



OpenControl

Getting Started

Version: 1.5

**Developed by:
Buraq Integrated Solutions**



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Introduction

1. Introducing OpenControl

1.1 Software Introduction

1.1.1 OpenControl

OpenControl is state-of-the-art HMI/SCADA software developed by **Buraq Integrated Solutions** for industrial automation and real-time control. *OpenControl* software is based on industrial standards such as OPC (OLE for Process Control) and TCP/IP for rapid and secure connectivity to multiple PLCs (Programmable Logic Control) and Industrial Controllers. *OpenControl* provides a central control room monitoring environment, ideally suitable where multiple brand of hardware is deployed.

OpenControl software provides true client server architecture with choice of multiple operating systems thus using existing hardware and protecting existing investment.

1.1.2 General Key Features

- Easy to Learn
- Simple to Use
- Rapid Deployment
- Built in Widgets and Symbols
- Centralized Configuration
- Tag Browsing for Quick Configuration
- Built-in Engine for Scripting and Expressions
- Client/Server Architecture
- Flexible and Scalable Design
- Connectivity on Finger Tips
- Use as a Standalone or within Networking Environment
- Designed around OPC and TCP Architecture
- Connectivity to multiple PLCs/ Controllers via OPC Servers
- Support for Data Logging to Text Files, XML, Oracle, PostgreSQL, MySQL and MS SQL Server Databases
- Support for Alarm Logging to Text Files, XML, Oracle, PostgreSQL, MySQL and MS SQL Server Databases
- Supports IT Security and Networking Firewalls
- Support for Linux and Windows Operating System
- Support for Open Reporting Tools

1.1.3 Main Modules

OpenControl is truly based on Client Server Architecture and support modular approach. These modules can be spread over a network for optimization and load distribution. OpenControl comes with the following modules with brief description in below sections.

- OpenGraph
- OpenTrend
- OpenAlarm
- Data Logger
- Scripting Engine
- Networking

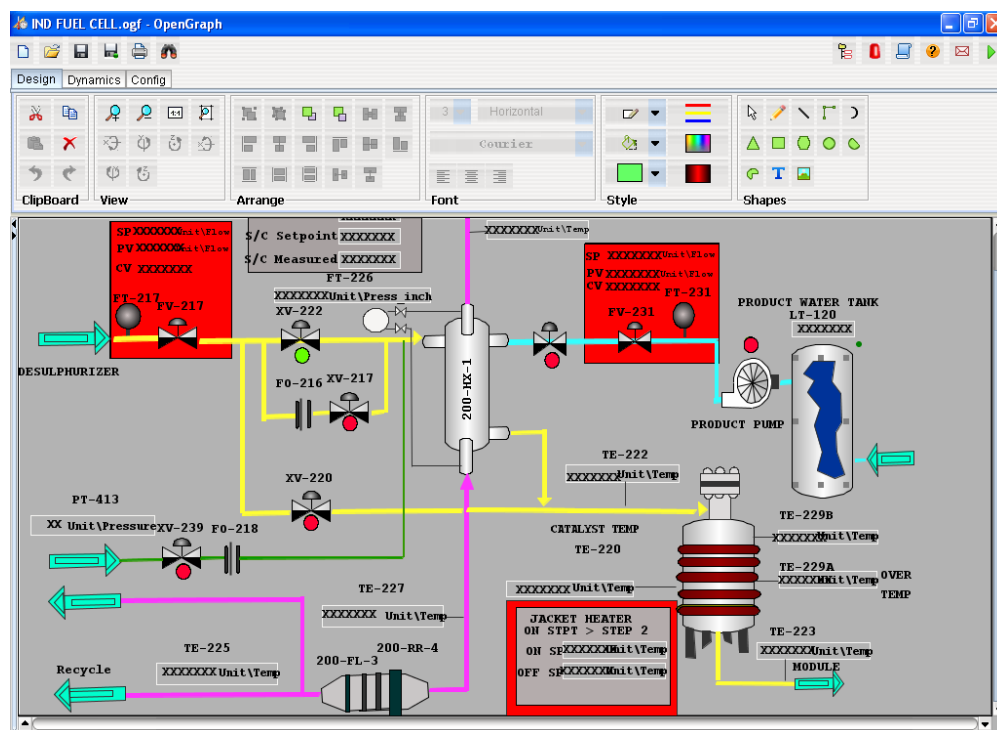
1.1.3.1 OpenGraph

The graphical module is a key component for the visualization of real time data associated with dynamic objects using the industrial standard communication protocol OPC. **OpenGraph** module provides advanced drawing tools to create user configurable visualization objects. These objects, when linked to real-time data tags, provide dynamic information from field devices and plant floor; any change in the field is immediately reflected on the operator screen.

OpenGraph provides real time dynamics and animation to mimic the real time process. **OpenGraph** comes with rich graphical object library and widgets, just drag and drop the objects, link to OPC tags and display is ready. You do not need to compile or write scripts for animation or runtime.

The key features of **OpenGraph** are:

- Powerful Drawing Tools
- Rich Dynamic Actions
- High Resolution Graphics
- Detailed Properties and Object Explorer
- Industrial Widgets Library
- Support for Tag Browser
- Embedded Alarms and Trend Charts
- No Compilation of Displays is Required



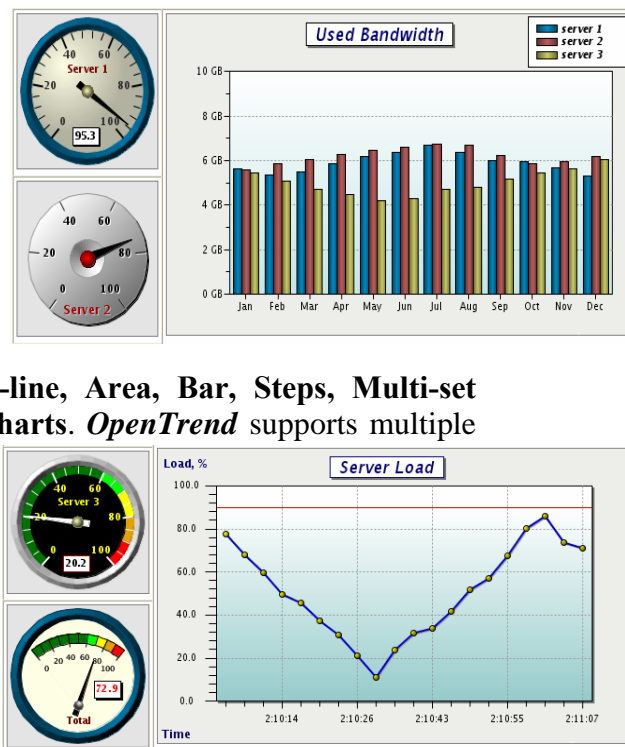
OpenGraph provides an easy to operate user interface, powerful object properties for customization, enhanced graphical objects and easy navigation for daily operations. Operators have the choice to open the displays over the network offering complete mobility and networking environment.

1.1.3.2 OpenTrend

Real-time data trending and charting is an essential tool for statistical analysis and reporting. **OpenControl** suite comes with a built in trending module called **OpenTrend**. Currently the trend viewer can be inserted from within the **OpenGraph Designer**.

The **OpenTrend** module supports OPC Data Access specifications defined by the OPC Foundation.

OpenTrend plots real time data as **Point, Multi-line, Area, Bar, Steps, Multi-set Pyramids & Ribbons, Cylinder, Polar and Pie charts**. **OpenTrend** supports multiple data curves representing process dependency and relationships. Simply drop the Trend Control, select your data source and go to runtime; there is no need to do complex programming or scripting. You can select various properties of the trend to customize to your own design.



OpenTrend offers dynamic controls to the screen designer including Axis Range, Legend, Color and Scale Control etc. You can also select pen control options such as type, color & width to differentiate various inputs.

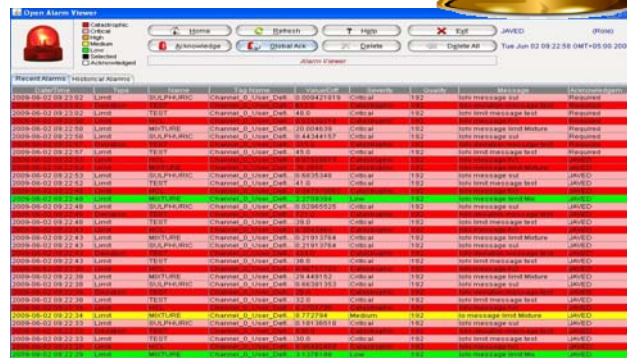
1.1.3.3 OpenAlarm

OpenAlarm is an important module of the **OpenControl** that generates critical alarms.



It has an Alarm Configurator where you can define a list of values to be monitored constantly in the background; if any value reaches the defined limits, **OpenAlarm** generates alarm messages and alerts the operators.

OpenAlarm supports **Digital, Limit, Deviation and Rate of Change** alarms types that are most critical for the process control.



OpenAlarm constantly analyzes the online real time data and generates various levels of alarms to alert the operator about the status of processes. The operator can view alarm description, alarm priority and current status in a simple alarm viewer. **OpenAlarm** assists in establishing a pre-warning system to be used for safety, quality and continuous operations. Alarms can be viewed along with Trends and Graphical objects, and can be logged to various databases for further analysis and reporting.

The key features of **OpenAlarm** are:

- Six levels of Alarms
- Alarm Acknowledgment
- Multiple Alarm Severity
- Alarms based on OPC Data, Scripts and Expressions
- Alarm Filtering and Sorting
- Alarm Logging
- View Current and History Alarms in one window
- Network based alarm viewing and acknowledgment

1.1.3.4 Data Logger

Data Logger module is used to collect real time data from PLCs via OPC servers and log these data to Text Files, XML, Oracle, PostgreSQL, MySQL and MS SQL Server database. These databases can be located locally or distributed to remote locations over the Intranet. The logged data can be accessed by any reporting tool for further analysis and scheduled reporting. **Data logger** supports high speed data collection and logging.

1.1.3.5 Scripting Engine

OpenControl comes with very powerful scripting engine based on Java Scripts that is common to all modules of *OpenControl*. The scripting engine supports powerful expressions which can be defined as global or local to each project.

1.1.3.6 Networking

OpenControl is designed around TCP/IP networking with true Client-Server architecture. You can deploy multiple servers distributed over the geographical area thus creating an integrated environment. Multiple client users can seamlessly connect to multiple servers without switching screens. *OpenControl* supports LAN, WAN, Internet, Intranet, Wi-Fi, GPRS and 3G connectivity.

1.2 Requirements

1.2.1 System Requirements

OpenControl suite offers true client/server architecture. You can select various Microsoft Windows and Linux operating systems for server based applications. The OpenControl Server and Client are supported on both Windows and Linux platforms.

OpenControl has been tested and verified on the following operating systems:

- Windows XP with Service Pack 2
- Windows XP Embedded
- Windows Vista 32 and 64 Bit
- Windows Server 2003
- Red Hat Enterprise Linux 5
- Ubuntu 9.10

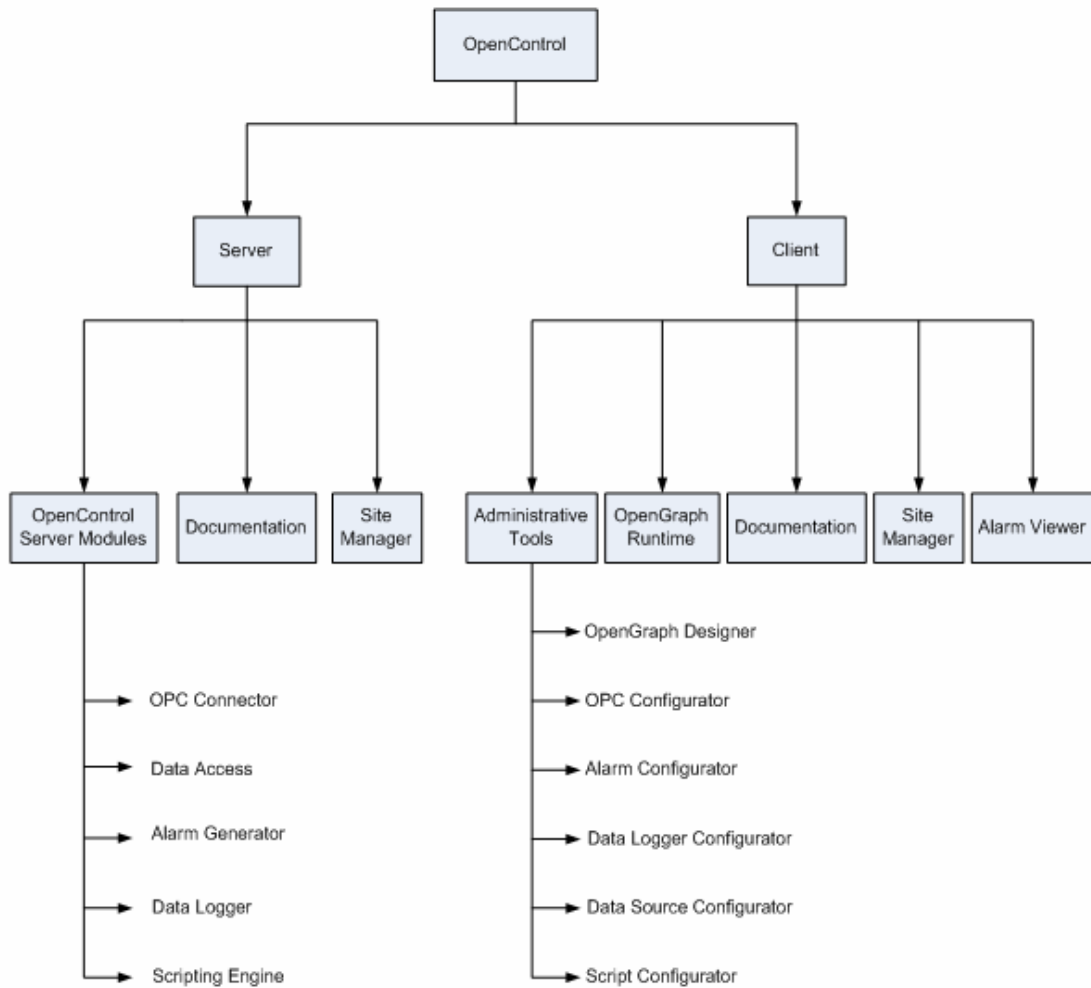
1.2.2 Server Hardware Requirements

The minimum server requirements are 2GB RAM, 1.8 MHz CPU, 500 MB HDD with standard peripherals. For large system and multiple clients, memory should be increased to 4 GB with multiple CPUs.

1.2.3 Client Hardware Requirements

The Client requirements are 2GB RAM, 1.8 MHz CPU, 500 MB HDD with standard peripherals.

Distribution of OpenControl Program Items



OpenControl

Server Installation

2. OpenControl Server Installation

2.1 Pre-Requisites

Before proceeding with the OpenControl Server installation you must ensure the following:

MySQL database should be installed before the installation of OpenControl Server. Enter the username and password in the Site Manager after OpenControl installation. If the database is installed on a different machine then proper settings should be done in the Site Manager.

Install Java Runtime Environment 1.6 or greater. OpenControl Server setup will install it automatically if not installed previously.

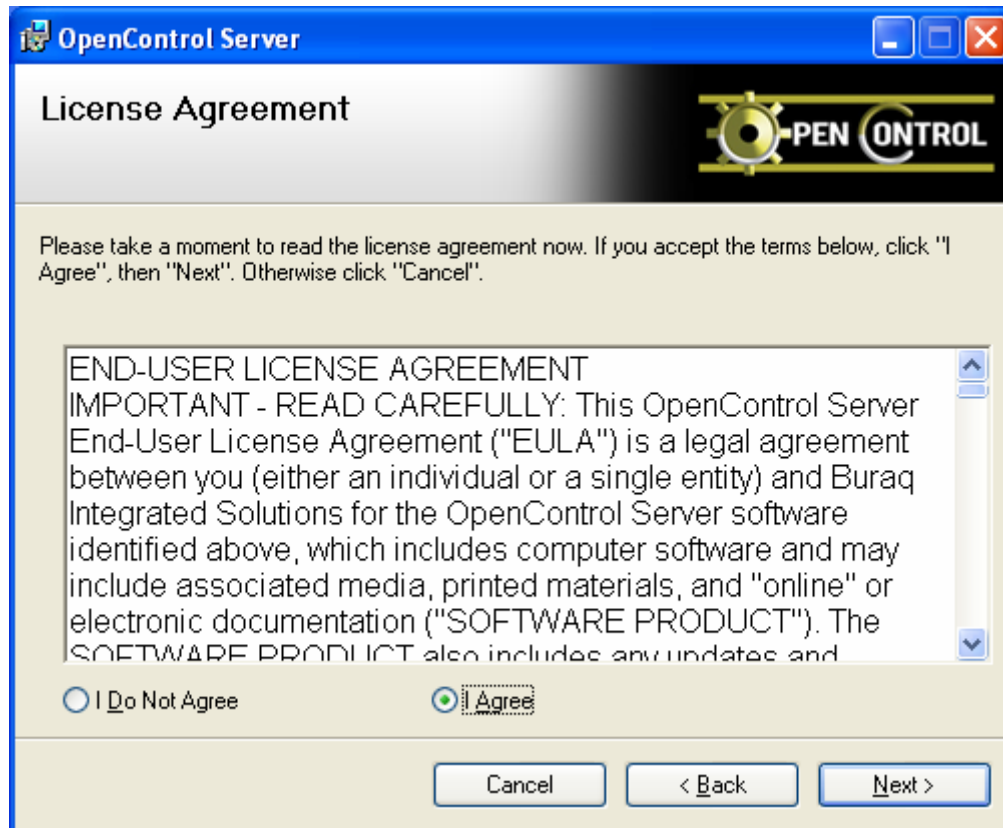
2.2 Installation

The setup of OpenControl Server components can be executed from the OpenControl setup folder. Running the installation setup will show the following installation window:

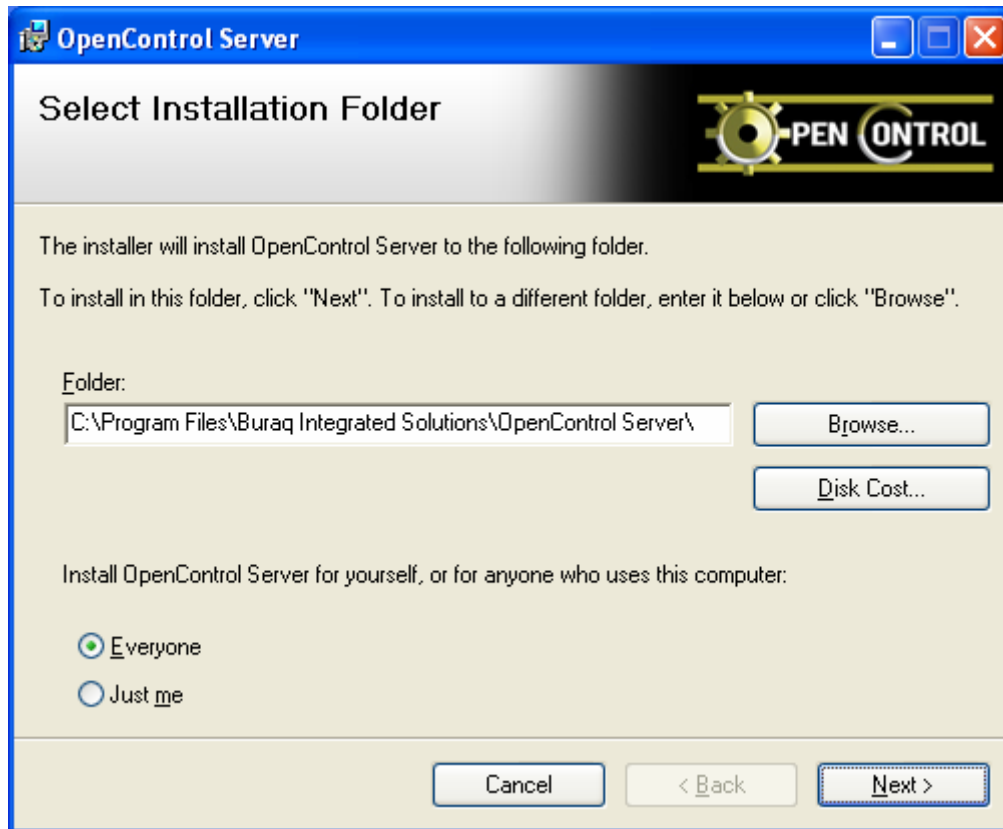


Click 'Next' to continue.

Note: OpenControl setup requires Java Runtime Environment (JRE) 1.6 or greater. If it is not present on target machine, OpenControl setup will install it automatically before installing the actual components of the server.

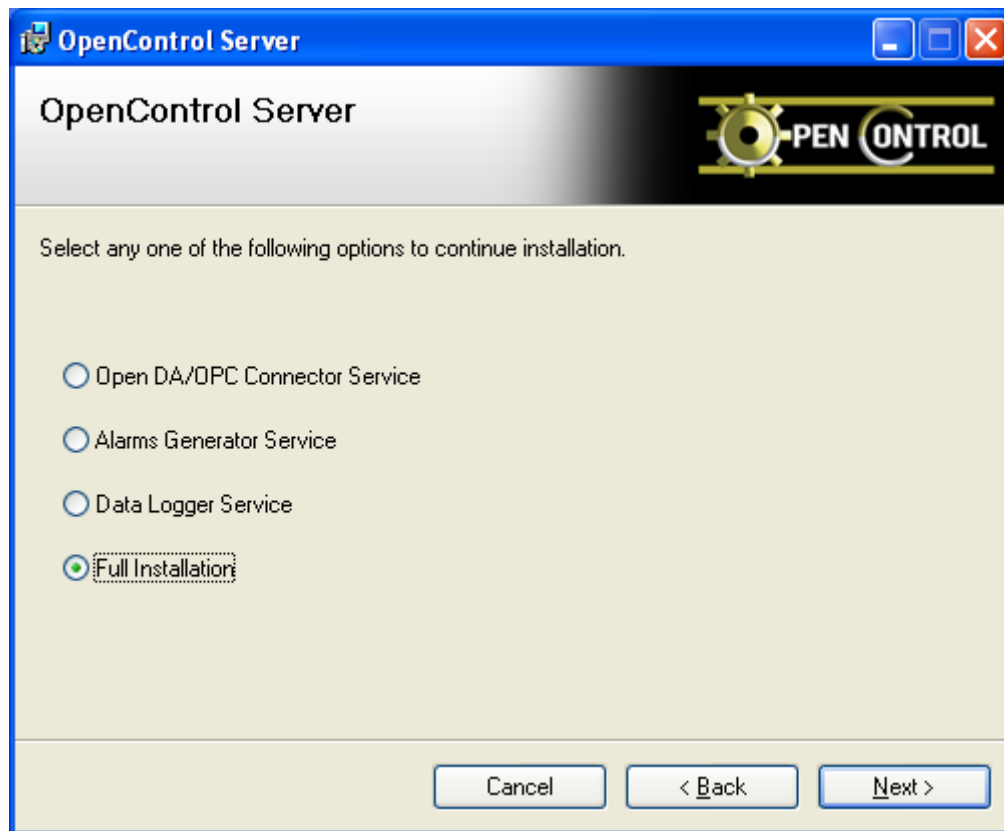


Read End User License Agreement. Check 'I Agree' option and click 'Next' to continue.



