

Exercise – Safe Commands and Audit Trail

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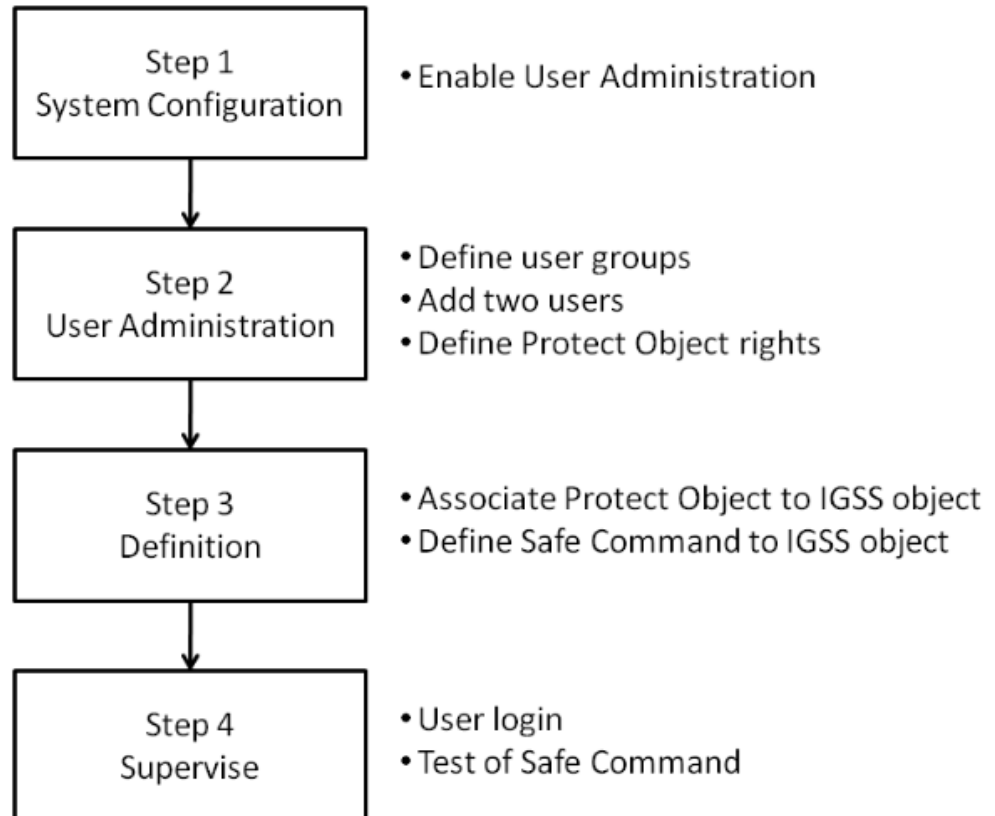
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Exercise 1: Secure Objects with Safe Commands

In this example we will demonstrate the use of the *Conf. Password* command. To do this we will need to create an IGSS user and define his user rights.

Exercise workflow

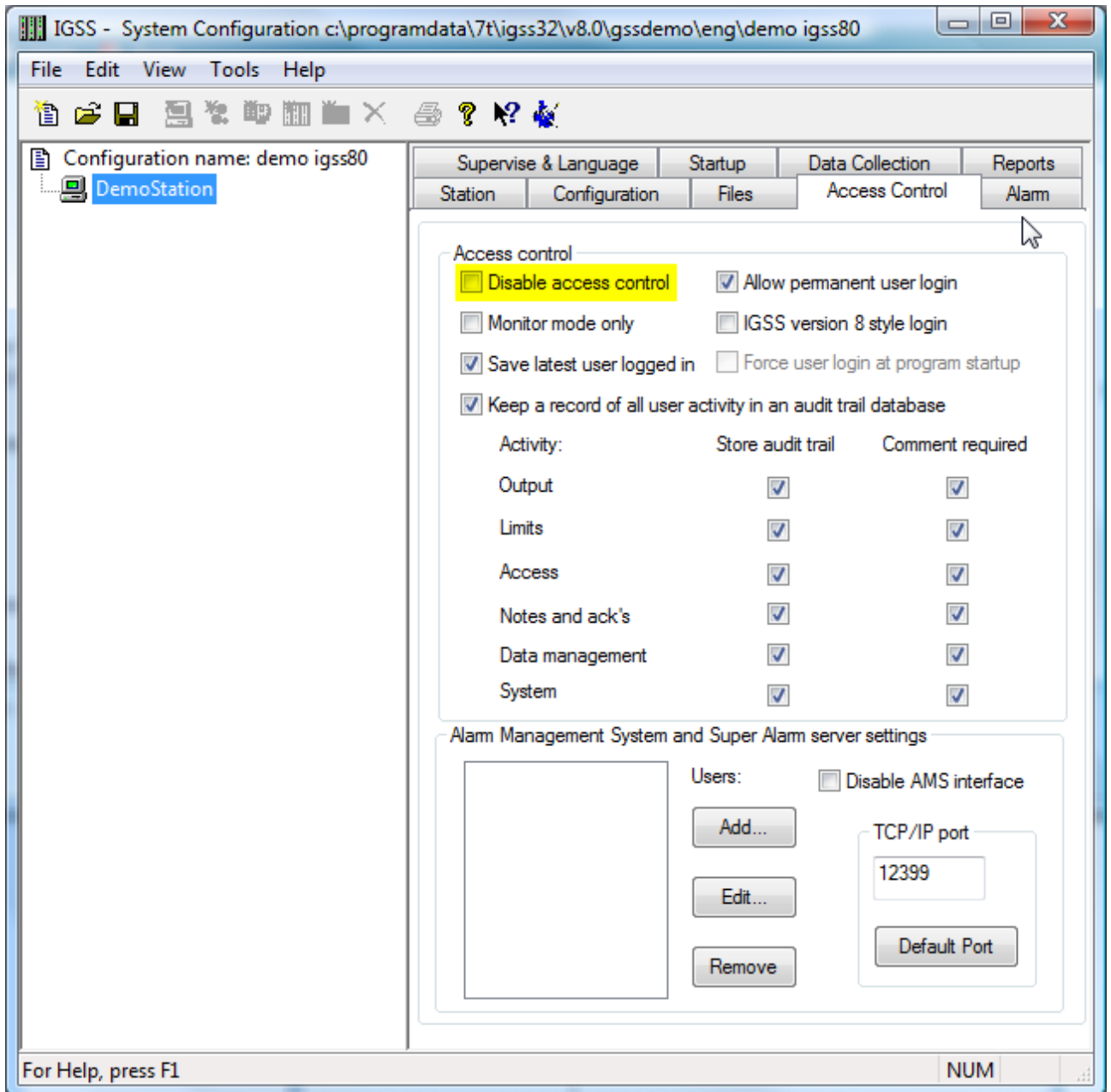
This is the workflow involved in setting up safe commands.



Step 1 - Enable User Administration from System Configuration

The first thing to do is to enable the user administration module.

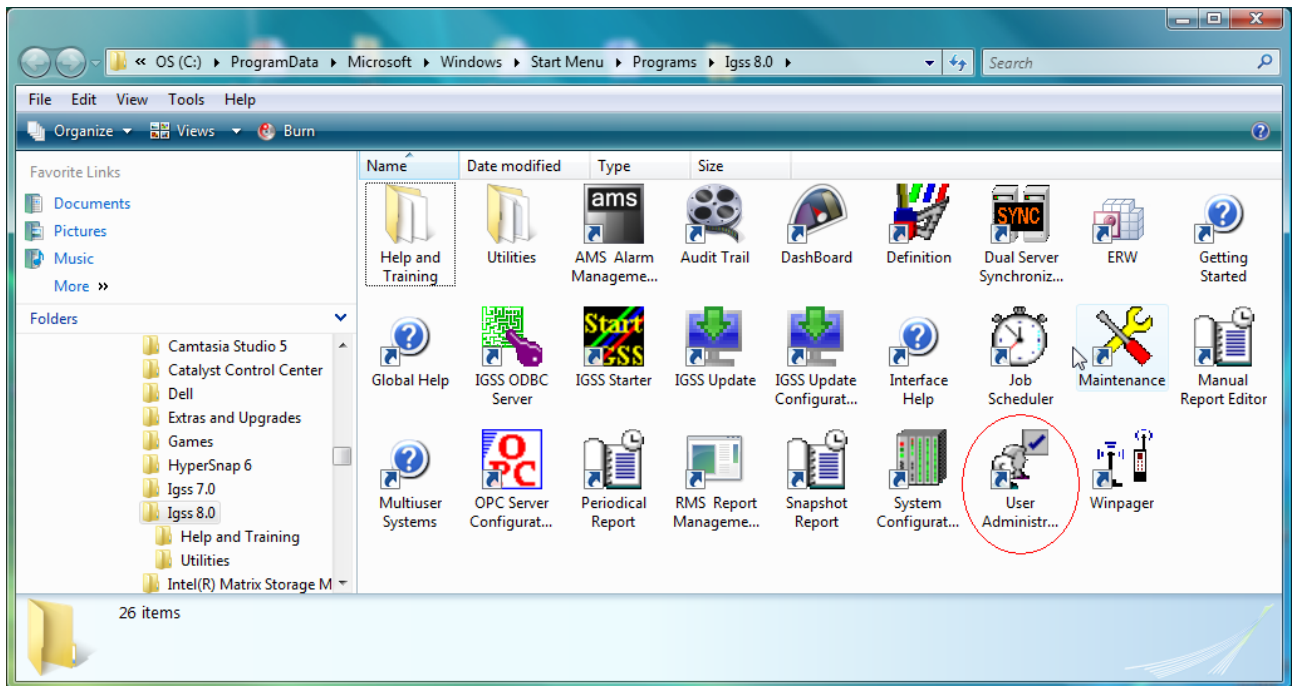
1. Open the **System Configuration** module.
2. Select the *DemoStation* in the tree view and go to the **Access Control** tab.
3. Remove the checkmark from **Disable access control**.



