

OPC DA Client Driver 操作說明

安裝 Kepware,新增 OPC DA Client Driver,此範例使用連接 GE iFIX 的 OPC Server,也適用連接 Kepware KEPServerEX、Siemens OPC Server、Honeywell EBI、Wonderware InTouch OPC Server,都可以參照設定。

以下流程教學:

 安裝 Kepware(最新版本 KEPServerEXV6,可從 Youngtec 研杰科技網站下載試用版),然後在 開始→程式集→開起 KEPServerEX 6 Configuration 或是從桌面右下方的 System Tray 圖示中 KEPServerEX 6 小圖示按滑鼠右鍵,點選 Configuration。







2. 先新增 「New Project」,本範例使用預設的設定,保留原本 Kepware Demo Project 設定檔,

點選/ 🐱 New Channel 後,會開啟 New Channel 設定。





 點選 New Channel 後, 開起 Device driver 設定,在「Channel name」可自行定義,按「下 一步」後,選擇 OPC DA Client,再按「下一步」。

	×
Add Channel Wizard	
Select the type of channel to be created:	
OPC DA Client	
	下一步(<u>N</u>) 取消

4. 輸入 Channel Name,「Channel1」可自行定義名稱,然後按「下一步」。

Add Channel Wizard	×
Specify the identity of this object. Name: <mark>Channel1</mark>	
	下一步(<u>N</u>) 取消



5. Write Optimization 使用預設 Write only latest value for all tags, Duty Cycle 預設 10, 按「下一

步」。

	×
Add Channel Wizard	
Choose how write data is passed to the underlying communications driver when more than one write exists in the write queue.	
Optimization Method:	
Write Only Latest Value for All Tags 🗸 🔍	
Numerican (1997)	
Specify the ratio of write operations to read operations, based on one read per configurable number of writes.	
Duty Cycle	
10	
下一步(N) 取消	

6. 在 OPC Server,點選「Select server...」, Connection type 設定:Any。

	Add Channel Wizard
Trave	alize the Salast ODC Service dialog
LIN	une Provinci
Ser	Colort Conver
L	Select Server
~	
Spe	city the Program ID of the OPC server to which the driver should connect.
Pro	gram ID:
Spe Thi	cify the name of the machine in which the OPC server resides, as specified by the Prog ID. s field should be left blank if the server is located on the same machine as the driver.
Rer	note Machine Name:
Spe ma	cify the type of connection that the driver should establish with the OPC server on the local chine.
Cor	nnection Type:
An	v v 🤍 🙆
	下一步(N) 取



 在 Select OPC Server 選擇 Intellution.OPCiFIX.1,如果是遠端電腦要在 Remote machine name 輸入 IP(如: 192.168.0.1)或是電腦名稱,本機電腦就空白不用輸入。

Select OPC Server ×	
Local Machine Kepware.LinkMaster.V3 Intellution.iFixOPCClient Kepware.KEPServerEX.V6 Kepware.KEPServerEX.V5 Cogent.DataHub.1 Cogent.DataHubAE.1 Intellution.MBEOPC.1 Intellution.OPCEDA.3 Intellution.OPCEFX.1 Remote Machine	
Prog ID:	
Intellution.OPCiFIX.1	
Remote <u>m</u> achine name:]
OK Cancel Help	

8. 在 OPC Server,就能看到設定的 Prog ID 是: Intellution.OPCiFIX.1 後,按「下一步」。

Add Channel Wizard	
Invokes the Select OPC Server dialog.	
Server Browse:	
Select Server	
Specify the Program ID of the OPC server to which the driver should connect.	
Program ID:	
Intellution.OPCiFIX.1	0
Specify the name of the machine in which the OPC server resides, as specified by the Pr	og ID.
This field should be left blank if the server is located on the same machine as the driver Remote Machine Name:	
This field should be left blank if the server is located on the same machine as the driver Remote Machine Name:	
This field should be left blank if the server is located on the same machine as the driver Remote Machine Name: Specify the type of connection that the driver should establish with the OPC server on the machine.	@ he local
This field should be left blank if the server is located on the same machine as the driver Remote Machine Name: Specify the type of connection that the driver should establish with the OPC server on the machine. Connection Type:	②
This field should be left blank if the server is located on the same machine as the driver Remote Machine Name: Specify the type of connection that the driver should establish with the OPC server on the machine. Connection Type: Anv v @	he local



 當連線失敗時重新連線 Retry filed connection every 預設 5 秒,查詢服務器狀態的時間間隔 Query server Status every 預設 5 秒。

×
See Add Channel Wizard
Specify the time, in seconds, between connection attempts. Failed Connection Retry Interval (s): Specify how often, in seconds, the driver tests the connection to the underlying server by sending a GetStatus message in seconds. If a response is not received, the driver automatically reconnects to the server. Server Status Query Interval (s): S
下一步(N) 取消