Specify the path where you want to install the OpenControl Server. Select whether you want to enable access of OpenControl Server for all users on the computer by choosing 'Everyone' or only for a single user by selecting 'Just me'.

Click 'Next' to continue.



Choose the components you want to install in OpenControl Server installation.

Choose 'Open DA/OPC Connector Service' to install only Open DA and OPC Connector services.

Choose 'Alarm Generator Service' to only install the Alarm Generator Service.

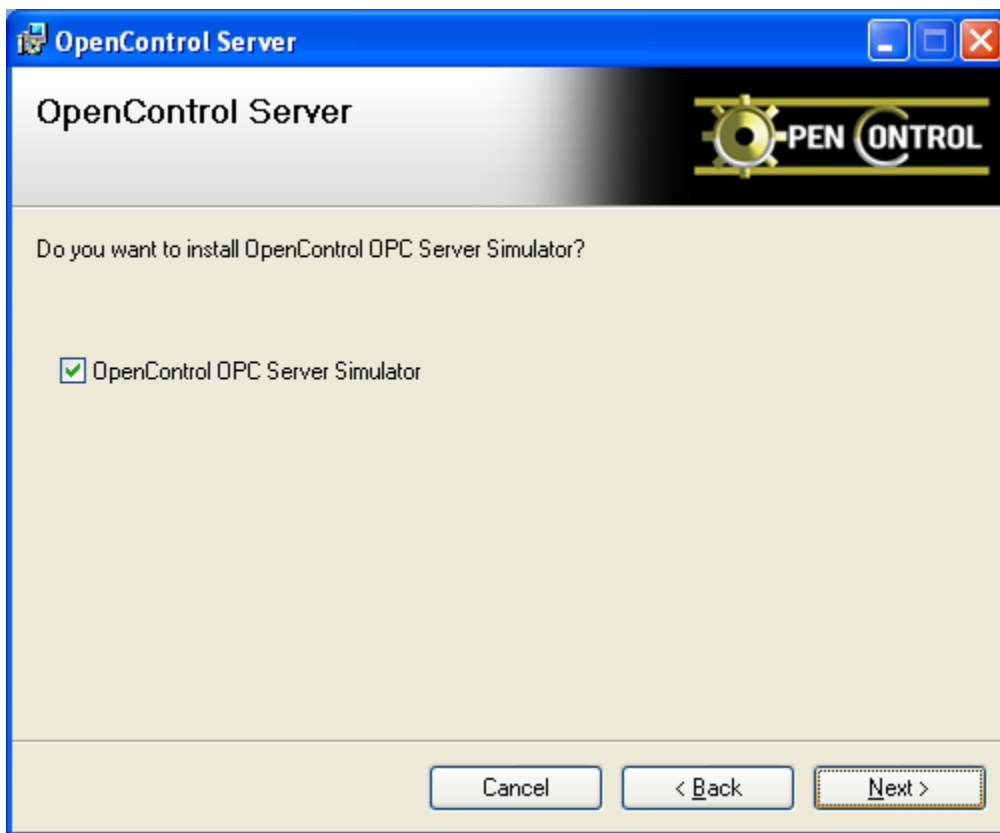
Choose 'Data Logger Service' to only install the Data Logger Service.

Choose 'Full Installation' to install all modules of OpenControl Server.

Note: Necessary core components will also be installed with individual components.

Click 'Next' to continue.

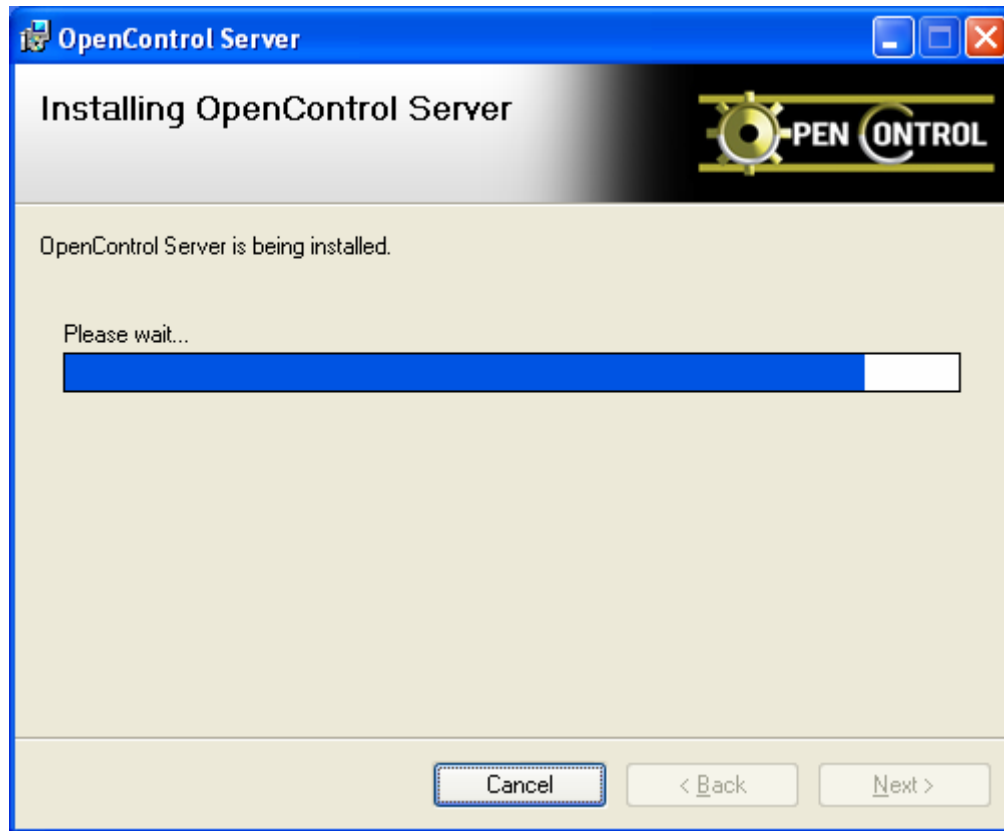
2.2.1 Default OPC Server Simulator installation



During installation of server components, option is provided to user for installation of OpenControl OPC Server Simulator
Tick the checkbox to install the default OPC Server simulator

Note: Default OPC Server installation requires .Net framework 2 and OPC Core Components. Set up will install these components automatically if these prerequisites are not installed on the target system.

Click 'Next' to start the installation.



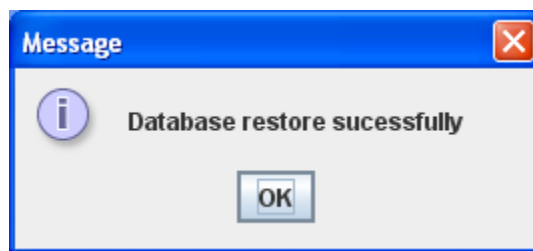
OpenControl Server components are now being installed. Please wait while the installation is in progress.

The screenshot shows the 'Server Site Manager' window with the following sections:

- Database Settings:**
 - Host Address: 127.0.0.1
 - Port: 3306
 - RDBMS: mysql (dropdown)
 - Driver: com.mysql.jdbc.Driver
 - Database: opencontroldb
 - User Name: (empty)
 - Password: (empty)
 - ☐ Restore Database
- OpenControl DA Server Authentication:**
 - Domain/Computer Name: (empty)
 - DA User Name: (empty)
 - DA Password: (empty)
- OPC Connector:**
 - ☐ Enable Logging
- Data Access:**
 - Host: 127.0.0.1
 - Port: 22345
 - ☐ Enable Logging
- Alarm Generator:**
 - Host: 127.0.0.1
 - Port: 55345
 - ☐ Enable Logging
- Script Service:**
 - Host: 127.0.0.1
 - Port: 33345
 - ☐ Enable Logging
- Data Logger:**
 - Host: 127.0.0.1
 - Port: 7312
 - ☐ Enable Logging

Buttons at the bottom: Save, Exit

The Site Manager window appears. Enter the host address where the database for the system is located. Enter the same username and password as configured in the database installation.



'Restore Database' will restore the default database of OpenControl (opencontroldb) at MySQL Server. If database already exists, Site Manager will ask whether to replace it with old one or keep the existing database.

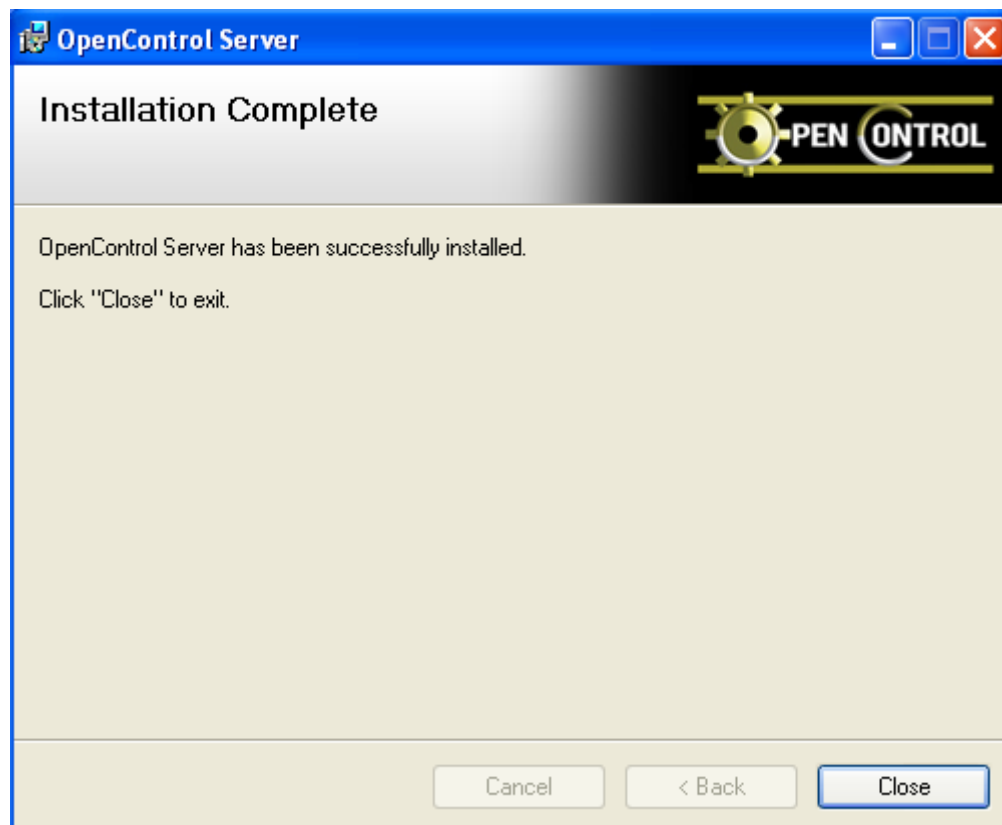
Enter the admin settings for user in the OpenControl DA server Authentication panel. The OpenControl Services can be accessed by specifying the addresses and port numbers in the OpenControl Settings panel.

If you want to run the Client and Server on different machines, you need to configure the properties by assigning the addresses and ports according to the real time scenario. You can configure where you want to have the OPC server, which service you want to run on

which machine. The OPC Server, the Client and the Services can all be on different systems.

While assigning the ports make sure that the reserved ports by the operating system are not assigned. Also make sure that the antivirus or the windows firewall does not block the ports. Click 'Save' and then click 'Exit'.

Note: Database settings present in Server and Client Site Managers are used by the Server and Client components/applications respectively i.e. OPC Connector Service uses Database settings from Server Site Manager and all configurators use Database settings from Client Site Manager.

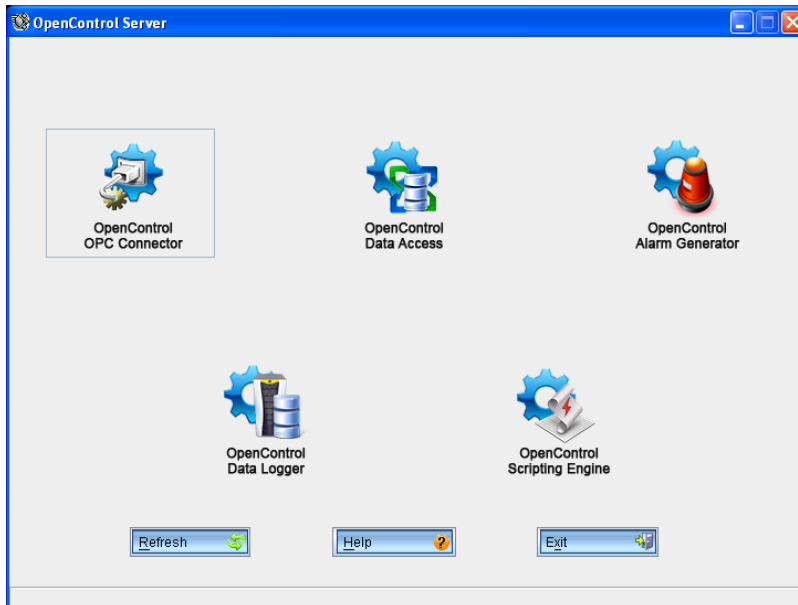


Click 'Close' at the end of the installation.

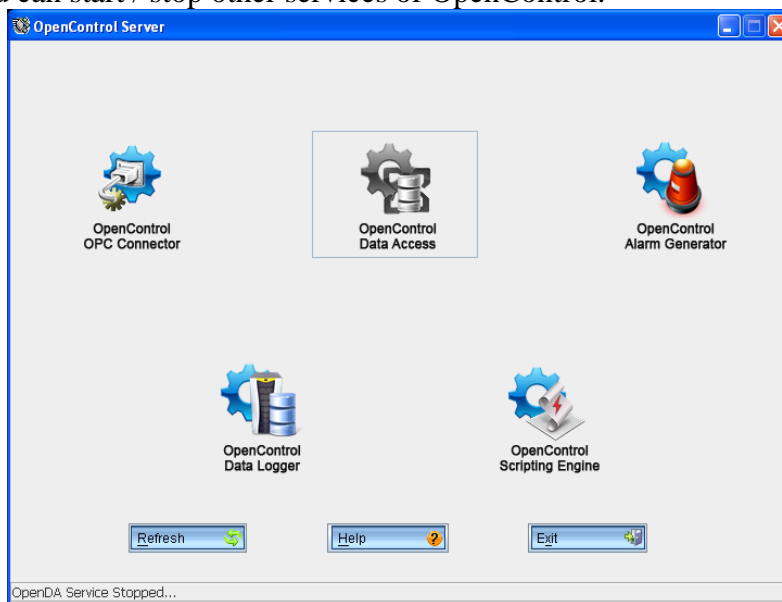
Note: The port and database settings can be updated at any time after the installation by opening Site Manager.

2.3 Start/Stop of OpenControl Services

Go to **Start** → **All Programs** → **OpenControl Server** → **OpenControl Server**
The following window appears:



All the services of OpenControl Server are started and you can stop any service by clicking on its icon. Click on 'OpenControl Data Access' in order to stop the Data Access service of OpenControl. To start the Data Access Service click on its icon once again. Similarly, you can start / stop other services of OpenControl.



Note: User may open Service Panel through desktop shortcut of Service Panel.

OPC Server Settings

3. OPC Server Settings

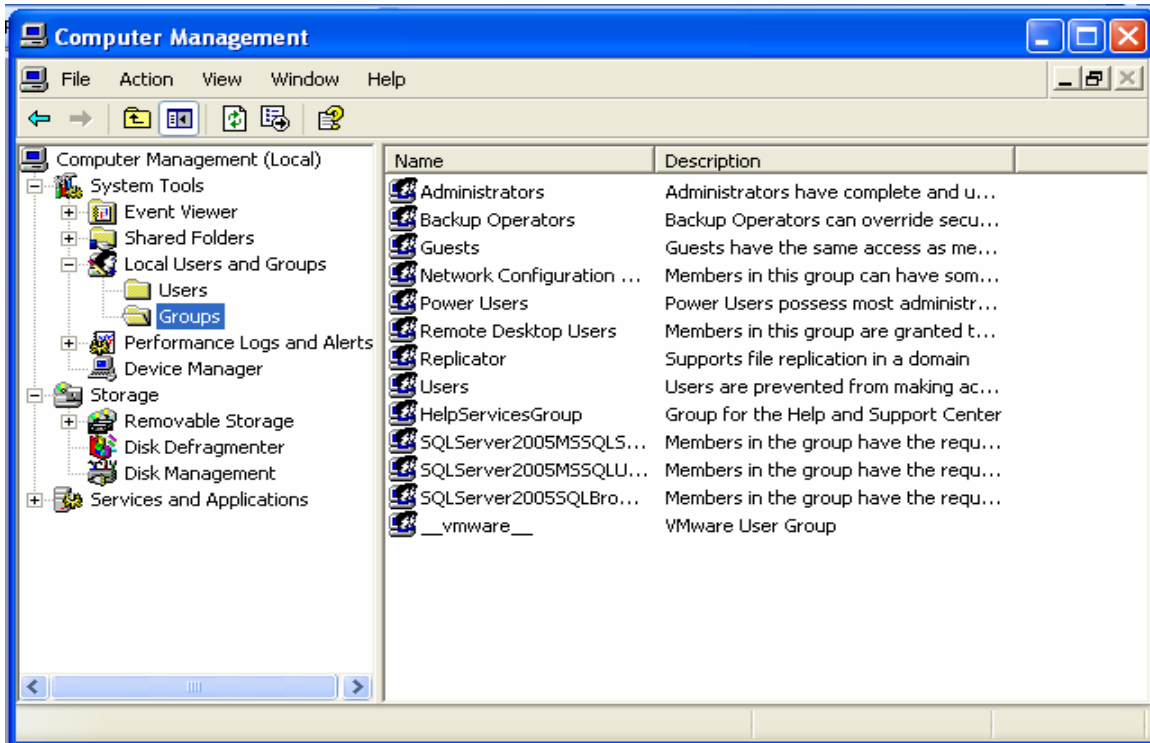
Install OPC Server that supports OPC specifications version 2.0 and 3.0. You can also use default OPC server simulator if installed during Server Setup.

3.1 Authentication

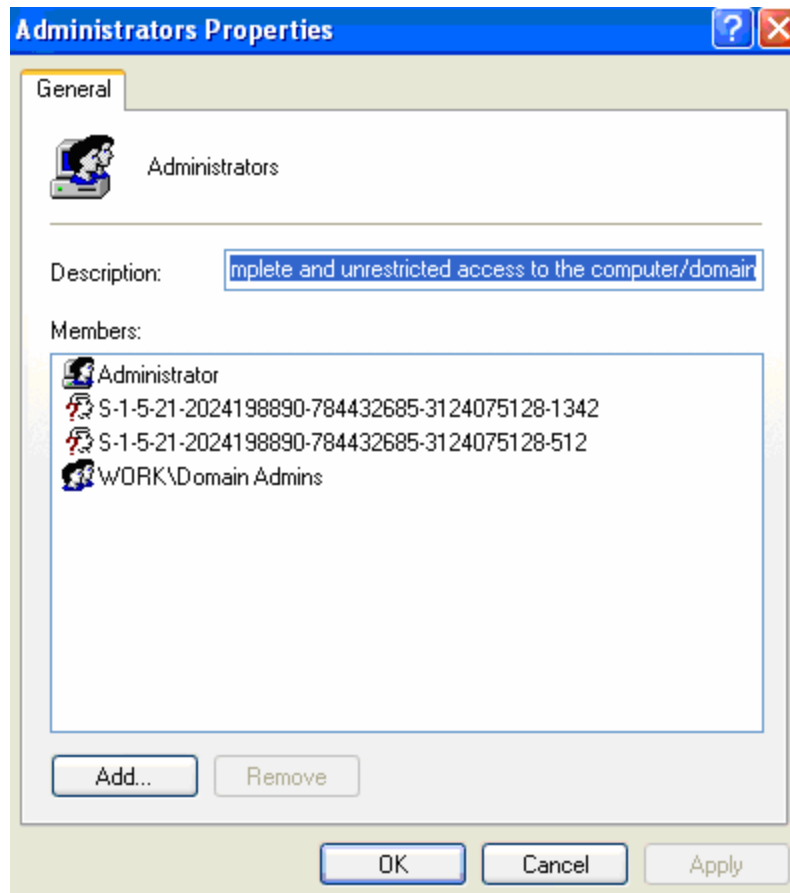
Add the username and password mentioned in the login credential (server site manager) in the administrator group. The reason for using is that the HMI server machine requires authentication to connect to the OPC server machine DCOM, for that we have included a login credential in every module of HMI server. Other details should be entered properly in site manager so that one should make sure that the HMI server machine and OPC server machine are in the same domain so that the HMI server modules can be authenticated while connecting OPC servers.

Configure the network setting. Make sure that the common username and password is used in Site Manager (you use to access the OPC servers) must be added on OPC server's machine administrator group. The username and password is added in at the following path.

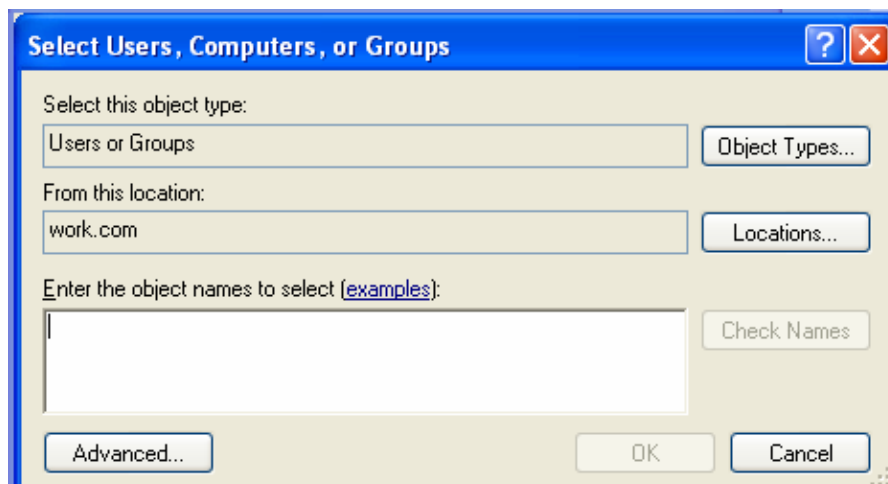
- Right Click **My Computer** and Select the **Manage** option.
- Expand the Branch **Local Users and Groups**.
- Double Click the **Groups** Option, the following group names appears in front of you.



After clicking the 'Administrator' option, the following window appears, here you can add the specific user mentioned in the credential file.



Click on 'Add' to add the required user. After clicking **Add**, following screen appears, then click **Advanced**.

