

Integration Objects' OPC DA Test Client

OPC DA Explorer

Version 1.4 Rev.4

QUICK USER GUIDE

Integration Objects' OPC Data Access Explorer Quick User Guide Version 1.4 Rev.4 Published February 2018 Copyright © 2002 - 2018 Integration Objects



ABOUT THIS USER GUIDE

This guide is a step by step guide that lists the main steps on how to install, use and remove the OPC DA Explorer.

INSTALLATION PRE-REQUISITES

In order to properly run the OPC DA Explorer, you should install these software components on the target system:

- Microsoft .NET Framework (Microsoft .NET Framework Version 2.0 or later Redistributable Package)
- OPC Core Components which consist of all shared OPC modules including the DCOM proxy/stub libraries, the OPC Server Enumerator, .NET wrappers, etc.

INSTALLING OPC DA EXPLORER

Execute the « IntegrationObjects'OPCDAExplorer_1.4.4 » program on your machine using an administrator account. The installation wizard will take you through the different steps. To start the OPC DA Explorer, you need to follow the below steps:

- 1. Go to Start => Programs => Integration Objects => OPC Explorer => OPC Data Access Explorer => OPC DA Explorer.
- 2. Start the OPC DA Explorer using an administrator account.

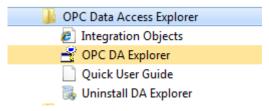


Figure 1: OPC DA Explorer Start Menu



If you are using the portable edition of the OPC DA Explorer, you will not need to go through the installation program to use the software.

CONNECTING TO AN OPC SERVER

To connect to an OPC DA server, select:

- OPC Server, then Connect to server in the Menu Bar
- Or use the **Connect to server** button in the Toolbar.

A dialog screen will appear:



OPC Data Access Servers' List :			
□ 💭 DEV74			
🗄 💭 IntegrationObjects.DAHDASimulatorC#2008TestSample02122016.1	=		
	=		
IntegrationObjects.DAHDASimulatorVB2008.1			
🕀 🖓 IntegrationObjects.DAHDASimulatorService.1			
🕀 🖓 IntegrationObjects.DAHDASimulatorC#2008.1			
🗄 💮 👘 IntegrationObjects.DemoOPCUsing.1			
🗄 💮 👘 IntegrationObjects.DAHDASimulatorC#2008Test.1			
🗄 🍶 🖓 IntegrationObjects.KNetOpcSimulator.1			
🗄 🍶 💮 IntegrationObjects.KNetOPCDAServer.1			
🗄 🖓 IntegrationObjects.OPCHDADriverForDatabasesTest.1			
	T		
I ↓ III			
Connect To Remote Server			
OPC Server Name :			
OPC Server IP Address / Host Name:			
Connect To Server Close			

Figure 2: Connect to OPC DA Server

There are two options for adding a new OPC DA server connection. The first option:

1. Double-click the OPC server you wish to connect to.

Second Option:

- 1. Type the server ProgID in the **OPC Server Name** Text Box.
- 2. Type the IP Address or the name of the host that contains the server in the **Host Name** Text Box.
- 3. Click Connect To Server.

The new connection will be added and the target server will be added to the connected server list.

ADDING AN OPC GROUP

To add a new group to a connected OPC server, you can click on the server and select the **Add** group menu item.



Integr	Reconnect Disconnect
	Add group
	Remove all groups Remove server
Server ProgID Server Addres	Display tag browser Export All Tags
Server State	Server Status

Figure 3: Add Group Menu Item

The dialog screen below will then appear:

Add New Group Dialog Screen		
Server Name : Server Address :	IntegrationObjects.OPC.ModBus.1 DEV74	
General Properties-		
Group Name	Group_1	
Active Group	: 🔽	
Update Rate	: 1000 ms	
% DeadBand	: 0	
Time Bias	: 0	
Read Mode		
Start-up Read Mode	: IOPCDataCallback::OnDat 💌	
Read Source	:	
O Use the same f	requency for all tags in this group.	
C Use specific frequency for each tag.		
(With the specific frequency option you should set the frequency for each tag (Initialy the frequency it set to 0 (Read disable)).		
Apply	Cancel	

Figure 4: Add New OPC Group

Group Name: The name must be unique among the other groups already created in the same OPC Server.

