



Audit Trail User Guide
IGSS Version 9.0

Contents

Chapter 1: The IGSS Audit Trail	1
1.1 What is the Audit Trail module?.....	1
Chapter 2: Setting up the Audit Trail	3
2.1 Setting up the SQL Server for Audit Trail.....	3
2.2 Auto-starting the Audit Trail.....	16
Chapter 3: Using the Audit Trail	17
3.1 Understanding the Audit Trail window.....	17
3.2 The Action list.....	18
3.3 The Home ribbon.....	20
3.4 Choosing the view period.....	23
3.5 Filtering the Audit Trail.....	25
3.6 Saving and applying views.....	26
3.7 Adding a user note.....	26
3.8 Presenting Audit Trail information in the IGSS Dashboard.....	27
Chapter 4: Reference and Lookup	30
4.1 Conventions in this Manual.....	30
4.2 Getting Help in IGSS.....	31
4.3 Version Information (IGSS Help System).....	32
Chapter 5: Glossary	34

Chapter 1: The IGSS Audit Trail

1.1 What is the Audit Trail module?

In **SCADA**¹ systems it is crucial to be able to monitor all actions performed in the process of the industrial plant. The IGSS V8 SCADA solution includes the new Audit Trail module, that offers a thorough recording of all actions done by its system operators.

What is recorded

The Audit Trail module can easily be customized to record any of the following operator actions:

- Acknowledgement of process alarms
- Commands send to the process PLCs
- Operators login or logout
- Changes in data collection settings
- Operator notes written - for example alarm notes or maintenance notes
- Changes in analog alarm limits
- System start/stop

Viewing and filtering the Audit Trail

The recorded audit trails are shown in a list in the Audit Trail window. Filtering in this list is flexible and can be performed on many different system parameters. This is useful to track certain operator actions and detect any irregularities in the process control. Below is listed some of the information available for each record of an audit trail:

- Operator - which operator has performed the action
- IGSS Object - which object is influenced
- IGSS Operator station - from where has the action been performed
- Action Type - what has been done
- Approved by - which second person has approved the action

The Audit Trail window

Here's an example where numerous user and system actions have been recorded:

¹Supervisory Control & Data Acquisition

IGSS Audit Trail													
Home													
Add Note Refresh Freeze		Today <input type="checkbox"/> Show UTC	Start: 23-07-2009 00:00:00 Span: 15:54:16 (0 days)	End: 23-07-2009 15:54:16 <input checked="" type="checkbox"/> Now	Type: Area: Object:	Station Name: User Name: Approved By:	<input type="button" value="Views"/>						
Date	Type	Subtype	Station	User	Area	Object	Atom	Value	String	Note	Comments	Approved by	
23-07-2009 15:30:29	Output	Command	Demo Station	User	Training	v11	0	1	OPEN	Command sent			
23-07-2009 15:30:27	Output	Command	Demo Station	User	Training	v11	0	0	CLOSE	Command sent			
23-07-2009 15:30:13	Access	Login	Demo Station	User						User logged in			
23-07-2009 15:30:00	Output	Command	Demo Station	User	Training	p3	0	1	START	Command sent		admin	
23-07-2009 15:28:20	System	Start	Demo Station							System started by user			
23-07-2009 15:28:16	System	Stop	Demo Station							System stopped by user			
23-07-2009 15:21:48	System	Start	Demo Station							System started by user			
23-07-2009 15:21:45	System	Stop	Demo Station							System stopped by user			
23-07-2009 15:12:36	System	Start	Demo Station							System started automatically			
23-07-2009 15:12:27	System	Stop	Demo Station							System stopped by user			
23-07-2009 15:11:37	Limits	High alarm	Demo Station		Training	q1	0	93	93.0 m³/h	High alarm changed			
23-07-2009 14:53:51	System	Start	Demo Station							System started by user			
23-07-2009 14:53:45	System	Stop	Demo Station							System stopped by user			
23-07-2009 14:53:36	Limits	High alarm	Demo Station		Training	q3	0	88	88.0 m³/h	High alarm changed			
23-07-2009 14:53:32	Limits	High alarm	Demo Station		Training	q1	0	93	93.0 m³/h	High alarm changed			
23-07-2009 14:45:49	Output	Command	Demo Station		Global	news_controlling_object	0	3	Safe Commands	Command sent			
23-07-2009 14:37:16	System	Start	Demo Station							System started automatically			
23-07-2009 14:37:13	System	Start	Demo Station							System started automatically			