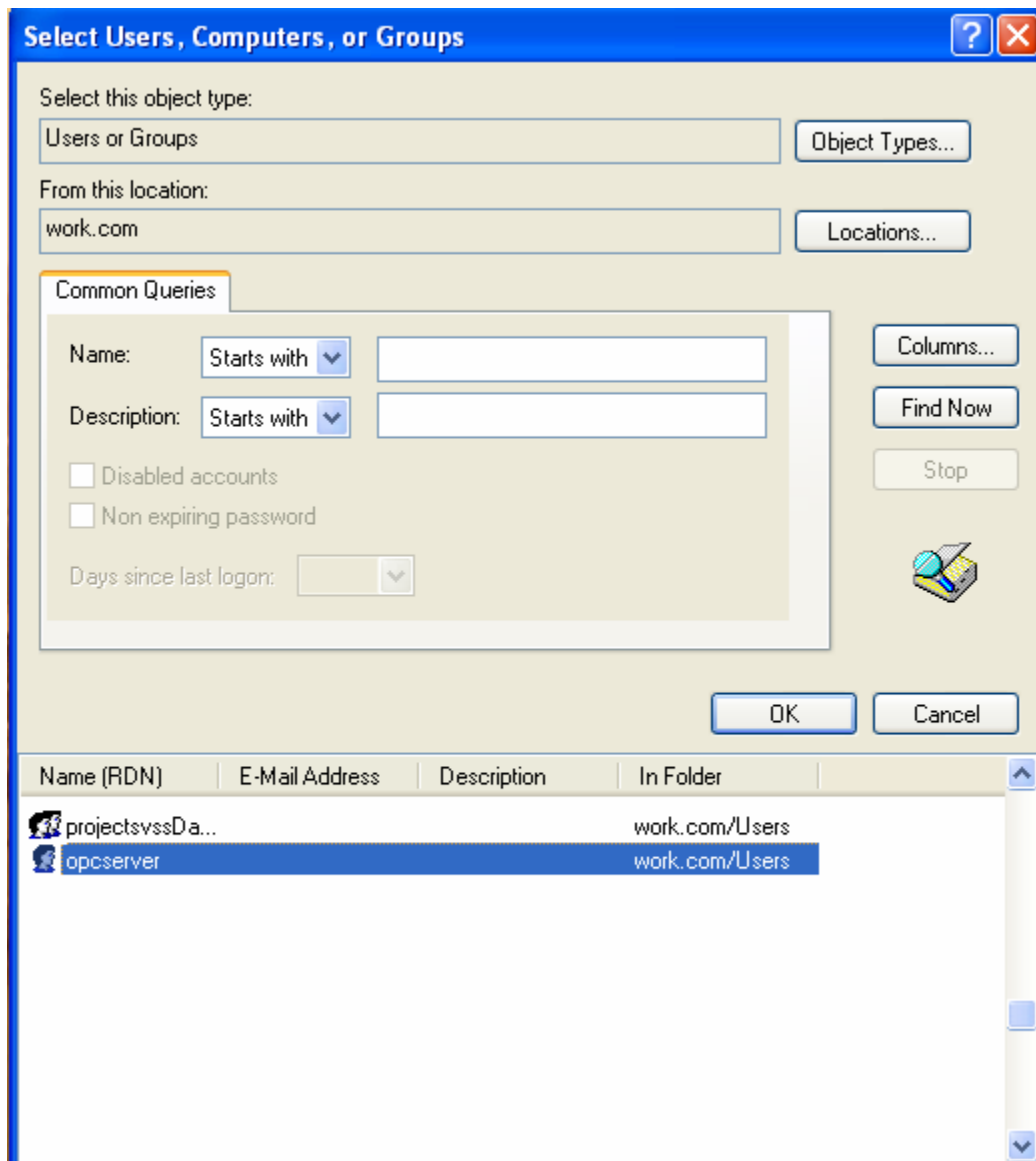


After clicking **Advanced**, go to **Find Now** option, following list appears from where you can add the name, from where you want to access the OPC servers. The common username that we have used here and added in the credentials file is

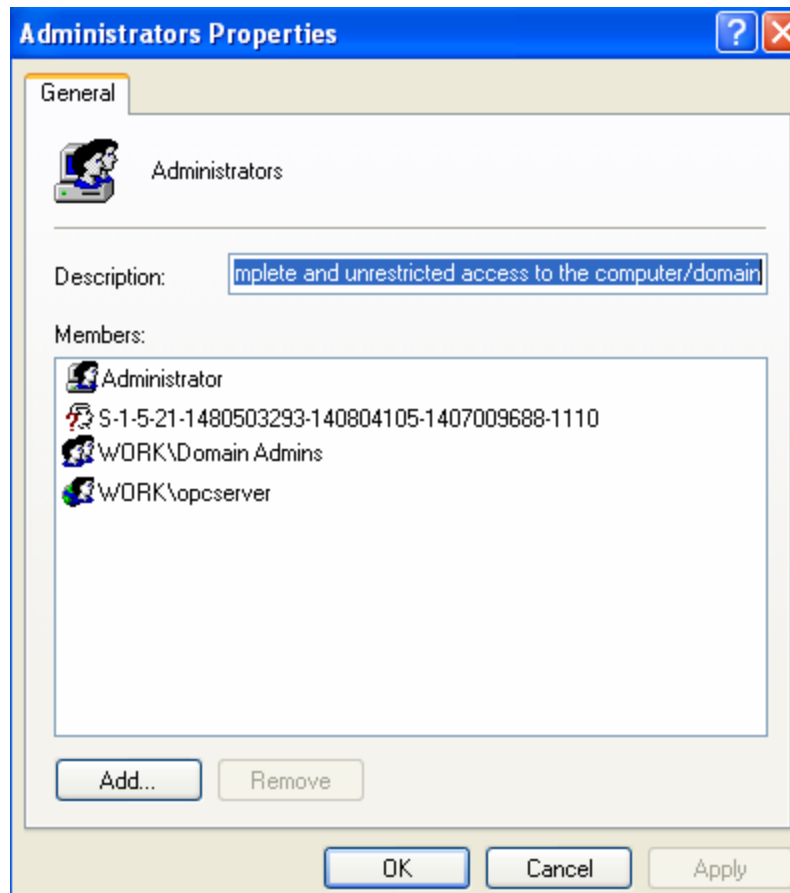
DomainName=WORK
AdminUser=opcserver
AdminPassOPC=123

Note: You should configure the settings according to real time scenario.

The screen below shows the ‘opcserver’ username inside the domain name ‘WORK’.



After you have added this user, the screen would look like the one as shown below:



Note: OPC server user is an example. You have to enter / select appropriate user as entered in the Site Manager.

3.2 DCOM Settings

Configure the DCOM settings for server side. There are four areas you will need to setup Please do them all before moving to the OPC client setup.

Step 1: Default DCOM Configuration for the OPC server computer

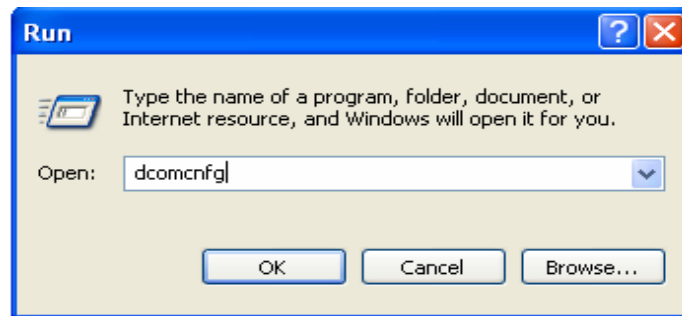
Step 2: OPC server specific settings for your OPC server

Step 3: Settings for OPCEnum component.

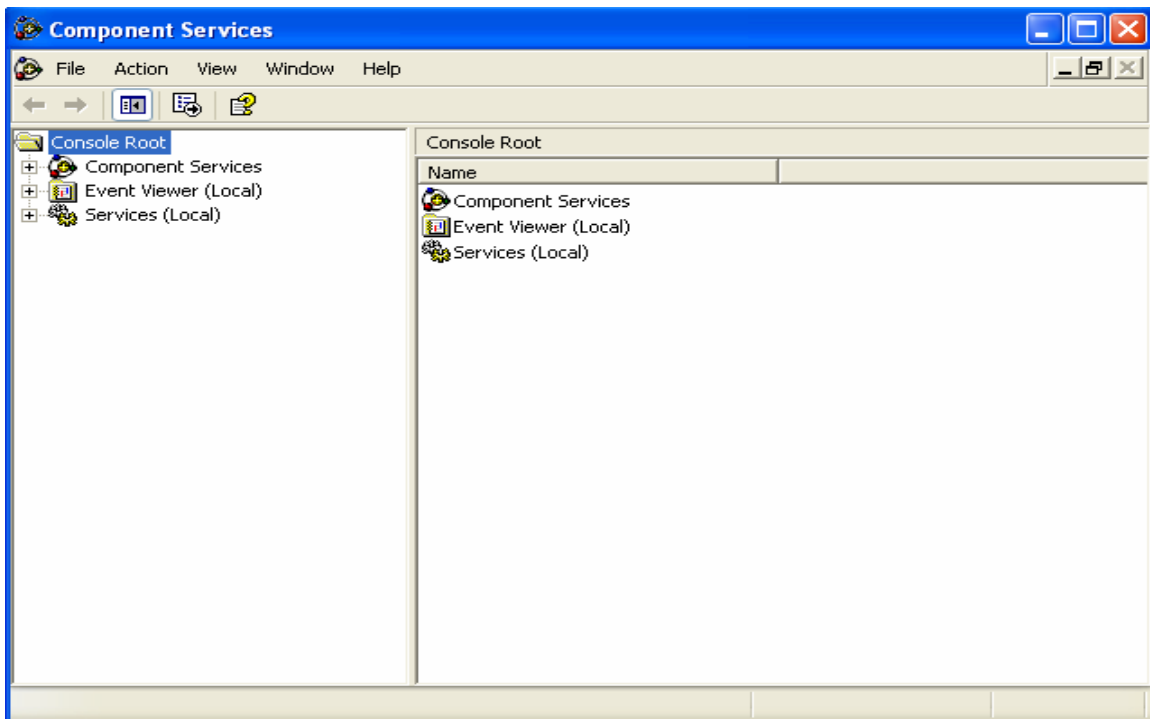
Step 4: Settings for the surrogate created against OPCDAAuto.dll

Step1: DCOM Configuration

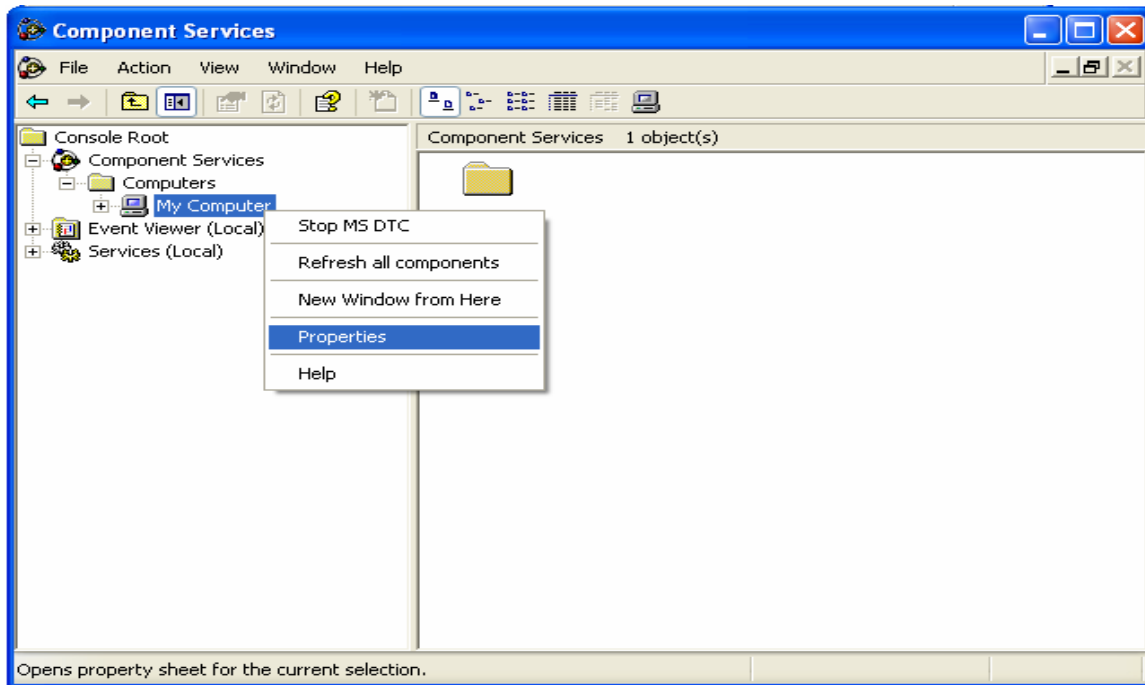
To access DCOM settings, type the following command at the run prompt, '**dcomcnfg**' ←



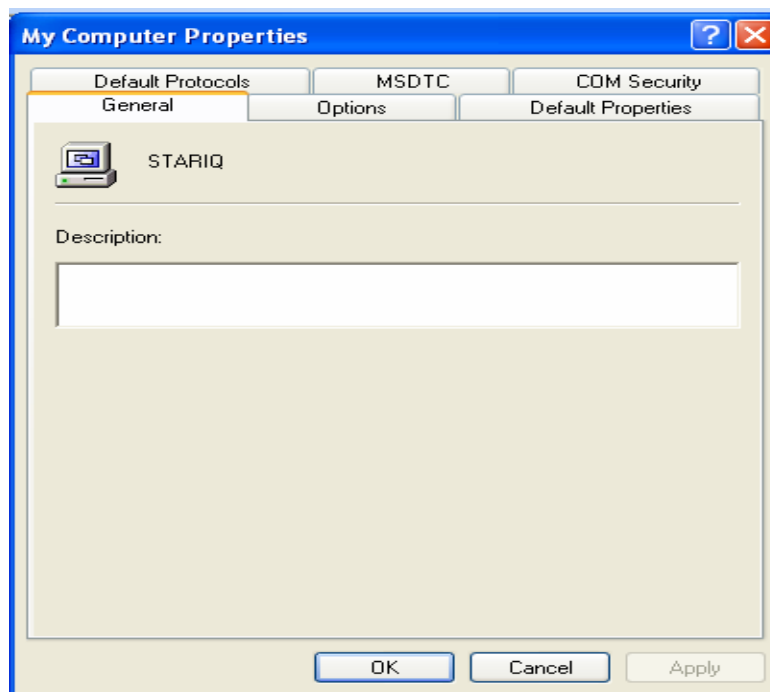
The 'Component Services' window appears in front of you.



- Click on **Component Services** under the Console Root to expand it.
- Click on **Computers** under Component Services to expand it.
- Right click on **My Computer** in the pane on the left and select Properties.



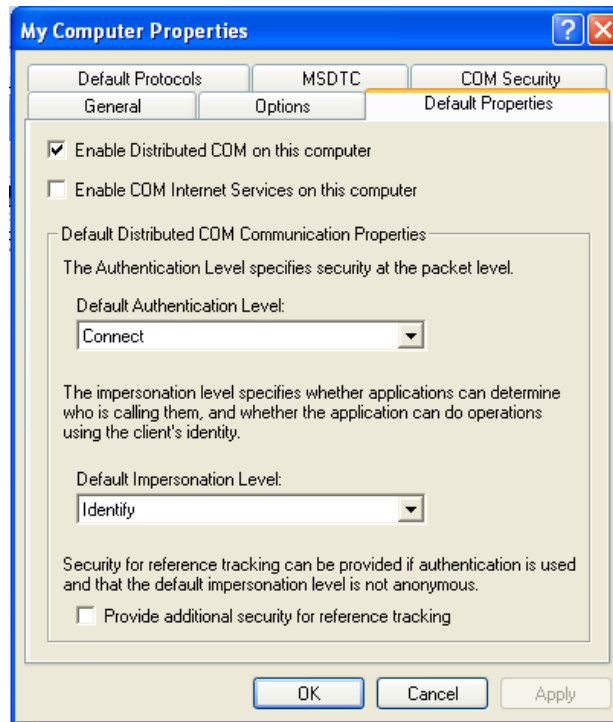
The properties window appears in front of you with all its tabs.



. Now one by one we configure all its properties under the following tabs.

Default Properties Tab:

- The **Enable Distributed COM on this computer** must be checked
- The **Default Authentication Level** should be set to **Connect**
- The **Default Impersonation Level** should be set to **Identity**



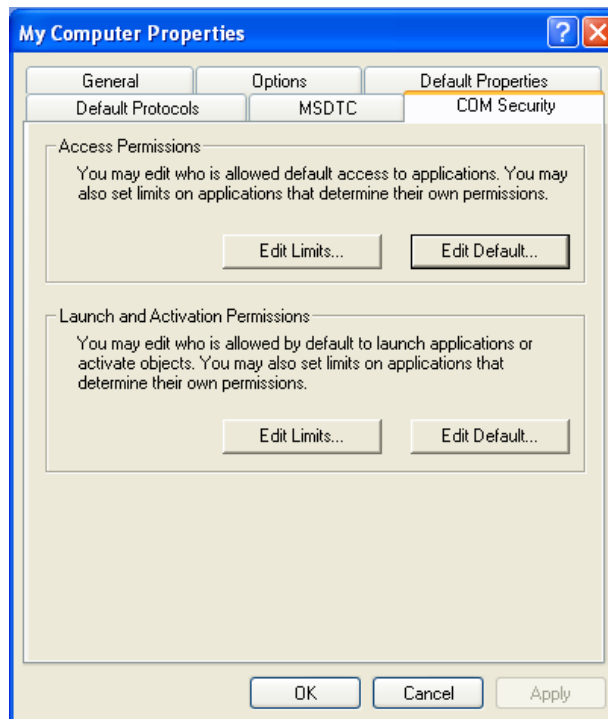
COM Security Tab:

It is configured using two sub-options. These options are

- Default Access Permissions
- Default Launch and Activation Permissions

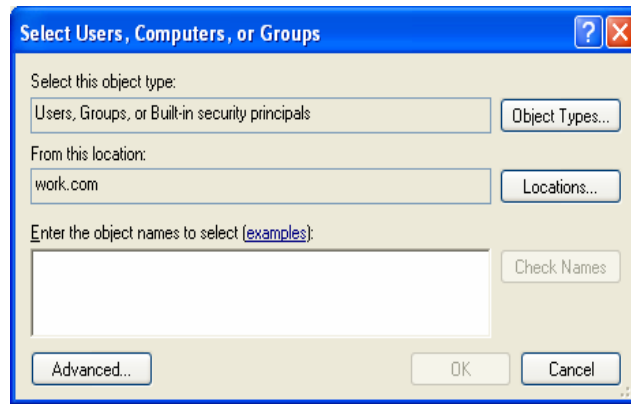
Default Access Permissions:

Here we tell the operating system that *who* you will allow to access OPC servers on this machine. Click on 'Edit Default' button in the first pane, the following window appears; here we have to add this set {SELF, SYSTEM, INTERACTIVE, EVERYONE, NETWORK} of users/groups.

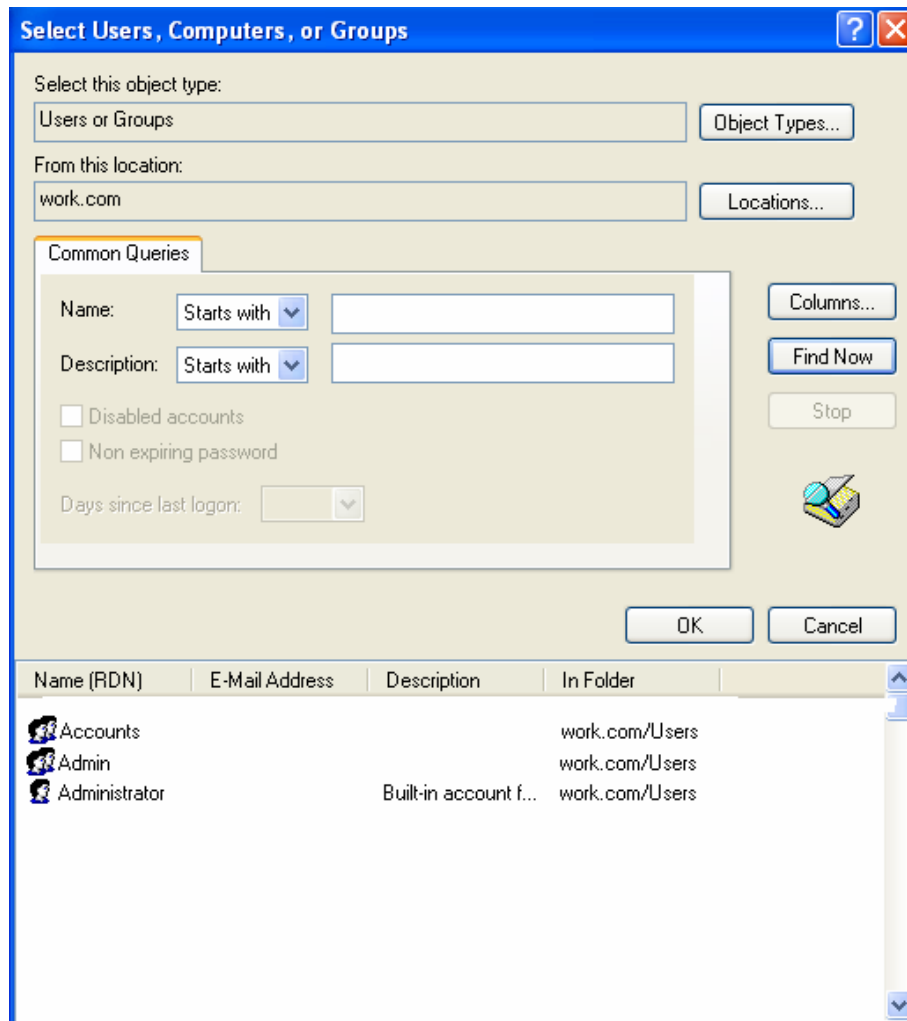


Procedure to Add User/Group

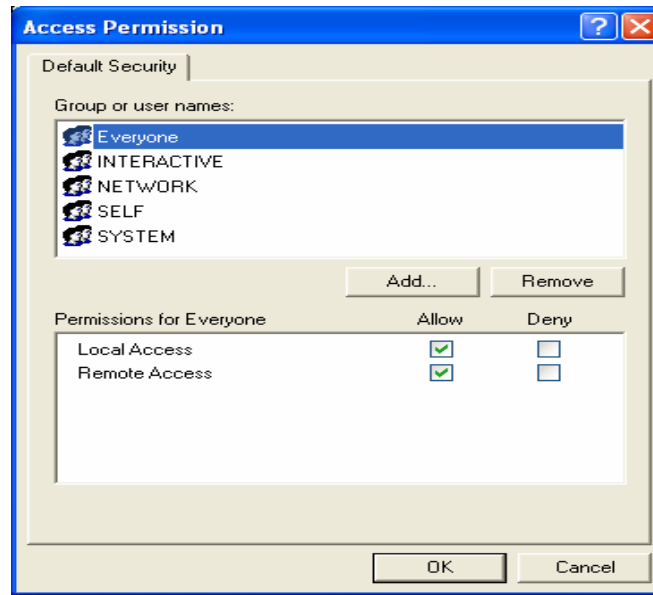
- Click on 'Add' from Access Permissions window.
- Click on 'Advanced' from Select Users, Computers, or Groups window.