10. New Channel 設定完成。

Identification	
Name	Channel1
Description	
Driver	OPC DA Client
Diagnostics	
Diagnostics Capture	Disable
Write Optimizations	
Optimization Method	Write Only Latest Value for All Tags
Duty Cycle	10
Non-Normalized Float Handling	
Floating-Point Values	Unmodified
OPC Server	
Server Browse	Select Server
Program ID	Intellution.OPCiFIX.1
Remote Machine Name	
Connection Type	Any
Connection	
Connection	ruy



11. 接著開始新增 Device 以及設定 Device, 點擊 Click to add a device 或是點擊上方的 🛄 按鈕來

新增 Device。



12. 在 New Device,新增一個「Device name」,可自行定義。

		x
Add Device Wizard		
Specify the identity of this object.		
Device1	0	
下一步(N)	取涕	5

13. 設定掃描模式(Scan Mode),底下為選項說明:

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Respect Client-Specified Scan Rate: 遵守客戶端指定的掃描速度。

Request Data No Faster than Scan Rate: 取得資料的速度不得超過您所設定的掃描頻率(Scan Rate) 。

Request All Data at Scan Rate:依照您所設定的掃描頻率(Scan Rate)來取得所有資料。

Respect Tag-Specified Scan Rate:指定各別的 Tag 掃描頻率(Scan Rate)來取得資料。

若無特殊考量,在此建議選擇 Respect Client-Specified Scan Rate。

Add Device Wizard
Specify the method for determining how often tags in the device are scanned.
Scan Mode:
Respect Client-Specified Scan Rate 🗸 💿
Provide the first updates for new tag references from stored (cached) data rather than polling devices immediately.
Initial Updates from Cache:
Disable 🗸 💿
下一步(N) 取消



14. OPC Group 更新時,可以使用預設 Update mode: Exception 跟 Poll rate 輪詢設定,按「下一

步」。

		x
Add Device Wizard		
Specify an optional name for identifying the group. If nothing is entered, the underlyin server generates a unique name. Group Name (Optional):	ng OPC	~
Specify the update mode. In Exception Mode, the server notifies the driver of data valu quality changes. In Poll Mode, the driver reads all items attached to the group/device a configured update/poll rate (or as close as possible). Update Mode:	e and at the	l
Exception Specify the data update rate in milliseconds. In Exception Mode, this parameter specifie often the underlying OPC server should provide updates for changing data. In Poll Mor parameter specifies how often the driver should read the items attached to this group. Update/Poll Rate (ms):	es how ode, this	
Specify the percent change in data required to notify the client of a data change. This s	ettina is	~
下一步(N) 取淵	5

15. 通訊時,讀寫數量大小跟速度,可以使用預設的,直接按「下一步」。

Specify the limit on the number of items that can be included in a single Write request. Max Items per Write: 512 Specify how long, in milliseconds, the driver waits for a read-complete notification to be		Items per Read:
Specify how long, in milliseconds, the driver waits for a read-complete notification to be	n a single Write request.	cify the limit on the number of items that Items per Write:
returned from the server before any other read or write requests are sent. If the expected notification is not received, the items included in the request are set to Bad quality (and rei Bad until the next successful read).	omplete notification to be sts are sent. If the expected re set to Bad quality (and rema	cify how long, in milliseconds, the driver rned from the server before any other re fication is not received, the items include until the next successful read).
Read Timeout (ms): 1000		d Timeout (ms): 0 Ø



16. Watchdog 可以監控1個 Item Tag,檢查通訊有沒有異常停止,Reconnect after 重新連接3次 錯過,會再重新連接PLC,Watchdog:預設 Disable 直接按「下一步」。

Select En	nable to use the watchdog call-back monitoring feature.	
Watchdo Disable	>g:	
Specify ti may be l	the Item ID of the tag to be automatically added by the driver on connection. T left blank if one or more suitable watchdog tags are active for the connection'	This field 's duration.
ltem ID c	of Watchdog Tag (Optional):	
		🔞
Specify tl underlyir	he number of update periods that may pass without a data change notification ng OPC server before the driver assumes there is a problem and reconnects.	on from the
Missed U	Jpdates Before Reconnect:	
3		

17. Import 要選擇加入的 OPC Server 的 Item Tag,如果沒有「Select import items」視窗,因為

	x
See Add Device Wizard	
Invokes the Select Items to Import dialog.	
Import Items: Select Import Items	
下一步(N) 取》	肖