Active Group: Leave *unchecked* if the group is to be created as *inactive* and *Checked* if the group is to be created as *active*.



Update Rate: The client specifies the fastest rate at which item's data changes from this group may be sent by the server. Using 0 indicates that the server should use its fastest practical rate. The rate is specified in milliseconds.

%DeadBand: The percent change in an item value that will cause a notification of this change to a client. A 0.0 value indicates all changes.

Time Bias: The purpose of the TimeBias is to indicate the time zone in which the data was collected. Use a value of 0 if you wish the group to use the default system TimeBias.

Start-up Read Mode: This parameter indicates the read mode to be launched for the group. We find 3 Read modes:

- IOPCDataCallback::OnDataChange (For OPC DA version 2.05)
- Synchronous: allows a client to perform synchronous read operations to a server. There are two types:
 Read Source: DEVICE: Reading data from Device.
 CACHE: Reading data from Cache.
- Async I/O 2.0: allows a client to perform asynchronous read operations to a server (For OPC DA version 2.05). Two types are available: Read Source: - DEVICE: Reading data from Device. - CACHE: Reading data from Cache.

If you choose the Synchronous or the Async I/O 2.0 read mode, the DA Explorer allows the ability to launch the read operation with the same frequency (Update Rate) for all tags existing on the group or to configure the read with a specific frequency for each tag on the group.

If you want to start the read operation with the same frequency for all tags, you should check the box (as seen below) and set the loop frequency.



Add New Group Dialog Screen				
Server Name : Server Address :	IntegrationObjects.OPC.ModBus.1 DEV74			
General Properties				
Group Name	: Group_1			
Active Group	: 🔽			
Update Rate	: 1000 ms			
% DeadBand	: 0			
Time Bias	: 0			
Read Mode				
Start-up Read Mode : Synchronous I/0				
Read Source	CACHE			
Use the same frequency for all tags in this group.				
 Use specific frequency for each tag. 				
(With the specific frequency option you should set the frequency for each tag (Initialy the frequency it set to 0 (Read disable)).				
Apply	Cancel			

Figure 5: Use Same Frequency

To start the read operation with a specific frequency for each tag, you should check the bottom check box (The Update Rate Edit Box will be disabled) and set the related frequency for the tags that you are interested in.

Add New Group Dialog Screen		
Server Name : IntegrationObjects.OPC.ModBus.1 Server Address : DEV74		
General Properties	s	
Group Name	: Group_1	
Active Group	: 🔽	
Update Rate	: 1000 ms	
% DeadBand	: 0	
Time Bias	: 0	
Read Mode		
Start-up Read Mod	le : Synchronous I/O 💌	
Read Source	CACHE	
O Use the same frequency for all tags in this group.		
Use specific frequency for each tag.		
(With the specific frequency option you should set the frequency for each tag (Initialy the frequency it set to 0 (Read disable)).		
Apply	Cancel	

Figure 6: Set Specific Frequencies

Initially, all tag read frequencies are set to 0 (Read Disabled).



To configure the read frequency for the desired tag, you should right click on it and choose **Item Read Frequency** from the displayed menu. A dialog will appear

Item Read Frequency Setting			
Item Read Frequency 1000 ms			
(0 indicate that the read is disabled for this rag)			
Apply	Close		

Figure 7: Item Read Frequency Setting



ADDING OPC ITEMS TO A GROUP

To add one or more items to a group, you can right click on the desired group and then select the **Add Items** menu item.