- Another window with the same name appears, Click on 'Find Now' to browse all available groups and users. Select the required ones mentioned in the above list and add them.

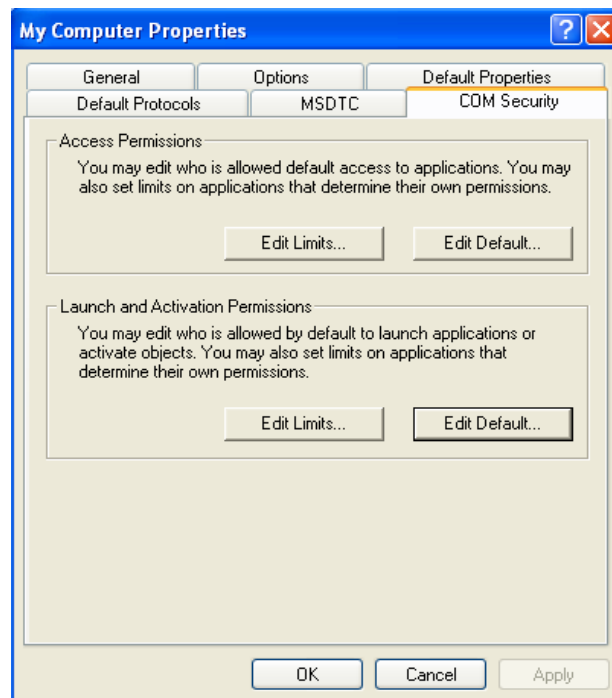


- Allow full control to all the above mentioned list of group/users.
- In the second panel, check all the checkboxes to allow full control to group/users.

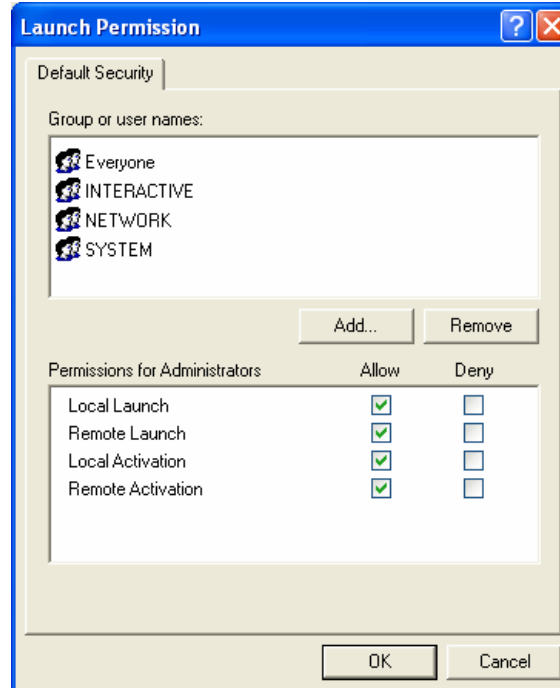


Default Launch and Activation Permissions

Here we tell the operating system that, *who* you will allow to launch and activate OPC servers on this machine.



Click on 'Edit Default' button in the second pane, the following window appears:



Here we have to add the same set {SELF, SYSTEM, INTERACTIVE, EVERYONE, NETWORK} of users/groups in the same way as we have done in **Default Access Permissions**.

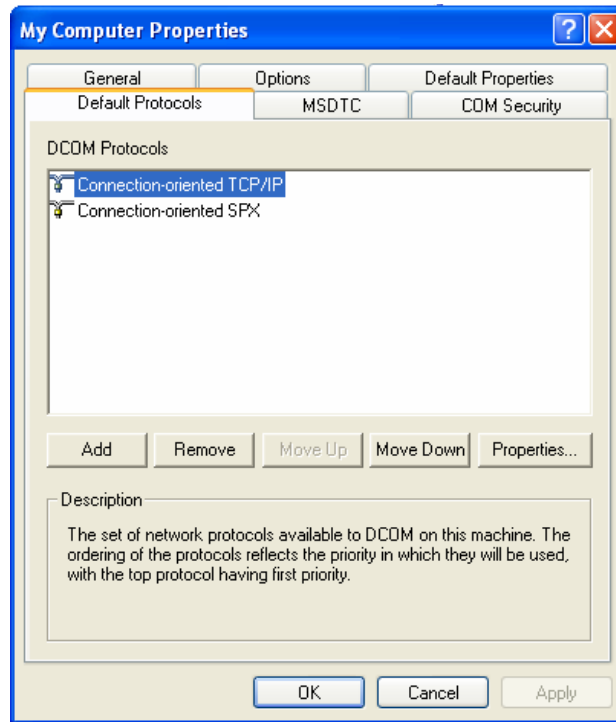
Follow the same procedure used before to add User/Group. The minor difference among both the settings is that the **Access Permission** window is replaced with **Launch permission** window.

In the second pane of Launch Permission window we have to check all the given four options to provide full control to the above mentioned list of Group/Users.

Default Protocols Tab:

In this tab you set which of the installed network protocols on your computer to use for DCOM. We recommend that you use connection oriented TCP-IP. You should have the preferred protocol at the top of the list in this tab. If you do not want to use any of the other protocols, remove them from the list.

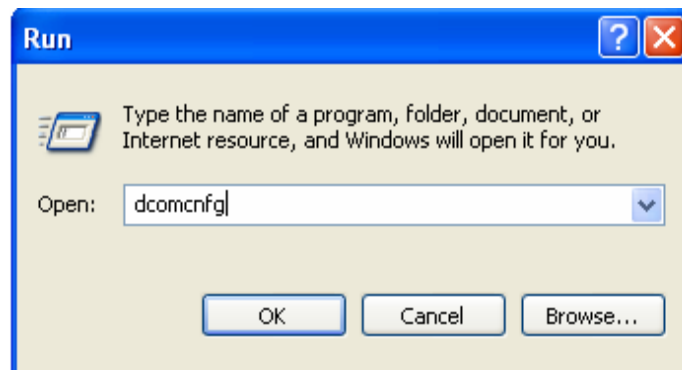
Note: This does not remove the protocols from your computer; rather it just says "do not use them for DCOM". The fewer the protocols in the list, the shorter your timeouts will be in DCOM waiting for a call or connect to fail.



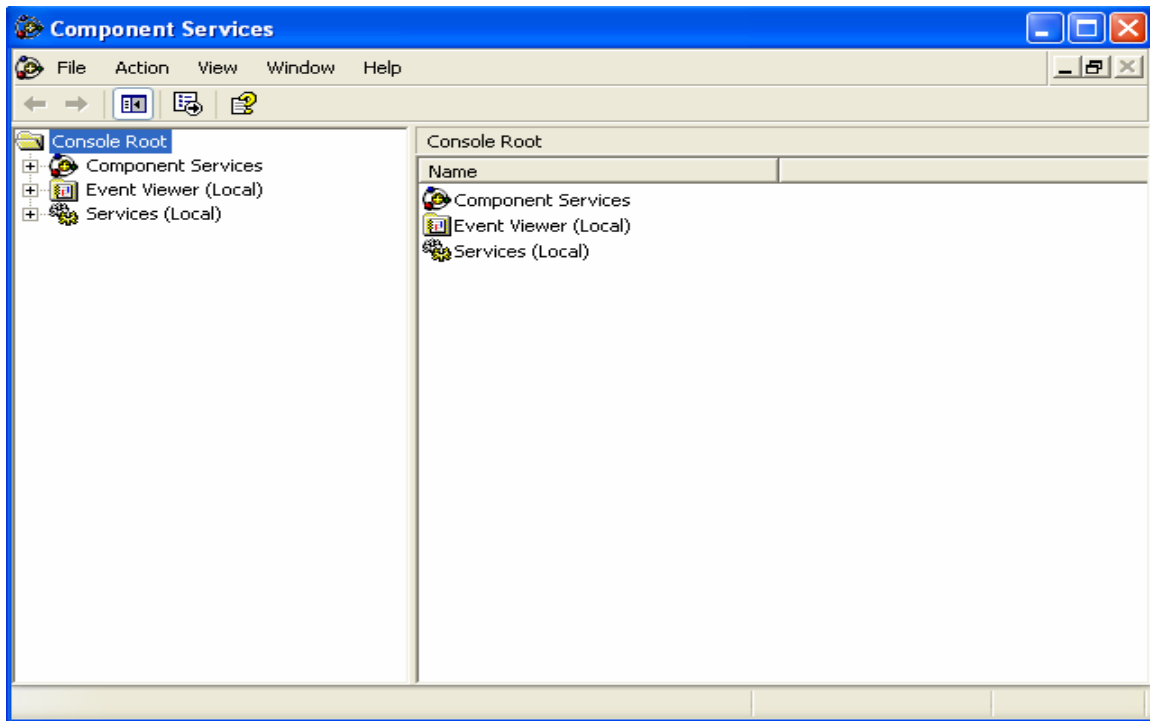
The remaining three tabs 'General', 'Options', 'MSDTC' are left as it is, with their default settings.

In the rest of the three steps, we have to set the properties of three DCOM components; all these three files are located at the same path. So to access these files, follow the instructions given below.

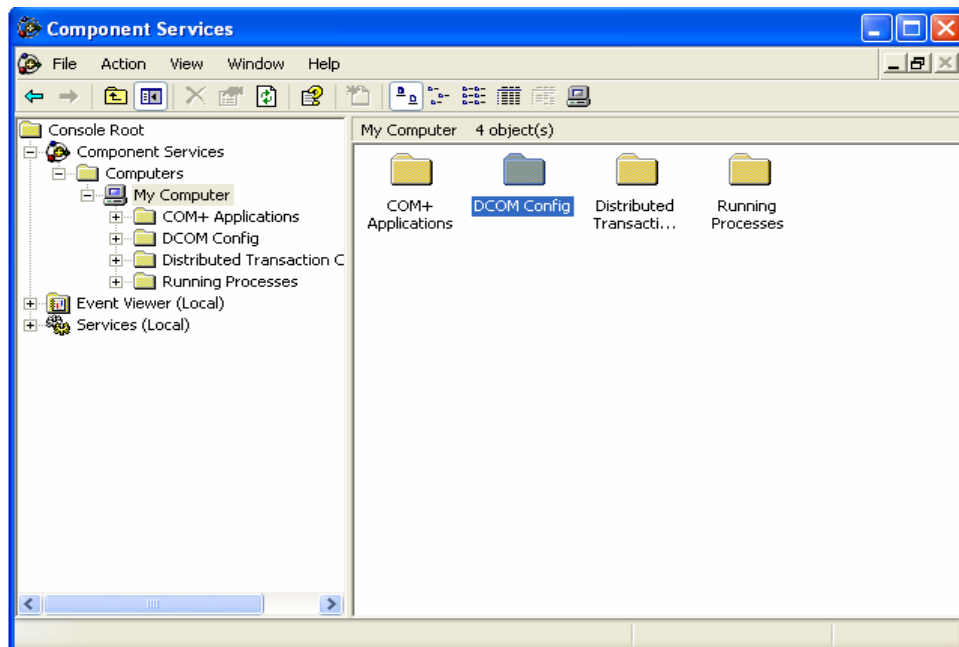
To access DCOM settings, type the following command at the run prompt, '**dcomcnfg**' ↵



The 'Component Services' window appears in front of you.



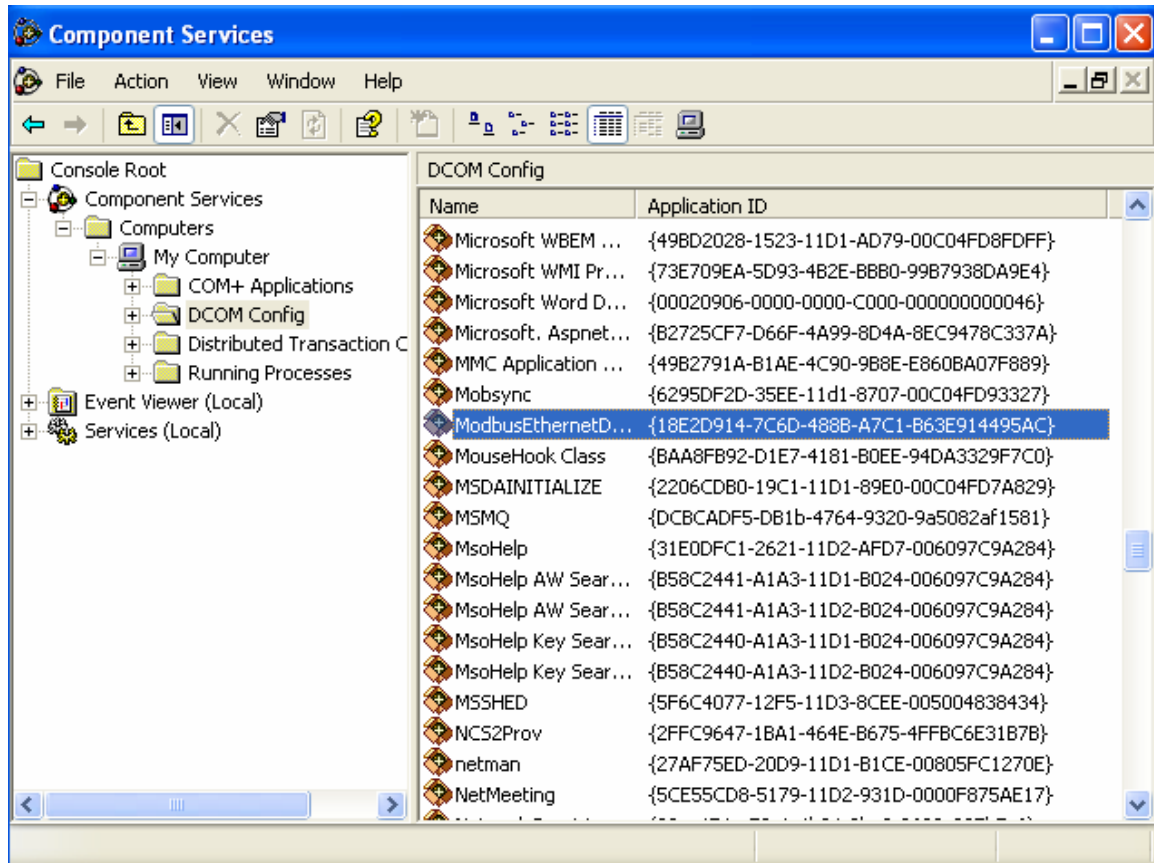
- Click on **Component Services** under the Console Root to expand it.
- Click on **Computers** under Component Services to expand it.
- Double click on **My Computer** in the left pane.



Double click 'DCOM Config' folder, the next window that appears contains all the three files for which we are going to set the properties in the next steps.

These three files are

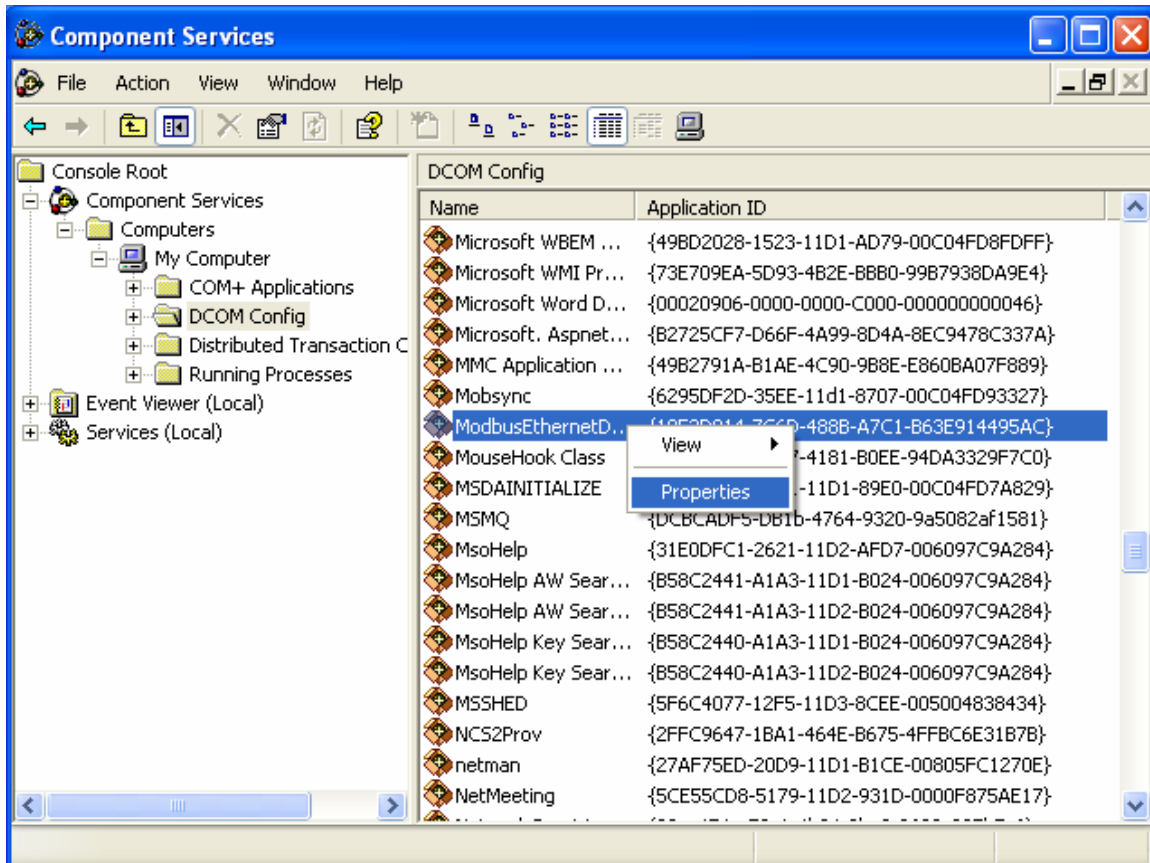
- **OPC server specific settings** (i.e. OpenControl Modbus Ethernet DA)
- **Settings for OPCEnum** (OPCenum file)
- **Settings for surrogate created against OPCDAAuto.dll** (e.g. OPC Data Access Automation Wrapper)



Step2: OPC Server Specific Settings

These are server specific settings that we need to set against DCOM component available in the DCOM Config utility. For example, here we have used OpenControl Modbus Ethernet DA server so we need to set the properties of OpenControl Modbus Ethernet DA specific DCOM component.

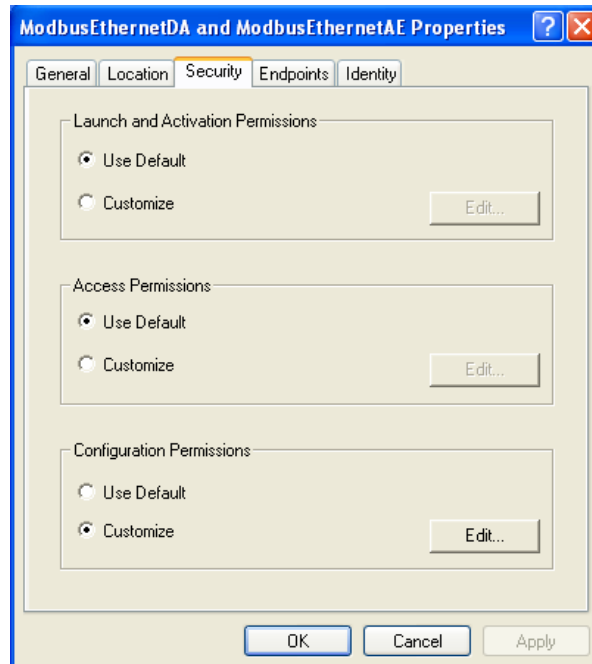
Search the server specific component from DCOM components list, and then right click to access its properties.