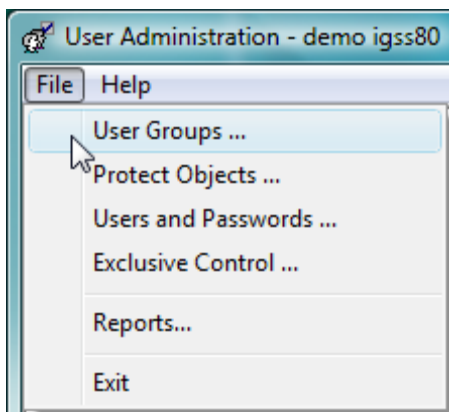
4. Select **File -> Save and Exit**.

Step 2 - Set up the User Administration

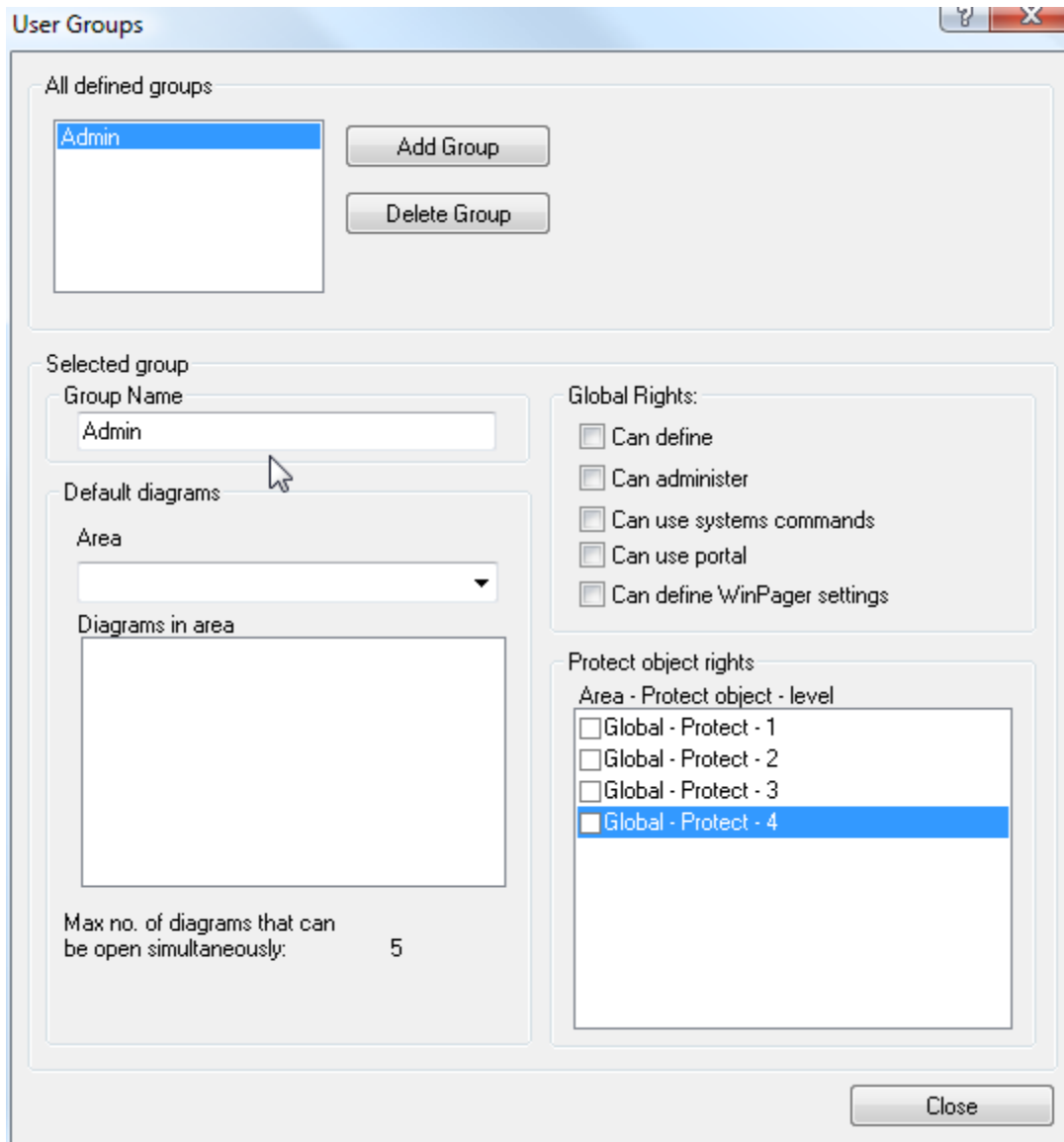
1. Open the **User Administration** module.