Chapter 2: Setting up the Audit Trail

2.1 Setting up the SQL Server for Audit Trail

If you have a full SQL Server, it will provide all the functionality you need without any limitations. The free version, SQL Server Express, has a max. limit of 4 GB per database.

Install and set up the SQL Server

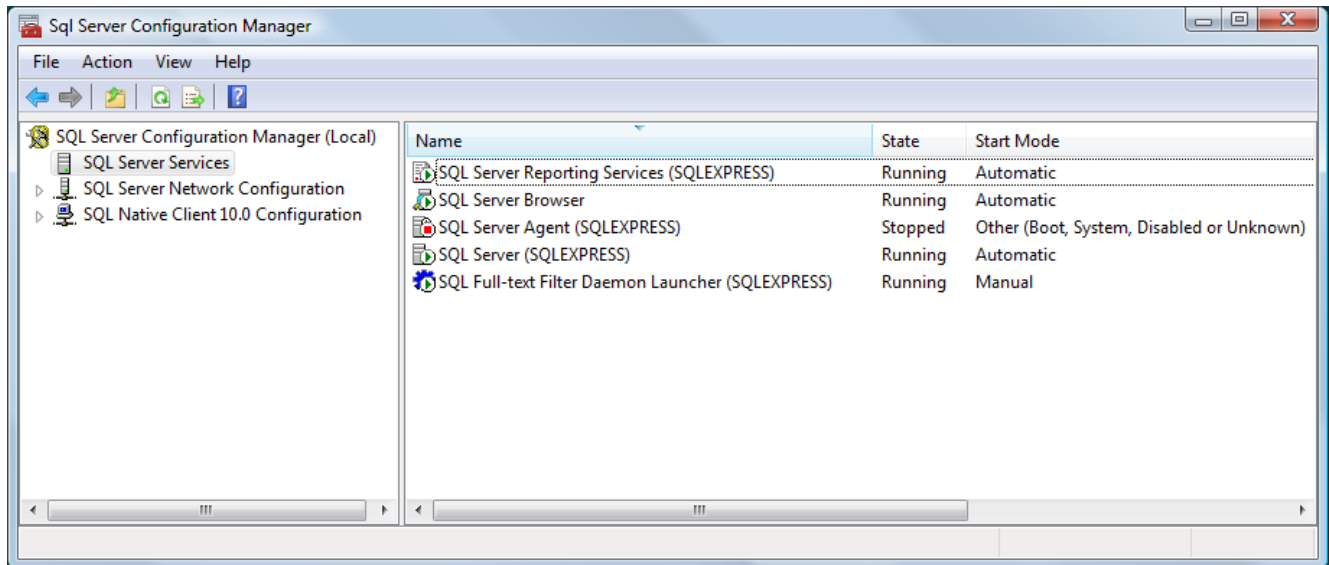
1. Start by installing the SQL Server on the IGSS Server or on another PC in the IGSS network.
 - SQL Server Express 2008 and Management Tools can be downloaded from this link: <http://www.microsoft.com/express/Database/>
 - SQL Server Express 2005 and its Management Studio is included on the IGSS installation disc.

2. If you're using SQL Server Express, it is recommended to create a new server name, instead of accepting the default name, SQLEXPRESS. For example, you could call it "IGSS".