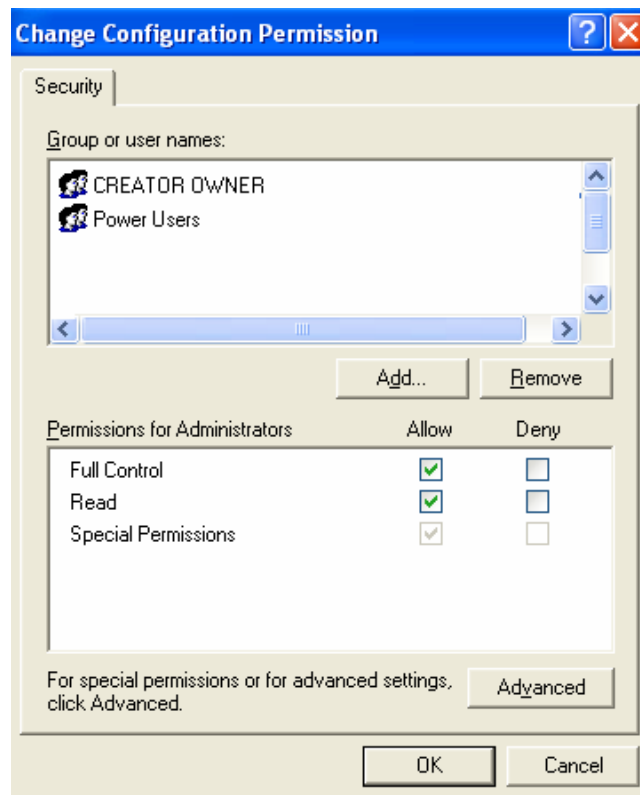
The properties window appears in front of you with all its tabs. Now we configure its properties under the following tabs:

Security Tab:

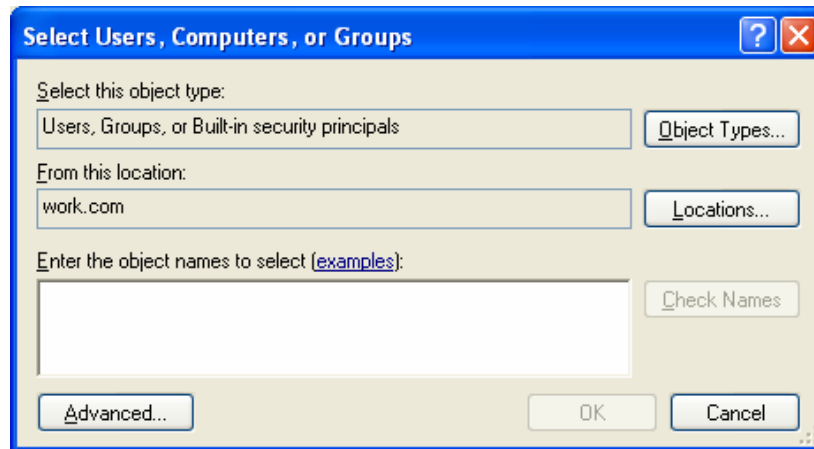
The settings for the Security tab should be the same as shown in the screen below:



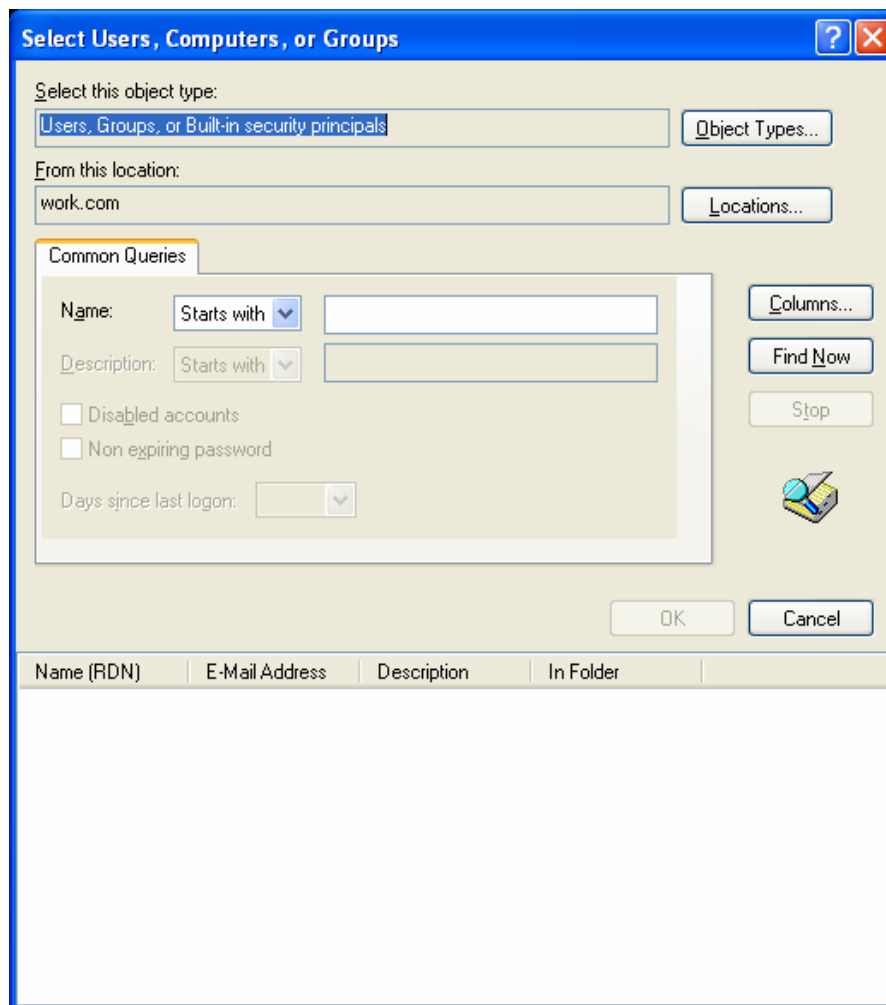
Click 'Edit'. The following window appears:



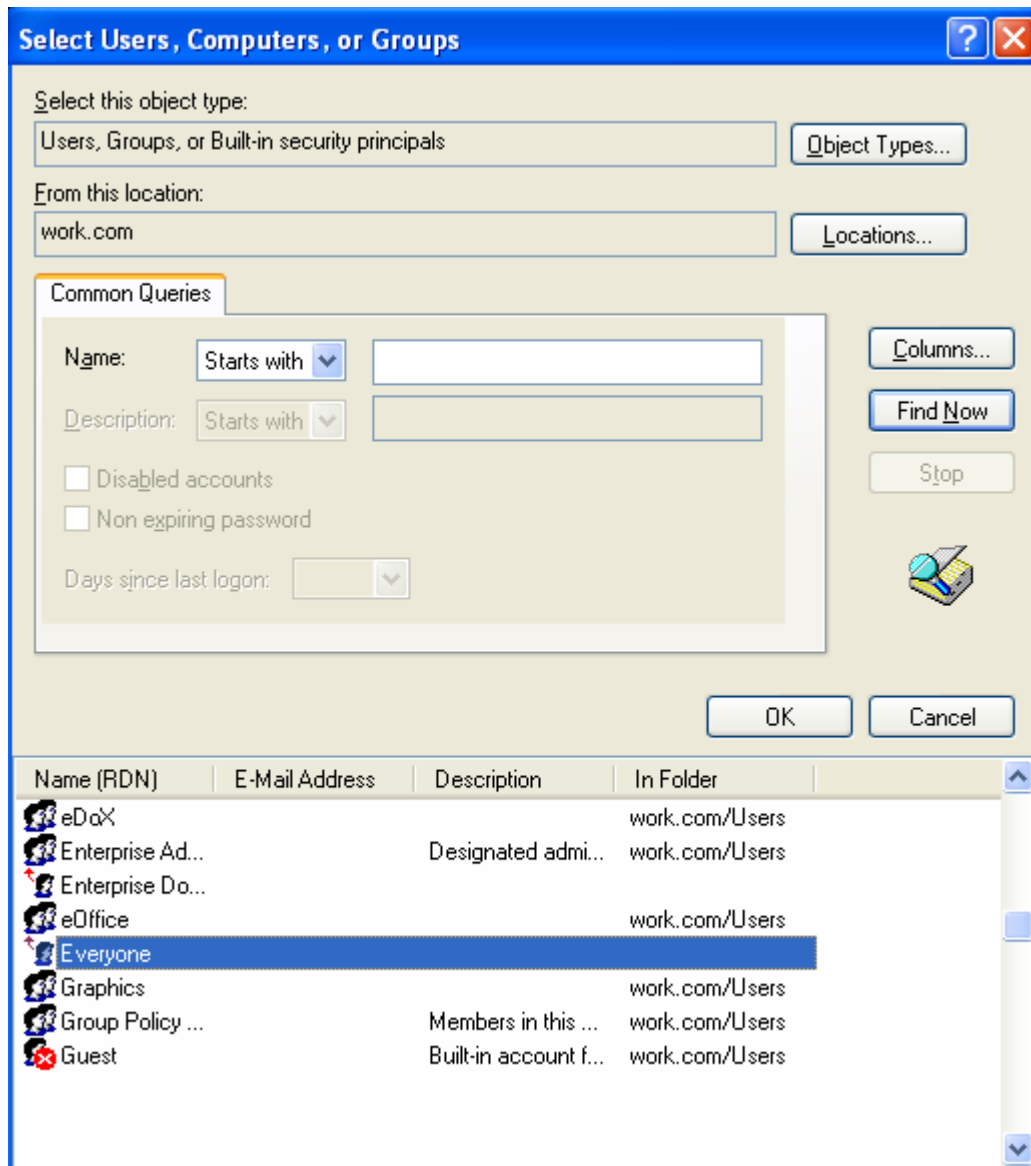
Click 'Add'. The following window appears:



Click 'Advanced'. The following window appears:



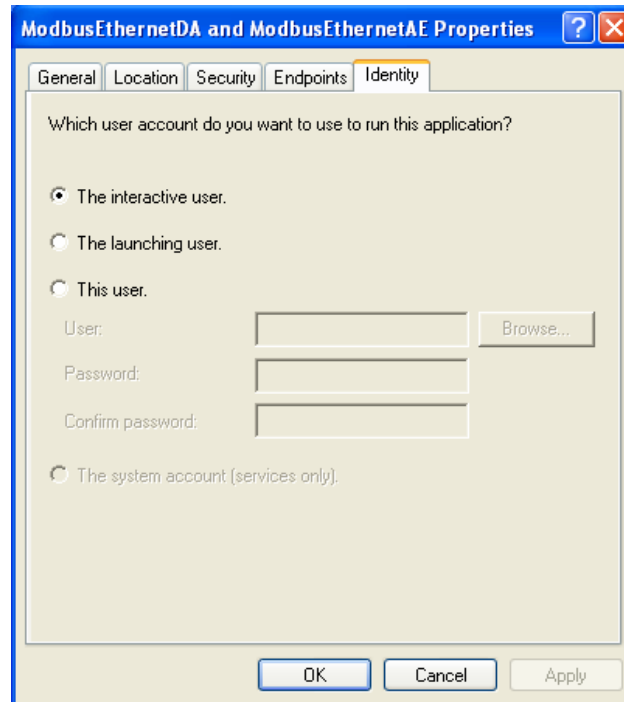
Click 'Find Now'. The list of users will be shown below:



Select 'Everyone' from the list and click 'OK'.

Identity Tab:

The settings for the Identity tab should be the same as shown in the screen below:

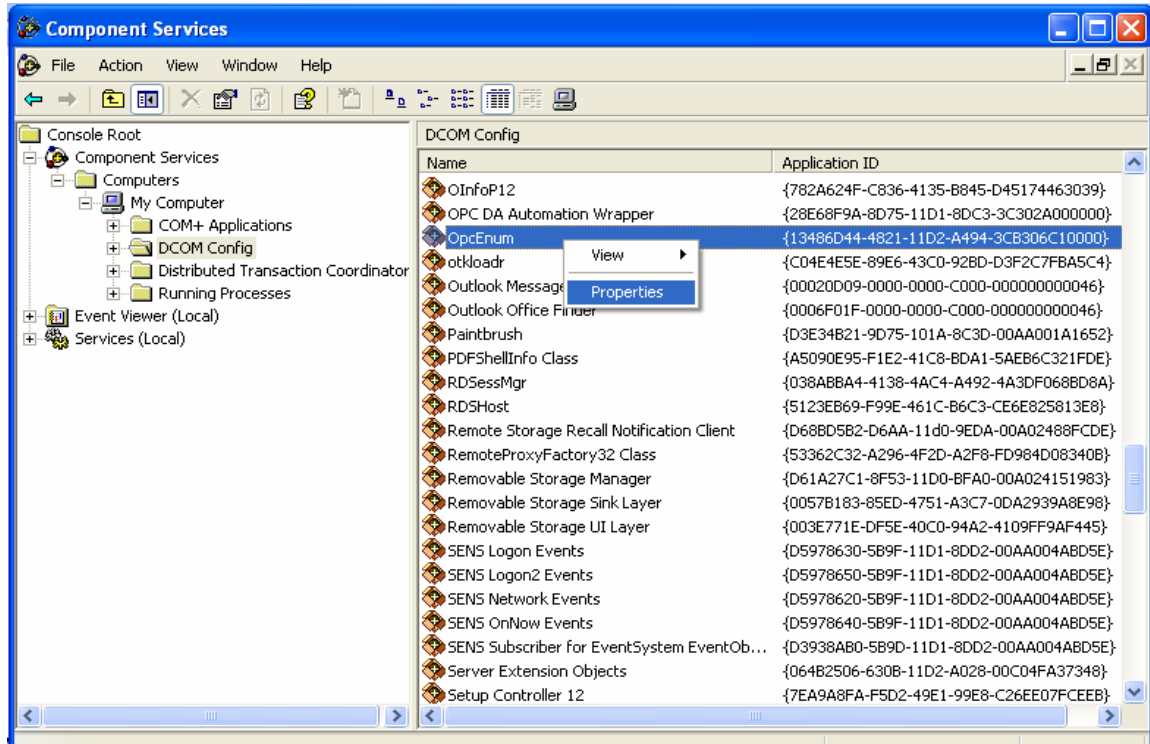


Note: OpenControl Modbus Ethernet DA is just an example. You have to apply appropriate settings according to your OPC server as per OPC Specs version 2.x.

Step 3: Settings for OPCEnum

OPCEnum is the tool that lets remote clients browse for available OPC servers on the machine where your OPC servers are installed. Here we prescribe several settings required for OPCEnum DCOM component.

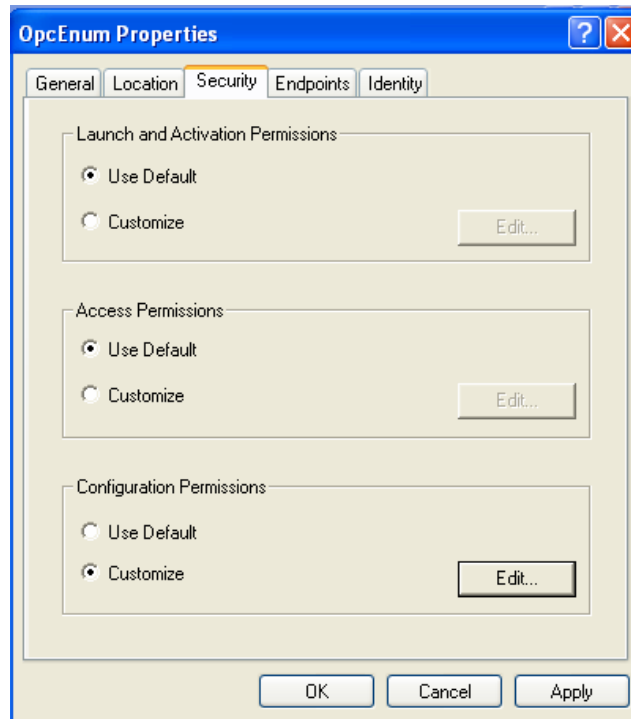
Search the required OPCEnum component from DCOM components list and then right click to access its properties.



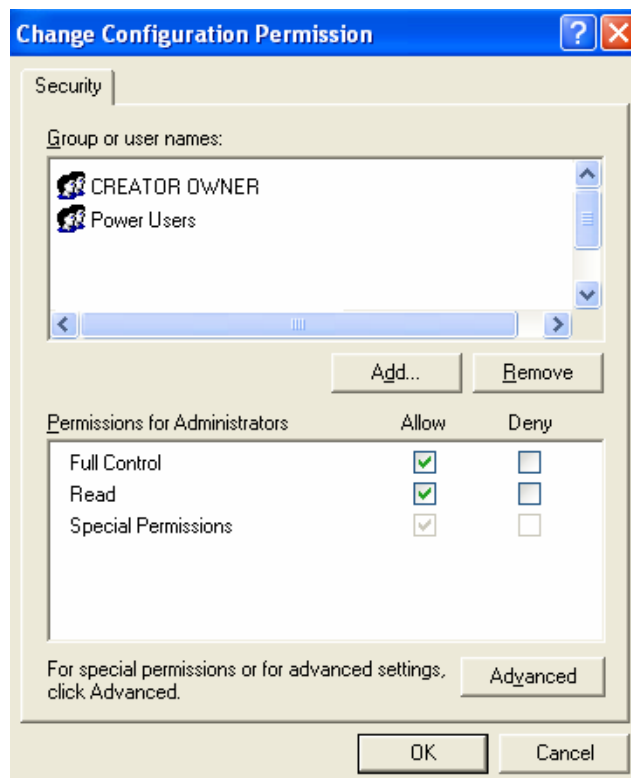
The properties window appears in front of you with all its tabs. Now we configure its properties under the following tabs:

Security Tab:

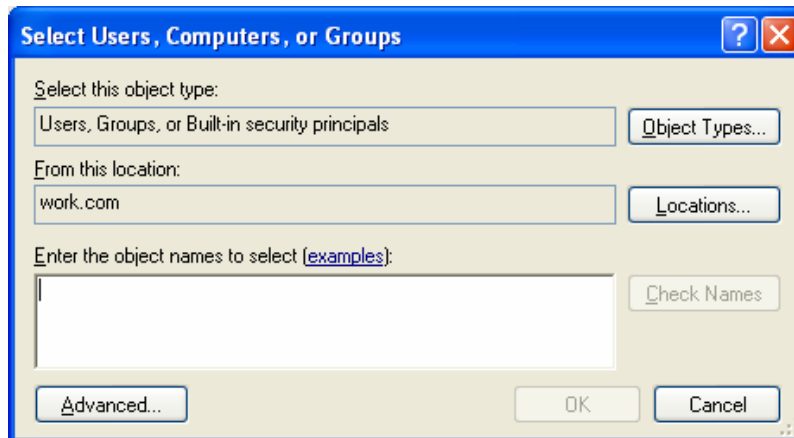
The settings for the Security tab should be the same as shown in the screen below:



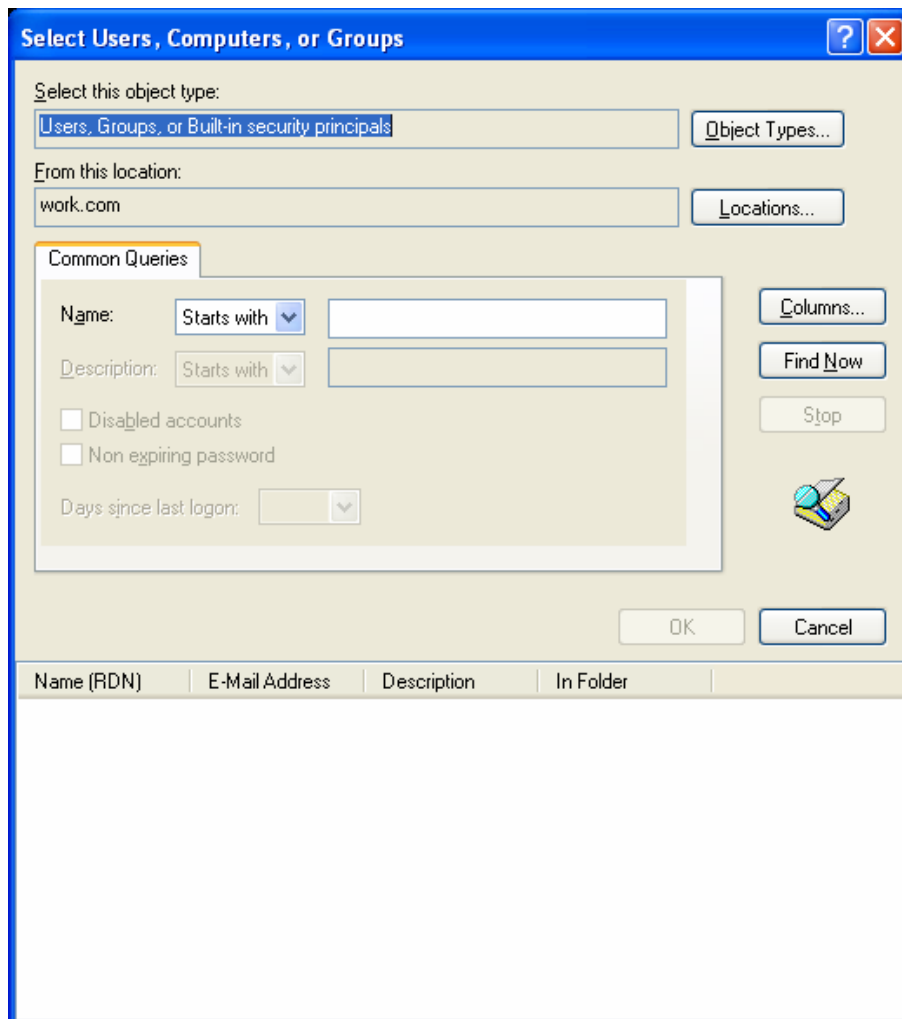
Click 'Edit'. The following window appears:



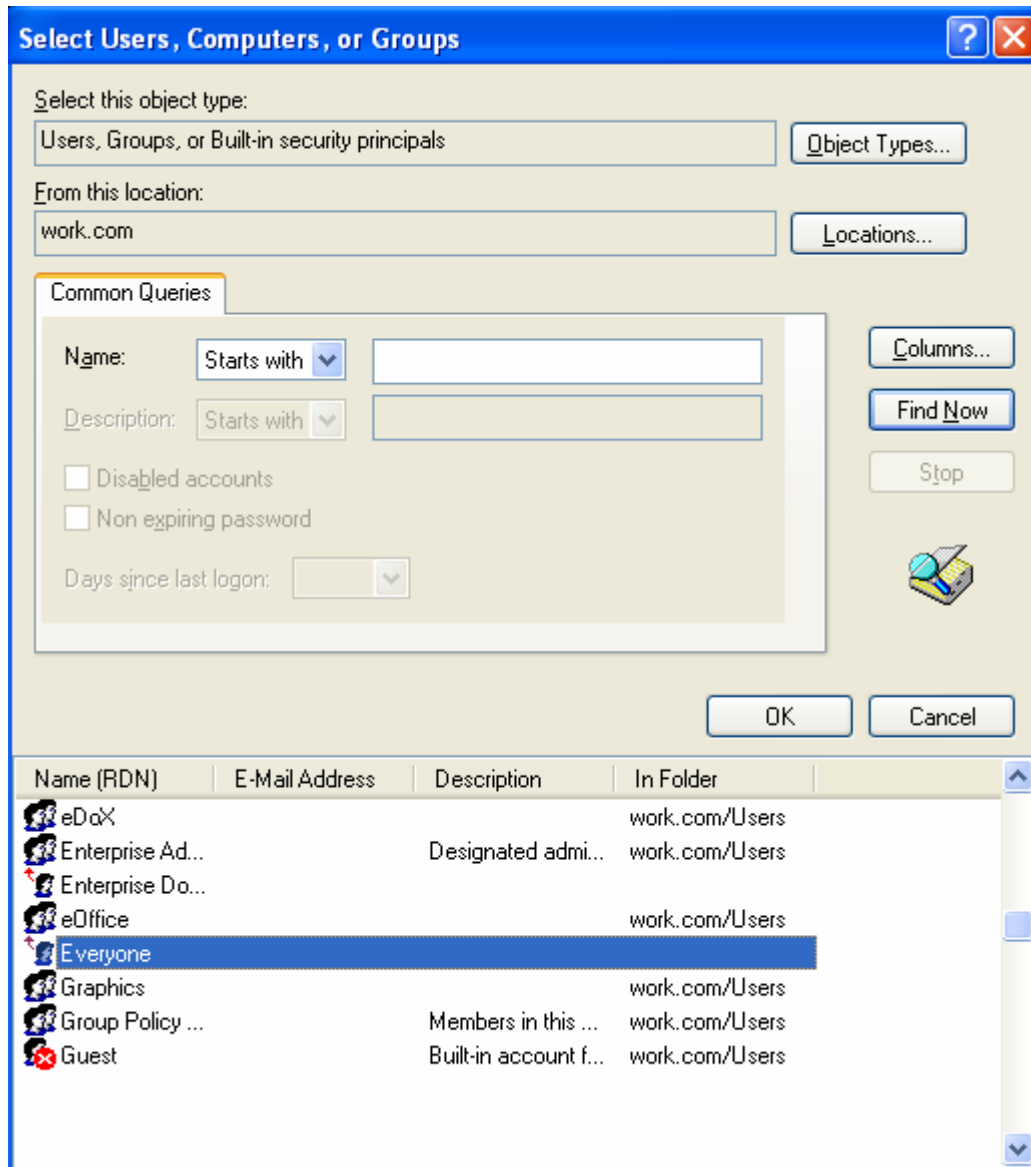
Click 'Add'. The following window appears:



Click 'Advanced'. The following window appears:



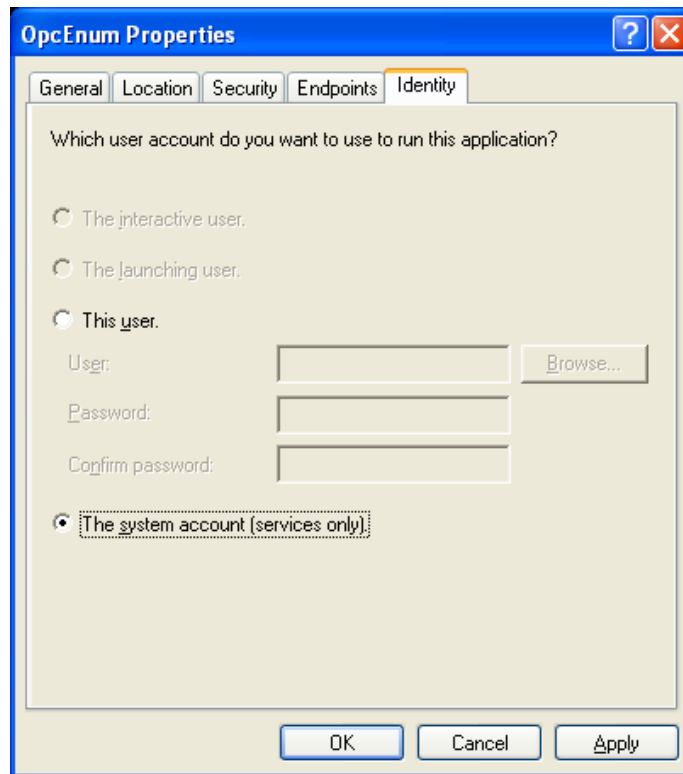
Click 'Find Now'. The list of users will be shown below:



Select 'Everyone' from the list and click 'OK'.

