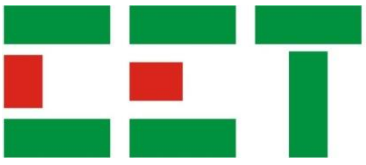
PecStar OPC Server User Manual

Version: V1.0

01/22/2015



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Chapter 1 Introduction

The **PecOPCServer** software from Ceiec Electric Technology (CET) is an OPC server program based on CET's energy management software such as **PecStar iEMS, iEEM** and so on. It provides user with monitoring and real-time measurements of the OPC Server system.

Taking PecStar as OPC server for example, this manual provides **PecOPCServer**'s installation guide, configuration and how to test connection between OPC server and client.

1.1 Summary of Topics in This Guide

This document provides the following information:

- **PecStar OPC Server Installation**

  Describes the steps required to install PecStar OPC Server on a single computer hosting standalone Server.
- **Configure PecStar OPC Server**

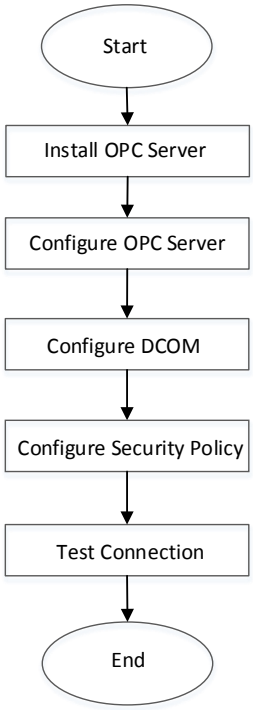
  Introduces how to configure real-time sources or node status sources via PecStar OPC Server.
- **DCOM Configuration**

  Introduces how to configure DCOM configuration.
- **Configure Local Security Policy of Win7**

  Introduces how to configure Win7's local security policy before connecting to OPC server.
- **Test Connection through OPC Client**

  Introduces how to test connection between OPC server and client via 3rd party OPC Client, such as MatrikonOPC Explorer.

1.2 Basic Procedure to Use PecStar OPC Server



Chapter 2 PecStar OPC Server Installation

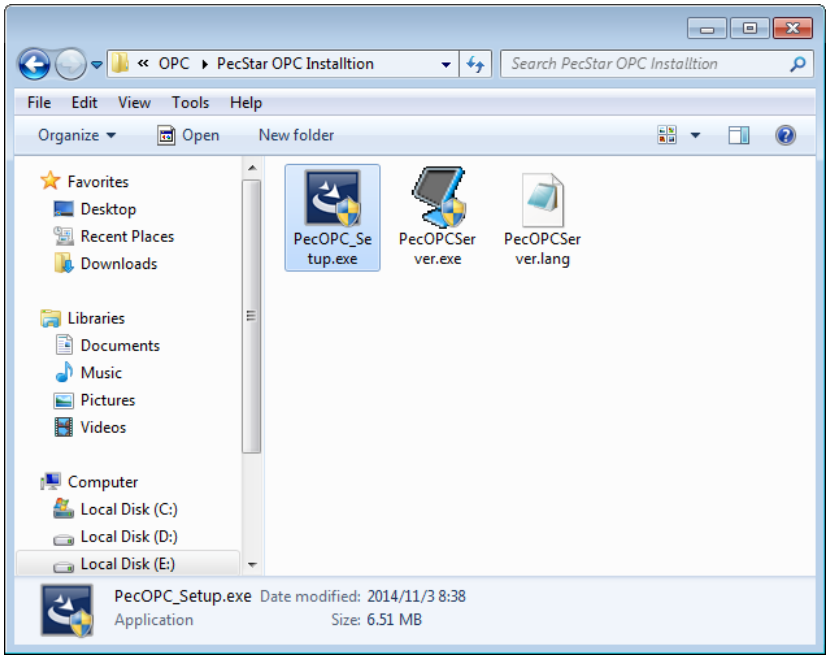
Before installing PecStar OPC Server, please ensure you have completed the tasks described in the following list:

- Obtain Installation programs including:
  - PecOPC_Setup.exe
  - PecOPCServer.exe
  - PecsOPCServer.lang
- PecStar iEMS has been installed successfully and Site has been configured.

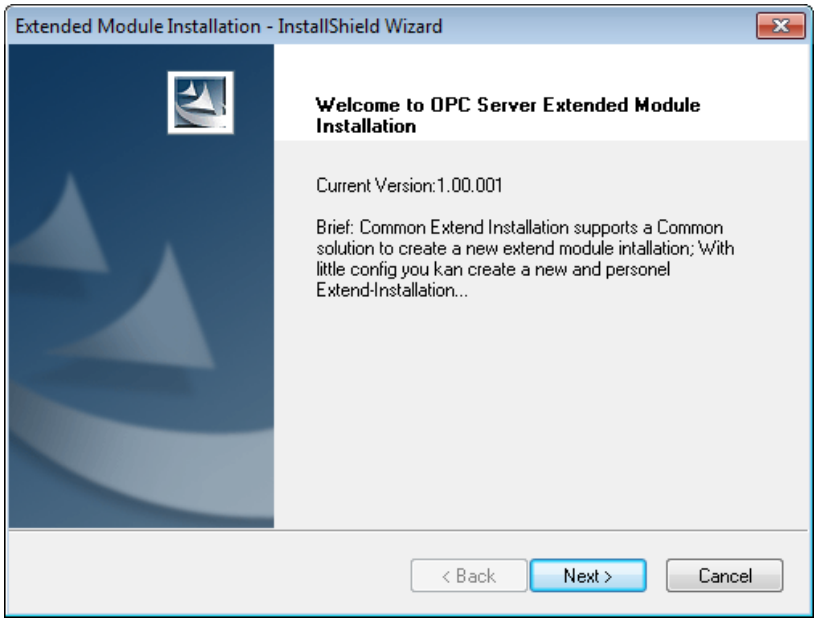
2.1 Install PecStar OPC Server

The following outlines how to install PecStar OPC Server.

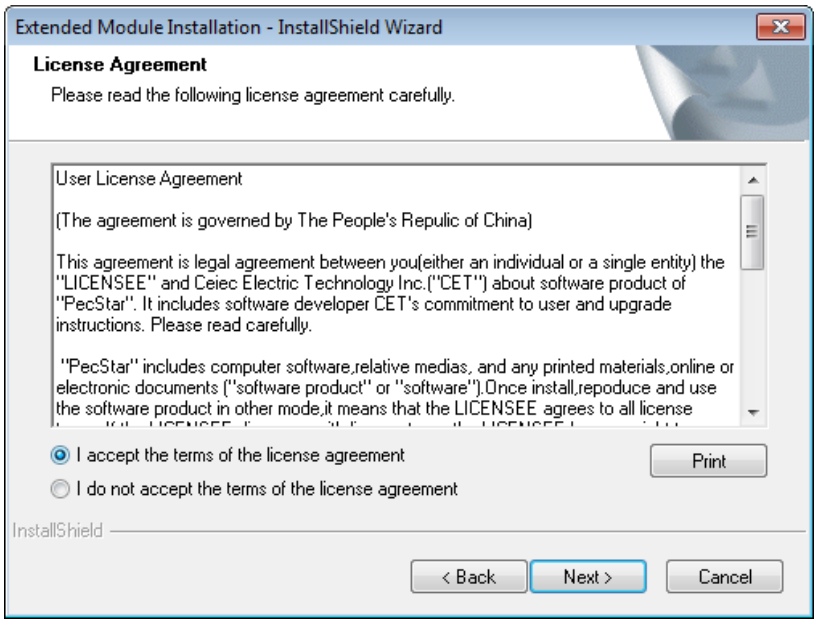
1. Double-click the **PecOPC Setup.exe** to begin the installation.



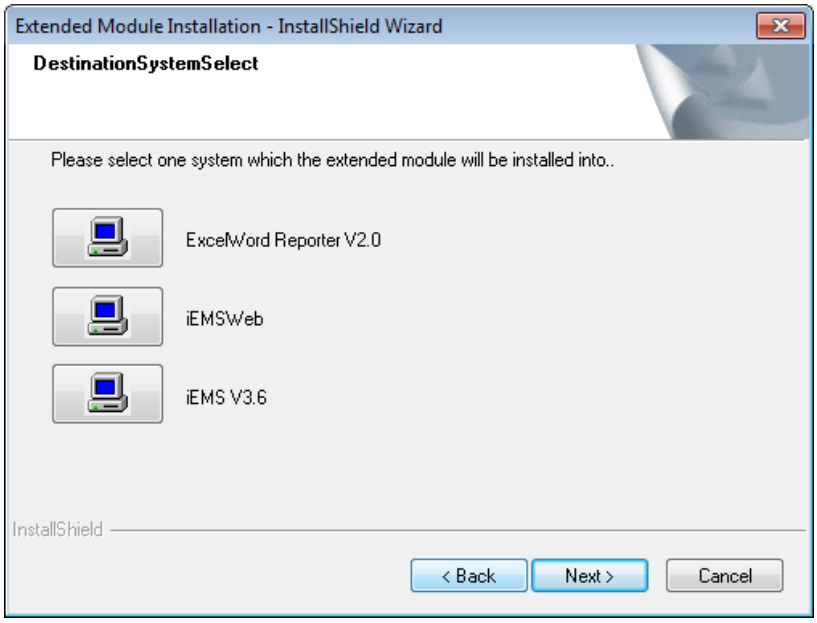
2. Select language and click **Next.**
3. Click **Next** when **Welcome** page appears.



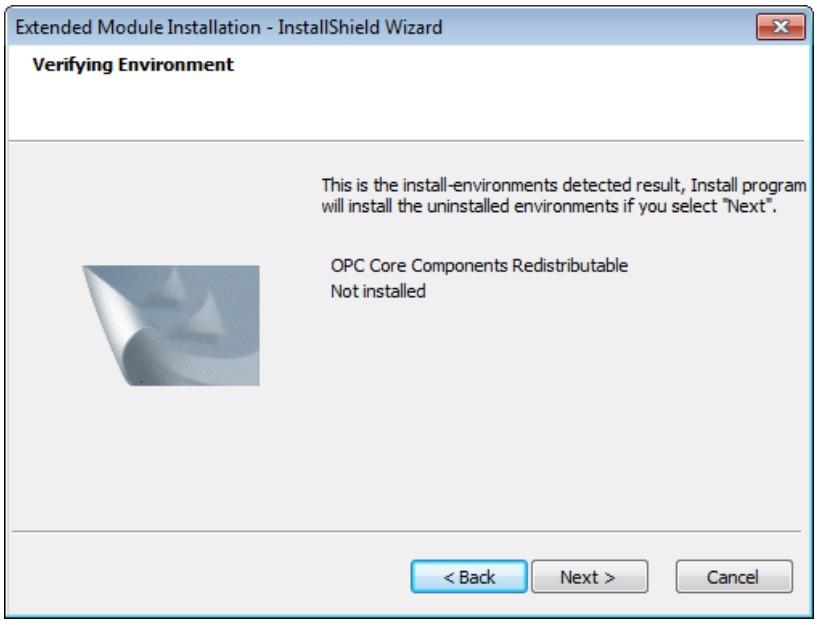
4. Read the License Agreement. If you agree, click **I accept the terms of this license agreement** and click **Next**.



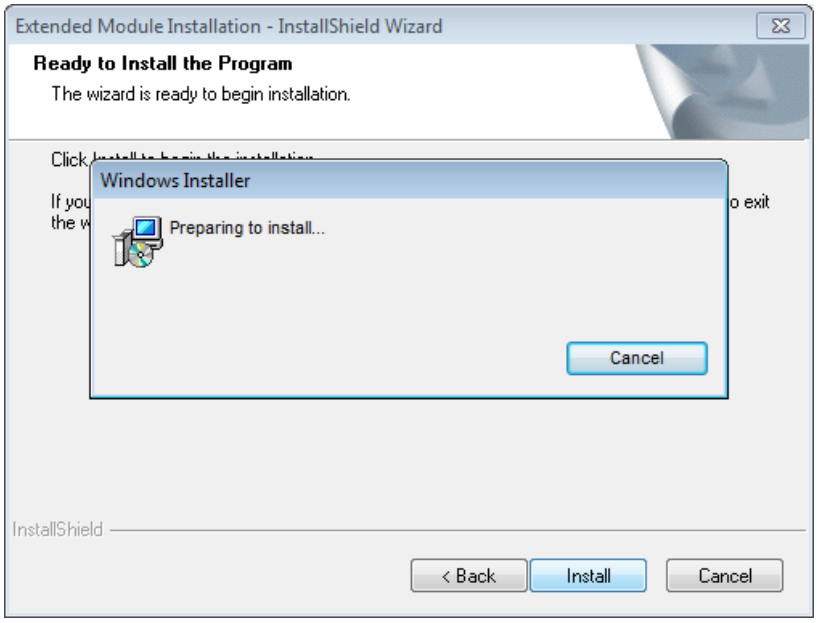
5. Select destination system and click **Next**. After installation, the OPC program will be installed on the selected system's installation path.
   Please note that the available systems will be different according to local installed program.



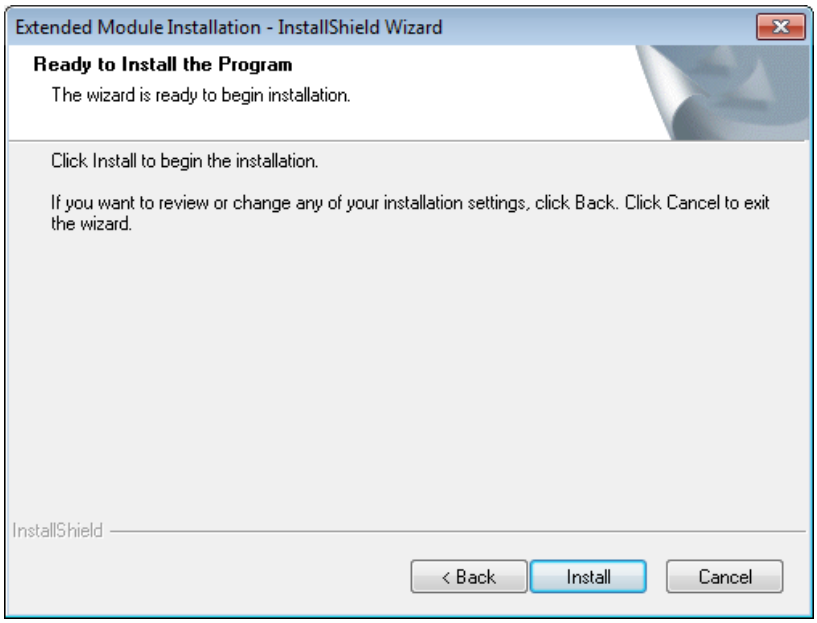
6. Click **Next** when **Verifying Environment** page appears**.**

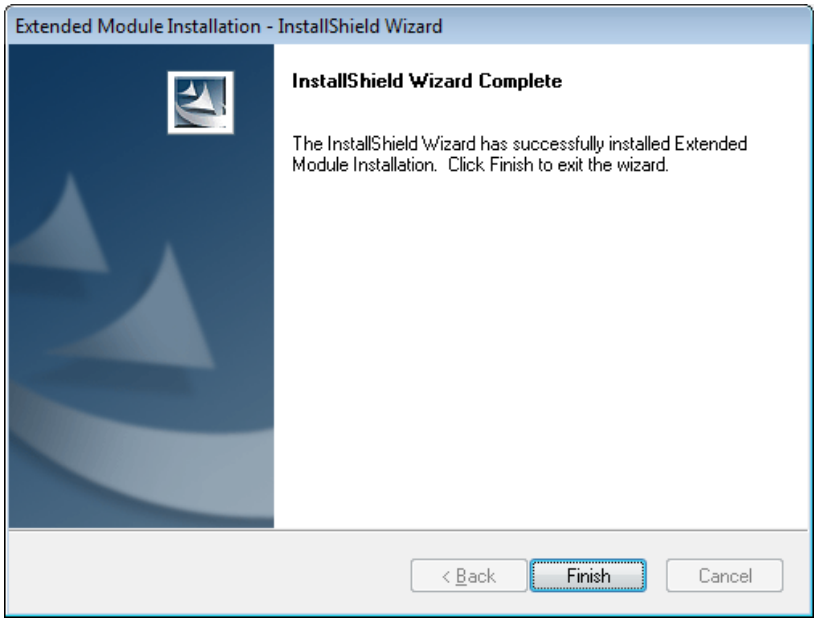


7. Click **Install.**

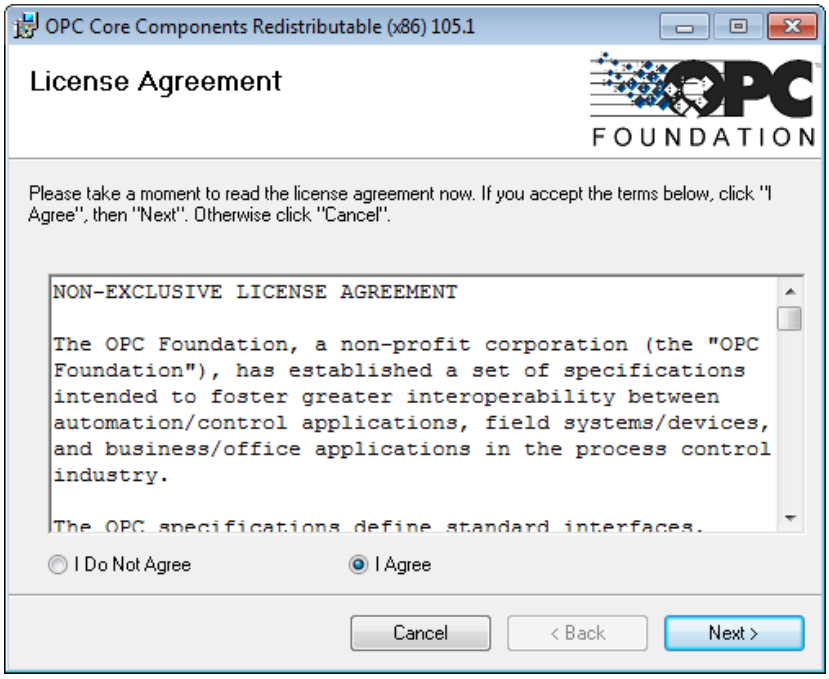


8. There are two pages appear, one is used to continue to install PecOPCServer, another is used to install OPC Core Components. Click **Install** and wait for several seconds, and click **Finish** when it complete.