DEV74			
i 💓 Gr	Add group to screen		
	Activate Deactivate		
	Clone Group Set group Name		
rver ProgID	Add Items		в
rver Address rver State	Read Mode To Use Write Mode To Use	+	
erver startTin erver version	Stop Read Stop Write	·	
	Remove All Items Remove Group		
	Group properties		

Figure 8: Add Items Menu Item

A dialog screen will appear:



Adding Items Dialog Screen	
Server ProgID : IntegrationObjects.OPC.ModBus.1 Server Address : DEV74	Group Number : 1
Group Name : Group_1	Item Number : 0
Device_0	ID State Data Type Access Path
Item ID :	
Data Type : Default 💽 Add	
Access Path :	
Apply	Export All Tags Cancel

Figure 9: Add Items to a Group

- The top section shows the related server and group properties.
- The left-top section shows a browse tree where you can search for items.
- The left-bottom section shows the properties to attribute to the item (Active/Inactive, AccessPath, DataType).
- The right section shows the items you have chosen.
 - Item ID: the item name
 - Item State: the state of the added item.
 - Item Data Type: the data type of the added item
 - Access Path: the access path of the added item.

The example described below will be based on the following server address space:



Adding Items Dialog Screen	
Server ProgID : IntegrationObjects.OPC.ModBus.1 Server Address : DEV74	Group Number : 1
Group Name : Group_1	Item Number : 0
Image: Construction of the second state of the second s	ID State Data Type Access Path
Access Path :	
Apply	Export All Tags Cancel

Figure 10: Adding OPC Items Dialog

- To add all items under a branch node, you can select the node "Group_0" and press the Add All Items menu item.



Adding Items Dialog Screen	
Server ProgID : IntegrationObjects.OPC.ModBus.1 Server Address : DEV74	Group Number : 1
Group Name : Group_1	Item Number : 0
Device_0	ID State Data Type Access Path
Add All Items	
Export Items	
Device_U/Group_U/Tag_5	
Device_0/Group_0/Tag_7	
Device_0/Group_0/Tag_9	
Device_0/Group_0/Tag_11 Device_0/Group_0/Tag_13	
Device_0/Group_0/Tag_13 Device_0/Group_0/Tag_15	
Device_0/Group_0/Tag_17	
Device_0/Group_0/Tag_19	
Device_0/Group_0/Tag_21	
Device_0/Group_0/Tag_23	
Device_0/Group_0/Tag_25 Device_0/Group_0/Tag_27	
Data Type : DefaultAdd	
Access Path	
Apply	Export All Tags Cancel

Figure 11 : Add All Branch OPC Items

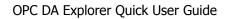
All items will be added to the list box.



Group Name : Group_1		Item Number : 0			
	•	ID	State	Data Type	Access Path
🖮 📑 Group_0		Device_0/Group_0/Tag_29	1	Default	
Device_0/Group_0/Tag_1		Device_0/Group_0/Tag_27	1	Default	
🔲 💽 Device_0/Group_0/Tag_3		Device_0/Group_0/Tag_25	1	Default	
Device_0/Group_0/Tag_5		Device_0/Group_0/Tag_23	1	Default	
Device 0/Group 0/Tag_7		Device_0/Group_0/Tag_21	1	Default	
Device_0/Group_0/Tag_9		Device_0/Group_0/Tag_19	1	Default	
Device_0/Group_0/Tag_3 Device 0/Group 0/Tag_11		Device_0/Group_0/Tag_17	1	Default	
	=	Device_0/Group_0/Tag_15	1	Default Default	
Device_0/Group_0/Tag_13		Device_0/Group_0/Tag_13	1	Default	
Device_0/Group_0/Tag_15		Device_0/Group_0/Tag_11 Device_0/Group_0/Tag_9	1	Default	
Device_0/Group_0/Tag_17		Device_0/Group_0/Tag_5	1	Default	
Device_0/Group_0/Tag_19		Device_0/Group_0/Tag_5	1	Default	
🔲 🔘 Device_0/Group_0/Tag_21		Device 0/Group 0/Tag 3	1	Default	
🔲 💽 Device_0/Group_0/Tag_23		Device 0/Group 0/Tag 1	1	Default	
Device_0/Group_0/Tag_25				Dordan	
Device 0/Group 0/Tag 27					
	-				
em ID :					
ata Type 💠 Default 💌					
tart Up State : 🔽	Add				
ccess Path :					

Figure 12: All OPC Items Added

- If an ItemID does not exist in the browse tree, you can manually type the ItemID in the ItemID text box then click the **Add** button.