Identity Tab:

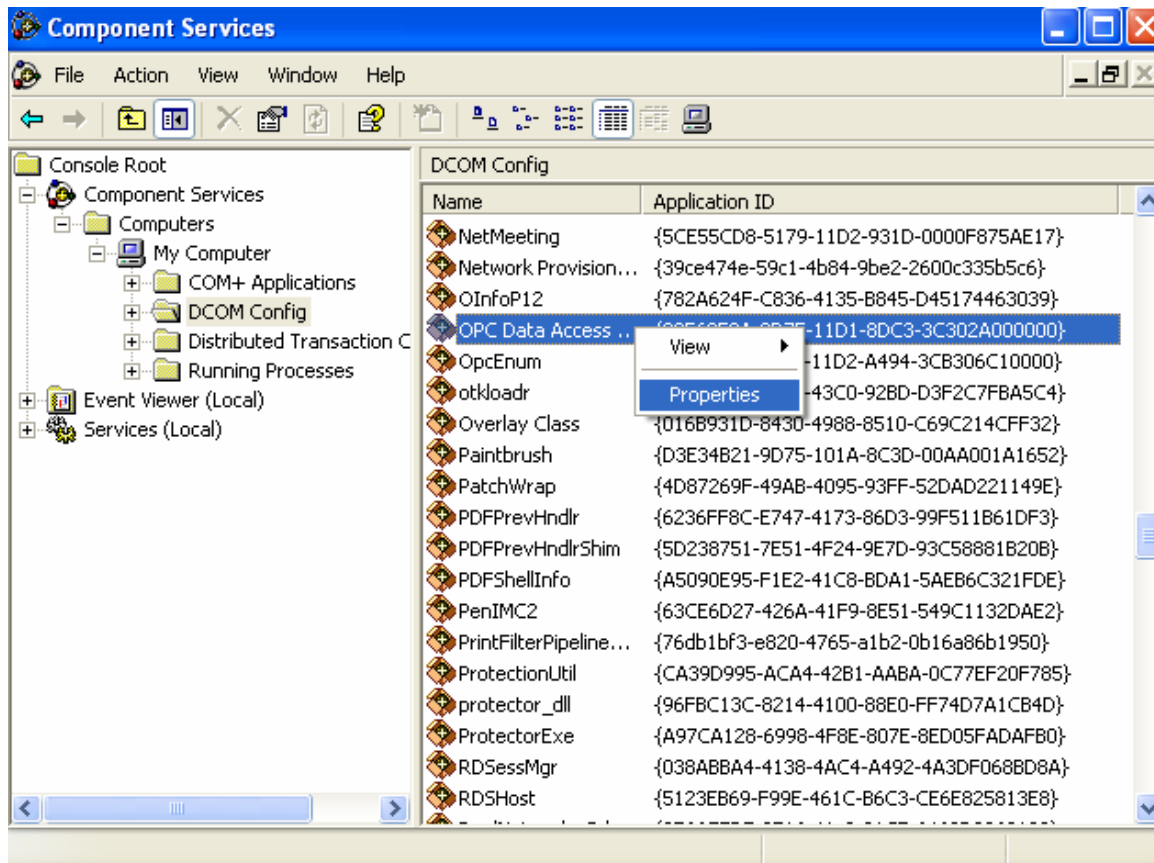
The settings for the Identity tab should be the same as shown in the screen below:



Step 4: Settings for the Surrogate

Here we prescribe several settings required for OPC Data Access Automation Wrapper i.e. surrogates created against OPCDAAuto.dll.

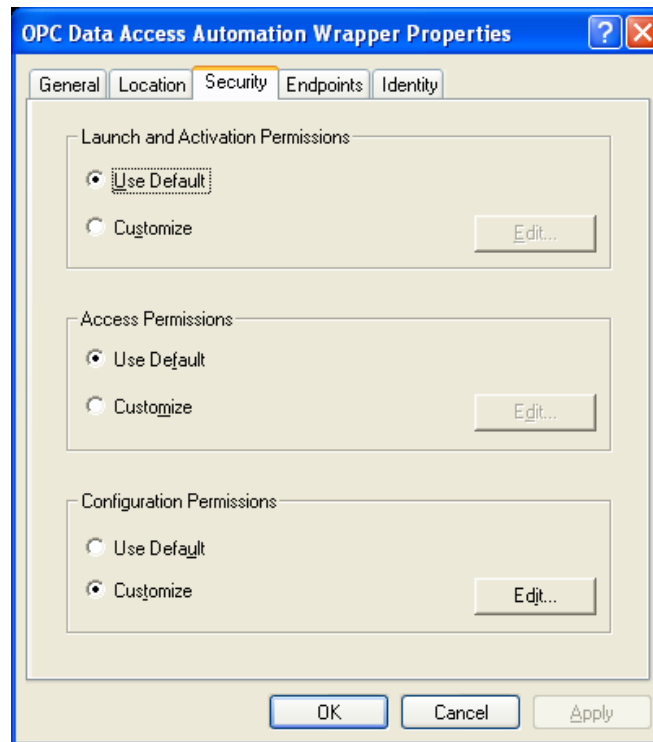
Search the required OPCEnum component from DCOM components list and then right click to access its properties.



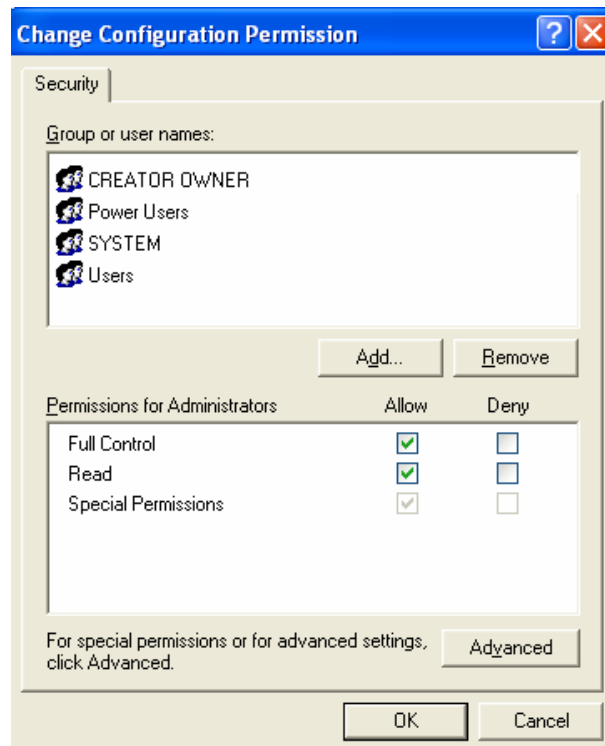
The properties window appears in front of you with all its tabs. Now one by one we configure all its properties under the following tabs:

Security Tab:

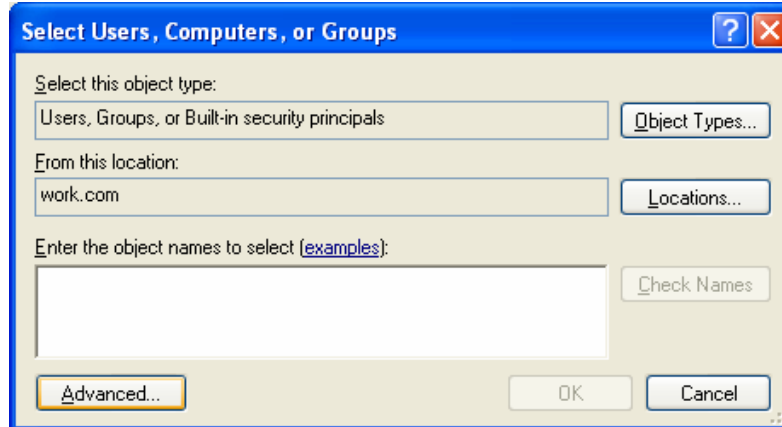
The settings for the Security tab should be the same as shown in the screen below:



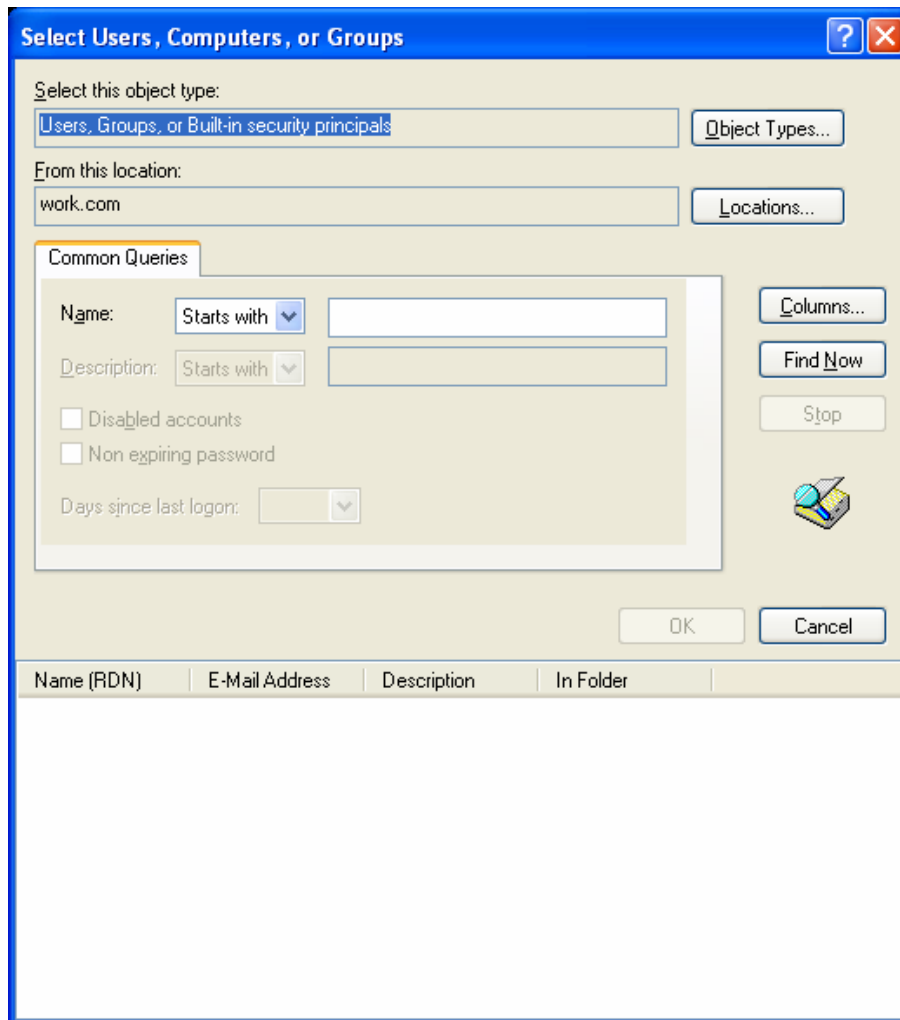
Click 'Edit'. The following window appears:



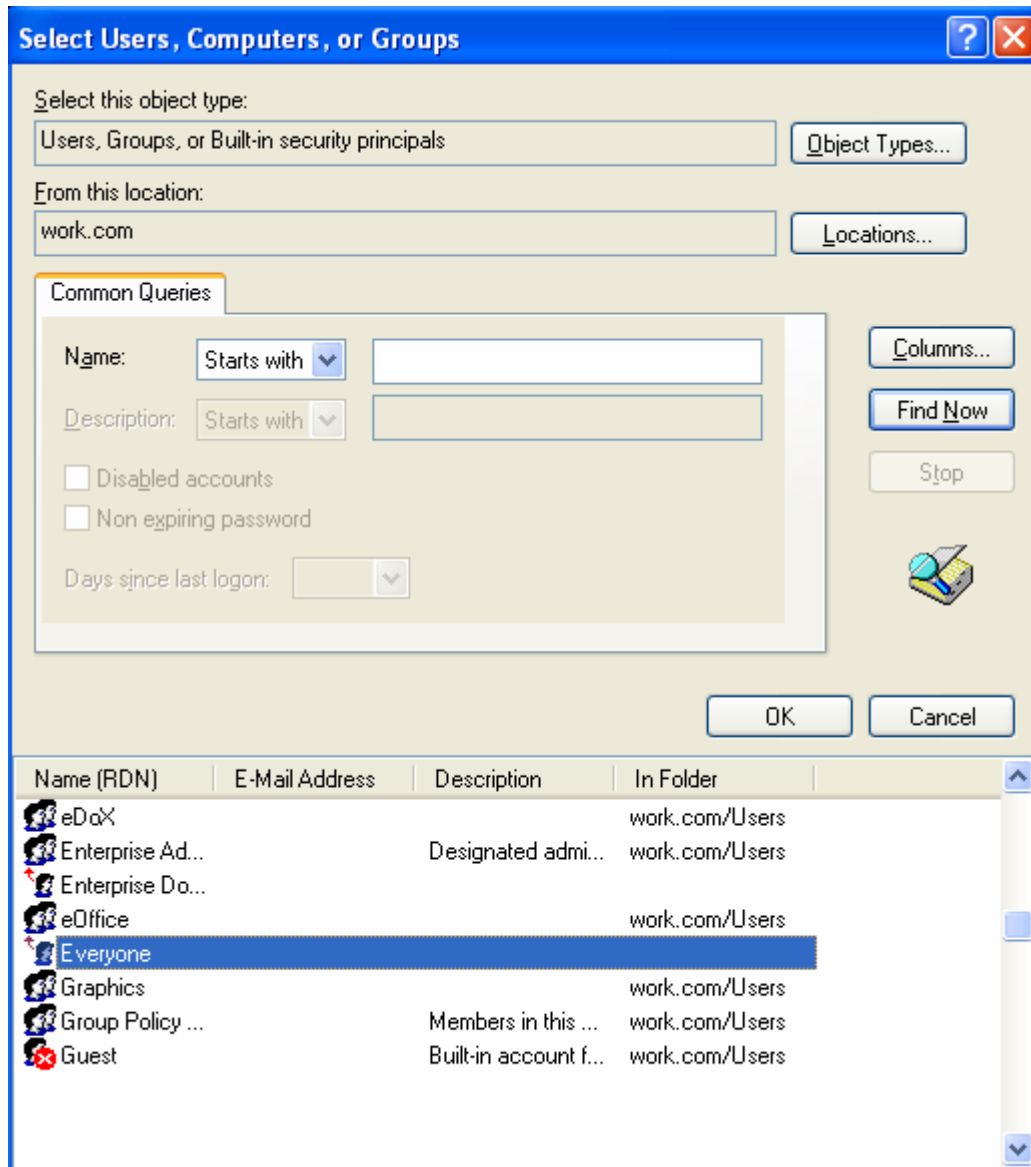
Click 'Add'. The following window appears:



Click 'Advanced'. The following window appears:



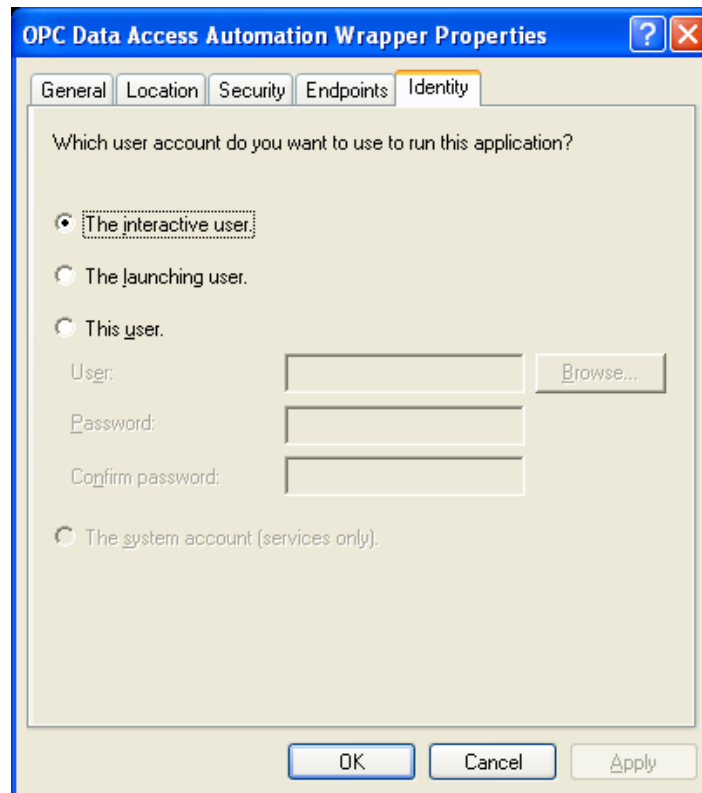
Click 'Find Now'. The list of users will be shown below:



Select 'Everyone' from the list and click 'Ok'.

Identity Tab:

The settings for the Identity tab should be the same as shown in the screen below:



Note: DCOM settings are to be done on the system where the OPC server is configured. If you want to install OPC servers on different machines and OpenControl is installed on a different machine then DCOM settings should be done on the machines where the OPC servers are configured. Site Manager settings should be done on the machine where OpenControl is installed.

DCOM settings take effect only when the computer is restarted. Restart the computer so that the DCOM settings take effect.

In case there is a problem please refer to the Windows Firewall Configuration in the Troubleshooting section.

OpenControl

Client Installation

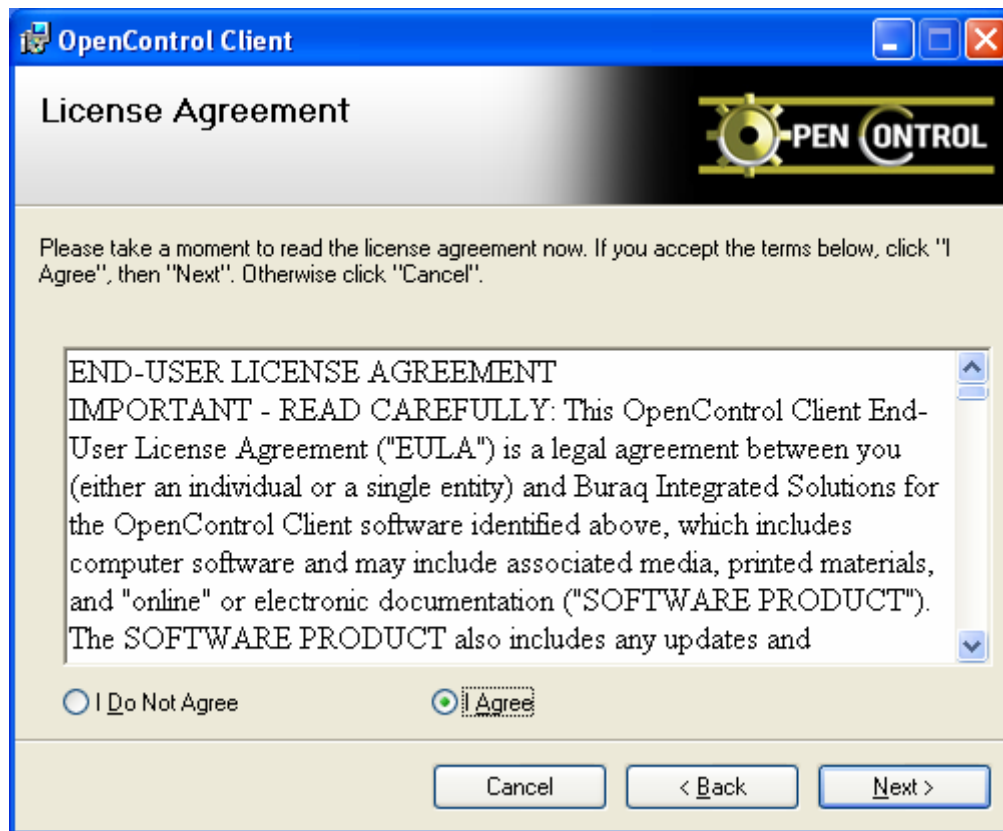
4. OpenControl Client Installation

Run the OpenControl Client installation setup from the Client folder in the OpenControl Release.

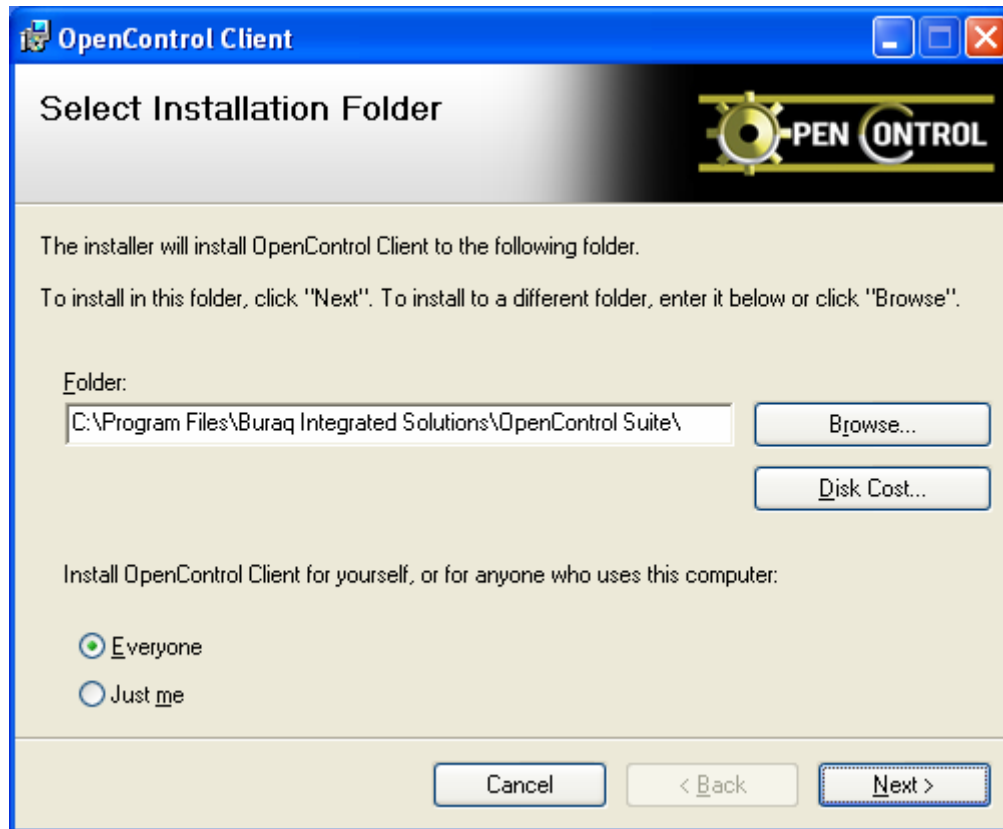


Click 'Next' to continue.