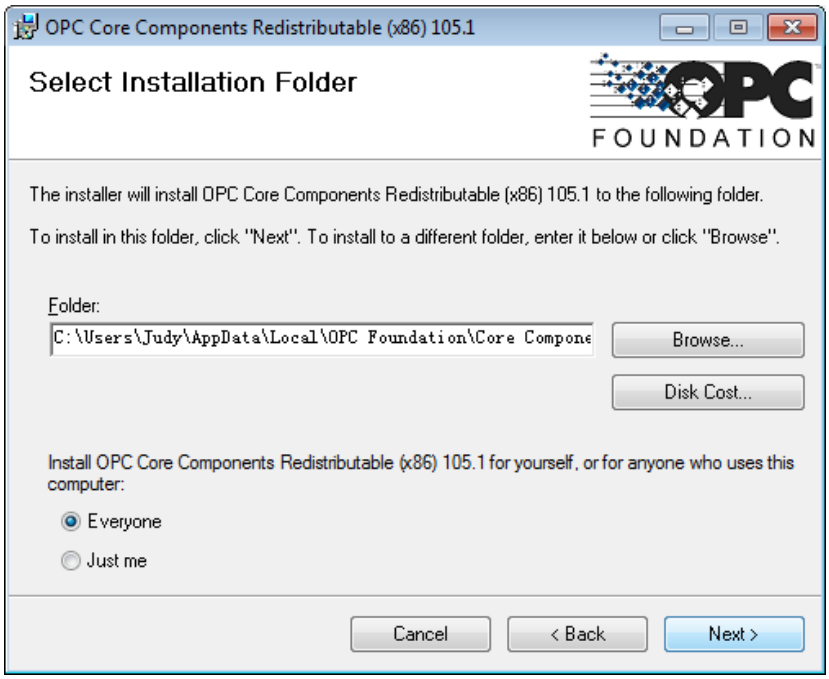




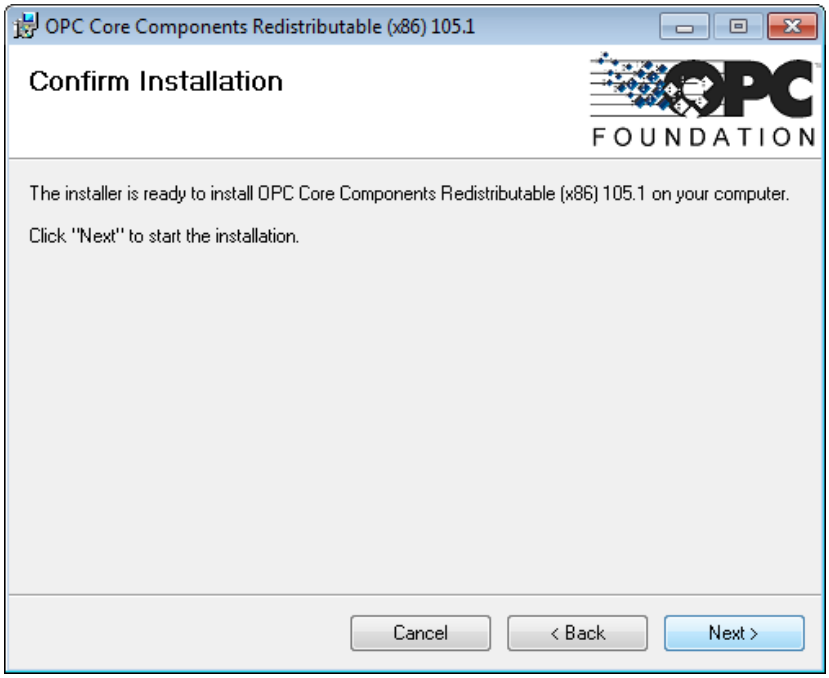
9. At the following page, select **I Agree** and click **Next** to install OPC Core Components.



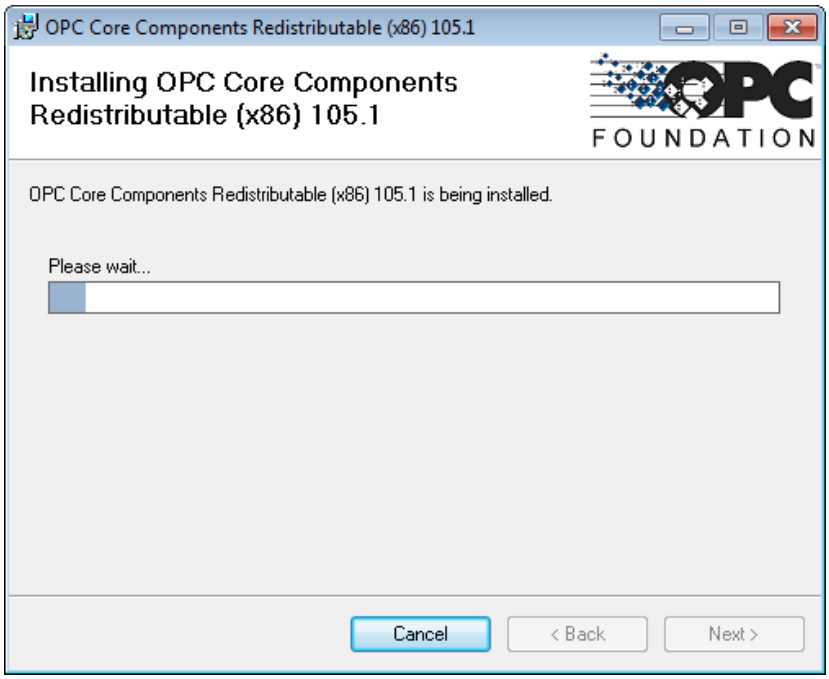
10. Select an Installation Path and specify the users of OPC Server, and then click **Next**.



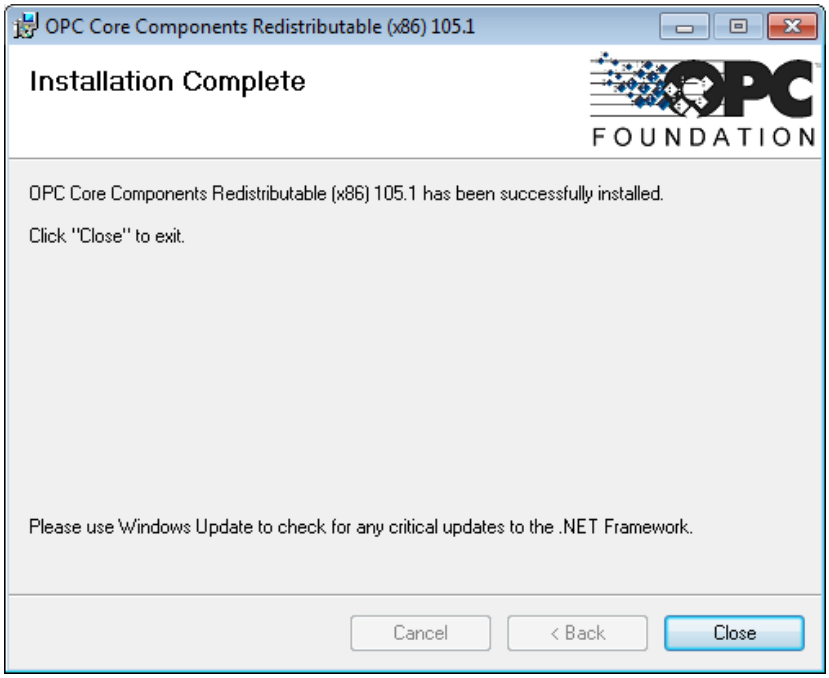
11. Confirm installation and click **Next.**



12. Wait for about a minute.



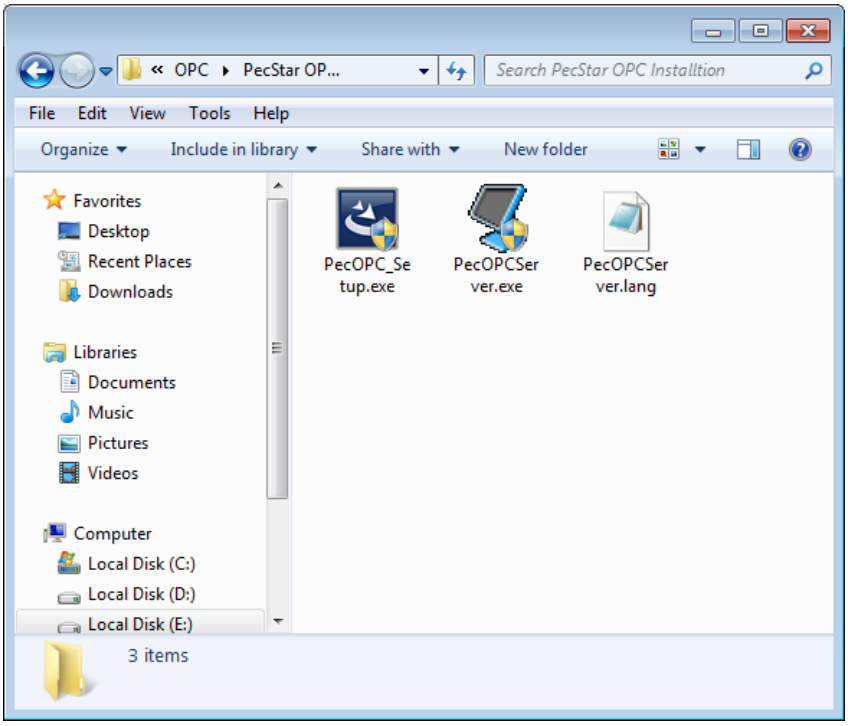
13. When the Installation finished, click **Close** to exit the application.



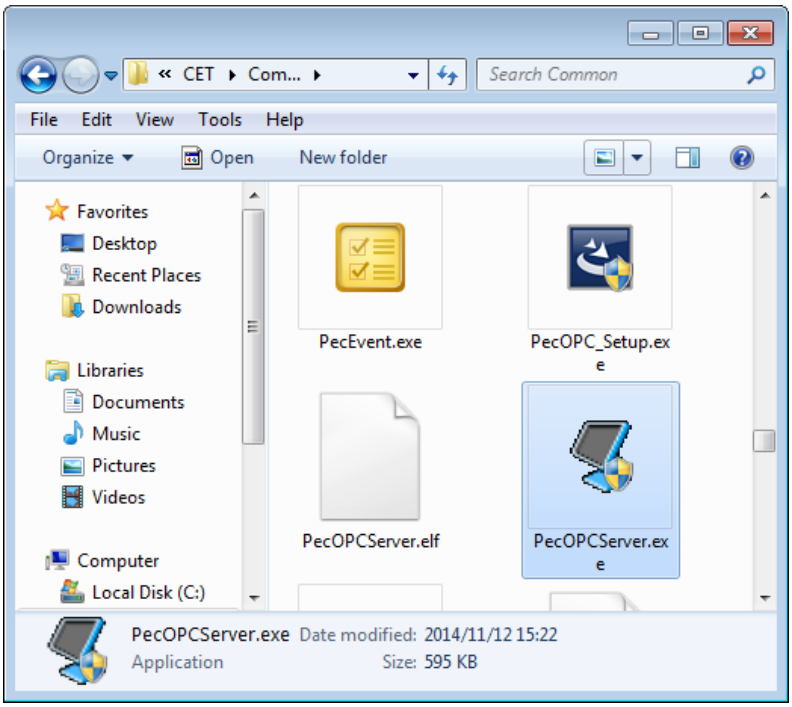
2.2 Copy PecsOPCServer.exe and PecsOPCServer.lang

Now we can begin the next steps:

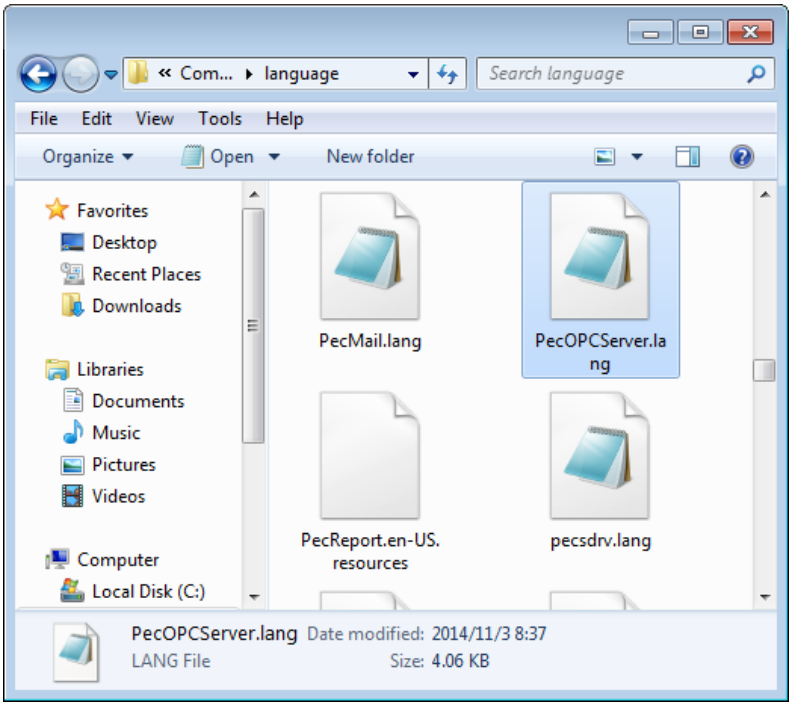
1. Come back to the folder which save installation programs.



2. Copy **PecOPCServer.exe** to the Common folder. For example, if you install PecStar in D:\CET, then please copy this file to D:\CET\Common.