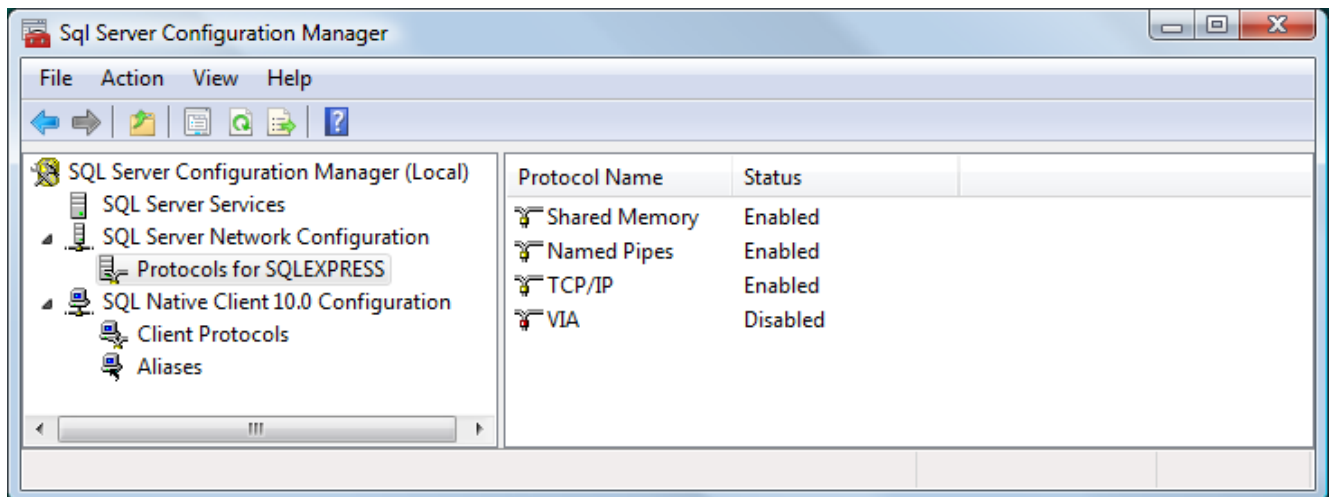
When you create a new SQL Server name, you obtain two advantages:

- If you have other applications dependent on SQL Server Express, they will not conflict in the default server, SQLEXPRESS.
- You have the full 4 GB of data available, as only IGSS data will be saved in this server.

3. During installation, remember to enable both authentication types, if required.
 - a. Windows Authentication (can only be used, if you're in a domain/workgroup)
 - b. SQL Server Authentication (necessary if you're not in a domain/workgroup)
4. Start the **SQL Server Configuration Manager** from the Windows Start menu under **SQL Server 2008 > Configuration Tools**.



5. Make sure that that **SQL Server** and **SQL Server Browser** are started.
6. Make sure that following protocols are enabled, both for the **Native client** and **SQL Server** .



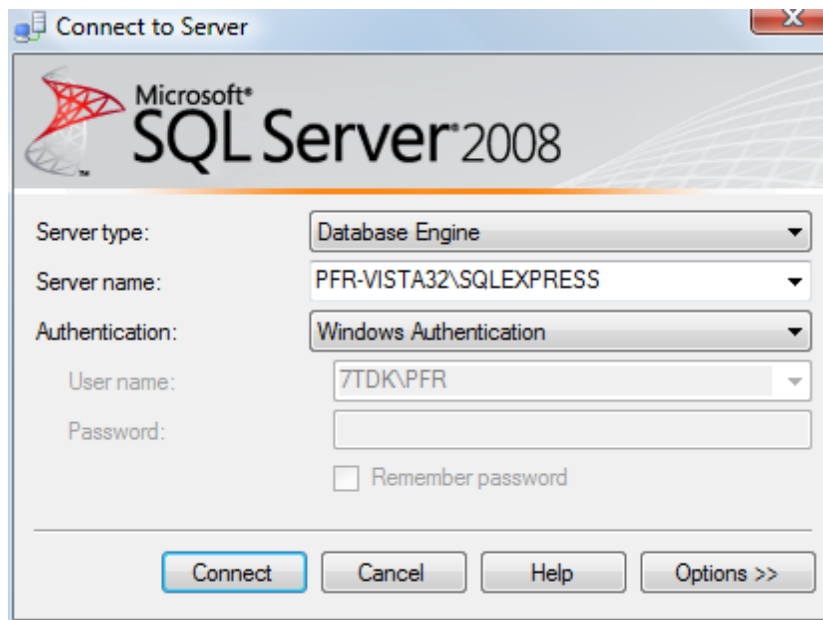
7. Close the **SQL server Configuration Manager**.