18. 在 Browsing 裡面點選要加 Items Tag,按中間「Add items」,這樣就 Import Items 成功了。

e e e e e e e e e e e e e e e e e e e	Select Items to Import	×
Browsing Type filter: Access filter: Native Any C Leaf filter: * Image: Access filter: Any C Leaf filter: * Any C Leaf filter: * AA AA AA AA AA AA AA AA AA	Import Items: Import Items: <td< td=""><td>OK Cancel Help</td></td<>	OK Cancel Help

完成(<u>F</u>)

19. 這樣就完成 Device 設定,按「完成」

,先直接跳到第14頁步驟25。

Identification		
Name	Device1	
Description		
Channel Assignment	Channel1	
Driver	OPC DA Client	
Model	OPC DA	
Operating Mode		
Data Collection	Enable	
Simulated	No	
Scan Mode		
Scan Mode	Respect Client-Specified Scan Rate	
Initial Updates from Ca	che Disable	
OPC Group		
Group Name (Optional		
Update Mode	Exception	
Update/Poll Rate (ms)	1000	
Percent Deadband	0	
1 15	4000	



20. 若專案未 Connect,請點選 KEPServerEX Runtime 的 Connect...。

😅 KEPServerEX 6 Configura	ation [Untitled *]	
File Edit View Tools	Runtime Help	
🗋 😂 🗟 🛃 🎇 🚺	Connect	🖻 🌡 🗈 🛍 🗙 🛄
Project	Disconnect	me / Add
⊡	Reinitialize	to add a static tag. Tags are not re
Device1		

21. 然後點選 Device。



22. 到 Device Properties 設定 Import, 點選 Select import items,反灰代表沒有 Connect 成功。





23. 在 KEPServerEX Runtime 的 Connect...後,在 Device Properties 點選「Import」後,按「Select import items...」。

	Property Editor - Channel1.	Device1 ×
Property Groups General Scan Mode OPC Group Comm. Parameters Watchdog Import	Import Import Items	Select Import Items
	ОК	Cancel Apply Help

24. 在 Browsing 裡面點選要加 Items Tag,按中間「Add items」,這樣就 Import Items 成功了。

Browsing Type filter: Access filter: Native Any Cancel Leaf filter: Any Cancel Help Import Items: Import		Select Items to Import	×
	Browsing Type filter: Access filter: Native Any V Leaf filter: * 	Import Items:	OK Cancel Help



25. 設定完 Select Item To Import 之後,可以點選開 Device1 就能看到剛 Import 的 Item Tags,之

後按 **Save** 存檔或另存檔案覆蓋,然後再按 **Quick** Client 小圖示,看目前 Value 數值。

<u>ex</u>	KEPServerEX 6 C	onnected to F	Runtime]		>	۲	
<u>File Edit View Tools Runtime</u>	<u>H</u> elp						
🗋 📸 🗟 🎇 🎇 🖬 🖏 🖏	🔁 🚰 🤊 👗 🗈 🛍						
Project	Tag Name	Address	Data Type	Scan Rate	Scaling	Description	
⊟ିାଲା Connectivity	☑ F_CV	FIX.FT101.F_CV	Float	100	None		
E Device1							
🔁 FT101							
Advanced Tags							
Alarms & Events							
Add Area							
Add Log Group							
EFM Exporter							
DF for Splunk							
Add Splunk Connection.							
白 號 IoT Gateway							
Add Datastore	<						>
Date Time V Source	3	Event					~
 2016/12/23 05:06:53 下午 KEPSe 	erverEX\Runtime	Scheduler Plug-in V6.0.	2107.0				
(i) 2016/12/23 05:06:53下午 KEPSe	erverEX\Runtime	loT Gateway V6.0.2107	.0				
(i) 2016/12/23 05:06:54 下午 KEPSe	erverEX\Configuration	Runtime project has be	en reset.				~
<						>	
Ready				Default User	Clients: 0 A	ctive tags: 0 of 0	:

26. 在 Quick Client 裡,選擇我們 Add 新增的 Item Tag Name,看目前 Value 數值,Quality 正常 是 Good 的,如果沒有連接成功會顯示 Bad,如果要詳細了解 Quick Client 操作,可以參考 OPC Quick Client Help。

