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Objective

Upon completion of this module, you will be able to perform the following tasks:

- Understand about SCADA and ADAM6300 through OPC UA
- In the SCADA, monitor DI/O & AI/O value for ADAM6300 series via OPC UA Protocol



Outline

- How to acquire IO data via Ignition
- How to acquire IO data via Uaexpert
- ADAM-6300 OPC UA Security
- ADAM-6300 OPC UA Monitor Items



Establish Connection with OPC UA Device- ADAM-6300 series

- Create OPC UA Client driver
- Create OPC UA server(ADAM-6300 series)
 - Refer to ADAM-6300 EndPoint URL through the AdamApax .NET Utility
 - Setting the Security type and Key in the Username & Password
- Trust the Server Certificate for Ignition
- Trust the Client Certificate for AdamApax .NET Utility
- Create Project & Test





Create OPC UA Client driver

Step1:

Open up Ignition and create OPC UA Client driver, then add an OPCUA server in custom discovery.

Security Levels	Config > Opc > OPC Connections		anition			
Security Zones	Trial Mode 1:31:33 We're glad ynu're test druwig our jolfwere. Hwe fun.	a igniion.				
DATABASES Connections		A	SYSTEM	Config > Opc > OPC Connections		
Drivers		Home	Trial Mode 1:31:21 We're glad you're test driving our software. Have fun.			
Store and Forward			Överview			
ALARMING		-ht	Backup/Restore			
General		Status	Ignition Exchange	2		
Journal Notification		-	Licensing	OPC UA		
On-Call Rosters		Config	Modules			
Schedules			Projects	connect to a device of server that supports OPC OA.		
TAGS			Redundancy			
Realtime			Contracting Contracting	OPC-DA COM Connection		
OPC CLIENT			Gateway Settings	Provides access to legacy COM-based OPC-DA servers. Supports OPC-DA versions 2 and 3.		
OPC Connections			NETWORKING			
OPC Quick Client			NETWORKING	Nevta		
OPC UA			Web Server	HEAL		
Device Connections			Gateway Network			
Security Server Settings			Email Settings			
- Arrive Armilia						

Create OPC UA Client driver

Create OPC UA server(ADAM-6300 series)



Create OPC UA server(ADAM-6300 series)

Step2:

Then expand the tree, users could choose either anonymous which is None or security which is Basic128Rsa15-Sign. After choosing the connection type, go set up username and password. Here we choose security connection for instance.

elect Endpoint			
0 opc.tcp://10.0.0.1:4840			
ecurity Policy: None			
ecurity Policy: Basic128Rsa15	Config > Opc > OP Trial Mode 1:38:39	Connections Netre glad you're test driving our software. Have fun. (default bor)	
	1.00	if selected, the connection to this OPC serv	er will be used only all calls to w
Previous: Choose Server	Read Only	(default: false)	er will be read-only, all carls to w
Previous: Choose Server	Read Only Authenticatio	(default: fabe)	er witt de read-only, all calls to w
Previous: Choose Server	Read Only Authenticatic Username	(default: fube)	er witt de read-only, als Carls 10 w
Previous: Choose Server	Read Only Authenticatio Username Password	(default: fabe)	er will de reac-only, al calls to w

Choose connection type and fill in username and password



Trust the Server Certificate for Ignition

Step3:

Then we right click the device and choose Connect, then a Certificate Validation window would pop up due to the untrusted certificate sent from ADAM-6350 which is a OPCUA server. All we need to do is to trust this certificate in order to build up connection.

Mode 1:29:54 We're glad you're test driving our sol	itware. Have fun.			Activate Igni
Client Server				
Client Security				
Trusted Certificates				
Common Name	SHA-1 Fingerprint	Expiration	Ac	tion
No trusted client certificates to display.				
Upload Trusted Certificate:				
Browse or Drag files here				
Quarantined Certificates				
Common Name	SHA-1 Fingerprint	Expiration	Ac Ac	tion
+ ADAM6350	ae3f8c1129e08383742ccb79fd224f68e4b658	Apr 6, 2028	4	Trust Delete

Trust the certificate from OPC UA Server



Trust the Client Certificate for AdamApax .NET Utility

Step4:

Open up Adam/Apax .NET Utility, search for ADAM-6350, choose Certificates tab and trust the Rejected certificate from Ignition. Then go back to Ignition to make the device connect to ADAM-6350 again.

File Tools Setup Help	Advantech ADAM/APAX Utility (Win32)	Version 2.6.00 (B03)			
Sectal Sectal MADA LADAMASSO Markets Senior Networks Administration Firmware OPCUA Certificates MADA Lead ADAM Lead ADAM Lead ADAM Sol Stillerics Windess Senior Networks Windess Senior Ne	File Tools Setup Help		·		
Schell Bhome Charles Ch					
	 (a) Senail (b) Ehernet (c) Eher	Information Network: Administration Firmware OPCUA Certificates ADAM Local ADAM Clored Confrance List Image: Series Series Image: Series			

Trust the Rejected certificate from Ignition



Create Project & Test

Step 5:

Expand the tree in red circle above, and drag the tag you want to Data Access View. Then you shall see the IO status.



Make Device we created connect to ADAM-6350 again



Create Project & Test

Step 5:

Expand the tree in red circle above, and drag the tag you want to Data Access View. Then you shall see the IO status.





Drag the IO tag to Data Access View for monitoring

Monitor the IO status



Go Together, We Go Far and Grow Big