Run the Audit Trail script

1. Start the **Microsoft SQL Server Management Studio**.

2. Do the following:

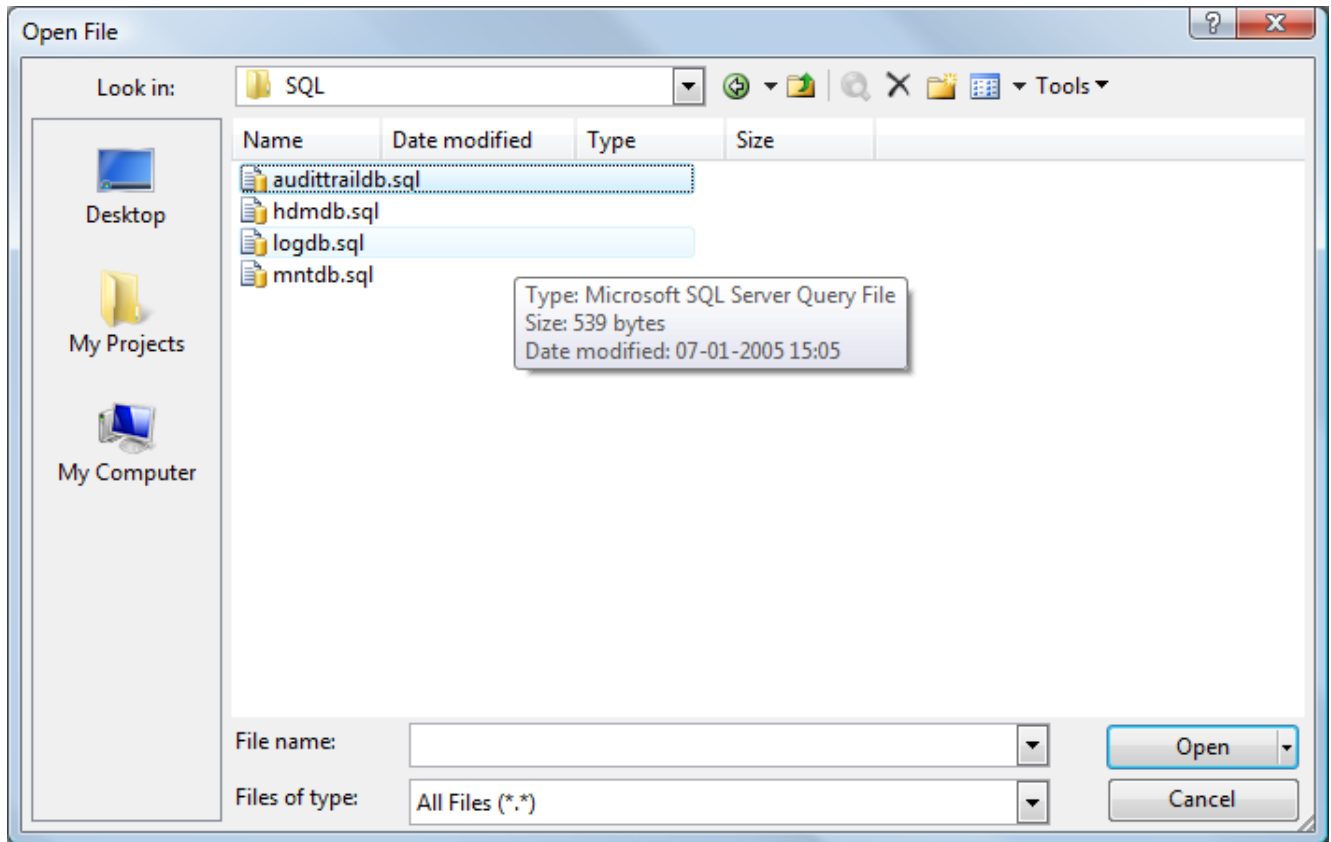
- Under **Server type**, select **Database Engine**.
- Under **Server name**, select the correct server name (see Note above).
- Under **Authentication**, select **Windows Authentication** or **SQL Server Authentication**, as required.