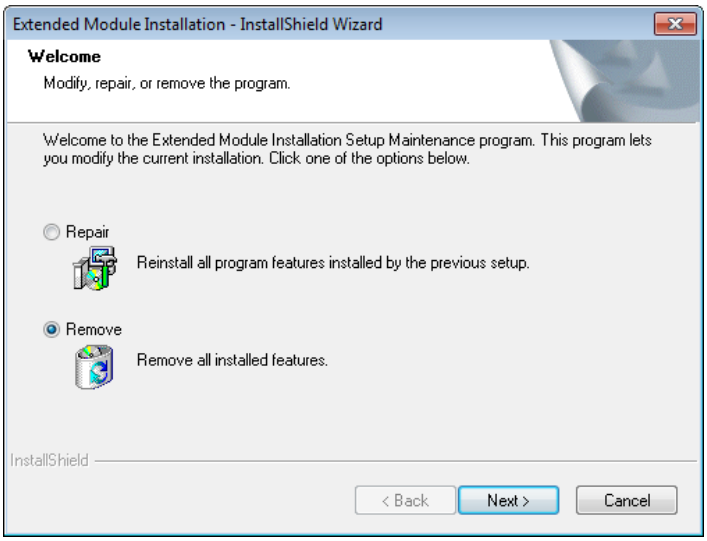
3. Copy **PecOPCServer.lang** to the D:\CET\Common\language folder.



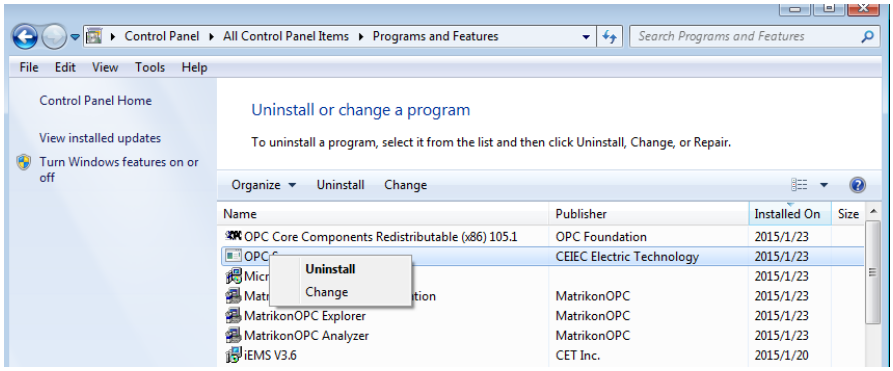
2.3 Uninstall PecOPCServer

There are two ways to uninstall PecOPCServer automatically

- Double-click **PecOPCServer Setup.exe**, and then click **Remove,** and then click **Next** to continue.



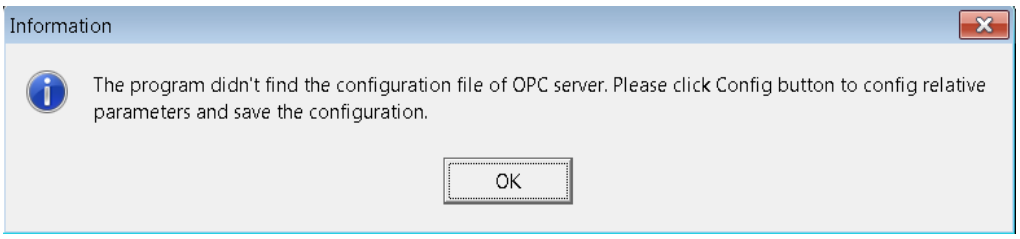
- Open **Control Pane**, find the **OPC Server**, right-click and select **Uninstall.**


Control Panel ▸ All Control Panel Items ▸ Programs and Features
Search Programs and Features
File Edit View Tools Help
Control Panel Home
View installed updates
Turn Windows features on or off
Uninstall or change a program
To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.
Organize Uninstall Change
Name
Publisher
Installed On
Size
OPC Core Components Redistributable (x86) 105.1
OPC Foundation
2015/1/23
CEIEC Electric Technology
2015/1/23
Uninstall
Change
2015/1/23
MatrikonOPC
2015/1/23
MatrikonOPC Explorer
MatrikonOPC
2015/1/23
MatrikonOPC Analyzer
MatrikonOPC
2015/1/23
iEMS V3.6
CET Inc.
2015/1/20

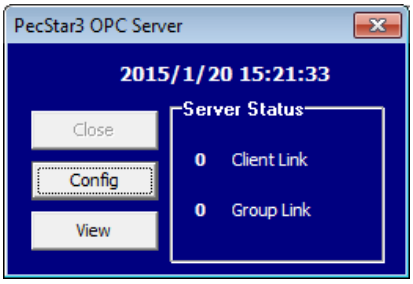
Chapter 3 Configure PecStar OPC Server

Before configuring PecStar OPC Server, please ensure PecOPCServer and Dserver have been started, and the target data sources, including sites, stations, devices, data points have been configured via PecConfig.

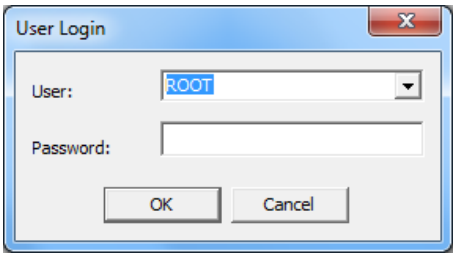
1. Double-click **PecOPCServer.exe** in the D:\CET\Common folder.
2. The following information will be popped out, click **OK.**



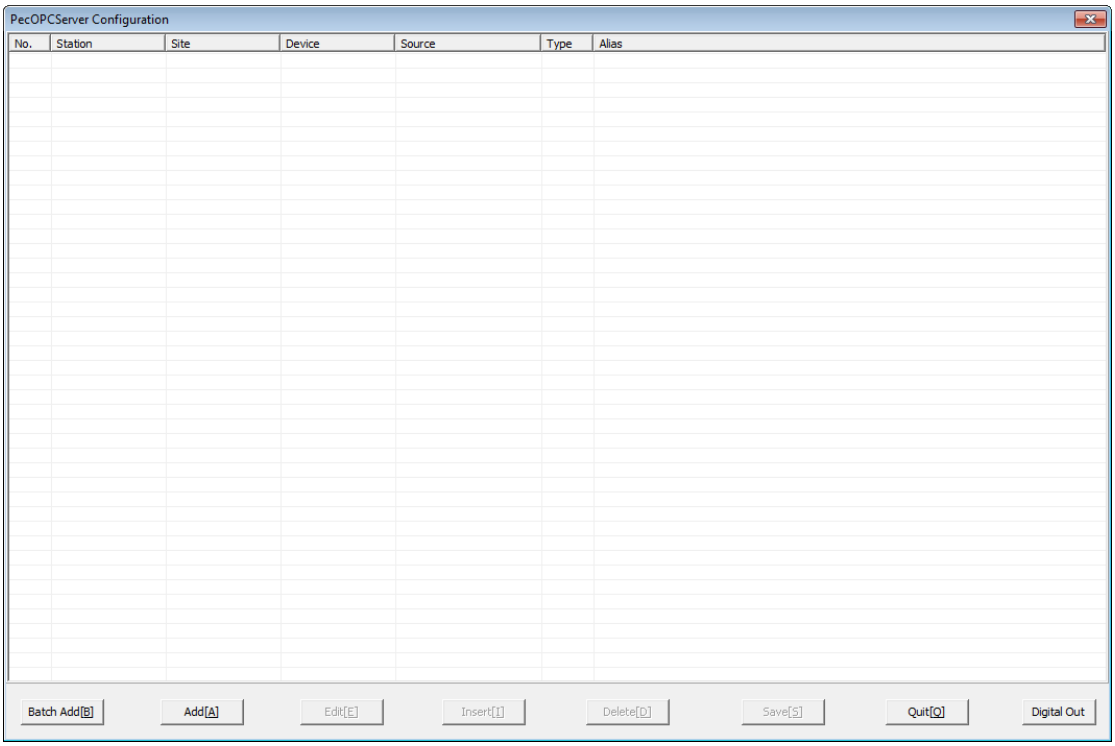
3. Click **Config**.
   The **DServer** will be started automatically.



4. Input the user name and password. Click **OK**.



5. Click **Batch Add[B]** or **Add[A]** to add parameters.

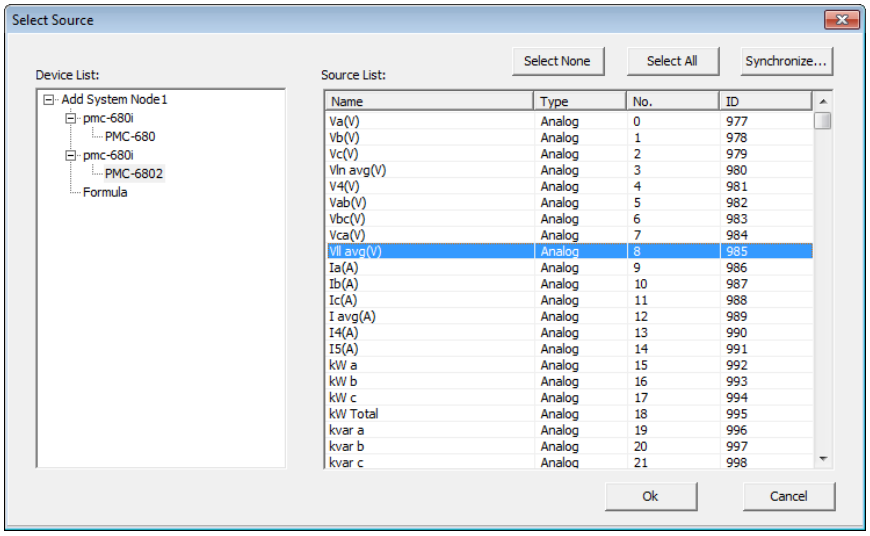


6. Similar to PecConfig, you can select and add the parameters.
   - **Batch Add[B]:** add parameters in batches.

     Select All: Click to select all parameters that displayed in the table.

     Select parameters in batches: press **Ctrl** and click the parameters you want to select.

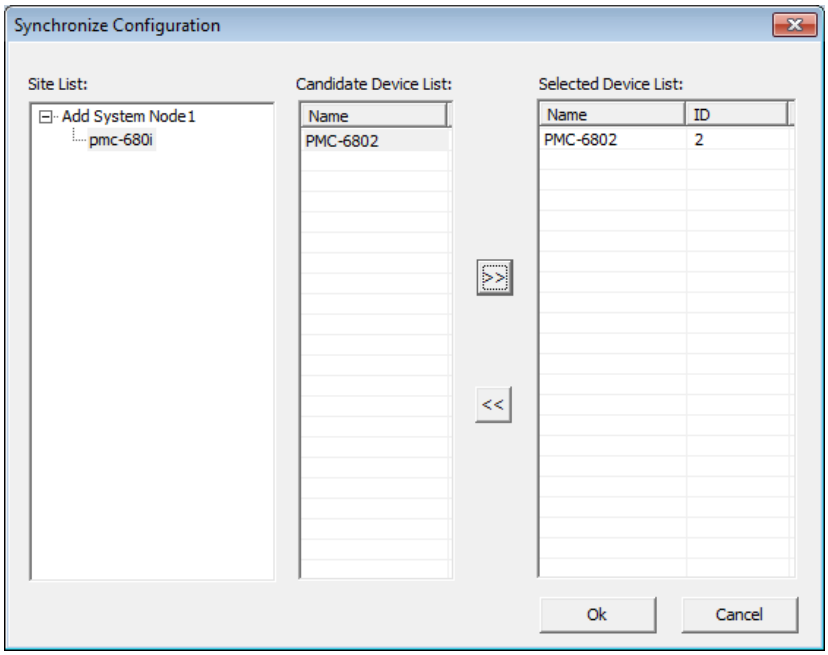
     Select None: After selected all parameters, click **Select None** to cancel all of them.



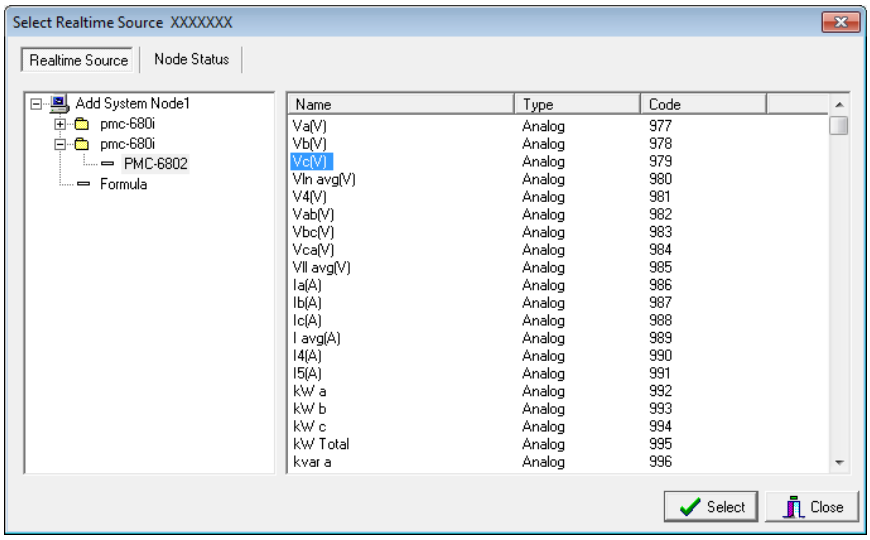
Synchronize: synchronize one device's configuration to another same type of device.

Only the following conditions are met and then you can use **Synchronize** function:

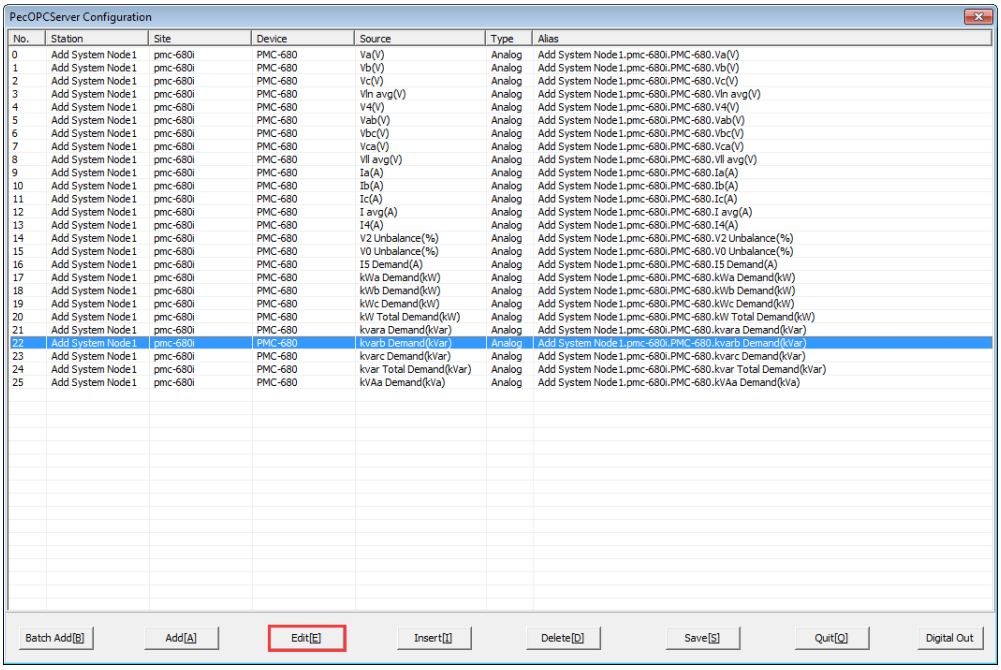
- In **Site List** area, at least one device has been selected.
- In **Candidate Device List,** at least one device's type is same with selected device of **Site List** area.
- In **Selected Device List,** at least one data source has been selected.



- Add a single parameter at a time. Click **Add[A]**, select data source including **Real-time Source** and **Node Status** and click **Select.**



7. (Optional) Click **Edit** to make alternation for existing configuration.
   Select a parameter and click **Edit**, you can change it into other parameters.



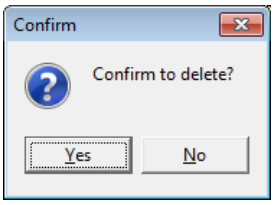
8. (Optional) Click **Insert** to insert a parameter at a specific location.