2. Select **File -> User Groups**.



3. Click **Add Group**.
4. Select the new group and in the **Group Name** field, type *Admin*.

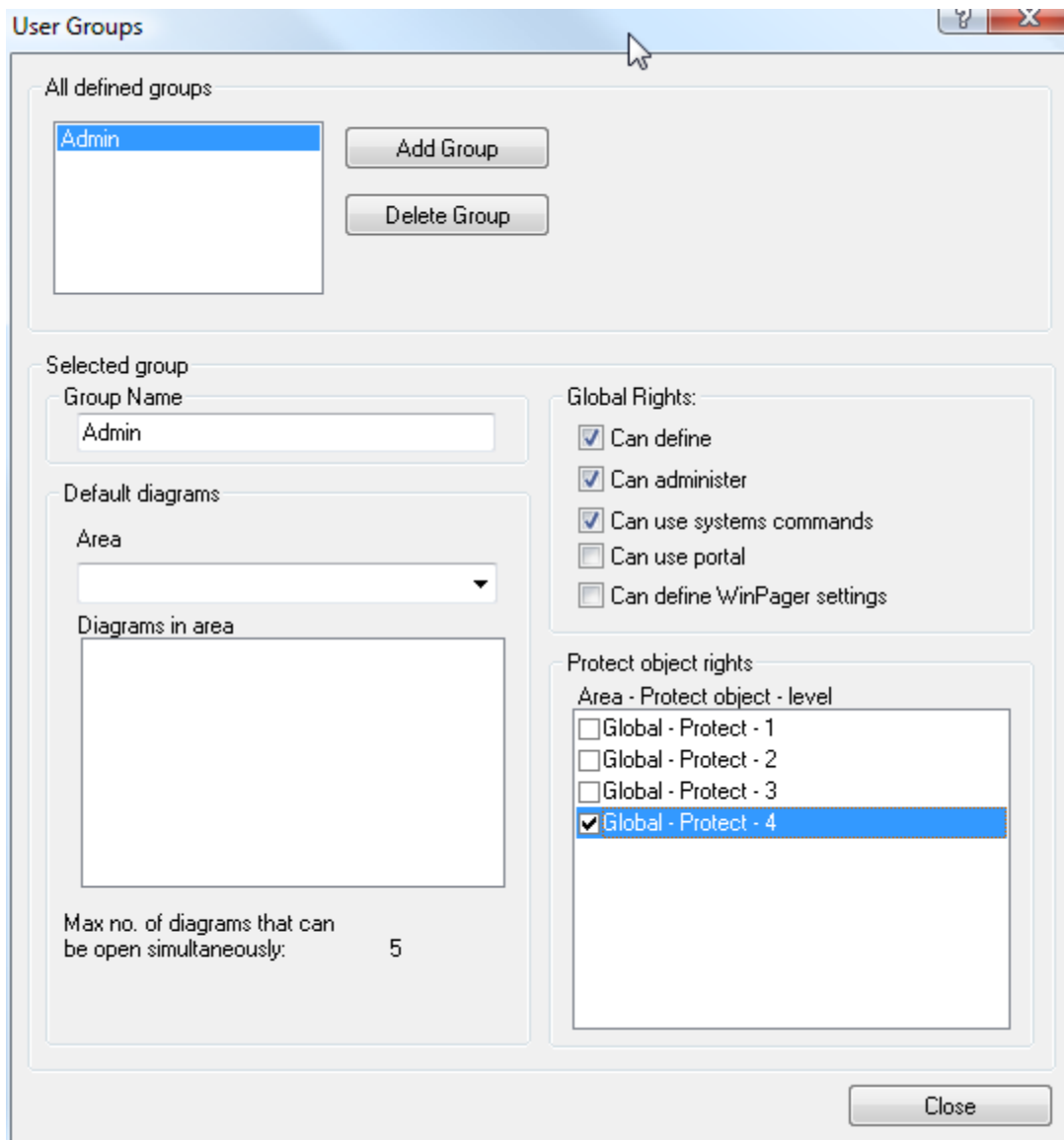


5. Under **Global Rights**, select the **Can define**, **Can administer** and **Can use systems commands** rights.

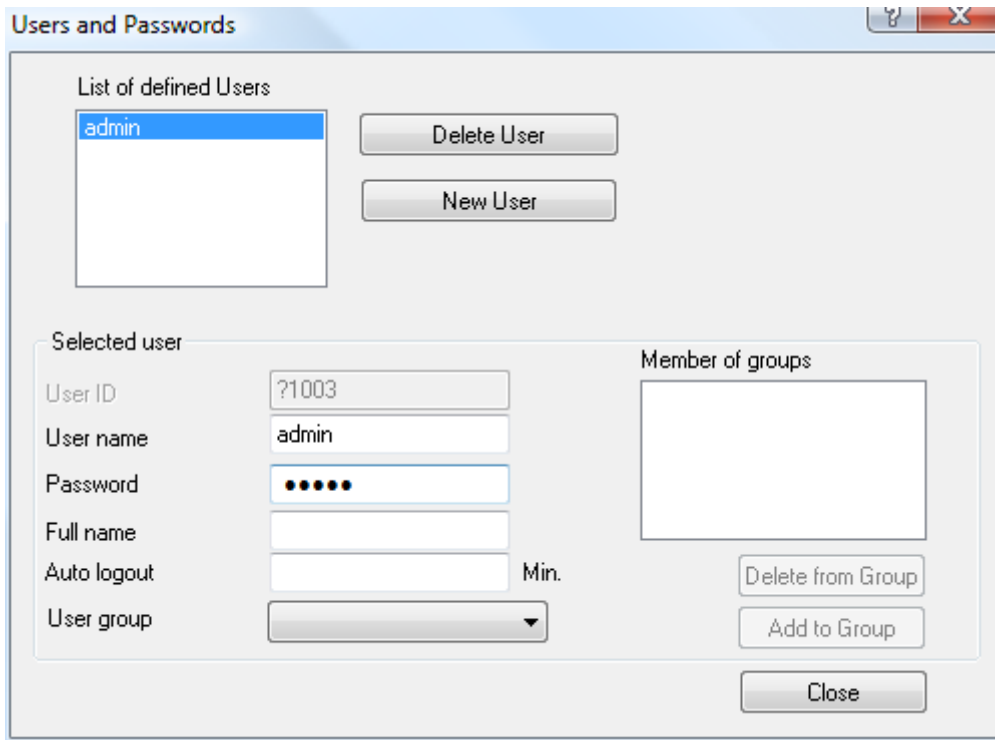
The *Can define* right allows the new user to run the **Definition** module, at least one user group must always have the *Can administer* right and the *Can use systems commands* allows users to start/stop the **Supervise** module.

6. In **Protect object rights**, select the check box **Global – Protect - 4**.

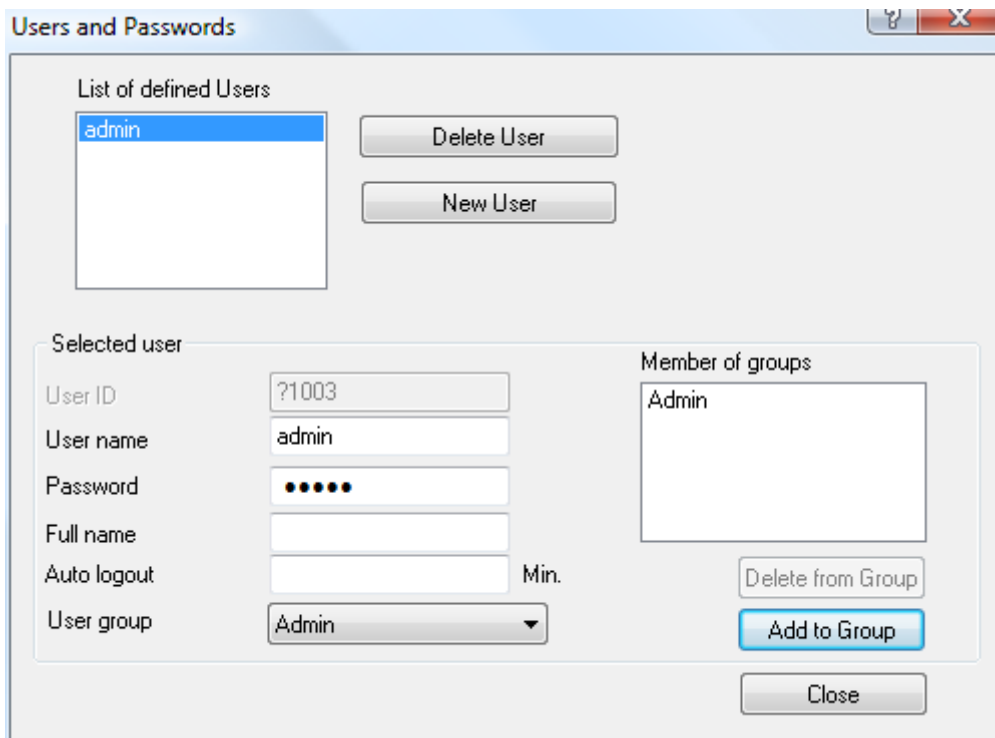
*Note: If you cannot see any protect objects, close the **User Groups** dialog box. Select **File** -> **Protect Objects**, click the **Update list** button and close the dialog box.*



7. Click **Close**.
8. Select **File -> Users and Passwords**.
9. Click the **New User** button.
10. Select the new user in the list and in the **User name** field type *Admin* and in the **Password** field type *admin*.

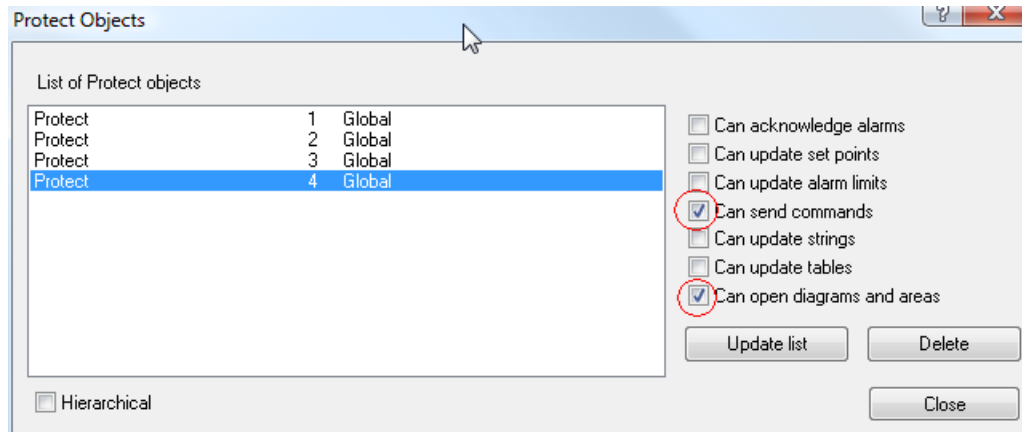


11. In the **User group** drop-down list, select *Admin* and click the **Add to Group** button.



12. Click **Close**.
13. Select **File -> Protect Objects**.
14. In the **List of Protect objects** section, select **Protect - 4 - Global** and select the two check boxes:
 - **Can send commands**

- **Can open diagrams and area**



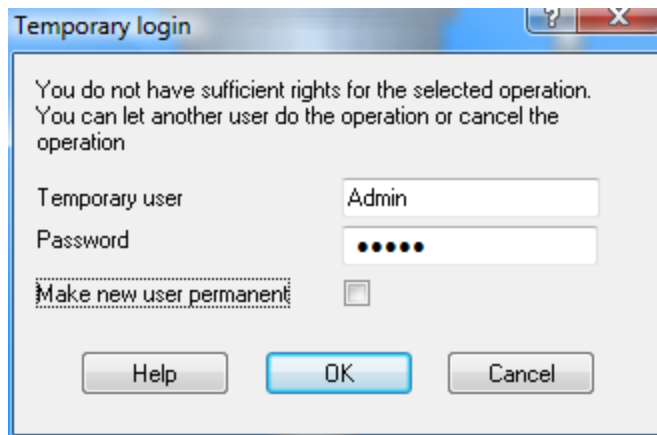
15. Click **Close**.

16. Select **File -> Exit**.

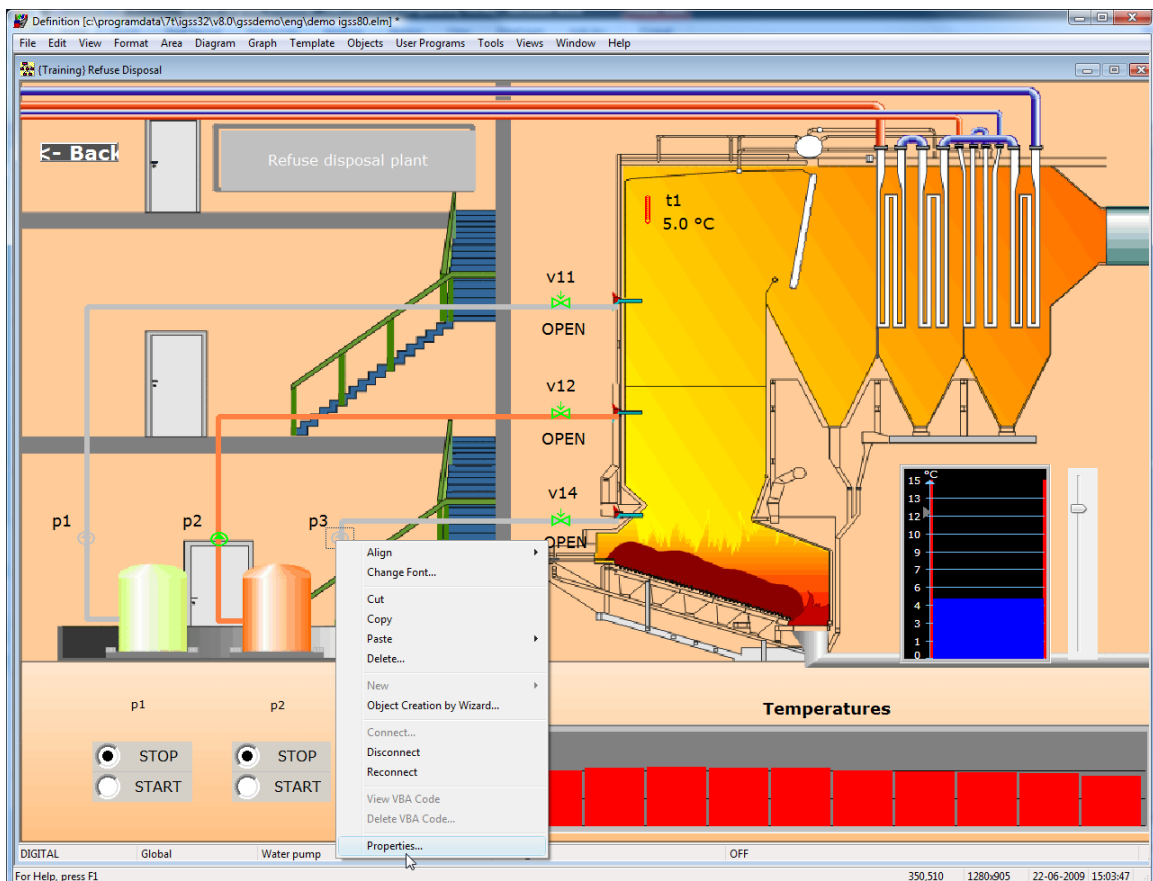
Step 3 - Define the Safe Commands from the Definition module