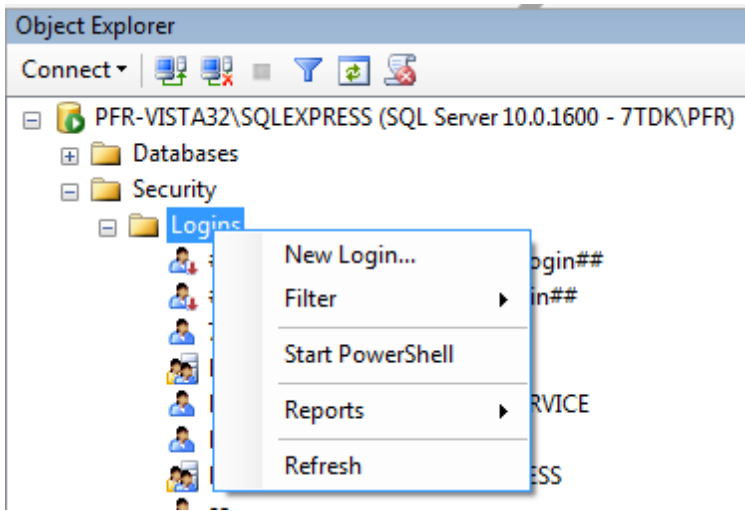
3. In the **File** menu, choose **Open -> File**. Browse to the **[IGSS installation path]\SQL** folder.

Default path is C:\Program Files\7T\IGSS32\V9.0\SQL.

