG (PRG)	
🖃 🎉 Task Configuration	
🖨 🍪 MainTask	
PLC_PRG	
🖶 🍪 VISU_TASK	
UisuElems.Visu_Prg	
😑 🛃 Visualization Manager	
- 🚰 TargetVisu	
🖉 WebVisu	
Visualization	
🛛 System_Diagnosis (System Diagnosis)	

- 3. Double click Visualization and open Toolbox->Special control elements .
- 4. If you want to use trace, you can follow the steps below

4.1 Drag the trace elements to Visualization



4.2 Select trace and right click->configure Trace



4.3 The Task select Maintask

Visualization_Trace1	Record settings		
	E <u>n</u> able trigger		
	Trigger variable 👻		
	Trigger <u>e</u> dge	×	
	<u>P</u> ost trigger (samples	0 200ms	
	Trigger <u>l</u> evel		
	Task	∰ MainTask	~
		MainTask 😸	
	<u>R</u> ecord condition	VISU_TASK	
	Co <u>m</u> ment		
	Re <u>s</u> olution	ms 🗸	
	<u>A</u> utomatic restart		
	Display settings	Advanced Copy from trace	

4.4 right click on Visualization_trace->add variable

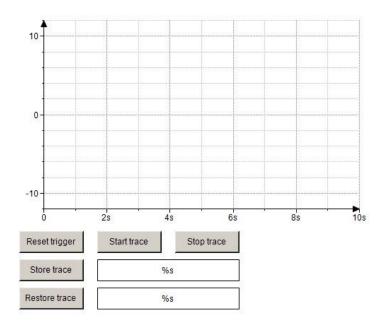
Visualization_Trace1	Variable Settings	
···· -	Variable	
	Attached y axis	Default y-axis 🗸
	Display variable name	
	Description	Description of variable to display in tooltip
	Curve type	Line 🗸
	Graph color	Blue v
	Line type	∠Line ∨
	Line width	<u> </u>
	Line style	— Solid V
	Point type	None
	Activate minimum warn Critical lower limit Warning minimum colo	0
	Activate maximum war	ning
	Critical upper limit	0
	Warning maximum cole	or Red 🗸
	Dynamic appearance of	ptions
	Variable for visibility	

4.5 Set the variable to rSin and click OK

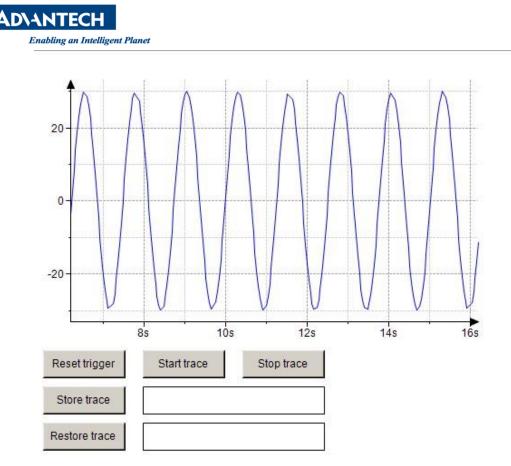


Trace Configuration					>
Visualization_Trace1 PLC_PRG.rSin	Variable Settings Variable Attached y axis	PLC_PRG.rSin Default y-axis	~		
put Assistant					_
Text Search Categories					
Trace Variables Traceable Parameters	Name Application PLC_PRG Var rsin rvar	Type Application PROGRAM INT REAL REAL	Address	Origin	
	Visu_Super Visu_Super Visu_Super Visu_Super Super Visu_Super Visu_Supe	VAR_GLOBAL Library VAR_GLOBAL Library Library		CAA Device Diagnosis SM3_Basic, 4.6.0.0 (SM3_Math, 4.5.0.0 (
Structured view			Filter	None	
Documentation		🖂 Insert w	ith arguments	Insert with namespace p	prefix
rSin: REAL; (VAR)					

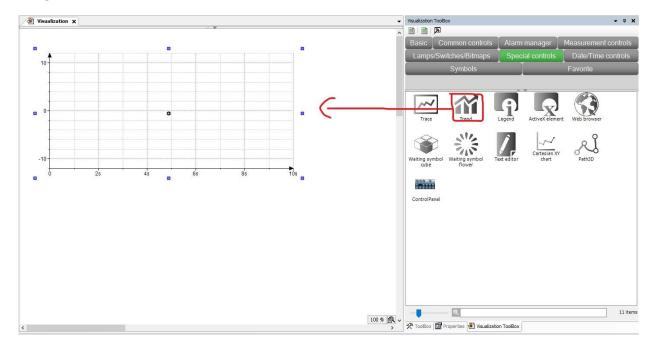
4.6 Click Visualization ->select trace and right click->insert elements for controlling trace



