# **Advantech AE Technical Share Document**

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Category	■FAQ □SOP	<b>Related OS</b>	N/A				
Abstracta	How to use OPCUA driver in Edgelink						
Keyword	OPCUA client						
Related	ADAM 2600 ECU 1152 ECU 1251 ECU 1051						
Product	ADAM-3000, ECU-1152, ECU-1251, ECU-1051						

### Problem Description:

This document explains how to use OPCUA driver in Edgelink which EdgeLink device is acting as an OPCUA client.



### Answer:

- 1. Use UaExpert to connect to OPCUA Server to check if the OPCUA server is running.
- 2. EdgeLink OPCUA master configuration.

Step 1. Add a OPCUA dev

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		_						
ECU1251_272_HC_OPCUA	^		Apply	X Dis	card			
ECU1251_272_HC_OPCUA-10.0.0.1								
🚍 🔤 Data Center			General Information					
🖕 🚋 IO Tag								
			Enable			select driver type		
COM2(Disable)								
COM3(Disable) Add a device			Name:		opcuales	t .		
COM4(Disable)			Device Type:		OPC UA	-	Ψ	
🚊 🛅 ТСР								┛║
🖮 📟 opcuaTest			Device Mo	del	Double Cli	ck to Sel	ect Device Template	
IO Tag			Unit Number:		1			
👜 🛅 4210A			onenanben		-			
			Tag Write Type:		Single Write 🔹			
			Descriptions					
			Description:		1		<u> </u>	
🗄 📻 Data Storage								
🖃 🔁 Service								
M Modbus Server			Add device	e name as pr	refix to IO ta	ags	Bulk Copy	
DNP3 Outstation								
		A	TCP/IP					
🤯 IEC-104		Г						
BACnet			IP/Domain:		127.0.0.1			
OPC UA			Port Number		51210			
👷 🗞 Data Transfer			Port Number:		31210			
: Pos						_		

#### **Device Type: OPCUA**

Unit Number: Different from other devices in one interface is ok.

IP Address and Port Number: OPCUA server's IP and Port.

Extent	ion Properties
	Use URL as Connection Addre
Sec	urity Policy - Message Securit
No	ne - None
Aut	hentication Settings:

Security Policy - Message Security Mode:	
None - None	•
Authentication Settings:	
Anonymous	•
Username:	
Password:	
Select Certificate:	
Default Certificate File	•
Select Private Key:	
Default Private Key File	•
Cyclic rate of subscribing data change	s (ms
1000	

Use URL as Connection Address: If OPCUA server must be connected by its URL, you can choose this.

Security Policy and Authentication Setting: Follow the OPCUA server.

Certificate and Private Key: We have self authentication files by default. If customer needs to use the special file, they can choose in here.

Cyclic rate of subscribing data changes:

Disable: (default), the mode of our OPCUA master is request/response.

Enable: the mode used will be: EdgeLink sends a message to the OPCUA server to request it to check itself periodically if there is value changed. The server will publish the data while change of

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status. EdgeLink does not need to ask server regularly.

Step 2. Add tags.

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Basic			Advanced			
Name:	NewTag		ScalingType:	No Scale	•	
Data Type:	Analog	•	Formula:			
Address:		····				
Span High:	1000	Default Address Cor	figuration			
Span Low:	0	Adda as Tamabha	an entre comparison de			
Initial Value:	0.0	Address Template:	ns=x;i= <numeric></numeric>	Clamp to span low		
Scan Rate:	1	Address:	ns=x;s= <string></string>	Clamp to zero		
Read Write:	Read/Write		ns=x;b= <byte string:<="" td=""><td>&gt;</td><td></td><td></td></byte>	>		
Description:		ОК	Cancel			

The address grammar is : ns=<Namespace Index>;<type>=<value>

#### Examples

Address Type	Namespace Index	Example
Numeric	2	ns=2;i=1234
String	2	ns=2;s=Device.System_Tag.#SYS_TIME_SECOND
GUID	0	ns=0;g={8ACE8827-ECC3-4c9a-8032-CA1E9957A8E8}
Opaque	2	ns=2;b=M/RbKBsRVkePCePcx24oRA==

# We can see the address by UaExpert (An OPCUA test tool).

Unified Automation UaExpert - The Ol	PC Unified Architecture Client - NewProject*
File View Server Document Settin	gs Help
🗋 🥔 🕞 🗭 🥘 🔶 = 🤇	2 🗙 💫 🤰 🖻 🕱 🥪
Project & ×	Data Access View
✓	# Server Node Id Display Name Value Datatype Jrce Timesta ver Timestal Statuscode
✓	1 OpcUaSer NS2 String abcd.asd123 #SYS UPTI 6102.2989 Double 17:30:41.902 17:30:42.619 Good
🗞 OpcUaServer - None - None (	
V 🗊 Documents	
📁 Data Access View	
< >	
Address Space & ×	
😏 No Highlight 👻	
🗀 Root	
✓	
> 骉 Server	
🗸 🖨 abcd	
> 💷 #SYS_UPTIME	
> 🗀 Types	
> 🗀 Views	

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In this example, we can see "ns=2", type is string, value is "abcd.asd123". So the address in edgelink should be "ns=2;s=abcd.asd123"

Basic			Advanced		
Name: Data Type:	New Tag Analog	•	ScalingType: Formula:	No Scale	•
Address: Span High: Span Low: Initial Value: Scan Rate: Read Write: Description:	ns=2;s=abcd.asd123 1000 0 0 1 Read	••	Scale: Offset: Clamp:	0 0 Clamp to span low Clamp to span high Clamp to zero	

# Step 3. Download the project. We can see the result in online monitor.

ď	Tag ^	Ш	Dashboard	rd / Tag / IOTag					
	System Tag								
	IO Tag	10	Tag						
	User Tag		ID	Name	Value	Quality	Timestamp		
ľ	E Calc Tag		1	opcuaTest:ReadSYS_UPTIME	94897.58	Good	2021-10-19T17:59:47 (+08:00)	Edit	
0 10	System Info 🛛 👋		2	opcuaTest:ReadCalculationTag	-94896.56	Good	2021-10-19T17:59:47 (+08:00)	Edit	