   Select a selected parameter and click **Insert**, you can insert another parameter at this location.

9. (Optional) Delete parameters.

   Select a parameter and click **Delete**, and then confirm the operation.

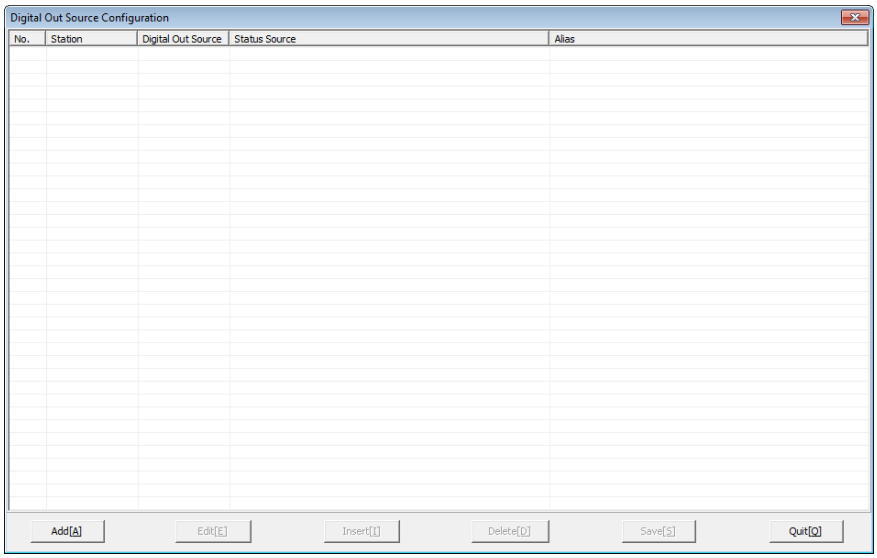
   Delete parameters in batches by pressing **Shift** or **Ctrl** while you select parameters, and then click **Delete.**



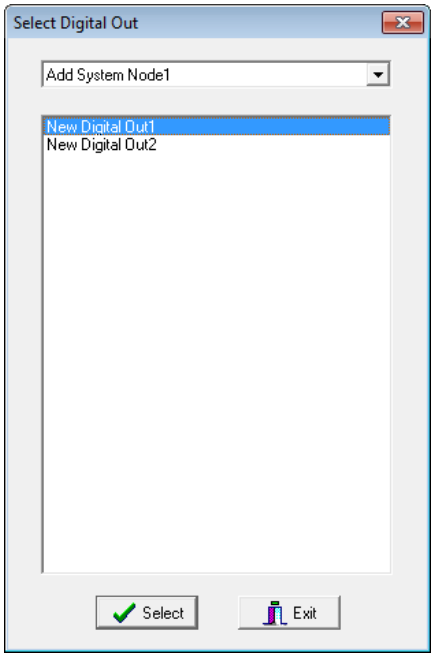
10. (Optional) Add Digital Out parameters.

    Before adding Digital Out parameters, please make sure you have added Digital Out Source via PecConfig.

    1) Click **Digital Out.**

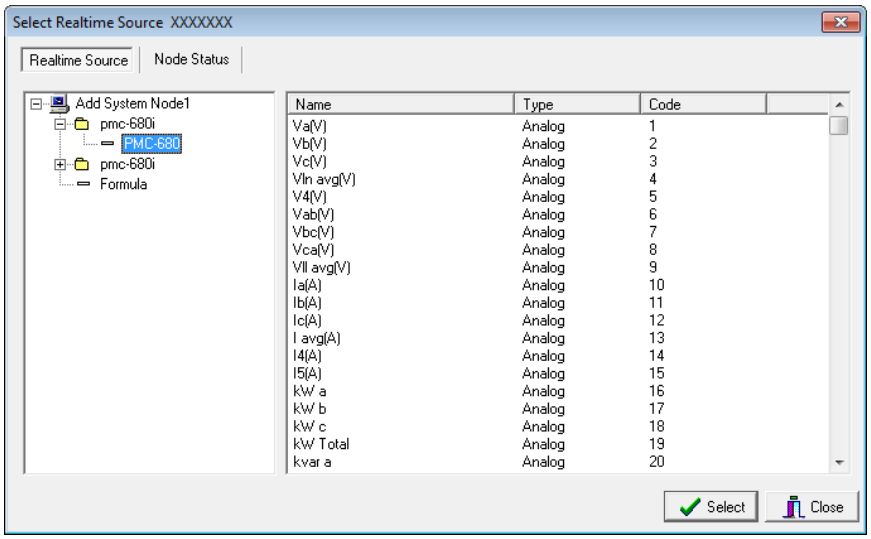


2) Click **ADD[A].**



3) Choose DO source and click **Select.**

4) Select Realtime Source or Node Status parameters.

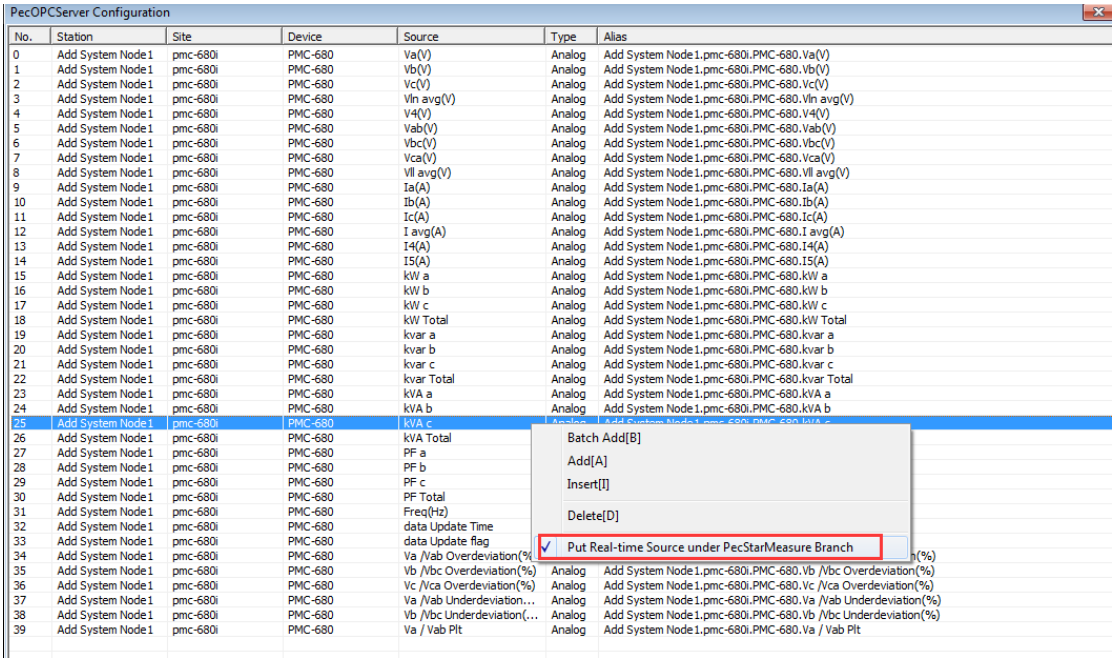


5) Other operations such as Edit, Insert and Delete are similar as corresponding operations of single parameter, please refer to **steps 6 to 8** above.

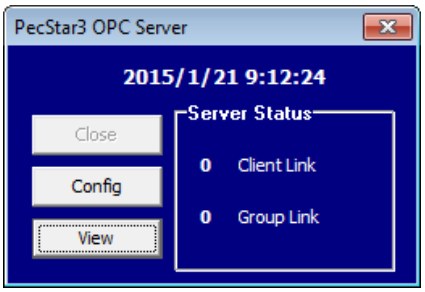
6) Click **Save** to save the configuration and click **Quit** to exit Digital Out parameter Configuration interface.

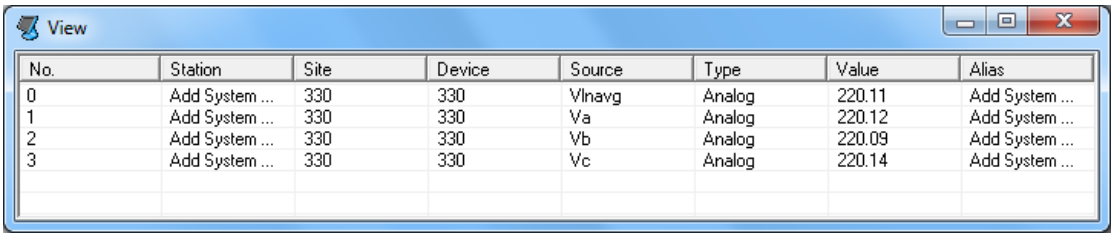
11. Put real-time source under PecStarMeasure Branch.

    Select a parameter, right-click and select **Put Real-time Source under PecStarMeasure Branch**. Then on the **Add Items** page of 3rd party OPC client, the branch node **PecStarMeasure** will be created under **PecStar3.0OPCServer.1.**



12. Click **Save** to save the configuration. After you add all the parameters, click **Quit**.
13. Click **View**. The Value should be the same with Front.exe (SCADA program).



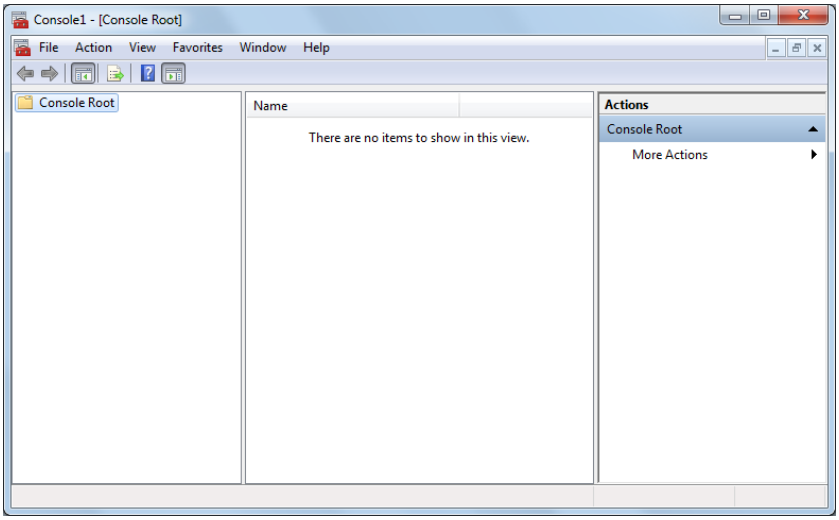


No.	Station	Site	Device	Source	Type	Value	Alias
0	Add System ...	330	330	Vlnavg	Analog	220.11	Add System ...
1	Add System ...	330	330	Va	Analog	220.12	Add System ...
2	Add System ...	330	330	Vb	Analog	220.09	Add System ...
3	Add System ...	330	330	Vc	Analog	220.14	Add System ...

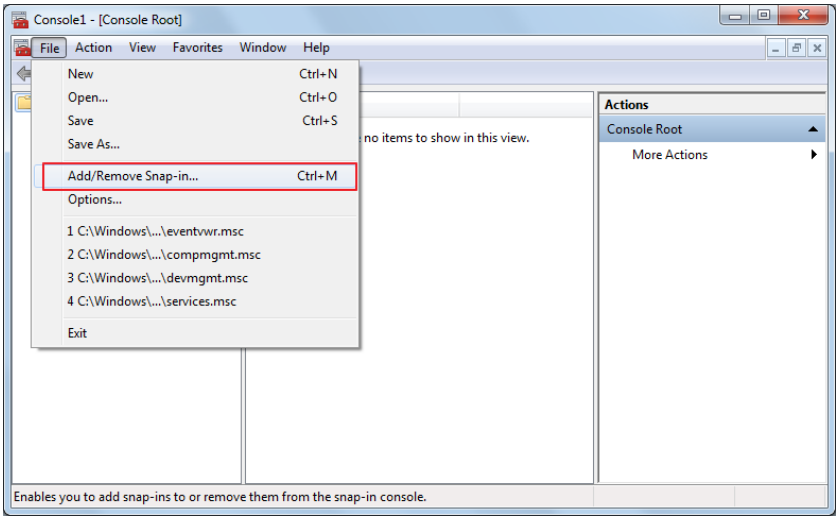
Chapter 4 DCOM Configuration

After installed PecStar OPC Server, you need to do the DCOM Configuration to make other clients can remote connect to the server. DCOM stands for **Distributed Component Object Model**, is a proprietary technology for communication among software components distributed across networked computers. Here are the configuration steps.

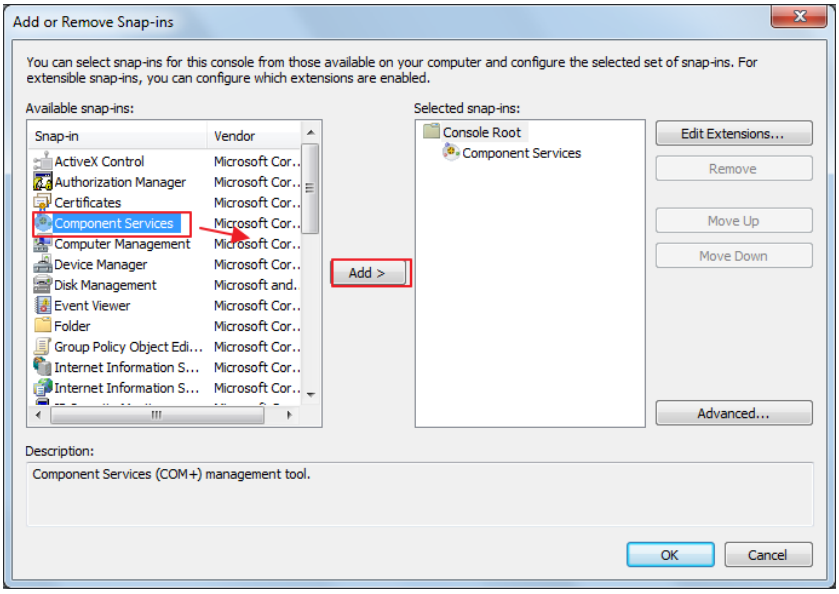
1. Click the **Start** > Search bar, input **mmc -32** (on both 32-bit or 64-bit operating systems) and press **Enter** to open **Microsoft Management Console**, please refer to the figure below.



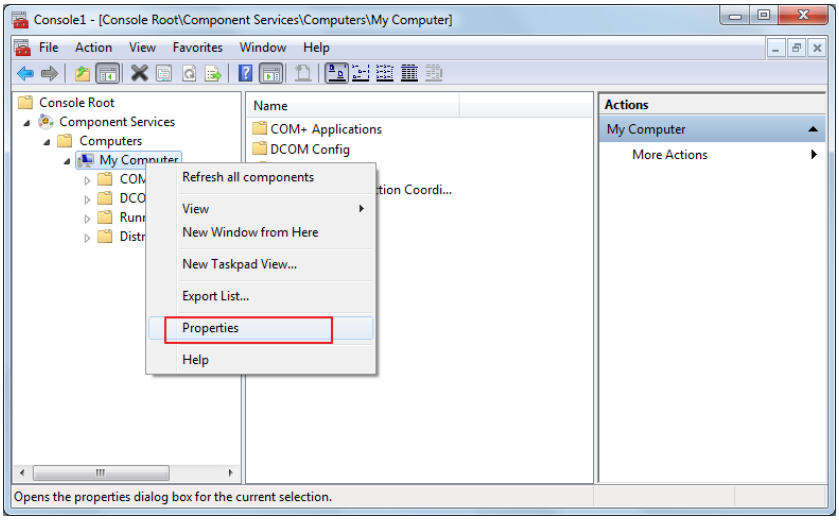
2. Click **File** > **Add/Remove Snap-in…**



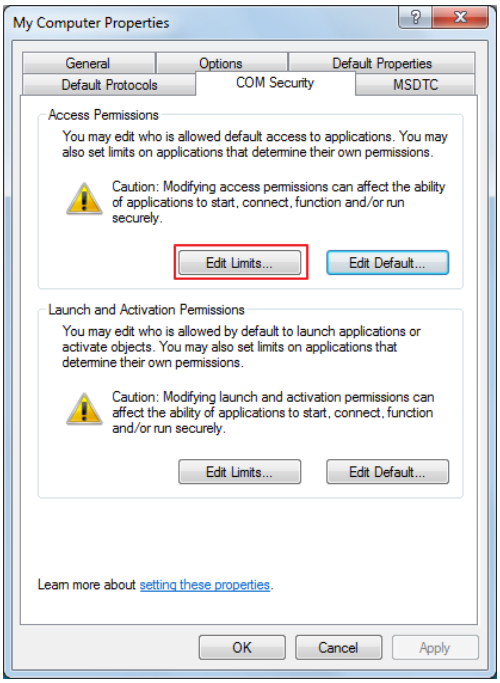
3. Add the **Component Services**, and click **OK**.