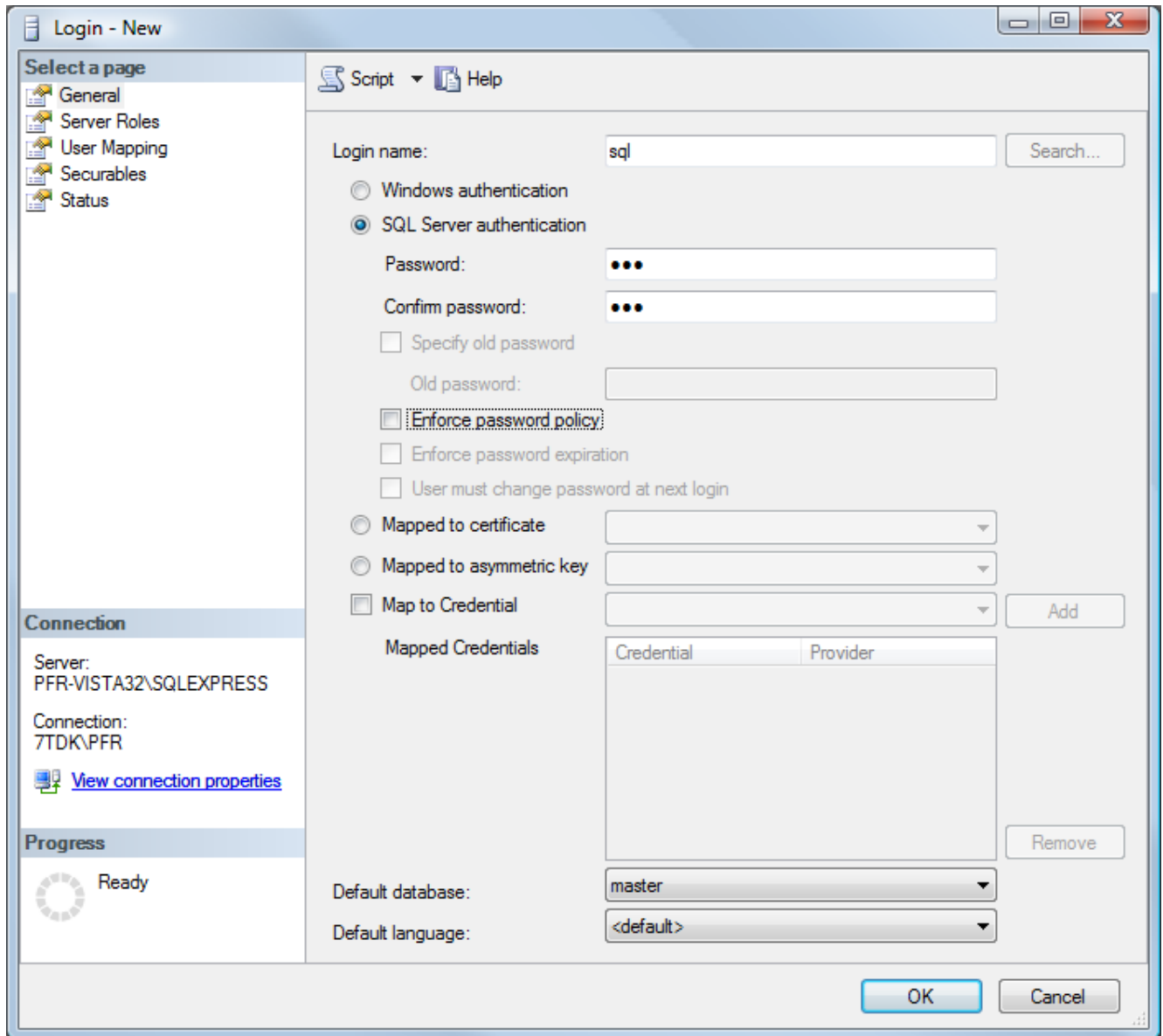
4. Open the script named **audittraildb.sql**.