Now we have to associate the Protect object and the Safe Command to an IGSS object.
To define the safe commands:

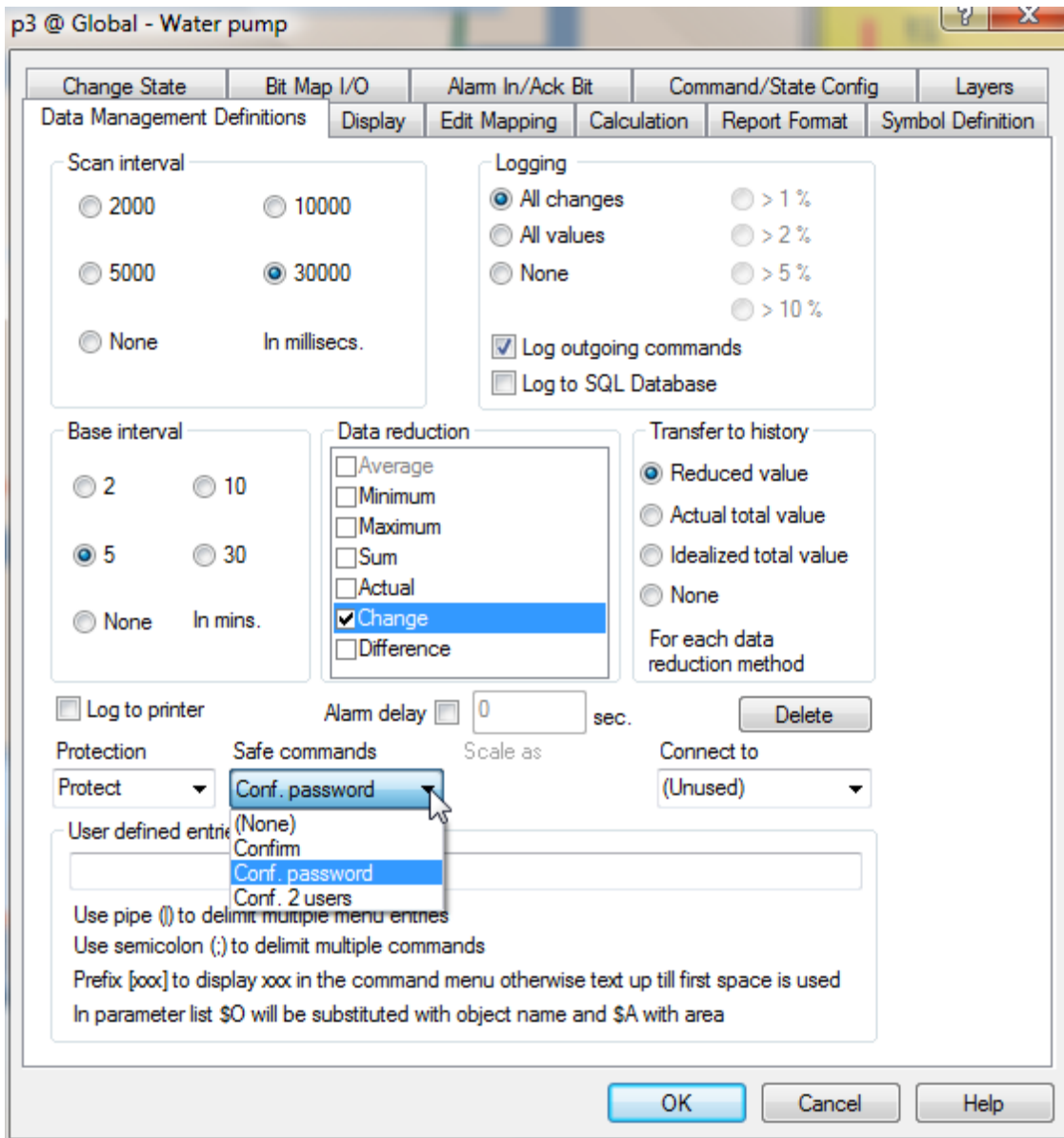
1. Open the **Definition** module.
2. In the **Temporary Login** dialog box, log in as administrator:
 - Temporary user = *Admin*
 - Password = *admin*
 - Click **OK**.



3. Go to the area **Plants** and open the **Refuse Disposal** diagram.
4. Right-click the object **p3** and select **Properties**.



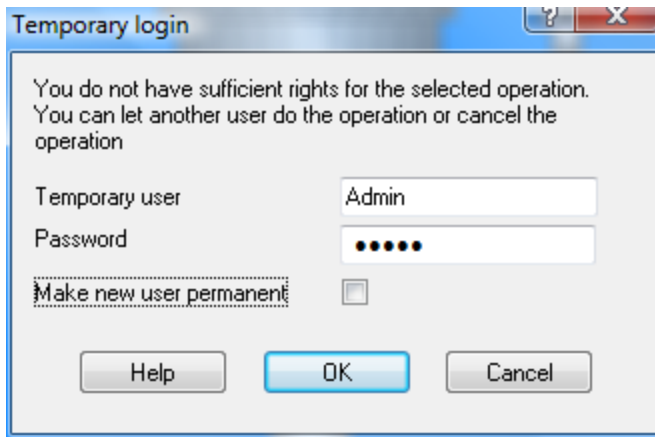
5. Select the **Data Management Definitions** tab.
6. In the **Protection** drop-down box, select *Protect*.
7. In the **Safe Commands** drop-down box, select *Conf. Password*.



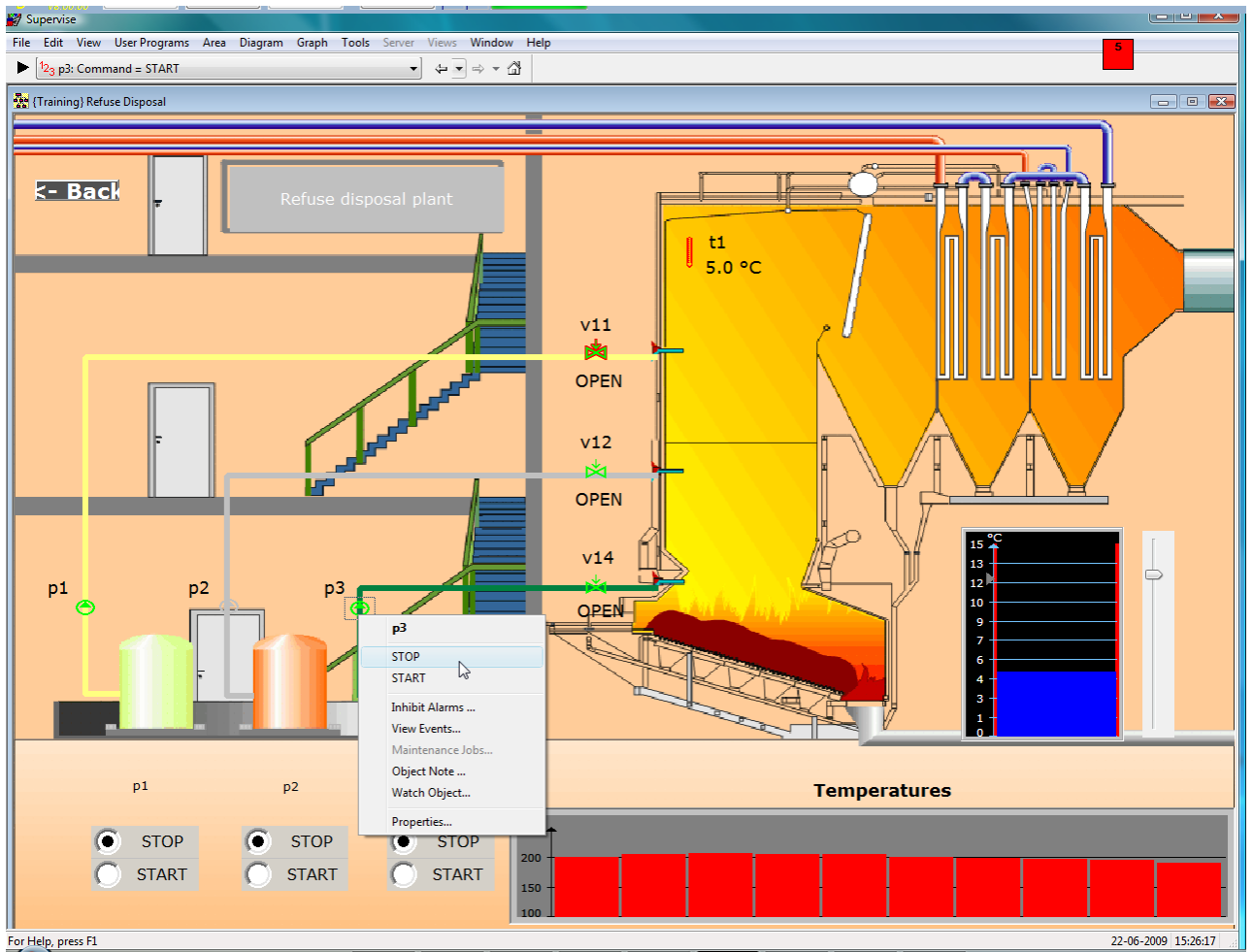
8. Click **OK**.
9. Save and install the configuration.