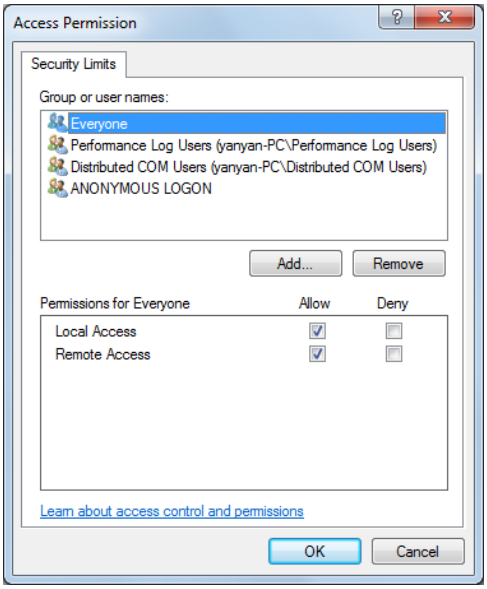


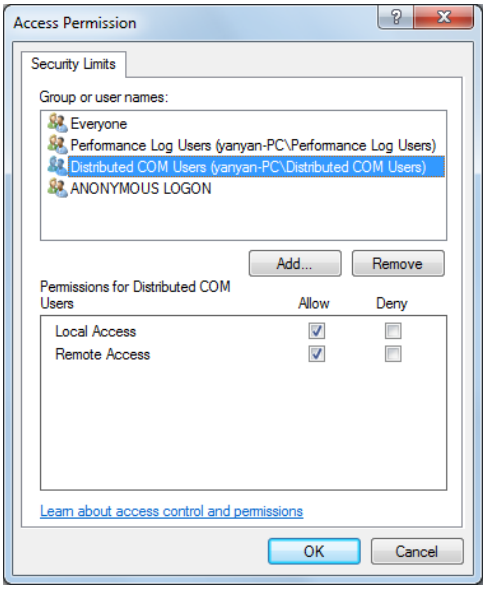
4. Unfold the **Component Services**, right-click **My Computer** and click **Properties**.



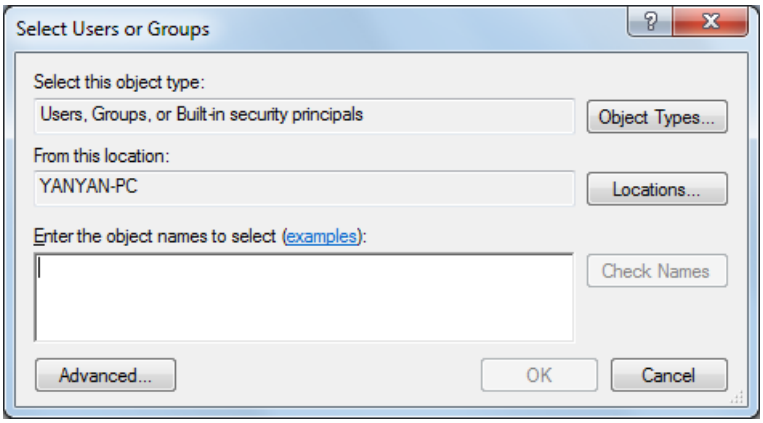
5. Click **COM Security** > **Access Permission** > **Edit Limit…** > **Security Limit**, and set **Everyone**, **Distributed COM Users' permission** as **Allow**, please refer to the figures below. Click **OK** to save configuration



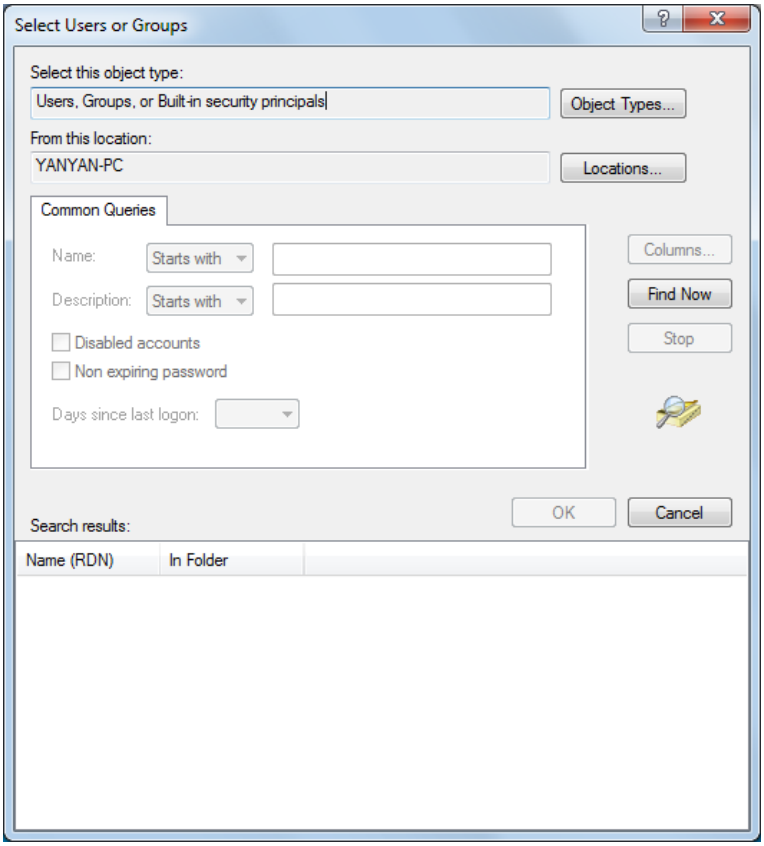


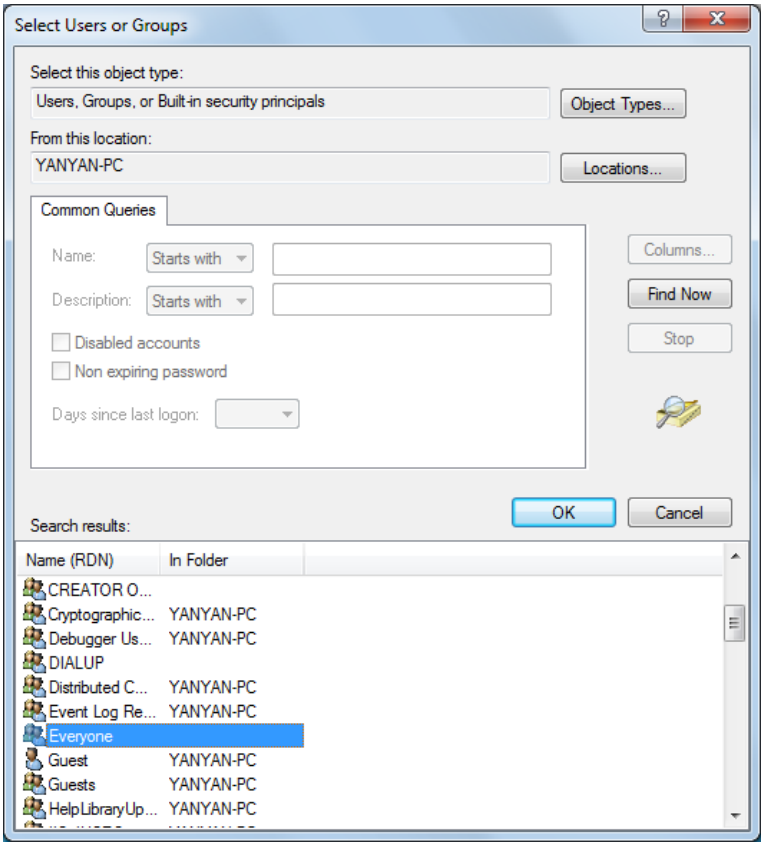


If you can't find **Everyone** or **Distributed COM Users** in the Group or user names, you can click **Add…** to open the **Select Users or Groups** dialog box. Then click the **Advanced…**.

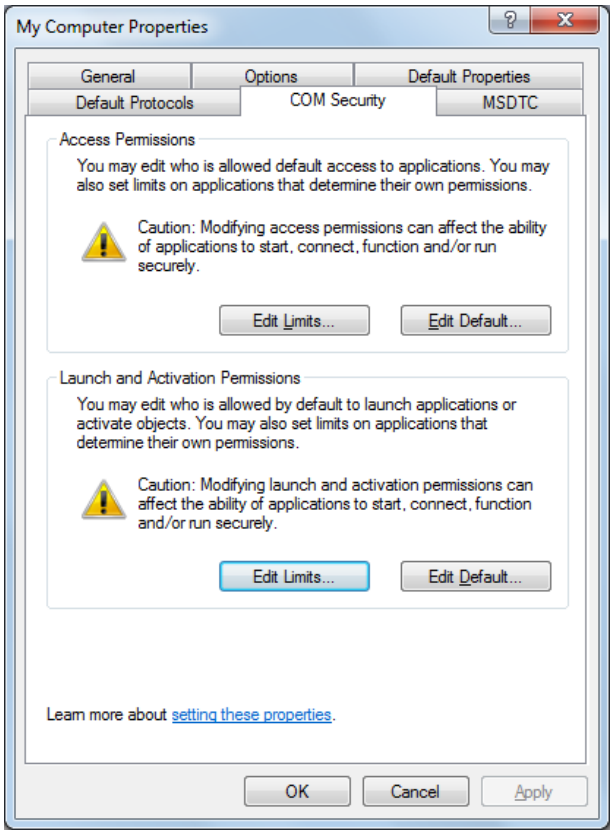


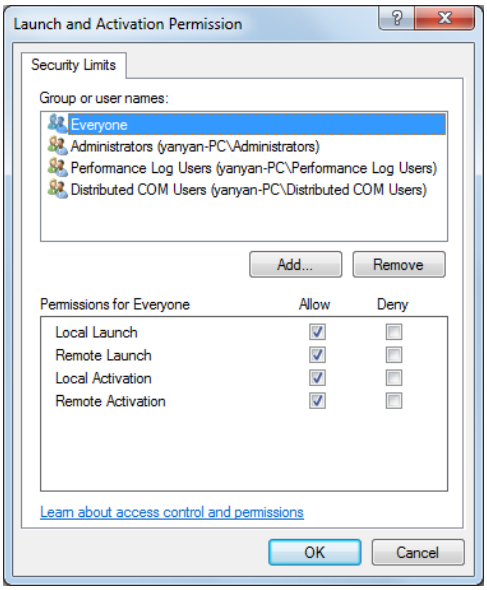
Click **Find Now**, in the Search results, select **Everyone** and click **OK**. Use the same method to add Distributed COM Users.

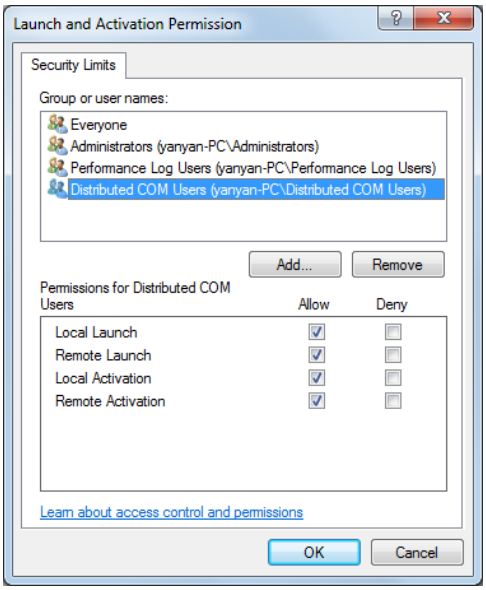




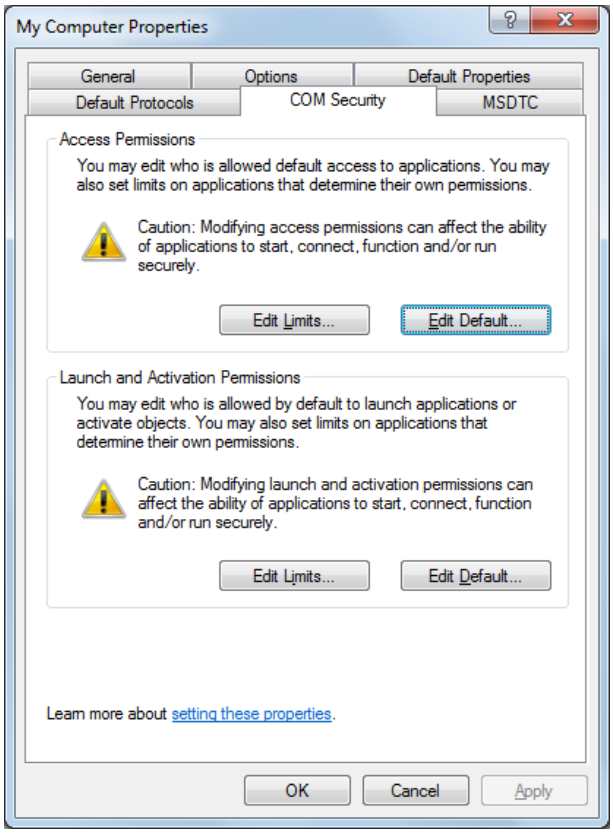
6. Come back to **COM Security** settings. In the **Launch and Activation Permissions**, click **Edit Limits...** And set **Everyone** and **Distributed COM Users** as **Allow**. Click **OK** to save configuration



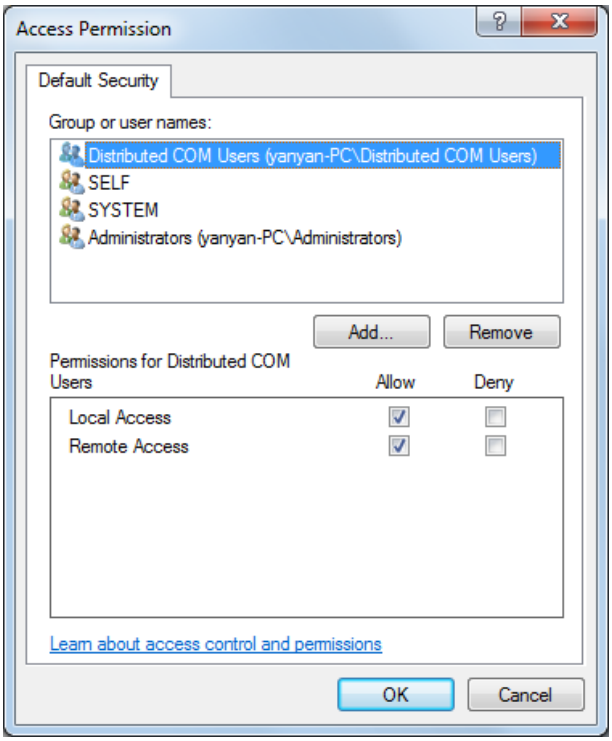




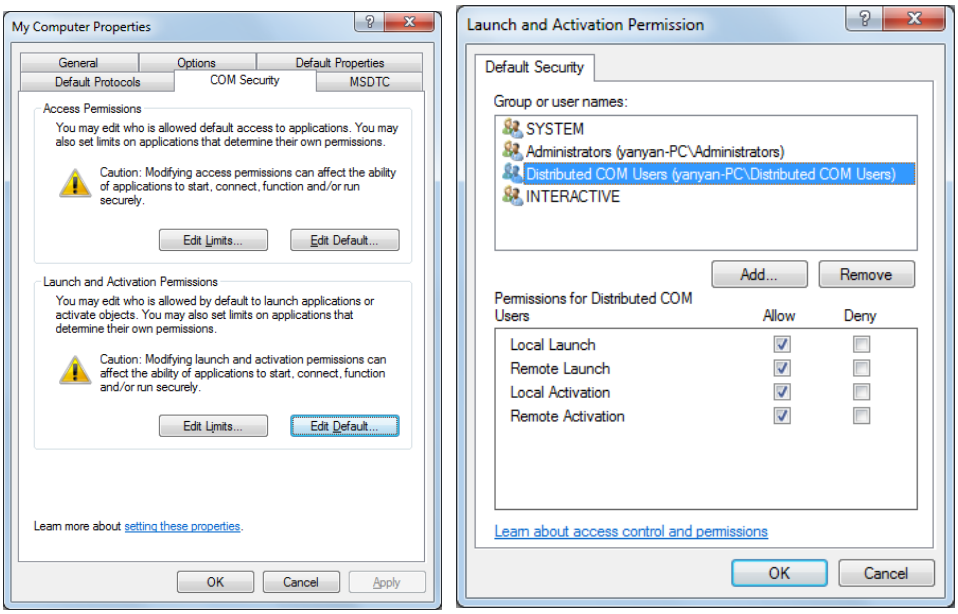
7. Come back to **COM Security** settings. Click the **Edit Default** in **Access Permissions**.