Adding Items Dialog Screen	
Server ProgID : IntegrationObjects.OPC.ModBus.1 Server Address : DEV74	Group Number : 1
Group Name : Group_1	Item Number : 0
	ID State Data Type Access Path
ltem ID : Device_0/Group_0/Tag_1	
Data Type : Default 🗨 📈	
Start Up State : 🔽 Add Access Path : 🛄	
Apply	Export All Tags Cancel

Figure 13: Manually Add OPC Item

The edited ItemID will be added to the list box.



Adding Items Dialog Screen			
Server ProgID : IntegrationObjects.OPC.ModBus.1 Server Address : DEV74	Group Number : 1		
Group Name : Group_1	Item Number : 0		
	ID	State Data Type	Access Path
	Device_0/Group_0/Tag_1	1 Default	
1			
Item ID :			
Data Type : Default			
Access Bath			
	[
Apply	Export All Tags	Cancel	

Figure 14: OPC Item Manually Added

WRITING ITEM VALUE

Whenever you want to write an item value using the DA Explorer, you should first start a Write operation (In case the group write is stopped). Then, you can click on the desired item and select the **Write Item Value** menu item.

A dialog screen will appear:



Item Write Valu	es 🛛 🕰		
Server ProgID	: IntegrationObjects.OPC.ModBus.		
Server Address	: DEV74		
Group Name	: Group_1		
Item ID	Device_0/Group_0/Tag_1		
Current Value OPC Write Mode	: 15.000000 e : Synchronous I/O		
Data Type	: VT_R4		
New Value	: 45		
Apply	OK Cancel		

Figure 15: Item Write Value

Current value		
OPC Write Mode		
New Value		

- : The current value for this item.
- **e Mode** : The current write mode for the related group.
- **Ilue** : You can enter in this text box the new value to be written.

REMOVING OPC DA EXPLORER

To uninstall the OPC DA Explorer, you need to follow the steps below:

1. Click the "Uninstall DA Explorer" shortcut available in the start menu, as shown in the figure below:

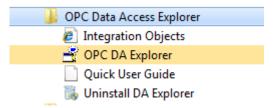


Figure 16: Uninstall Shortcut in the Start Menu

The following dialog box will appear:

Integration Objects' OPC Data Access Explorer - InstallShield Wizard	X
Do you want to completely remove the selected application and all of its features	?
Oui <u>N</u> on	

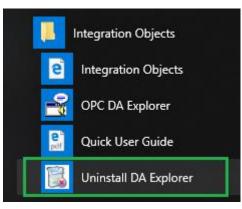


Figure 17: Uninstall the OPC DA Explorer

- 2. Click the **Yes** button to start uninstalling.
- 3. The wizard will then take you through the removal steps. At the end, click **Finish** when the un-installation is complete.



If you are using the windows 10, windows server 2012 or windows server 2016 operating system, the uninstaller needs to be run from the start menu as shown below.



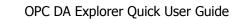


The OPC DA Explorer can also be manually removed as follows:

- 1. Go to the Control Panel.
- 2. Click Programs and Features
- 3. In the **Programs and Features** dialog screen, select **Integration Objects' OPC Data Access Explorer**.
- 4. Click Uninstall then OK.



If you are using the portable edition of the OPC DA Explorer, you will only need to manually delete the DA Explorer executable from the machine.





For additional information on this guide, questions or problems to report, please contact:

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