Note: OpenControl setup requires Java Runtime Environment (JRE) 1.6 or greater. If it is not present on target machine, OpenControl Client setup will install it automatically before installing the actual components of OpenControl Client.

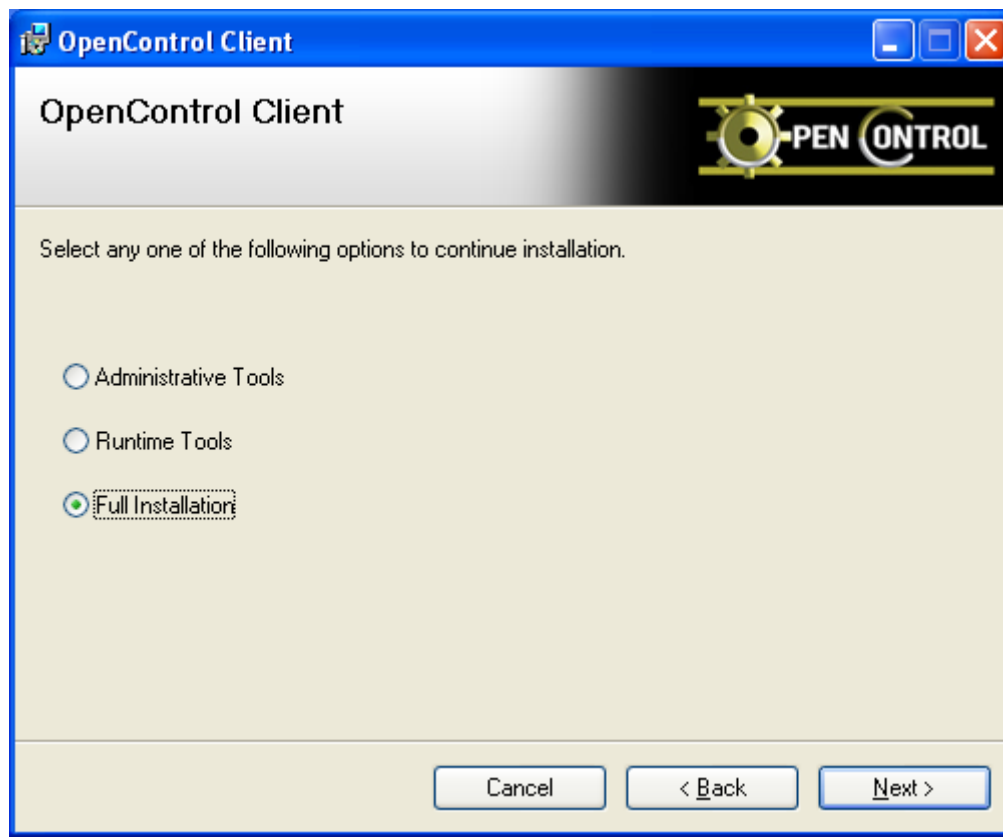


Read End User License Agreement. Check 'I agree' option and click 'Next' to continue.



Specify the path where you want to install the OpenControl Client. Select whether you want to enable access of OpenControl Client for all users on the computer by choosing 'Everyone' or only for a single user by selecting 'Just me'.

Click 'Next' to continue.



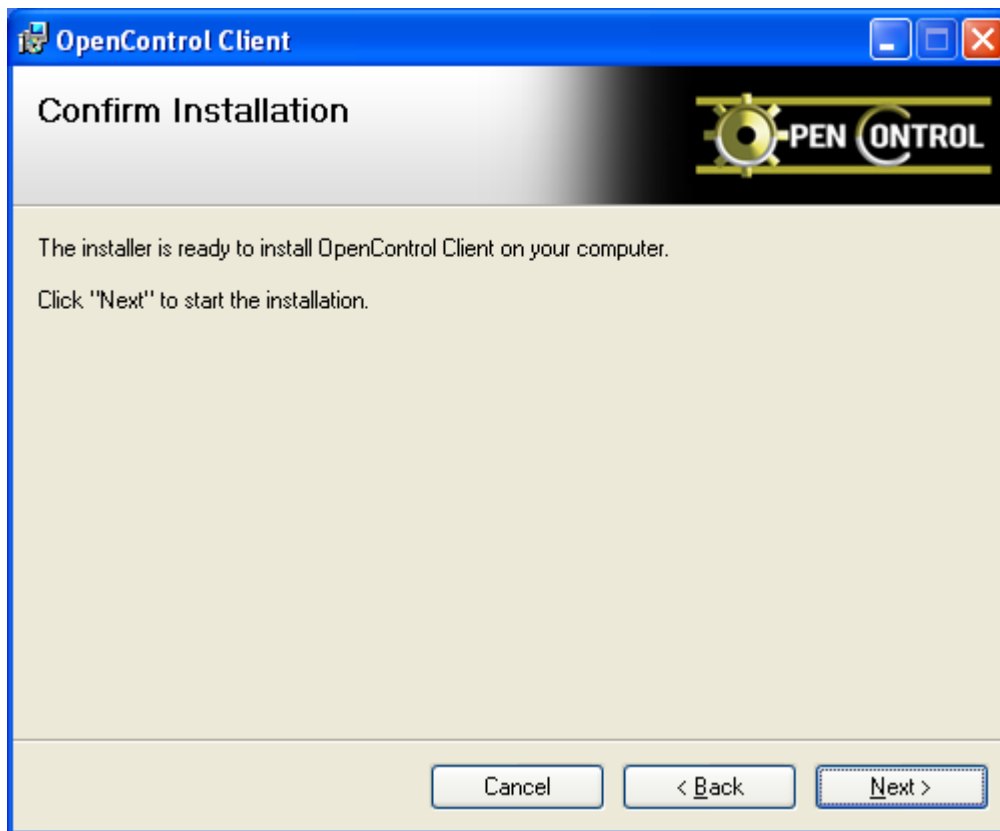
Choose the components that you want to install for OpenControl Client.

Choose 'Administrative Tools' to only install Administrative Tools. It includes OpenGraph Designer, OPC Configurator, Alarm Configurator, Data Logger Configurator, Data Source Configurator and Script Configurator.

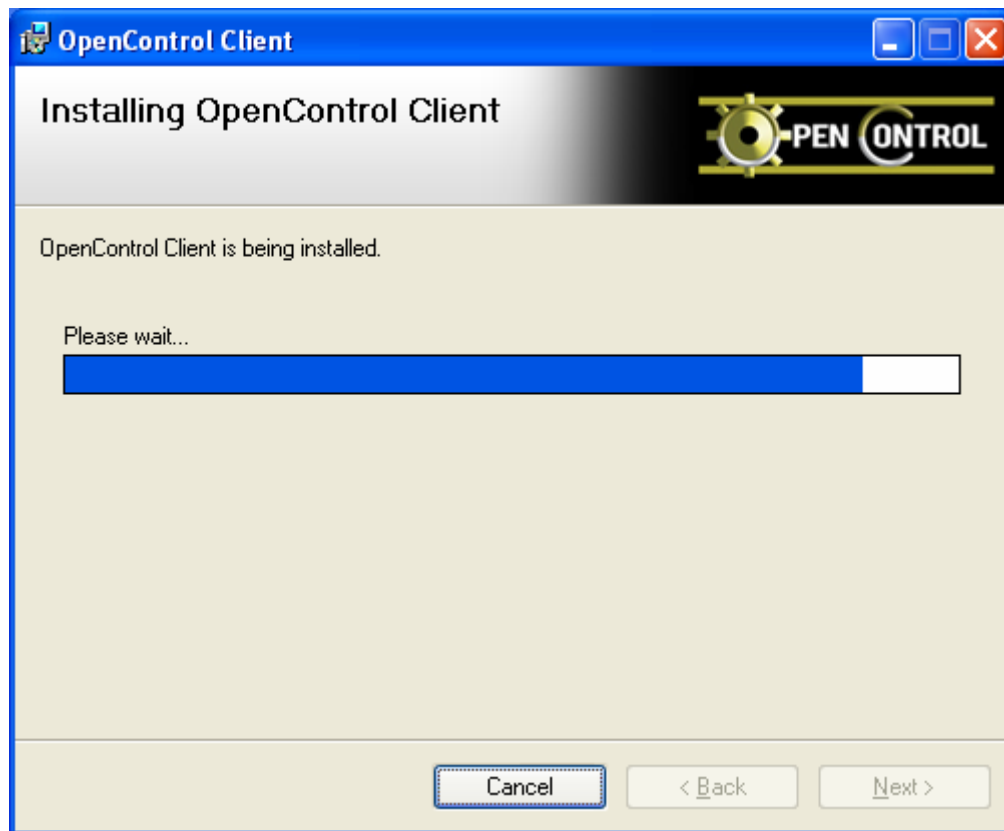
Choose 'Runtime Tools' to only install Runtime Tools. It includes Alarm Viewer and OpenGraph Runtime.

Choose 'Full Installation' to install all the modules of OpenControl Client.

Click 'Next' to continue.



Click 'Next' to start the installation.



OpenControl Client components are now being installed. Please wait while the installation is in progress.

The Site Manager window opens. You can configure the Site Manager for the desired settings.

The screenshot shows the 'Client Site Manager' window with three main configuration panels:

- Database Settings:**
 - Host Address: 127.0.0.1
 - Port: 3306
 - RDBMS: mysql (dropdown)
 - Driver: com.mysql.jdbc.Driver
 - Database: opencontroldb
 - User Name: (empty)
 - Password: (empty)
- OpenControl Settings:**
 - OPC Connector Address: 127.0.0.1
 - OPC Connector Port: 11345
 - Open DA Address: 127.0.0.1
 - Open DA Port: 22345
 - Alarm Generator Address: 127.0.0.1
 - Alarm Generator Port: 55345
 - Script Service Address: 127.0.0.1
 - Script Service Port: 33345
 - Script Client Port: 36521
 - Data Logger Service Address: 127.0.0.1
 - Data Logger Service Port: 7312
- OpenControl DA Server Authentication:**
 - Domain/Computer Name: (empty)
 - DA User Name: (empty)
 - DA Password: (empty)

At the bottom right, there are 'Save' and 'Exit' buttons.

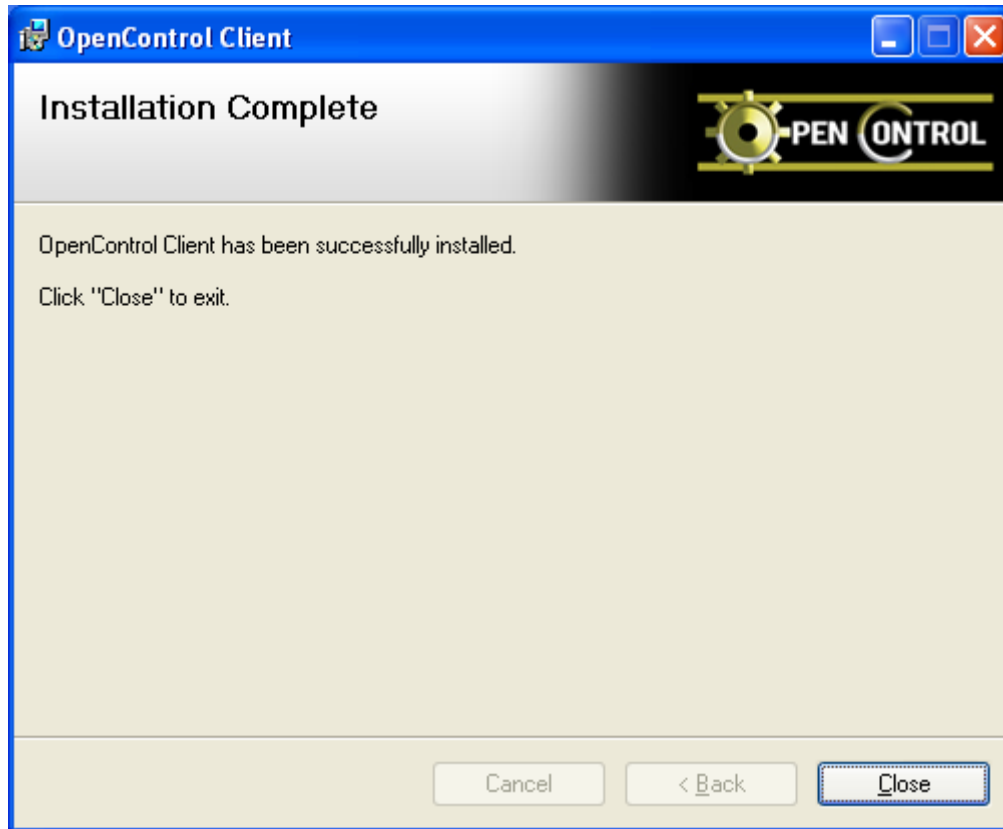
The Site Manager window appears. Enter the host address where the database for the system is located. Enter the same username and password as configured in the database installation.

Enter the admin settings for user in the OpenControl DA Server Authentication panel. The OpenControl Services can be accessed by specifying the addresses and port numbers in the OpenControl Settings panel.

If you want to run the Client and Server on different machines, you need to configure the properties by assigning the addresses and ports according to the real time scenario. You can configure where you want to have the OPC server, which service you want to run on which machine. The OPC Server, the Client and the Services can all be on different systems.

While assigning the ports make sure that the reserved ports by the operating system are not assigned. Also make sure that the antivirus or the windows firewall does not block the ports. Click 'Save' and then click 'Exit'.

Note: Database settings present in Server and Client Site Manager used by the Server and Client components / applications respectively i.e. OPC Connector Service uses Database settings from Server Site Manager and all configurators use Database settings from Client Site Manager.



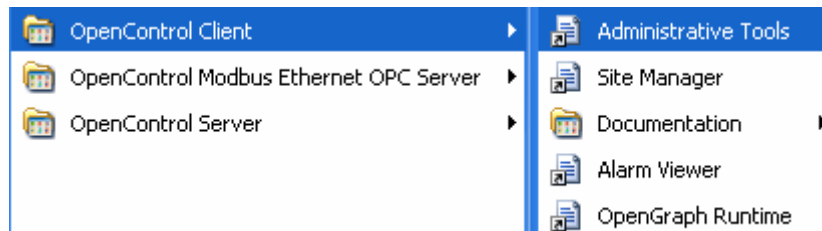
Click 'Close' at the end of the installation.

4.1 OpenControl Client Applications

Client side is able to run the following applications after installation.

- OpenGraph Application
- OpenAlarm Application
- Configurators

Go to **Start** → **All Programs** → **OpenControl Client** → **Administrative Tools** as shown below:

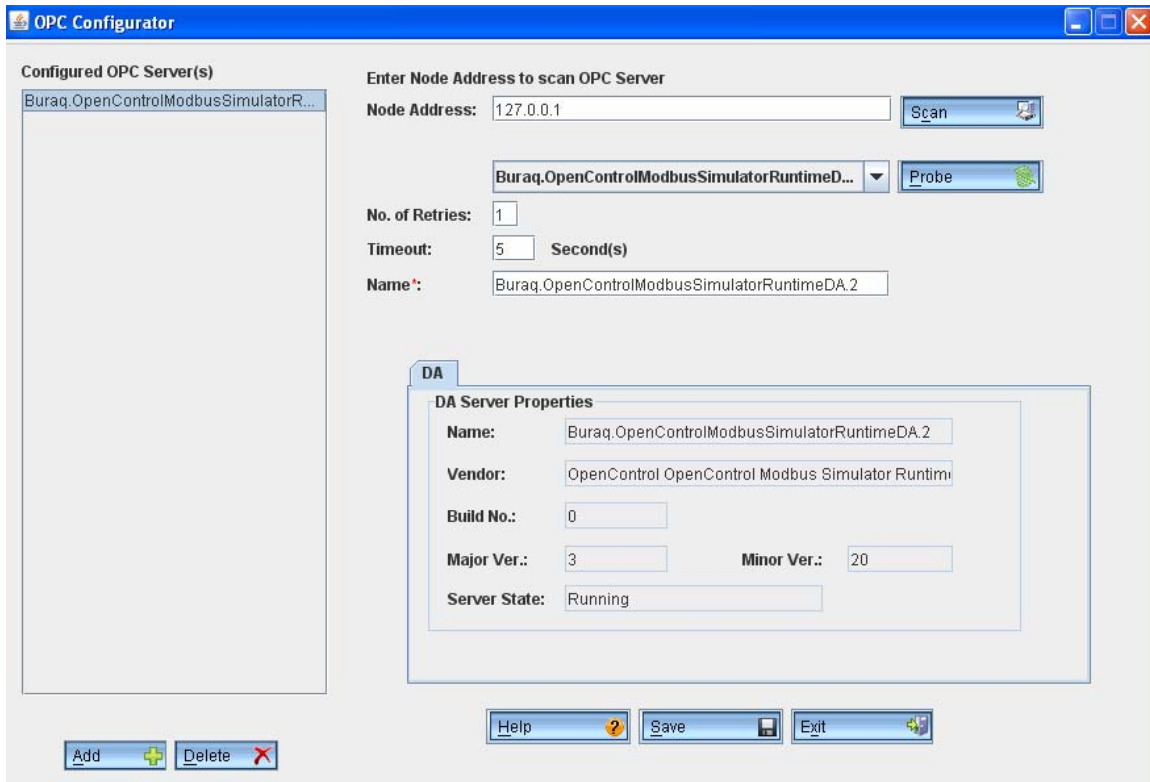


The 'Administrative Tools' window appears as shown below:

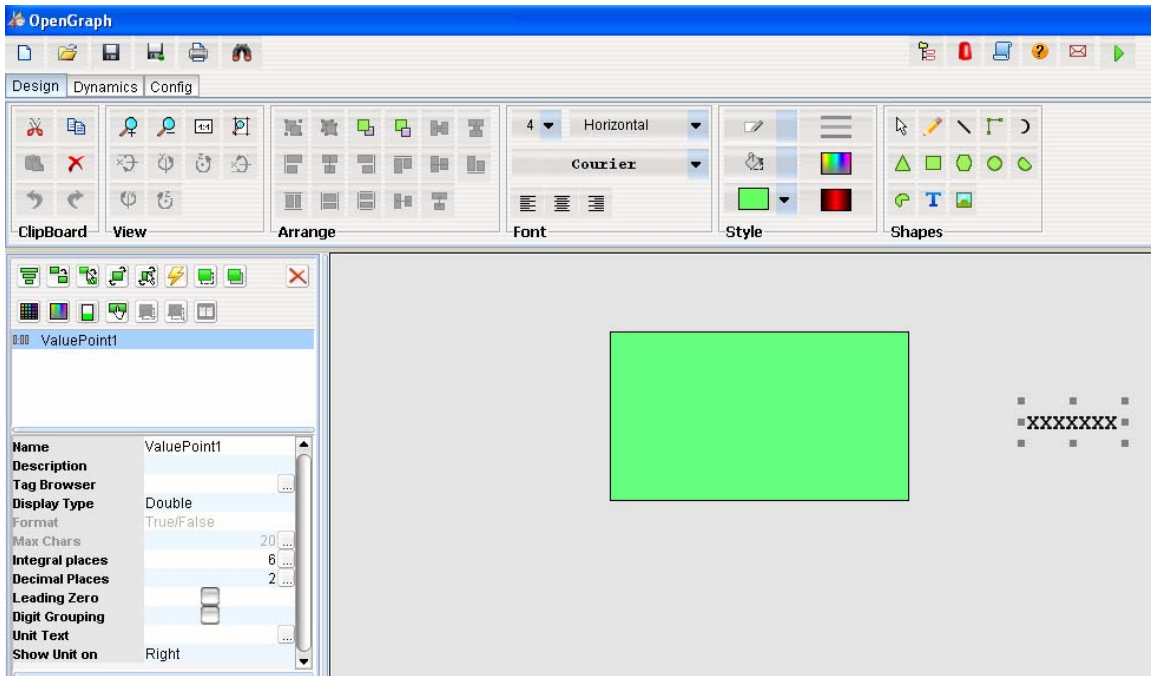


4.1.1 OPC Configurator

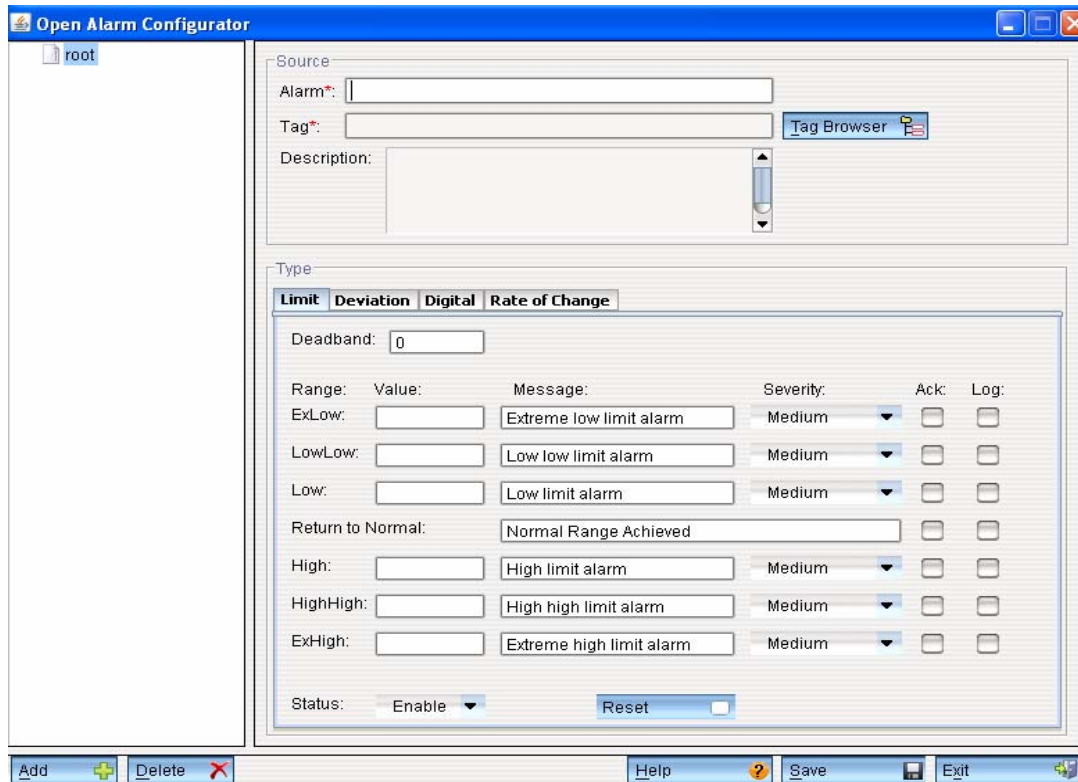
The OPC Server can be configured using OPC Configurator. Scan for the OPC server on the Node Address and when the Server name appears click 'Probe' and then 'Save' to configure the required OPC server.