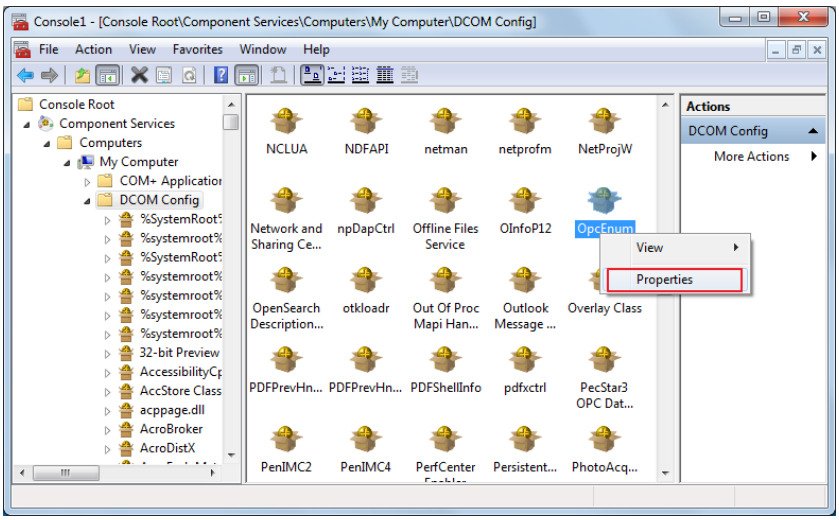
In the **Access Permission** dialog box, add the **Distributed COM Users**.



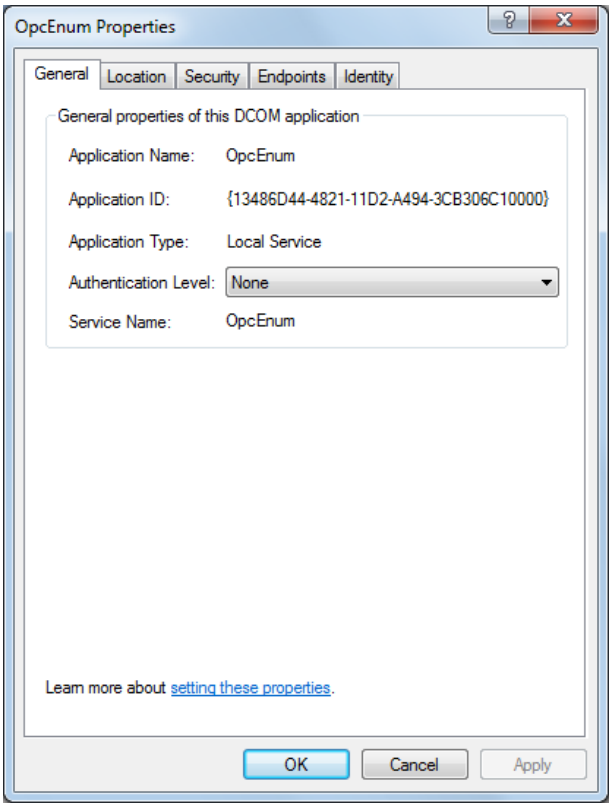
8. Come back to **COM Security** settings. Click **Edit Default** in **Launch and Activation Permissions,** add the **Distributed COM Users** and set it as below. Click **OK** to save configuration



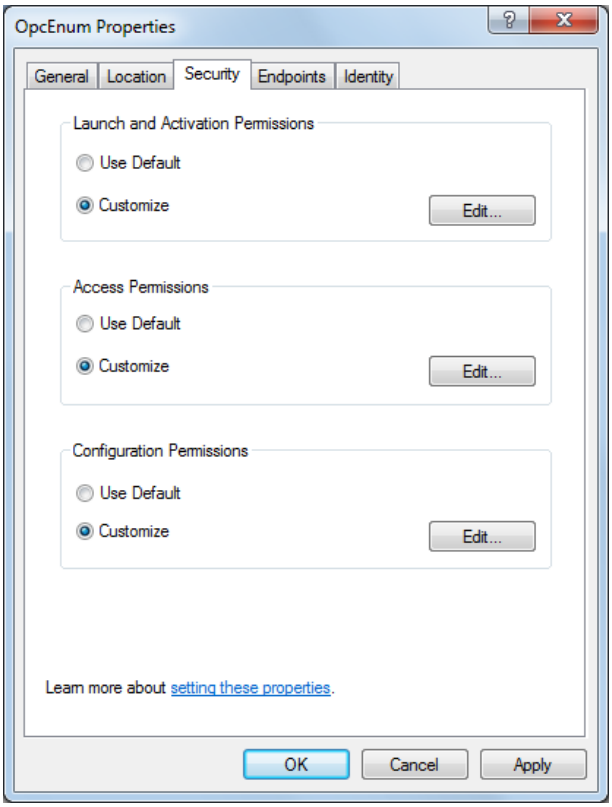
9. Come back to Console and navigate to **Component Service > Computers > My Computer > DCOM Config**, set the **OpcErum** properties. On the right side of the list, right click **OpcErum**, and click **Properties**.



a) Here is the **General** settings.

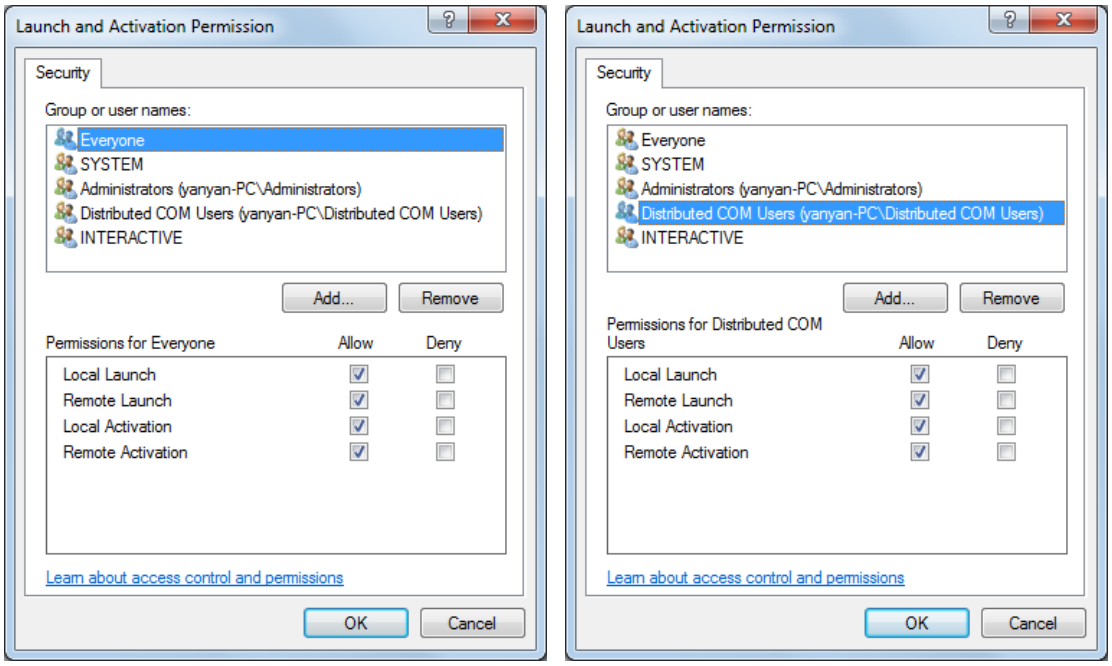


b) Click **Security**.

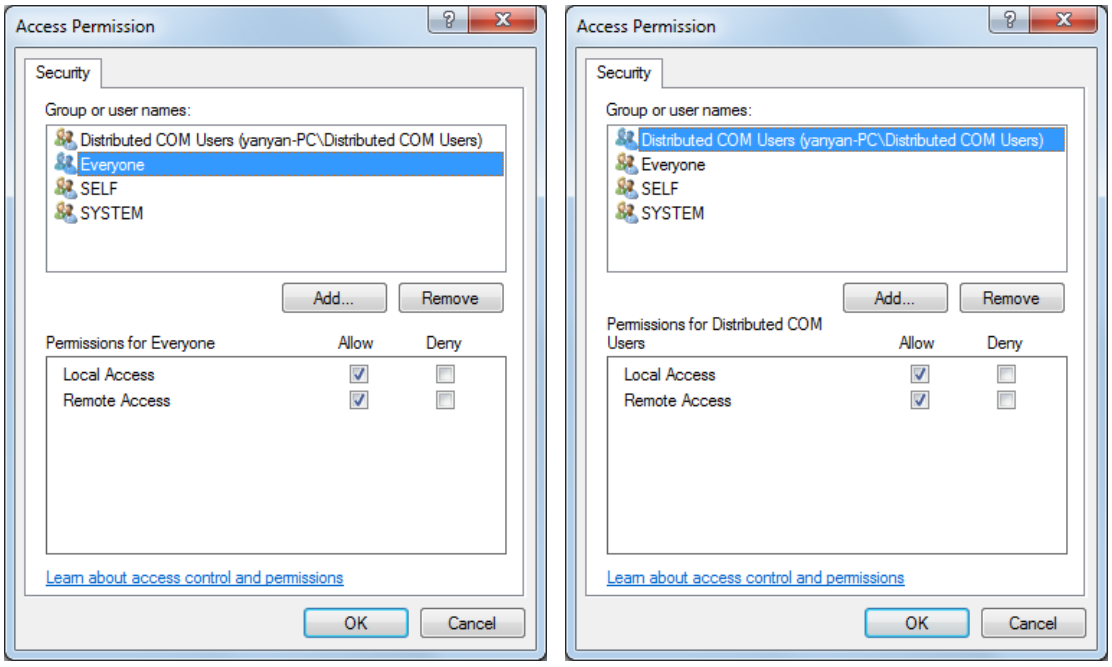


c) In the **Launch and Activation Permissions**, click **Edit** and adjust the settings like this. Click

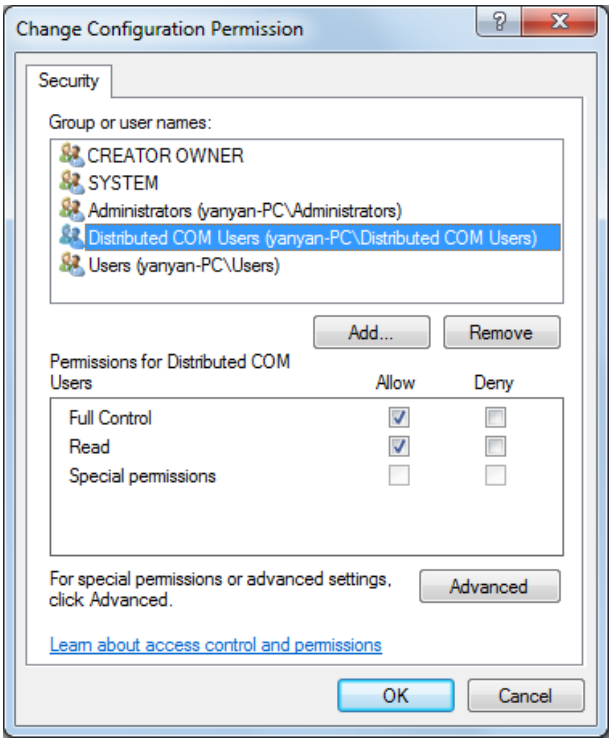
OK to save configuration



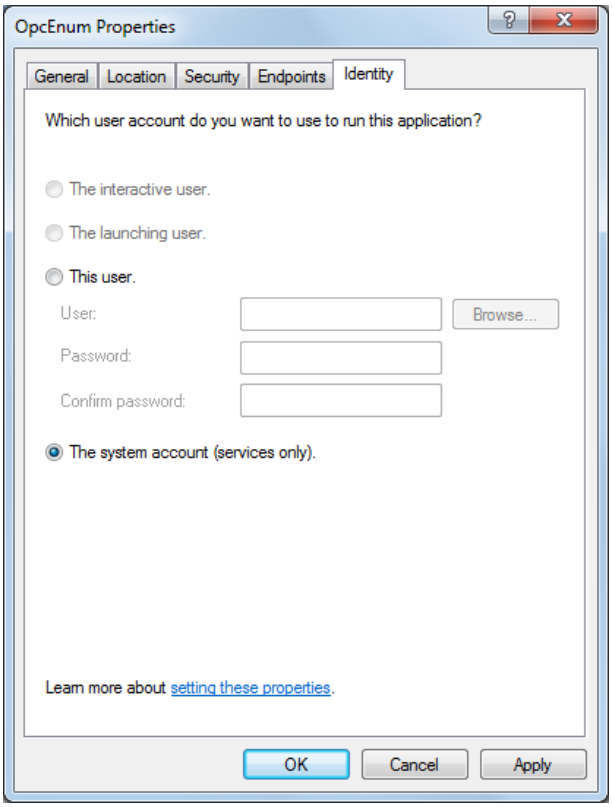
d) In the **Access Permissions**, click **Edit** and adjust the settings like this. Click **OK** to save configuration



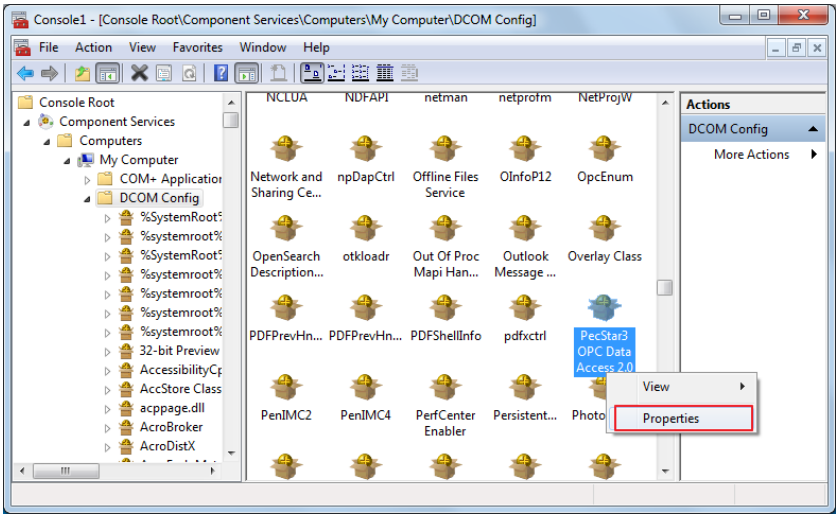
e) In the **Configuration Permissions**, click **Edit** and adjust the settings like this. Click **OK** to save configuration