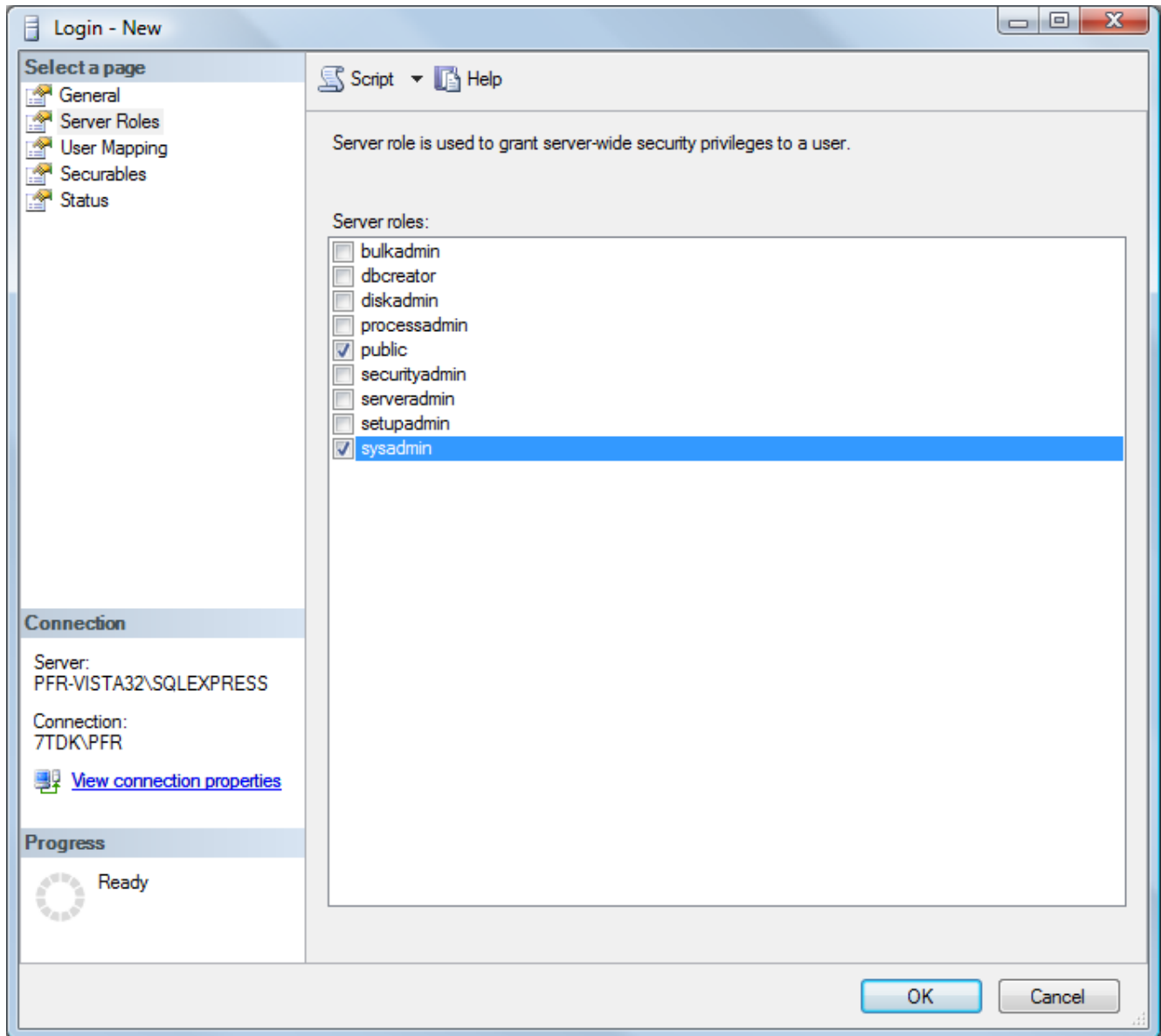
5. Press the **Execute!** button in the toolbar.
6. Under **Messages**, there should be 1 line saying **(1 Row(s) affected)**. If there are more lines, an error has occurred. Troubleshoot the error and repeat this step, once fixed.
7. If you have an operator station which is not in the same domain / workgroup as the SQL Server, you must configure an SQL Server Authentication account.
8. In the **Object Explorer** tree view, unfold the **Security** branch, right-click on **Logins** and select **New Login**.



9. In this particular case I have created an account called **sql**, with the password **sql**.



10. On the **General** page, I have selected default database **AUDITTRAIL** and for this purpose I have also selected that my **sql** user is a **sysadmin** under the **Server Roles** page.