4.7 Logging and Start PLC(trace Done)



5. If you want to use trend, you can follow the steps below



5.1 Drag the trend elements to Visualization

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will pop up

10		
0		
rend Configuration		
Visualization_Trend2	Record settings	
	Enable trigger	
	Trigger variable *	
	Trigger <u>e</u> dge	
	Posttrigger (samples 0	
	Trigger level	
	Task \varTheta	~
	Record condition	
	Comment	
	co <u>m</u> nent	
	Pasalutias ms V	
	Re <u>s</u> olution ms V	
	Total accuracy Advanced	
	Trend storage Advanced	

5.3 The Task Select Maintask

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Frigger variable 🔹				
rigger <u>e</u> dge	Ý			
osttrigger (samples	0	15		
rigger <u>l</u> evel				
ask	MainTask	-	~	
r i i i i i i i i i i i i i i i i i i i				
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Re <u>s</u> olution	ms 🗸			
Trend storage	Advanced			
	ost trigger (samples Trigger level [zask [Lecord condition] Comment	Inggin guge 0 Posttrigger (samples 0 Ingger Jevel Image: Samples Qask Image: Samples Qask	Is rigger (samples 0 1s rigger level samples comment c	Ingel gage (samples 0 1s rigger (samples A MainTask V Record condition Comment

5.4 right click on Visualization_Trend1->add variable



I	Variable 🕠		
	Attached y axis D	Default y-axis	
	Display variable name 💆	1	
	Description	escription of variable to display in tooltip	
	Curve type	ine 🗸 🗸	
	Graph <u>c</u> olor	Blue	
	Line type	/Line ~	
	Line width -	-1 ~	
	Line style	— Solid v	
	Point type	None ~	
	Activate minimum warning Critical l <u>o</u> wer limit Warning m <u>i</u> nimum color	0 Black	
	Activate maximum warning		
	Activate maximum warning		
	Critical upper limit	0	

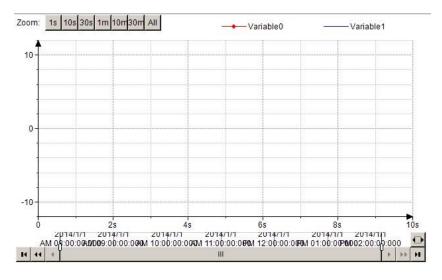
5.5 Set the variable to rSin and click OK

PLC_PRG.rSin	Variable 🔹	PLC_PRG.rSin		
	Attached y axis	Default y-axis	~	
put Assistant	- Di			
Text Search Categories				
Trace Variables	A Name	Туре	Address	Origin
Traceable Parameters	🖃 🔘 Application	Application		
	PLC_PRG	PROGRAM		
	🚽 🖗 iVar	INT		
	🔷 🖗 rSin	REAL		
	🔷 🖗 rVar	REAL		
	₩ Visu_Super	VAR_GLOBAL		
	⊕ {} DED	Library		CAA Device Diagnosis
	🖲 🎑 IoConfig_Globals	VAR_GLOBAL		
	Image: Basic Basic Image: Basic	Library		SM3_Basic, 4.6.0.0 (
	😟 {} SM3_Math	Library		SM3_Math, 4.5.0.0 (
			Siless	News
Structured view			Filter	None
Documentation		🗹 Insert v	with arguments	Insert with namespa
rSin: REAL;				
(VAR)				

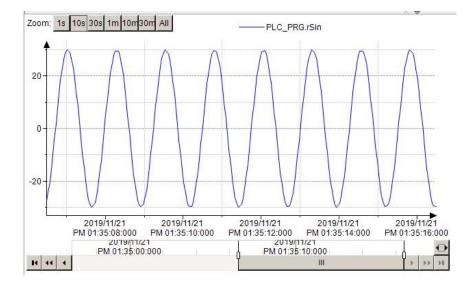
5.6 Click Visualization ->select trend and right click->Insert Elements for Controlling Trend



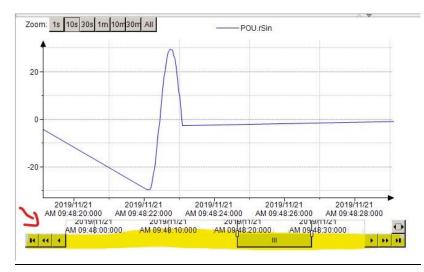
Elements .



5.7 Logging and Start PLC(trend Done)



■ 5.8 If you want to view the previous data, you can drag the toolbar





CODESYS Online Help