Click 'OpenGraph Designer' to open OpenGraph.



Similarly you can open other applications of OpenControl Client by clicking on them.



Data Log Configurator

Logging Profile Schedule

Name*:

Data Source Type: MySQL Data Source: opencontroldb

Log Frequency*: 1 sec Status: Enable

Tag*: Tag Browser

Tag Filter: None Calc. Period: sec

Skip Unchange: No Add Tag

Tag	Filter	SkipValue	Period	Unit	Action
-----	--------	-----------	--------	------	--------

Add Delete Help Save Exit

Data Source Configurator

DataSource

- RDBMS
 - OpenControlldb
 - XML
 - Text

RDBMS XML Text

RDBMS Information

Name*: (length: 1-100) OpenControlldb

RDBMS Type*: MySQL

Server Address*: 127.0.0.1

Port*: 3306 (e.g. 3306)

Database Service Name*: OpenControlldb

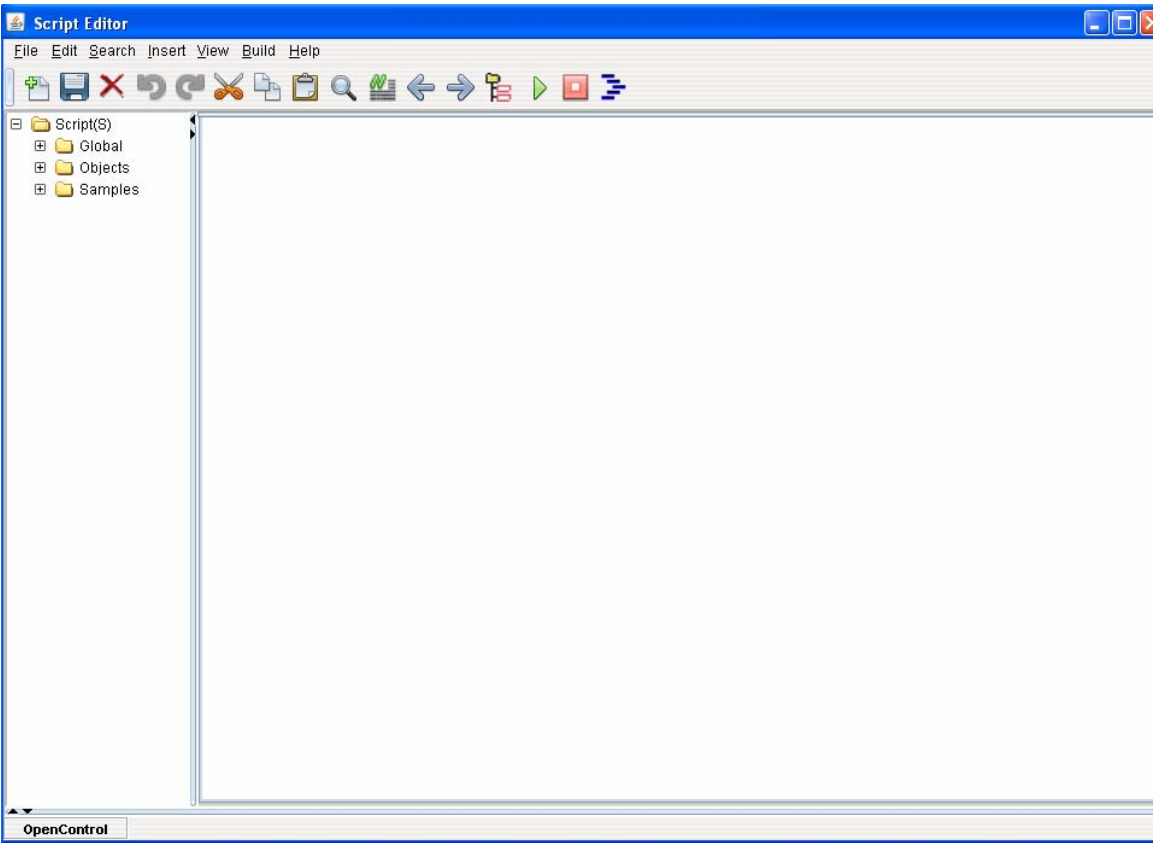
User Name*: root

Password*: ****

Driver Name*: com.mysql.jdbc.Driver

Description:

Add Delete Help Save Exit



Troubleshooting

5. Troubleshooting

5.1 Making Opcdaauto.dll Surrogate

To create the surrogate, go to the 'Surrogate' folder. 'Surrogate' folder is located in the directory where you have installed OpenControl.

C:\Program Files\Buraq Integrated Solutions\OpenControl Server\Surrogate

Run the following file:

Surrogate.bat

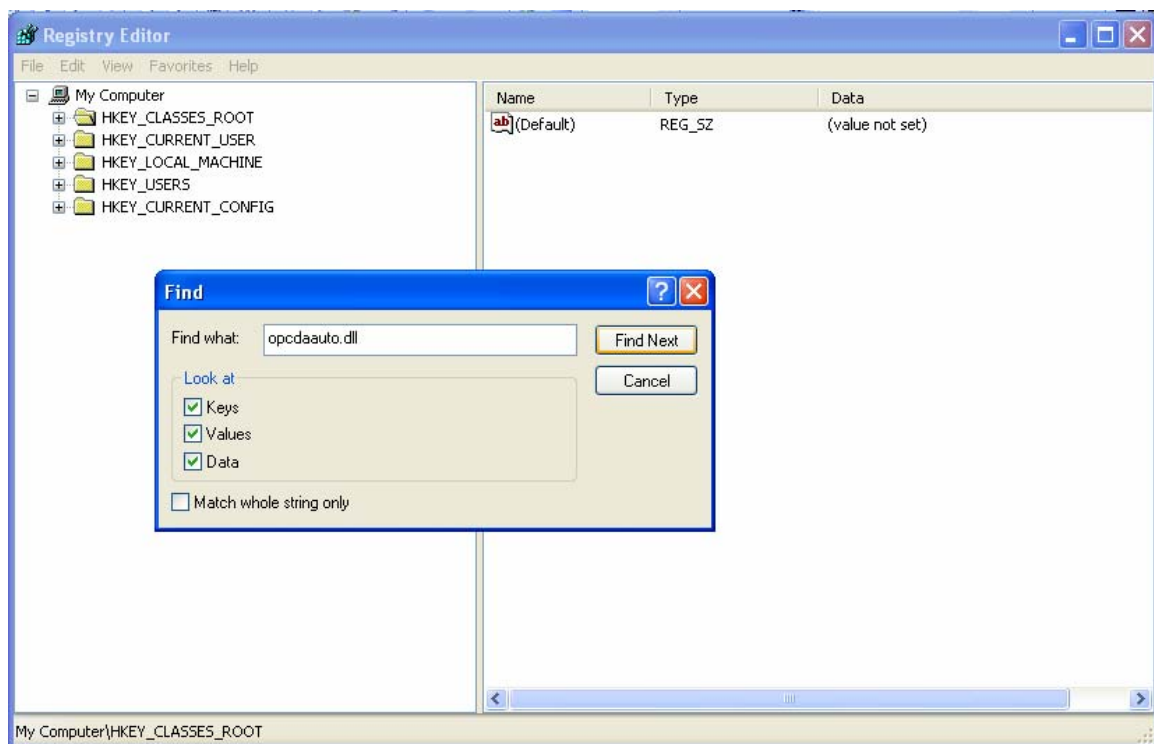
Running the above file will create the surrogate and the file 'opcdaauto.dll' is also registered.

To check whether opcdaauto.dll is registered or not, the following command is used:

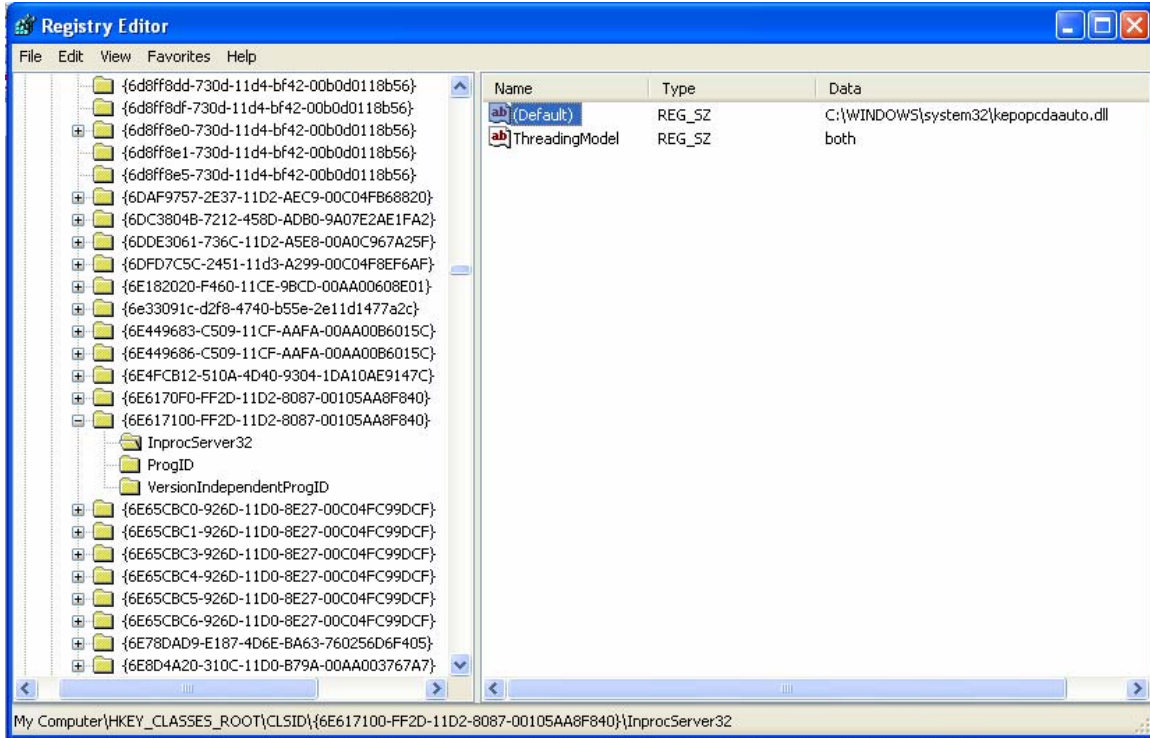
Type the following command at the run prompt.

regedit ↵

Search the file in the registry, if it exists then it means that it is registered.



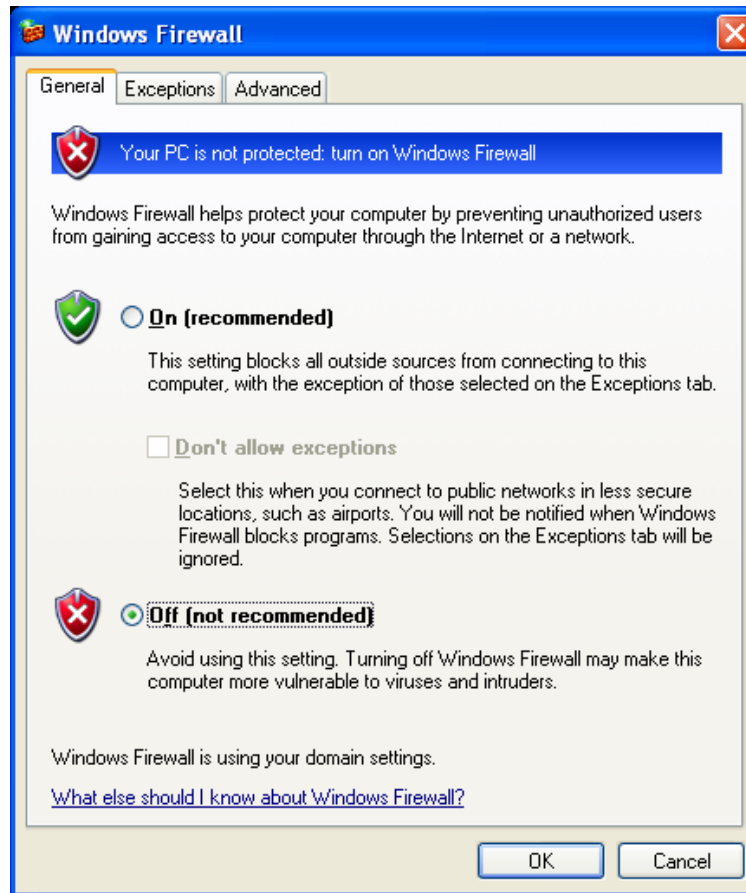
If it exists then its id is shown in left panel, all the other detail in the right pane.



Note: The setup will automatically create surrogate; however, in case of any problem you can do it manually as shown in this section.

5.2 Windows Firewall Configuration

When setting DCOM configuration and testing OPC server for remote connectivity, it is recommended that Windows Firewall be temporarily set to 'Off'. After connectivity has been established, Windows Firewall should be re-enabled with OPC-specific exceptions added to allow for OPC server connectivity. If Windows Firewall is permanently set to 'off' on your system, java related applications are unchecked in the 'Exceptions' tab of windows firewall.

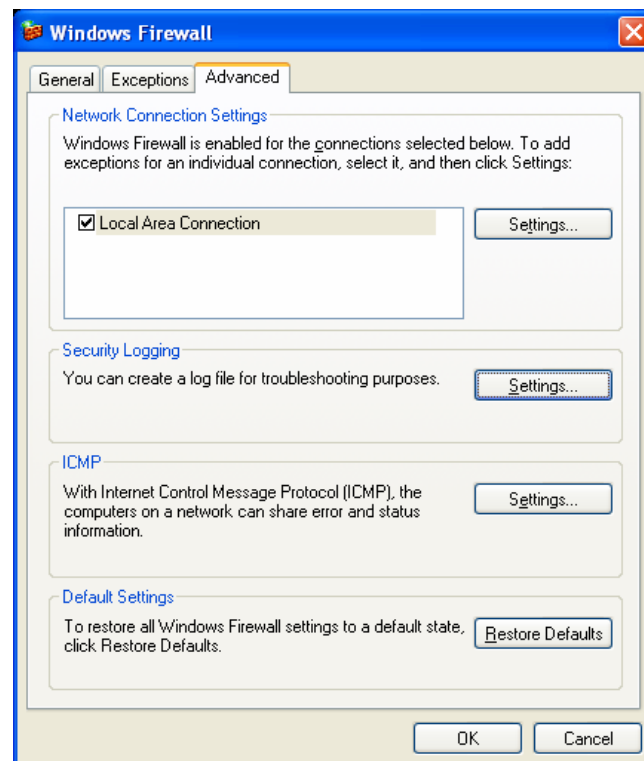
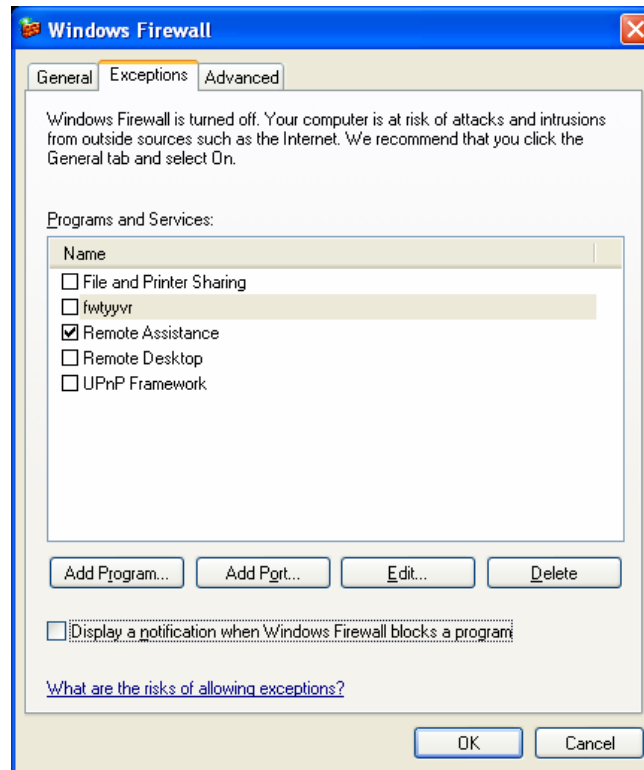


If Windows Firewall is not 'Off'

Open Windows Firewall Application

- OpenControl Panel
- Run 'Windows Firewall' applet.

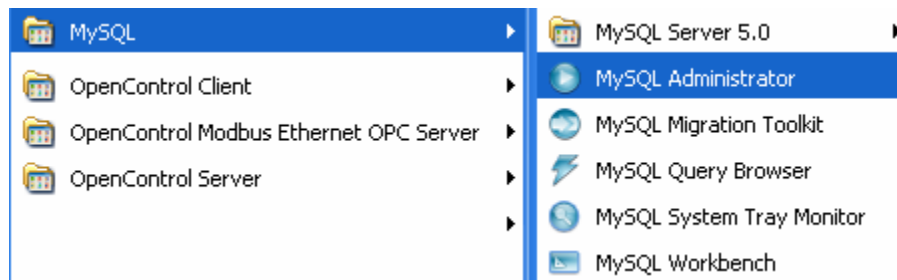
Go to Exceptions tab and uncheck COM Surrogate if already checked as shown below:



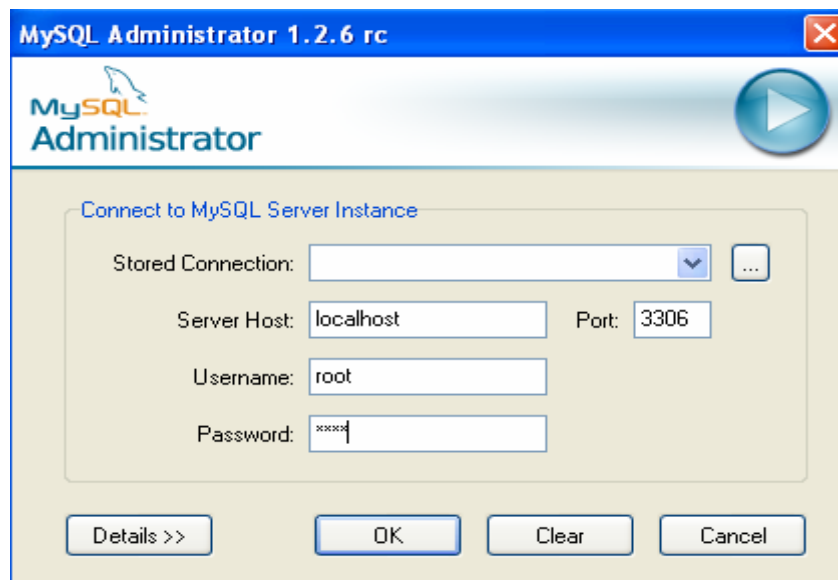
Click 'Restore Defaults' and then go to General tab and turn the Windows Firewall to 'Off'.

5.3 Database Configuration

Go to **Start** → **All Programs** → **MySQL** → **MySQL Administrator**



'MySQL Administrator' window opens as shown below:

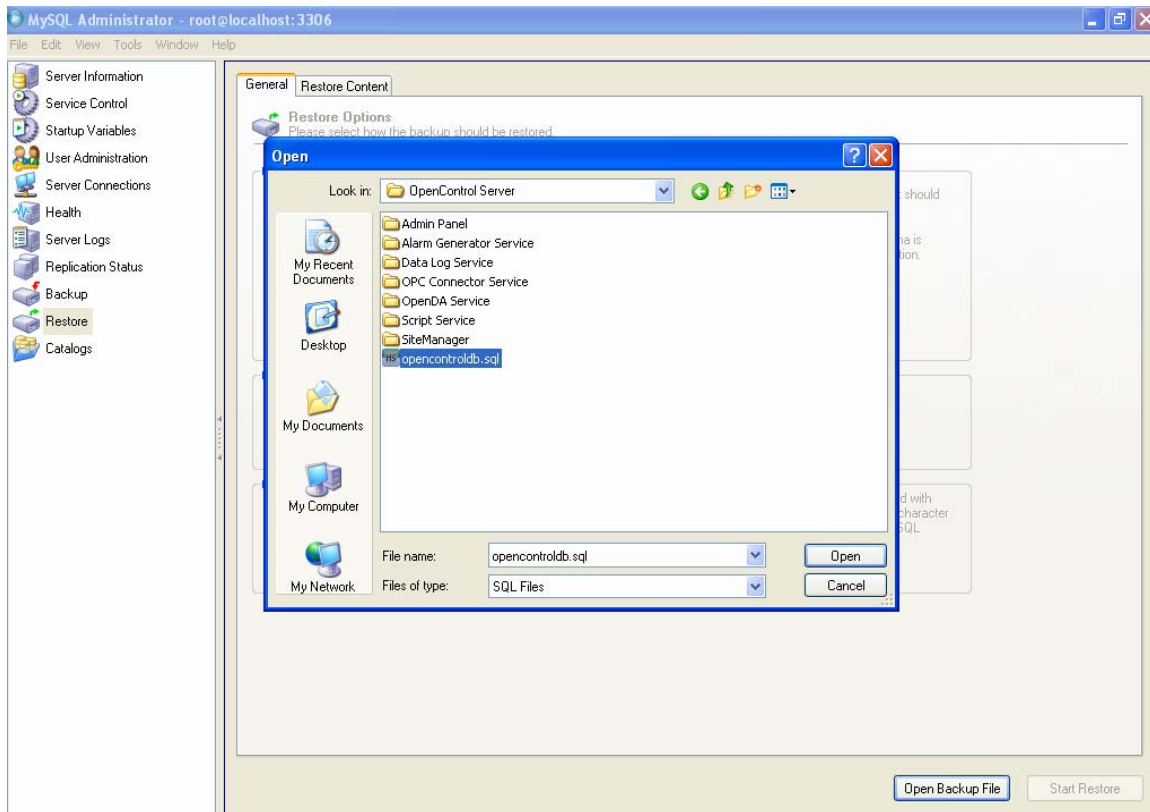


Enter the username and password and click 'Ok'.

In the next window that appears select 'Restore' in the left pane. Its details will appear in the right pane. Select 'open backup file' and select the following file from the folder 'OpenControl Server'. Default backup file will be installed with the installation of OpenControl Server.

opencontroldb.sql

Click 'Open' and then click 'System Restore'.



The OpenControl server folder can be accessed from the program files where it is located.

C:\Program Files\Buraq Integrated Solutions\OpenControl Server

Note: The Site Manager automatically restores the database; however, in case of any problem you can do it manually as shown in this section.