Step 4 - Testing the Safe Commands from the Supervise module

1. Start the **Supervise** module.
2. In the **Temporary Login** dialog box, type the credentials for the administrator:
 - Username = *Admin*
 - Password = *admin*



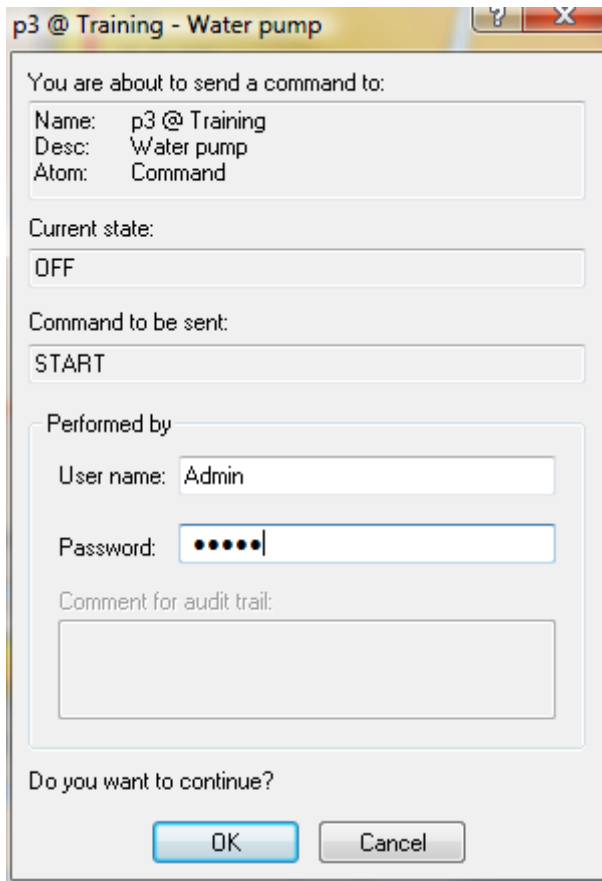
3. Click **OK**.
4. Go to the area **Plants** and open the **Refuse Disposal** diagram.
5. Click on the object **p3** and select **STOP**.



The **Safe Command** dialog box now appears.

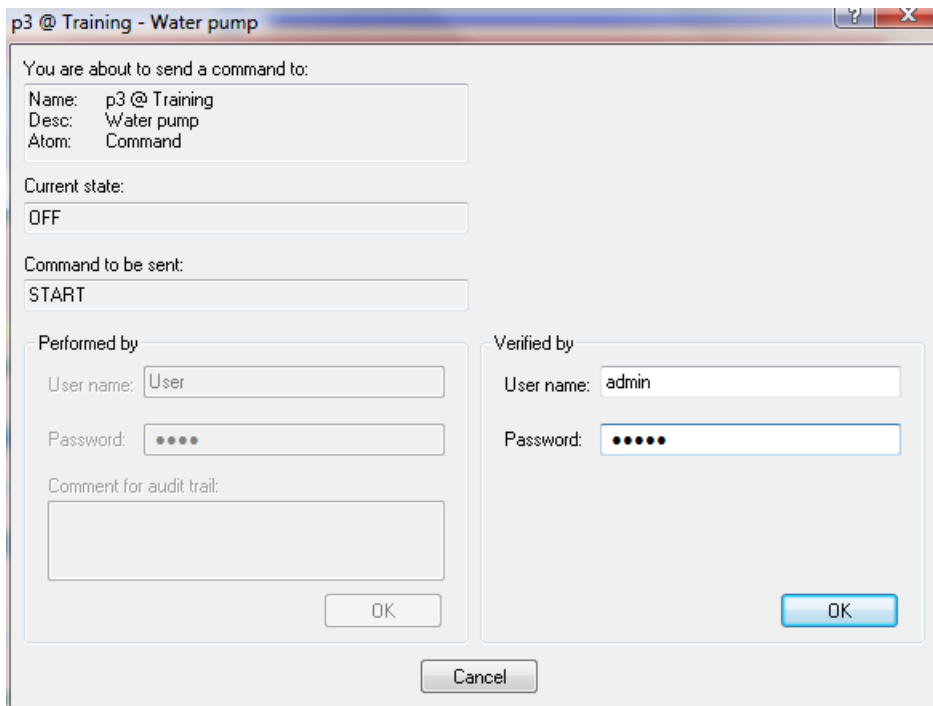
6. Type in the user name and password and click **OK**.

- Username = *Admin*
- Password = *admin*



Conf. 2 users

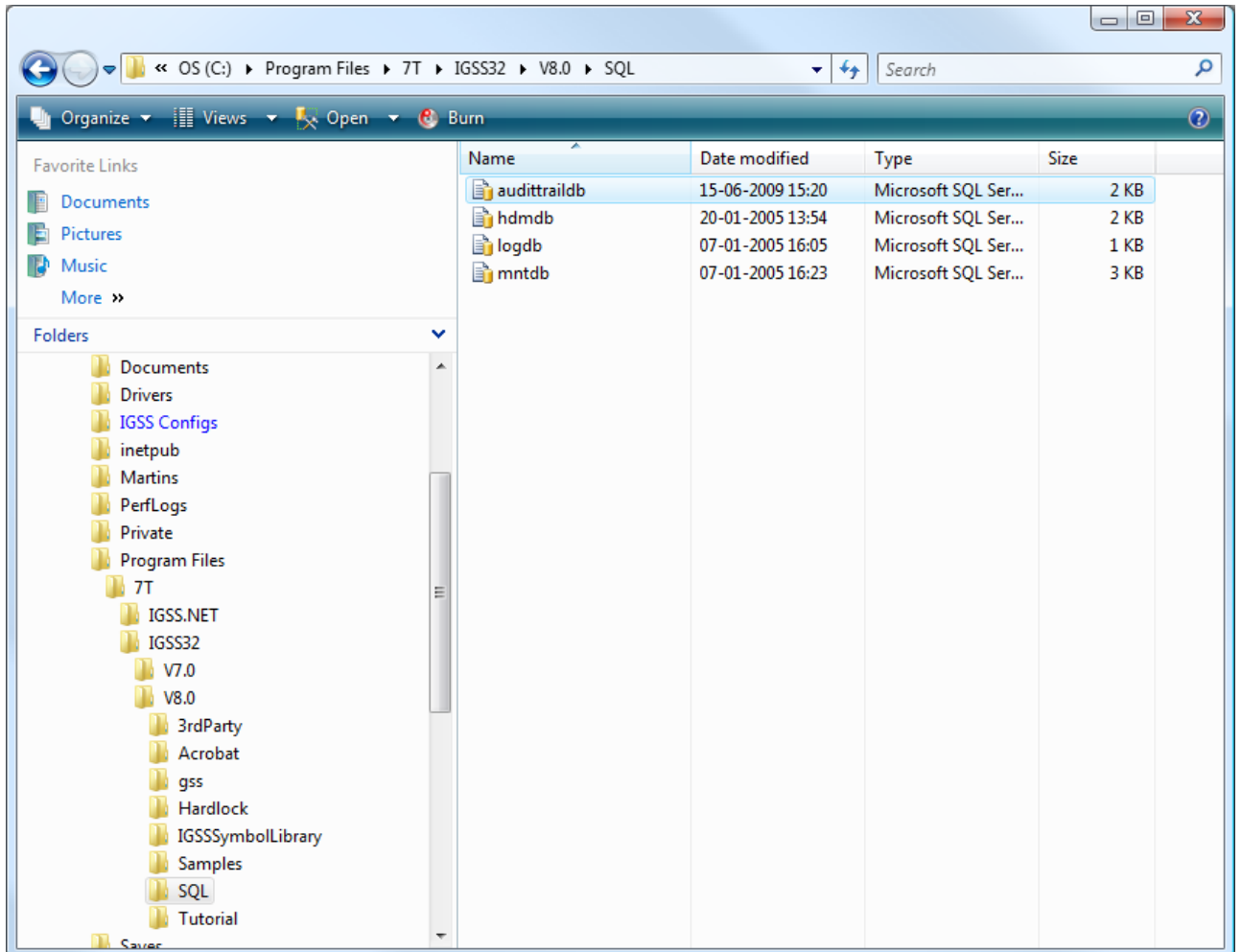
If the *Conf. 2 users* safe command has been selected for the object in the **Definition** module, the dialog box below will appear when we want to send a command to the object. Thus two operators must enter their user names and passwords, before the command is sent.