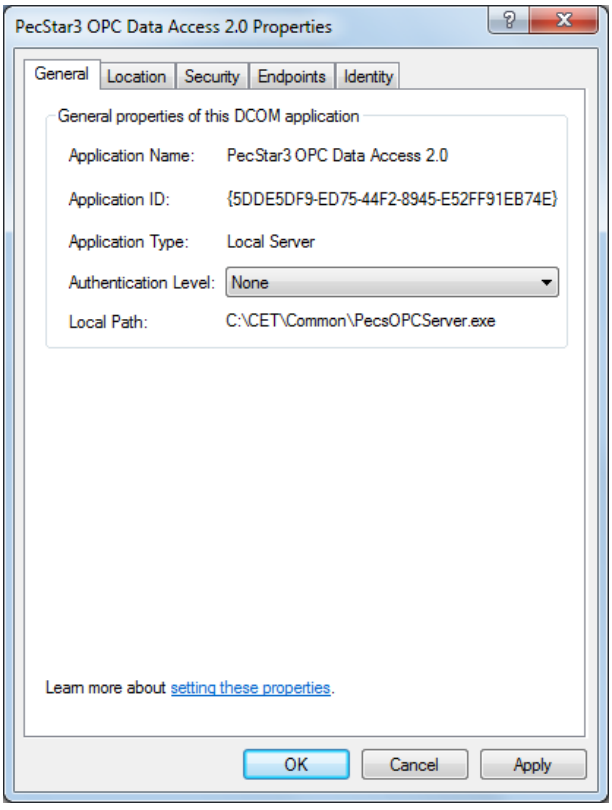
f) Come back to **OpcEnum Properties** > **Identity**. Set it as **The interactive user**, if you can't set it as **The interactive user**, please set it as **The system account (services only)**. Click **OK** to save configuration



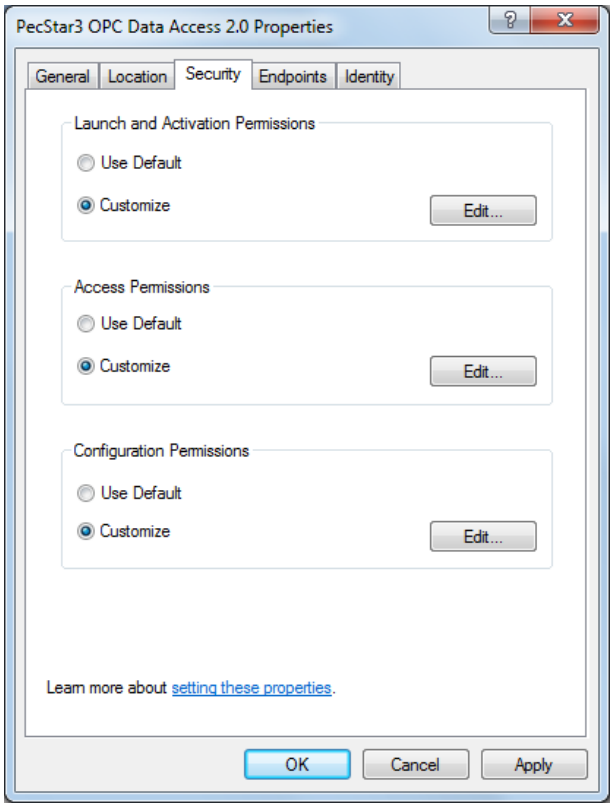
10. Set the **PecStar3 OPC Data Access 2.0** properties.



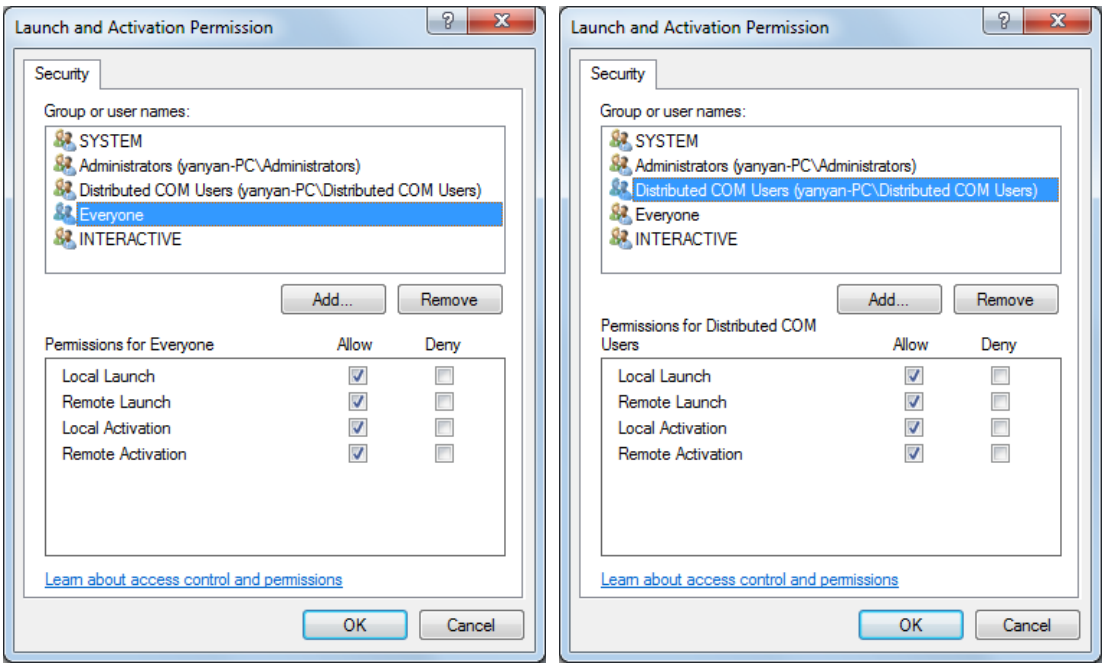
a) Here is the **General** settings.



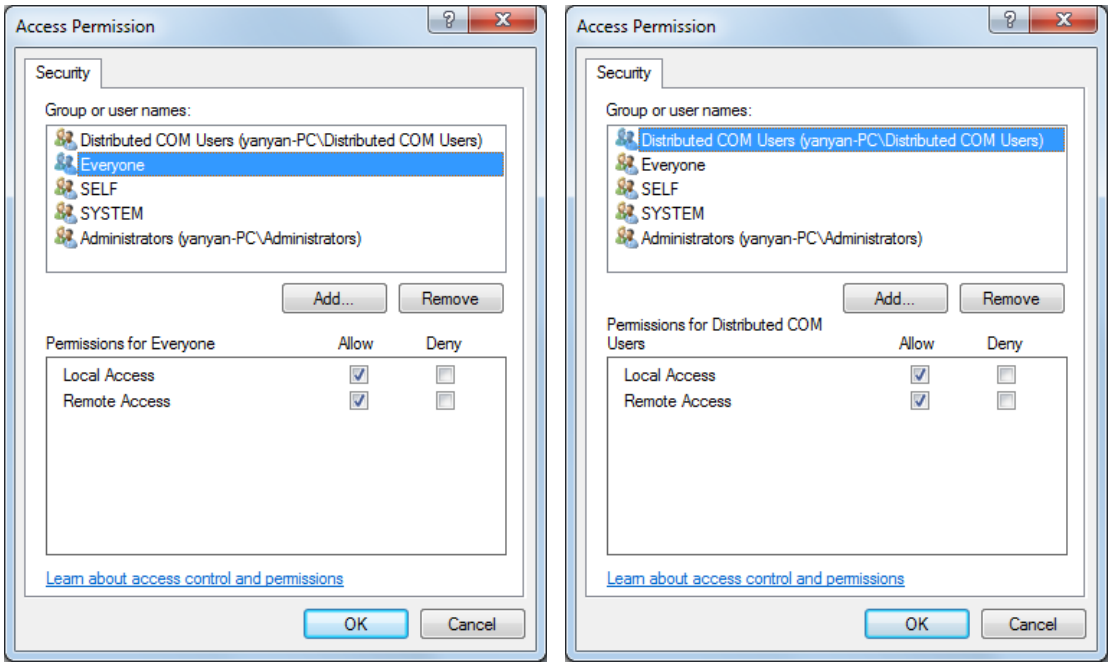
b) Adjust the **Security** settings like this. Click **OK** to save configuration



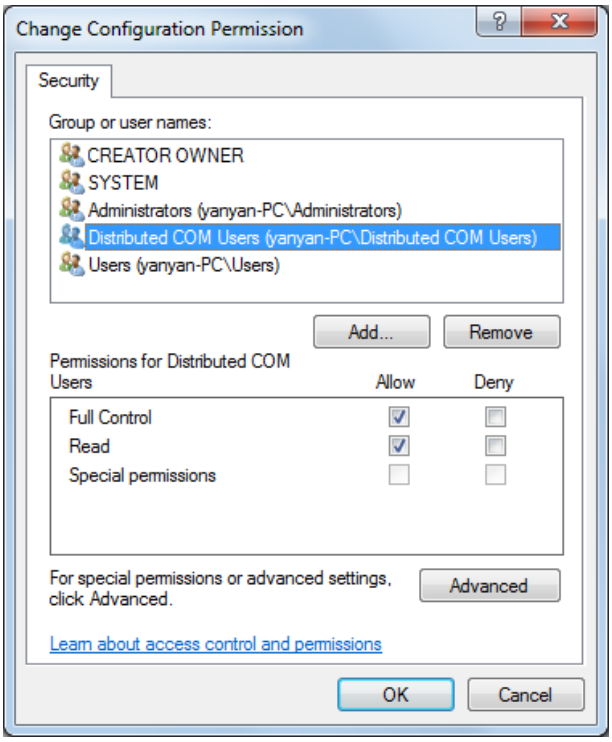
c) Click **Edit** in **Launch and Activation Permissions**, adjust it like this. Click **OK** to save configuration



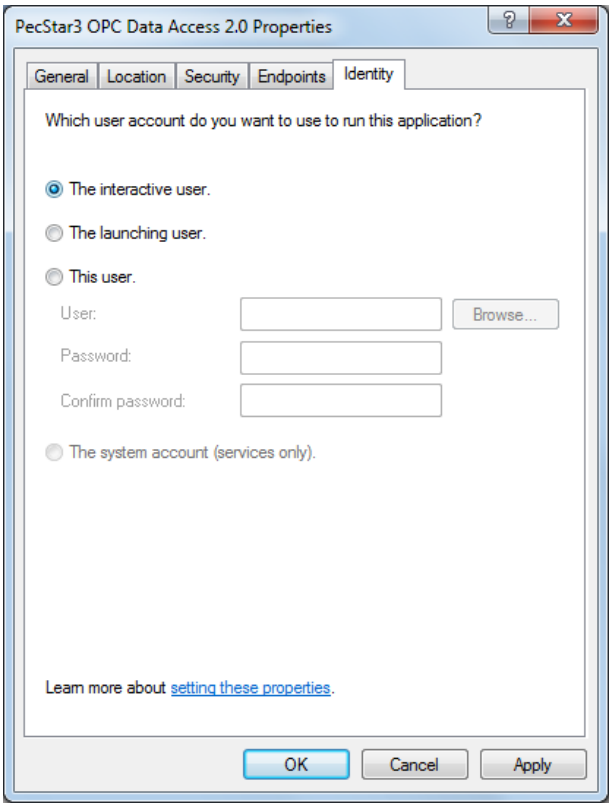
d) Click **Edit** in **Access Permissions**, adjust it like this. Click **OK** to save configuration



e) Click **Edit** in **Configuration Permissions**, adjust it like this.
Click **OK** to save configuration.



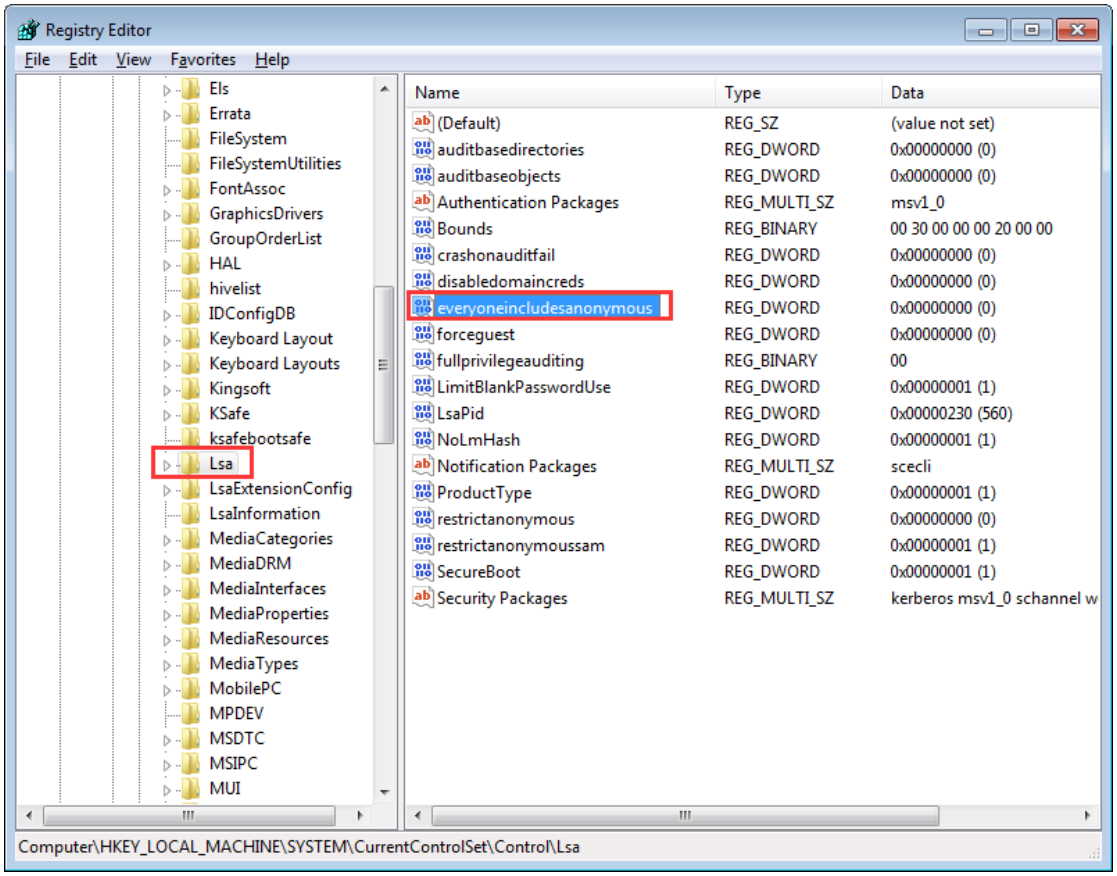
11. Come back to **PecStar3 OPC Data Access 2.0 properties**, in the **Identity**, set it as **The interactive user**. If you can't set it as **The interactive user**, please set it as **The system account (services only).**
Click **OK** to save configuration.


PecStar3 OPC Data Access 2.0 Properties
General
Location
Security
Endpoints
Identity
Which user account do you want to use to run this application?
The interactive user.
The launching user.
This user.
User:
Browse...
Password:
Confirm password:
The system account (services only).
Learn more about setting these properties.
OK
Cancel
Apply

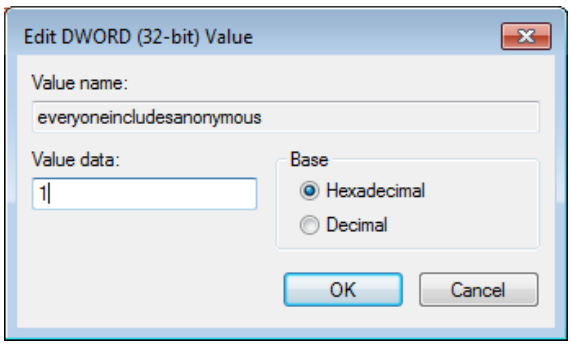
Chapter 5 Configure Local Security Policy

Here take Win7 as an example, other OS would be different and please refer to corresponding documentations.