	OPC	Quick Client - 🗦	未命名 *			_ 🗆	×
w <u>T</u> ools <u>H</u> elp							
f 💣 😭 🐰 🖻 🖻	×						
EPServerEX V6 ogger n 11Statistics 11System 11.Device1_System <u>e11.Device1.FIX</u>	Item ID Channel1.Device1.FIX.AA.ACB_A1.F_CV Channel1.Device1.FIX.AA.FT101.F_CV	/ Data Type Float Float	Value 52 106	Timestamp 17:15:20.280 17:15:33.751	Quality Good Good	Update Count 2 2	
Time	Event						~
05:15:12 下午 05:15:12 下午 05:15:20 下午 05:15:34 下午	Added 4 items to group '_DataLogger'. Added group '_System' to 'Kepware KE Added group 'Channel1 Device1.FIX' to Added group 'Channel1 Device1.Syste Added group 'Channel1.Device1.Syste Added 2 items to group 'Channel1.Devic Added 11 items to group 'Channel1.Devi Added group 'Channel1Statistics' to 'K Added group 'Channel1Statistics' to 'K Added 11 items to group 'Channel1.Sta Added 3 items to group 'Channel1Stat Synchronous write succeeded for 1 item						~
						Item Count: 5	6 //
	w Iools Help PServerEXV6 ogger n 11_Statistics 11_System 11_Device1_System 11_Device1_System 11_Device1_FX 05:15:12 下午 05:15:12 下午	W [ools Help PServerEX V6 ggger n1_statistics 11_statistics 11_system 11_Device1_System 11_Device1_System 11_Device1_FIX 0515:12 F4 Added group '_System' to 'Kepware.KE 0515:12 F4 Added group '_System' to 'Kepware.KE 0515:12 F4 Added group '_System' to 'Kepware.KE 0515:12 F4 Added group 'Channel1.Device1_FX' to 0515:12 F4 Added group 'Channel1.Device1_Syste 0515:12 F4 Added group 'Channel1.Device 0515:12 F4 Added group 'Channel1.Syste 0515:12 F4 Added group 'Channel1.Syste 0515:12 F4 Added group 'Channel1.Syste 0515:12 F4 Added 3 items to group 'Channel1.Syste 0515:12 F4 Added 3 items to group 'Channel1.Syst <	OPC Quick Client - ラ w Iools Help EPServerEX V6 ogger n 11_Statistics 11_Statistics 11_Statistics 11_Statistics 11_Device1_System 11_Device1_System 11_Device1_System 11_Device1_System 11_Device1_System 05:15:12 下午 Added group '_System' to 'Kepware KE 05:15:12 下午 Added group 'Channel1_Device1_Syste 05:15:12 下午 Added group 'Channel1_Device1_Syste 05:15:12 下午 Added group 'Channel1_Device1_Syste 05:15:12 下午 Added group 'Channel1_Device 05:15:12 下午 Added group 'Channel1_Devic 05:15:12 下午 Added group 'Channel1_Statistic' to 'K 05:15:12 下午 Added group 'Channel1_Statistic' to 'K 05:15:12 下午 Added group 'Channel1_Statistic' to 'K 05:15:12 下午 Added group 'Channel1_Statistic' to 'K 05:15:12 下午 Added group 'Channel1_Statistic' to 'K 05:15:12 下午 Added group 'Channel1_Syste	OPC Quick Client - 未命名 * w [ools Help PServerEX V6 ogger n Channel1Device1FIXAAACB_A1F_CV Float 52 Channel1Device1FIXAAACB_A1F_CV Float Channel1Device1FIXAAACB_A1F_CV Float 11_Statistics 11_Statistics 11_System 1Device1_System Of15:12 Added group '_DataLogger'. S15:12 Added group '_System' to Kepware KE 65:15:12 Added group 'Channel1Device1FIX'to 05:15:12 F4 Added group 'Channel1Device1_Syste 05:15:12 F4 Added group 'Channel1Device1_Syste 05:15:12 F4 Added group 'Channel1_Statistics' to 'K 05:15:12 F4 Added group 'Channel1_System' to 'Ke 05:15:12 F4 Added group 'Channel1_System' to 'Ke 05:15:12 F4 Added group 'Channel1_Syste 05:15:12 F4 Added group 'Channel1_Syste	OPC Quick Client - 未命名 * w [Jools Help SPServerEXV6 pgger n 1Statistics 1Statisti Stisti 2	OPC Quick Client - 未命名 * w _ Tools _ Help X PServerEXV6 X OpserverEXV6 Timestamp _ Quality OpserverEXV6 Channel1.Device1.FIX.AA.ACB_A1.F_CV Float 52 17.15.20.280 Good In	OPC Quick Client - 未命名 * w Jools Help I Solation × I Sevent2XV6 Item ID Opchannell Device IFIXAA CB_ATF_CV Float Time Channell Device IFIXAA CB_ATF_CV IL System Time ID Device I_System Time or provide the system or provide the system Statistics Added 4 items to group '_DataLogger'. Stistics Added 24 items to group '_System' 05:15:12*F* Added 40 proup Channell Device IFX to 05:15:12*F* Added 10 prove Channell Device I 05:15:12*F* Added 10 items to group '_System' 05:15:12*F* Added 10 prove Channell Device 05:15:12*F* Added 10 prove Channell Syste