Exercise 2: Record User Actions in the Audit Trail

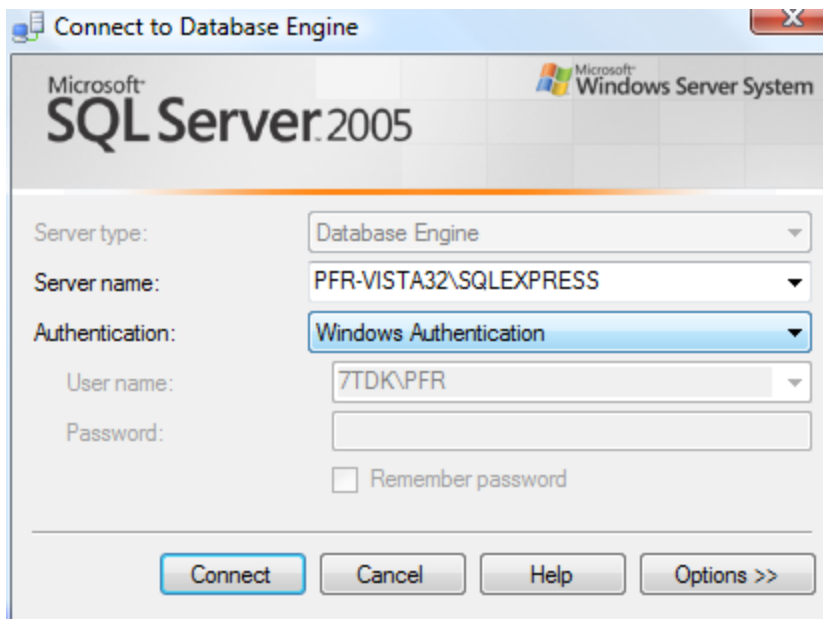
3.1 Setting up the SQL Server for Audit Trail

1. Double-click the file **Audittraildb.sql** in the [IGSS installation path]\SQL folder. Default path is C:\Program Files\7T\IGSS32\V8.0.

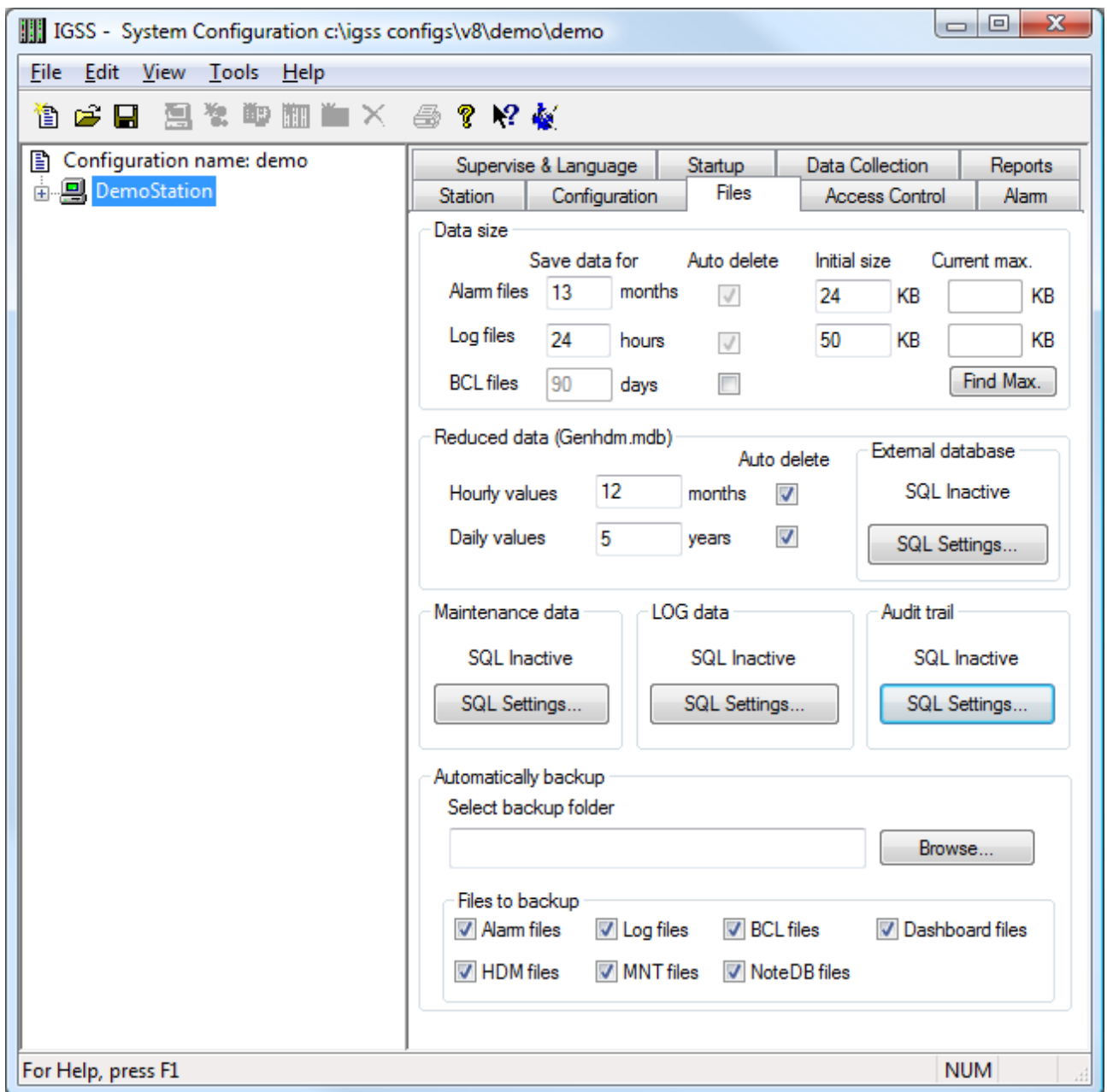


2. By default, this will start the Microsoft SQL Server Management Studio, if you selected to install an SQL Server during IGSS installation. Of course, you can also use the full version of Microsoft SQL Server.

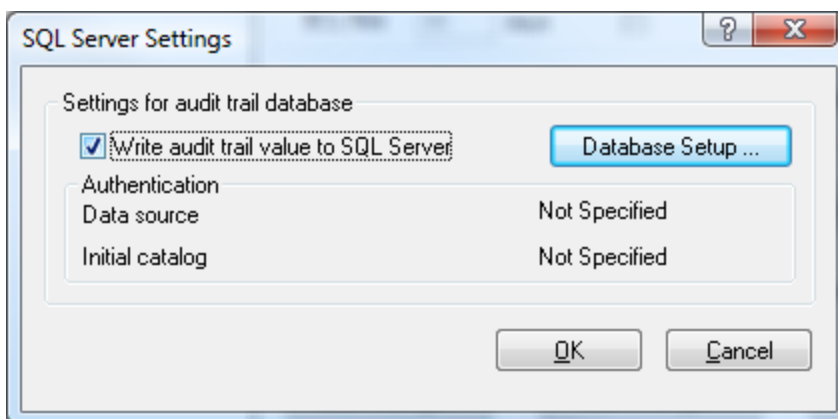
Choose the correct SQL server instance under **Server name**. If you only have the default SQL Server installed by IGSS, the name is **[ComputerName]\SQLEXPRESS**.



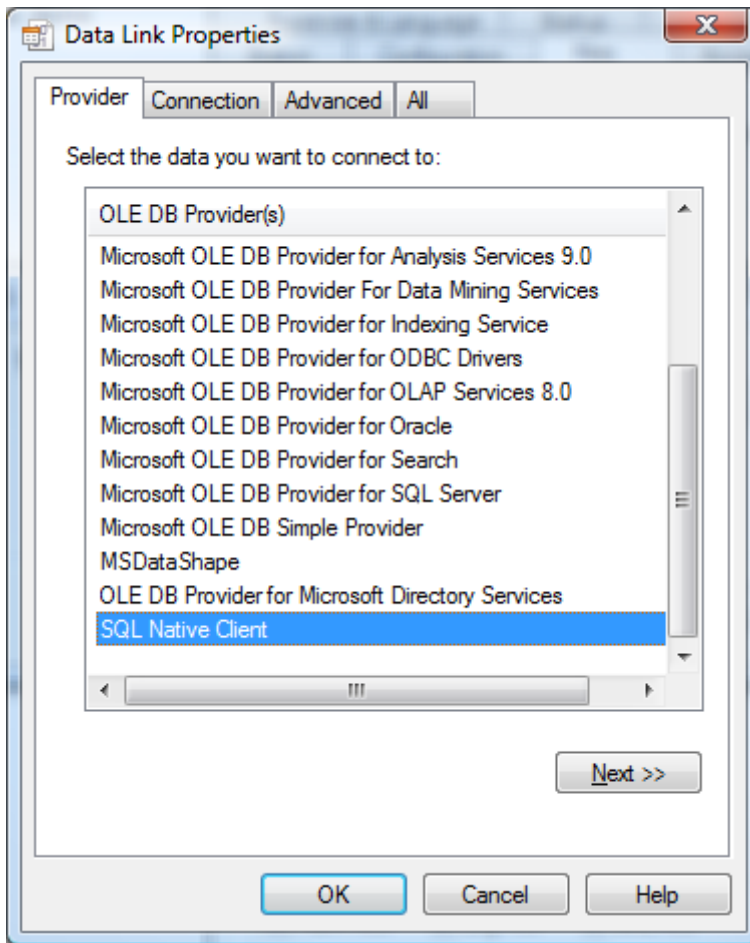
3. Click **Connect** and then **Execute** which will execute the SQL script. Under **Messages**, there should be 1 line saying "1 Row(s) affected". If there are more lines, an error has occurred. Troubleshoot the error and repeat this step, once fixed.
4. Start the **System Configuration** module and select the IGSS server or single user station.
5. On the **Files** tab, under **Audit Trail**, click the **SQL Settings** button.