1. Input **regedit** in **Star >** search bar to open Registry Editor and navigate to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa**



2. Double-click and set value as **1**.



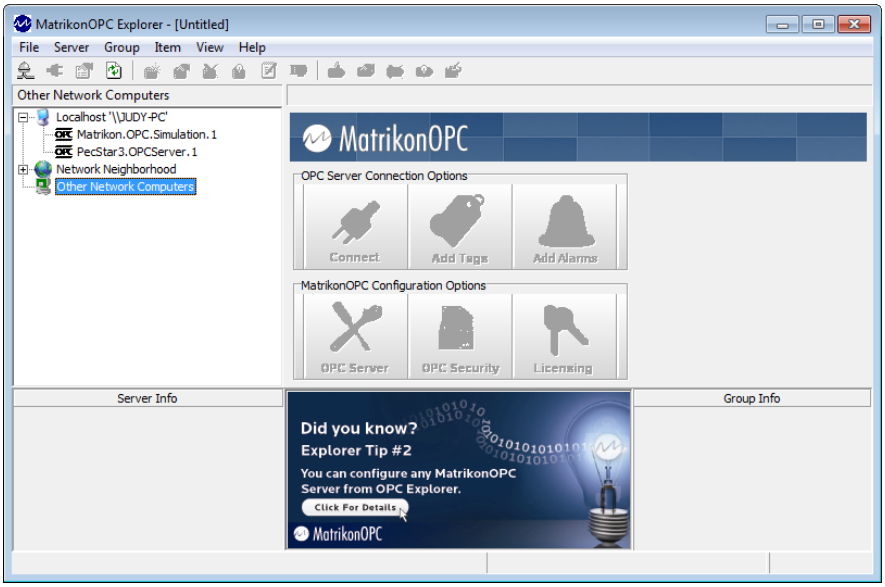
3. After modification, you should restart your computer (it is important).

Chapter 6 Test Connection through OPC Client

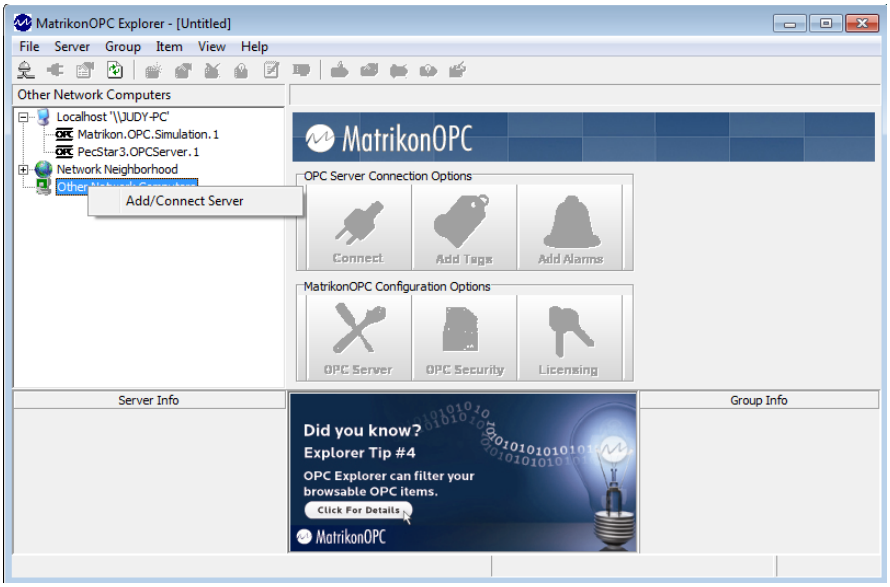
After configuration, you need to test if the configurations are valid via 3rd party OPC server such as Matrikon OPC Explorer. Please note that you should start PecOPC Sever first.

The following part illustrates how to test connection via Marikon OPC Client.

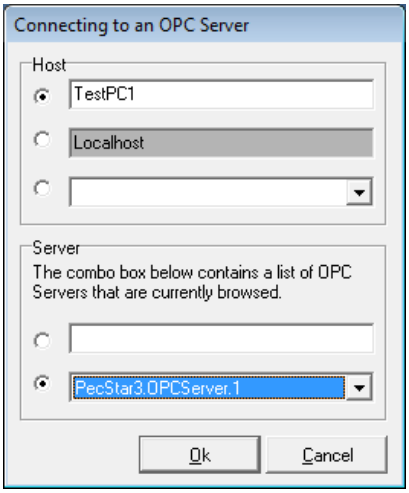
1. Download Matrikon OPC Server installation program and install it, please refer to Matrikon OPC Explorer documentation for detailed information.
2. Start Matrikon OPC Server.

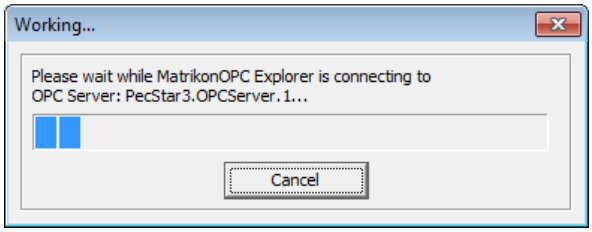


3. Add new Server by right-clicking **Other Network Computer** and selecting **Add/Connect Server.**

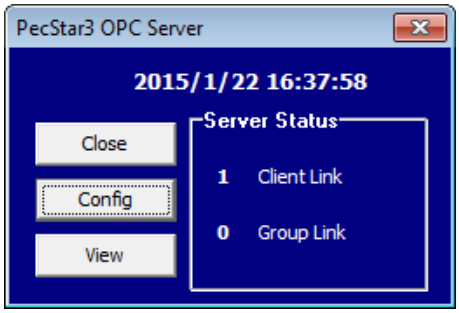


4. Input Host and select server, and then click **OK**.

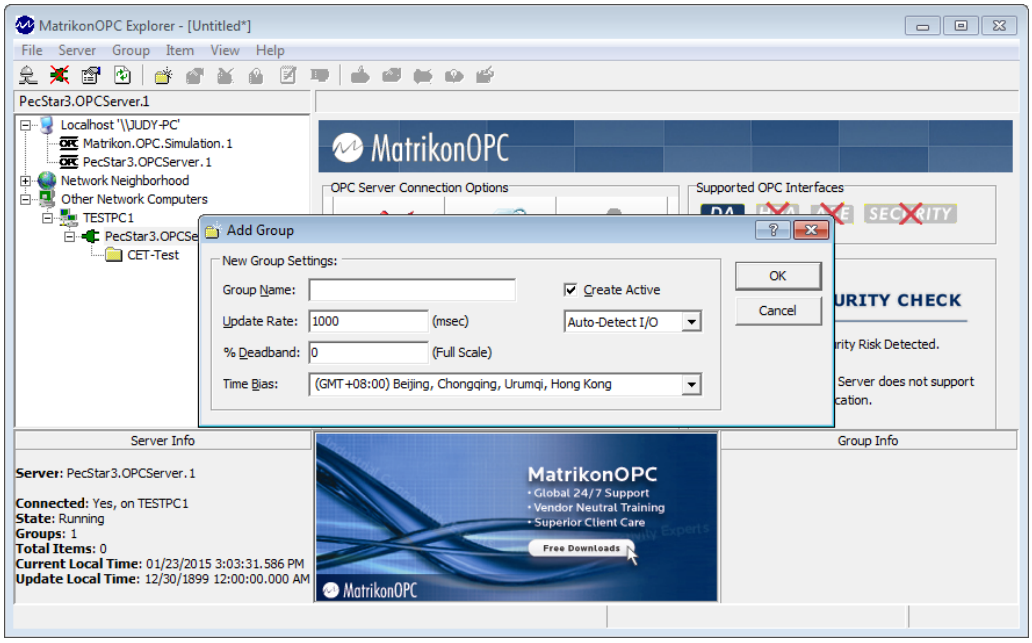




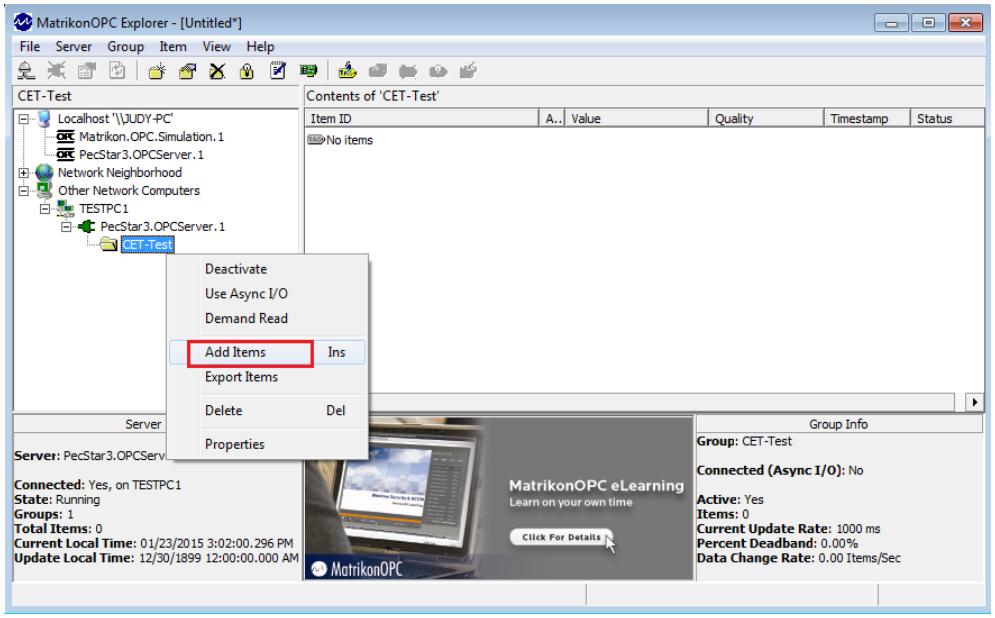
On the server side, you can see the link number of client(s).

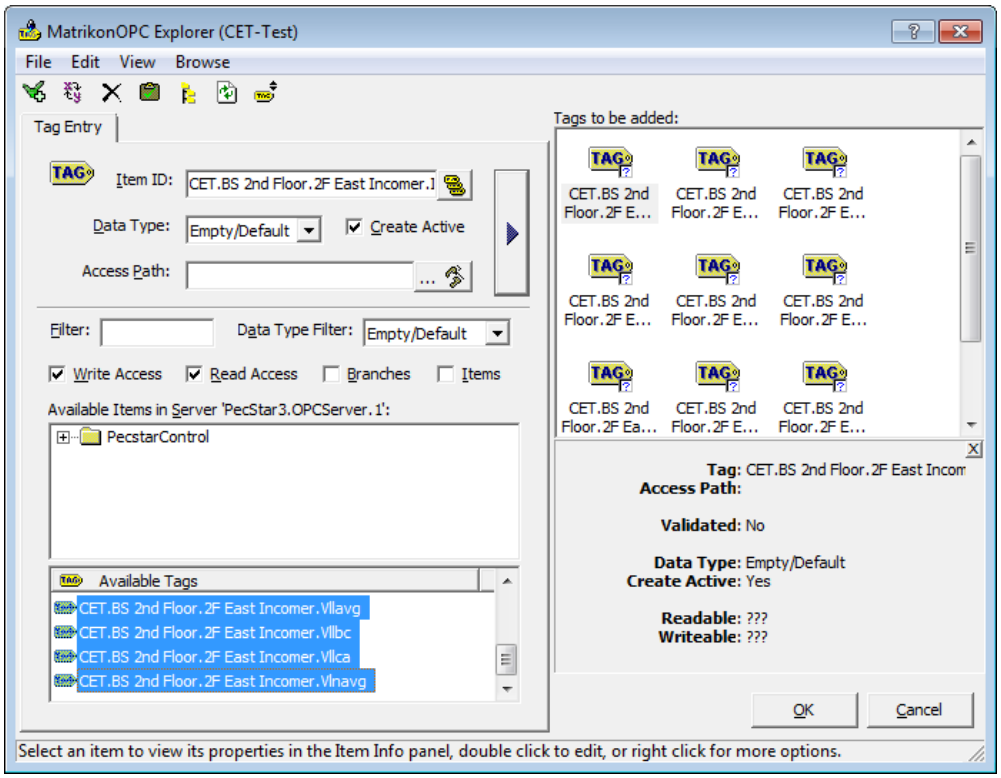


5. Add Group. (Please refer to MarikonOPC documentation for more detailed information.)



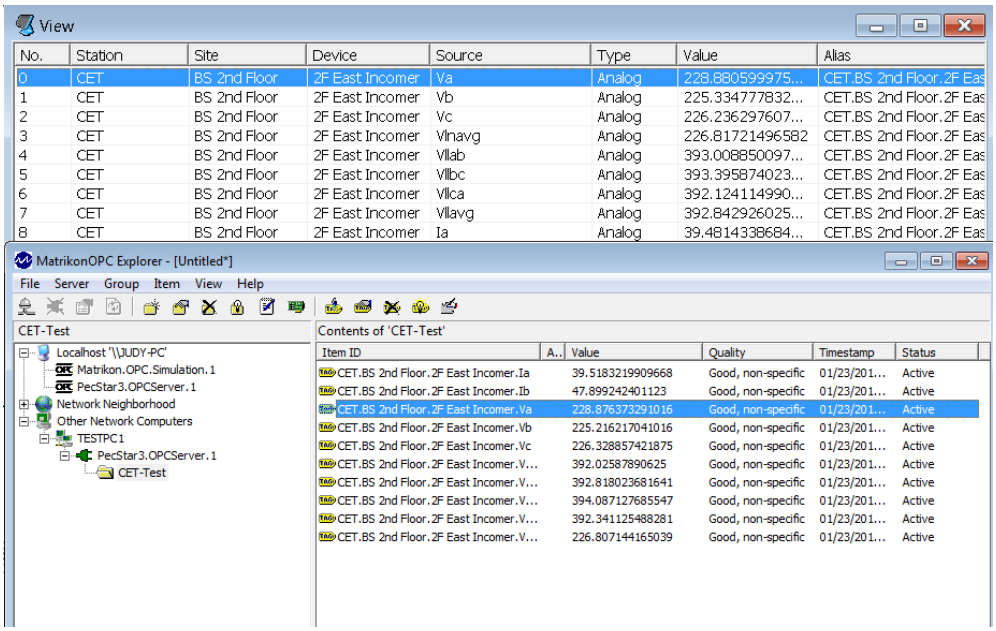
6. Add Items, select item sources and click **OK**.





The available tags are parameters that you configured via PecOPCServer before, please refer to **Chapter 3 Configured PecStar OPC Server.**

7. All selected parameters will be displayed on the right pane. Compare the values between PecStar OPC Server and MarikonOPC Client to verify the OPC configuration and connection.


View
No. Station Site Device Source Type Value Alias
0 CET BS 2nd Floor 2F East Incomer Va Analog 228.880599975... CET.BS 2nd Floor.2F Eas
1 CET BS 2nd Floor 2F East Incomer Vb Analog 225.334777832... CET.BS 2nd Floor.2F Eas
2 CET BS 2nd Floor 2F East Incomer Vc Analog 226.236297607... CET.BS 2nd Floor.2F Eas
3 CET BS 2nd Floor 2F East Incomer Vlnavg Analog 226.81721496582 CET.BS 2nd Floor.2F Eas
4 CET BS 2nd Floor 2F East Incomer Vllab Analog 393.008850097... CET.BS 2nd Floor.2F Eas
5 CET BS 2nd Floor 2F East Incomer Vllbc Analog 393.395874023... CET.BS 2nd Floor.2F Eas
6 CET BS 2nd Floor 2F East Incomer Vllca Analog 392.124114990... CET.BS 2nd Floor.2F Eas
7 CET BS 2nd Floor 2F East Incomer Vllavg Analog 392.842926025... CET.BS 2nd Floor.2F Eas
8 CET BS 2nd Floor 2F East Incomer Ia Analog 39.4814338684... CET.BS 2nd Floor.2F Eas
MatrikonOPC Explorer - [Untitled*]
File Server Group Item View Help
CET-Test
Localhost '\\JUDY-PC'
Matrikon.OPC.Simulation.1
PecStar3.OPCServer.1
Network Neighborhood
Other Network Computers
TESTPC1
PecStar3.OPCServer.1
CET-Test
Contents of 'CET-Test'
Item ID A.. Value Quality Timestamp Status
CET.BS 2nd Floor.2F East Incomer.Ia 39.5183219909668 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.Ib 47.899242401123 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.Va 228.876373291016 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.Vb 225.216217041016 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.Vc 226.328857421875 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.V... 392.02587890625 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.V... 392.818023681641 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.V... 394.087127685547 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.V... 392.341125488281 Good, non-specific 01/23/201... Active
CET.BS 2nd Floor.2F East Incomer.V... 226.807144165039 Good, non-specific 01/23/201... Active

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