6. Select the check box **Write audit trail value to SQL Server** and click the **Database Setup** button.



7. In the **Data Link Properties** dialog box, select the **SQL Native Client** data source. Click **Next >>** .



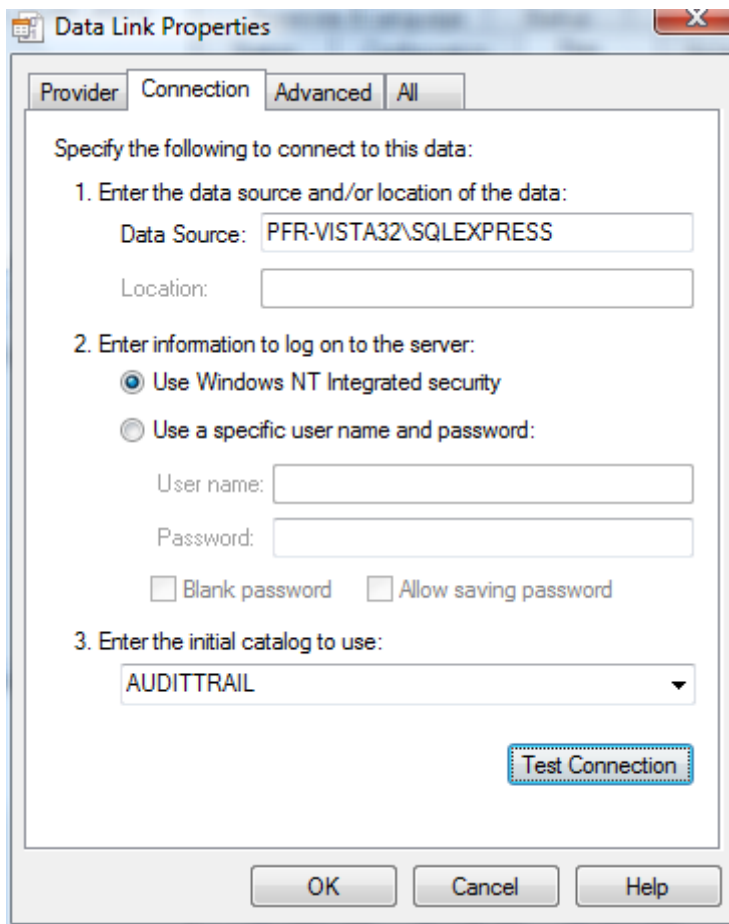
8. Do the following:

Step 1: Set the **Data Source** to the same instance as the one we chose when we started the SQL Server Management Studio, for example, **IGSS-PC\SQLEXPRESS**.

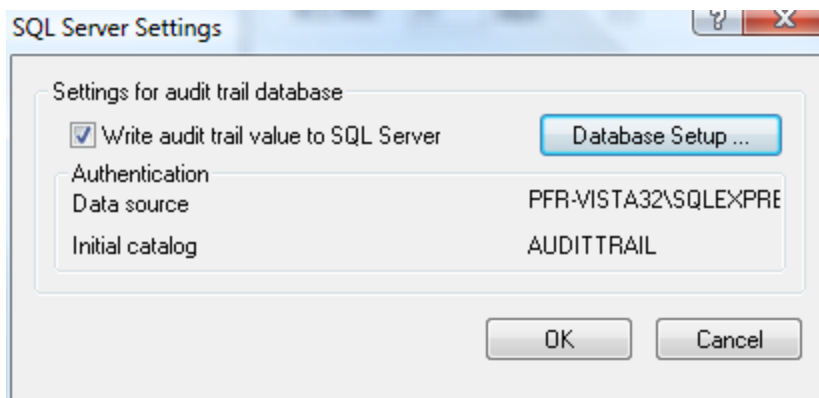
Step 2: Set user access to **Use Windows NT integrated security** .

Step 3: Set the **Initial Catalog** to **AUDITTRAIL**.

Step 4: Click **Test Connection** to test that the connection is working. If successful, then click **OK**.

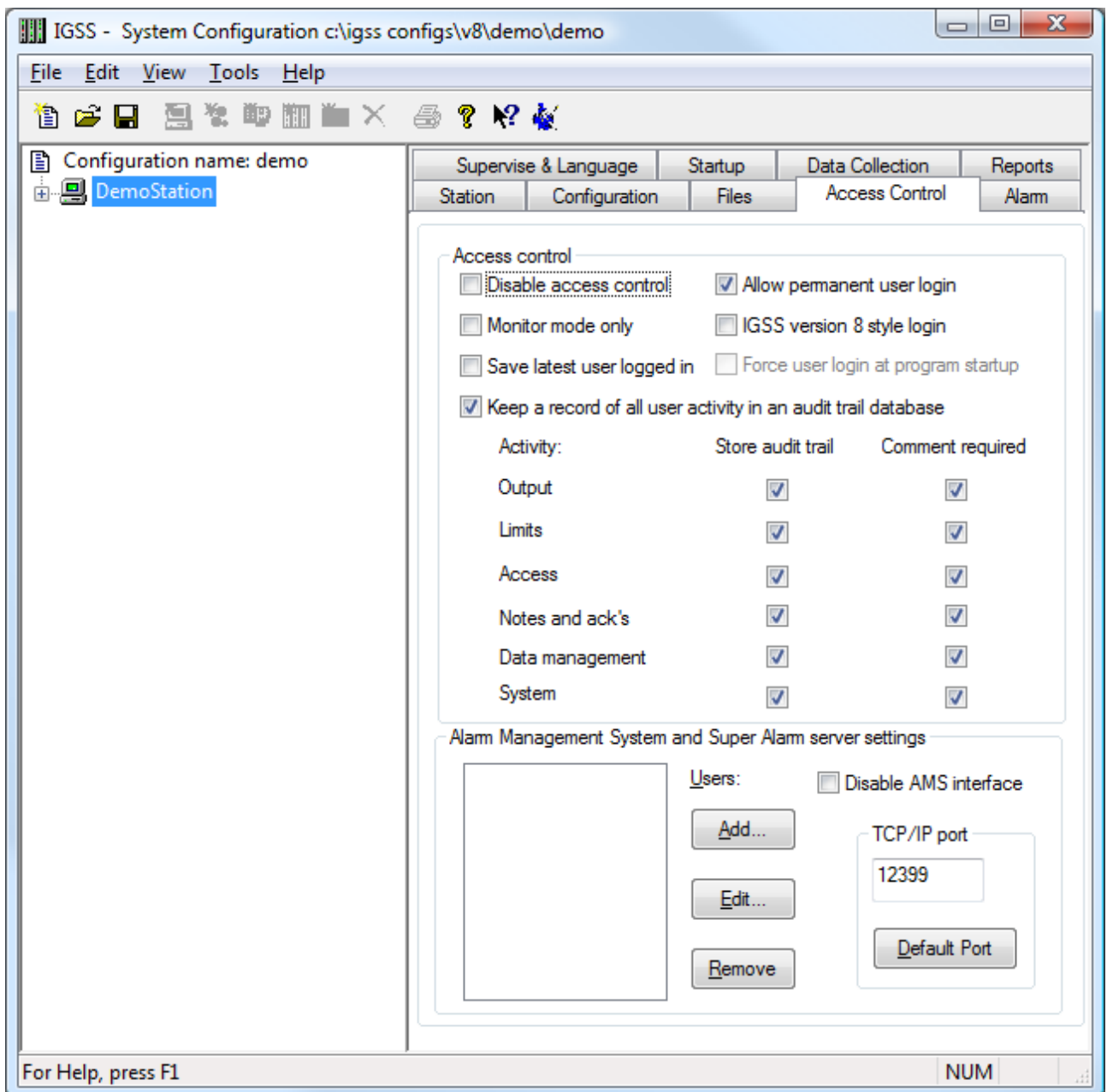


9. Verify that the **SQL Server Settings** dialog box has these settings and click **OK**.



10. Finally, click the **Access Control** tab.
11. Enable the audit trail by selecting the **Keep a record of all user activity in an audit trail database** check box.

Then select the activities you want to store in the audit trail database. Select the **Comment required check box**, if you want to force the user to enter a comment for this type of operation.



User administration and Audit Trail

Audit Trail really only makes sense, if you have users logged in. This will allow you to record exactly what happened and who did it.

Therefore, we recommend that you do the following before starting the audit trail:

Define the relevant users and user groups in the **User Administration** module.

1. Clear the check box **Disable access control** on the tab above in **System Configuration**.
2. Make sure that users are logged in permanently, while they are using IGSS. If a user is only temporarily logged in, he will be prompted for his user name and password, everytime the Audit Trail needs to record an activity.

3.2 Auto-starting the Audit Trail

Once you've set up the SQL Server for the Audit Trail, you will probably want to automatically start the module everytime the user starts the IGSS project.

To auto-start the Audit Trail:

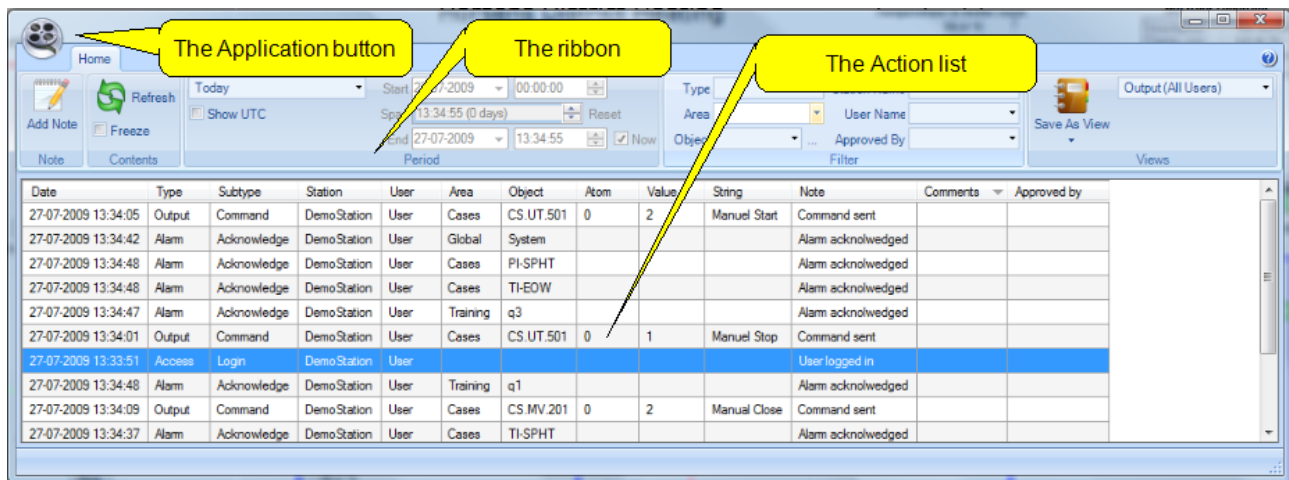
1. Open the **System Configuration** module.
2. Select the relevant IGSS station.
3. Click the **Startup** tab.
4. Under **Auto start**, select the **Audit Trail** check box.
5. Repeat steps 2-4 for all the stations where you want Audit Trail to start automatically.
6. In the **File** menu, select **Save and Exit**.

With the auto start option enabled, the Audit Trail module will now be started with the configuration and closed when the configuration is stopped.

3.3 Understanding the Audit Trail window

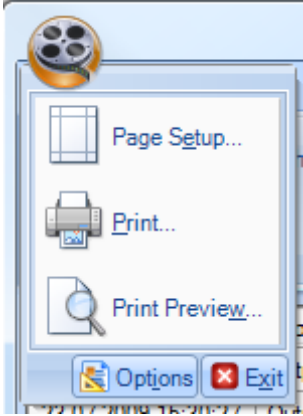
Before you start using the Audit Trail module, we recommend that you take a few minutes to get familiar with the user interface.

The picture below shows the user interface elements of the Audit Trail window.



Here is a short description of each element in the user interface.

Element	Description
Application button	When you click the application button, a menu will appear. The functions allow you to print and set up print options. The Options item allows you to set up various global settings for the module.

Element	Description
	
The ribbon	"The Home ribbon" on page Error! Bookmark not defined. includes all the functions you need to operate the Audit Trail.
Action list	"The Action list" on page Error! Bookmark not defined. shows all the recorded system and user actions for the current view period.

3.4 Choosing the view period

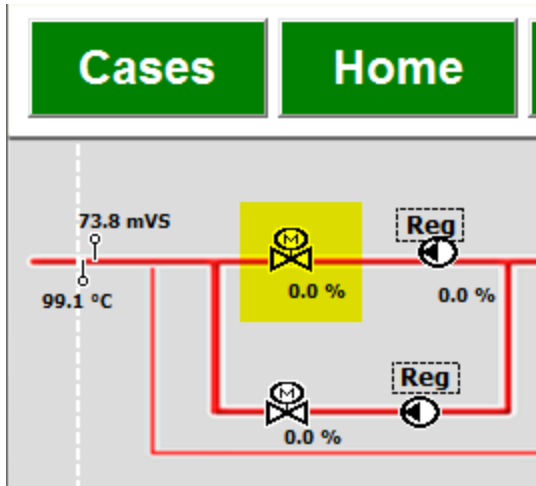
To get you up-and-running with the Audit Trail as fast as possible, we have developed a series of examples based on the IGSS Demo Configuration.

If you start with this topic, you can move through the examples step-by-step as if you were operating a real plant.

Precondition: The Audit Trail module must have been set up for saving data in the IGSS SQL Server, before you can perform this procedure.

1. If the IGSS Demo Configuration is not activated, open the **System Configuration** module.
2. In the **File** menu, select **Open Demo Configuration** and then select **File** and **Save and Exit**.
3. In the IGSS Start menu, activate the **IGSS Starter** module. The IGSS Demo Configuration will now be automatically started.
4. In the **File** menu of **Supervise**, choose **Login**.
5. Log in as the administrator user: User name = admin and Password = admin.
6. Let's do some user actions to get some information into the Audit Trail. Click the **Customer Cases** button, then click the **District Heating** graphic.

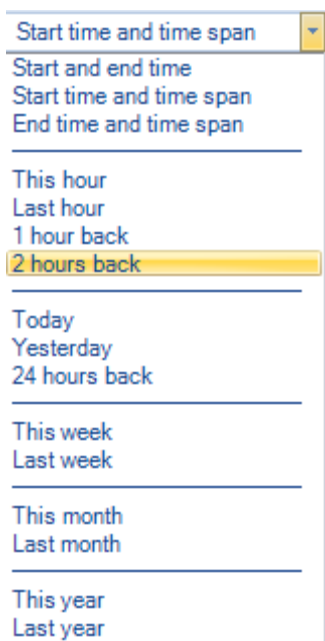
- Click the motor symbol in the upper left corner of the mimic diagram.



- In the command menu, select the first command named **Auto**.
- Repeat step 6, only this time sending the command **Manual**.
- Repeat for the commands, **Manual close** and **Manual open**. The Audit Trail should now look like this.

Date	Type	Subtype	Station	User	Area	Object	Atom	Value	String	Note	Comments	Approved by
27-07-2009 18:04:06	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	2	Manual Close	Command sent		
27-07-2009 18:04:08	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	3	Manual Open	Command sent		
27-07-2009 18:04:01	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	0	Auto	Command sent		
27-07-2009 18:04:05	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	1	Manual	Command sent		

- Now stop the system from the **IGSS Starter**.
- Start it again by hitting the **Start** button.
- Let's change the view period. In the **Period** drop-down list, choose **2 hours back**.



- Now we have the right view period and some actions in the Action list. Let's continue with "Filtering the Audit Trail" on page 22.

3.5 Filtering the Audit Trail

We are now ready to filter the Action list.

- In the Home ribbon under Filter, do the following:
 - Under Type, select System.

We are now seeing the system stop and start actions.

Date	Type	Subtype	Station	User	Area	Object	Atom	Value	String	Note
27-07-2009 18:14:52	System	Start	DemoStation							System started by user
27-07-2009 18:14:49	System	Stop	DemoStation	admin						System stopped by user

- Change the **Type** filter back to (All).
- Under **User name**, select the **admin** user.

The Action list should now look like this.

Date	Type	Subtype	Station	User	Area	Object	Atom	Value	String	Note
27-07-2009 18:04:08	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	3	Manual Open	Command sent
27-07-2009 18:04:06	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	2	Manual Close	Command sent
27-07-2009 18:04:05	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	1	Manual	Command sent
27-07-2009 18:04:01	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	0	Auto	Command sent

- As the next step we want to learn how we're "Saving and applying views" on page 22

3.6 Saving and applying views

A View in the Audit Trail is a saved filter. You can save as many views as you need.

- Our current filter shows all actions taken by the admin user. Let's save it as a view.
- Click the **Save as View** button.
- Type the view name `Admin user (All)` and click **OK**.

Date	Type	Subtype	Station	User	Area	Object	Atom	Value	String	Note
27-07-2009 18:04:08	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	3	Manual Open	Command sent
27-07-2009 18:04:06	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	2	Manual Close	Command sent
27-07-2009 18:04:05	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	1	Manual	Command sent
27-07-2009 18:04:01	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	0	Auto	Command sent

- The next step is learning how we're "Adding a user note" on page 22

3.7 Adding a user note

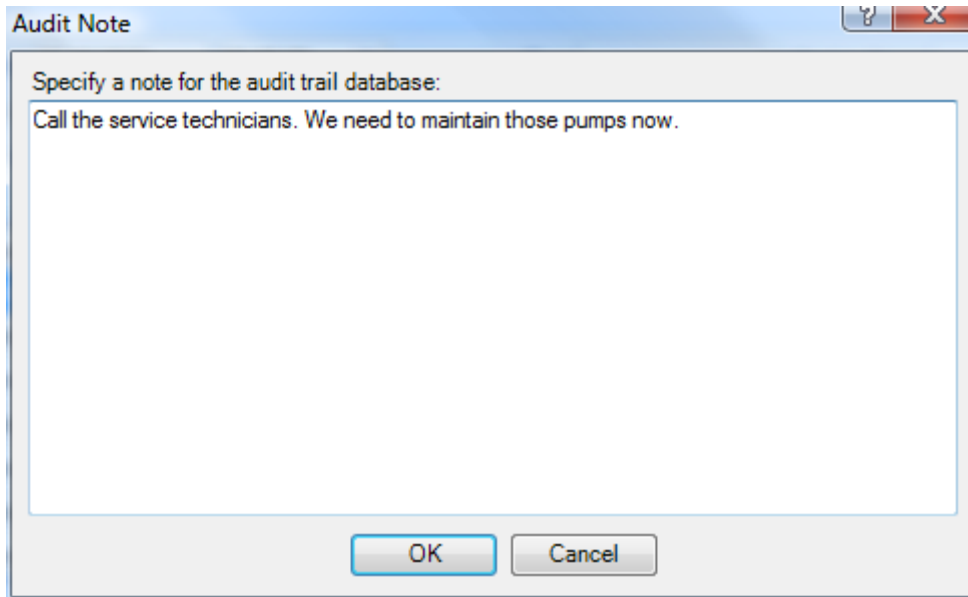
A user note is a general note to the other users of the system. A user note is not tied to any specific object.

The user must be logged into the system in order to create a user note.

1. Click the **Add Note** icon.

2. Enter this text in the note field:

Call the service technicians. We need to maintain those pumps now.



3. Click **OK**. The user note now appears in the Action list. Notice that the note text itself is shown in the **Comments** field.

4. The next step is optional, but useful if you are using the **IGSS Dashboard** module. You will learn how to "Presenting Audit Trail information in the IGSS Dashboard" on page **Error! Bookmark not defined.**

You have successfully completed the Audit Trail exercise.