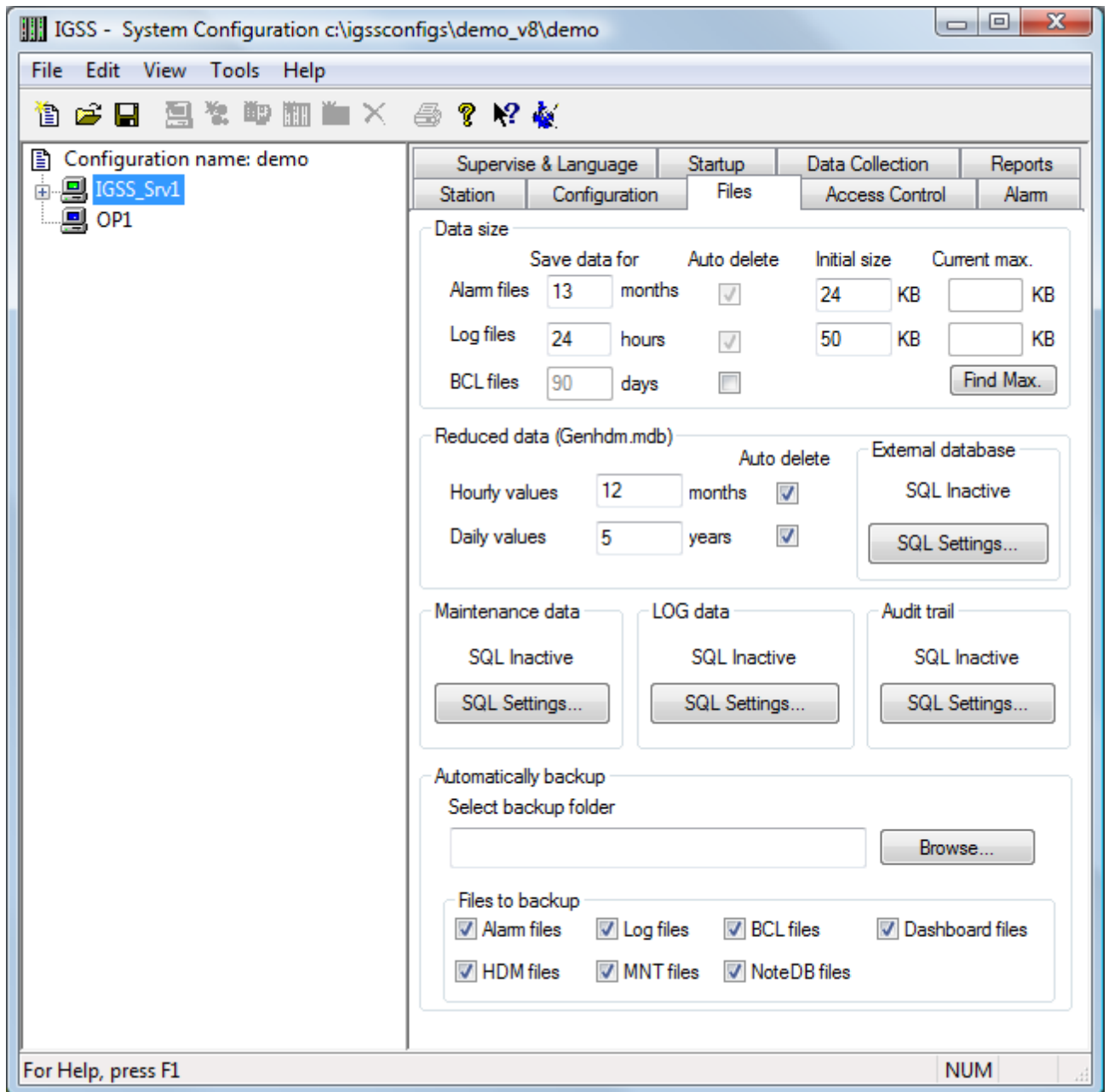
11. Close the Microsoft SQL Server Management Studio.

Set up Audit Trail in System Configuration

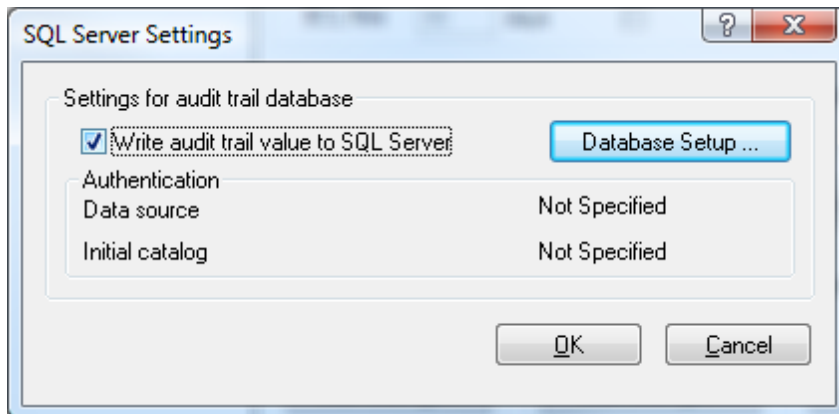
1. Start the **System Configuration** module and select the IGSS server or single user station.

No setup is necessary on the operator station in System Configuration. The only requirement for the operator station is that it must have read/write access to the SQL Server.

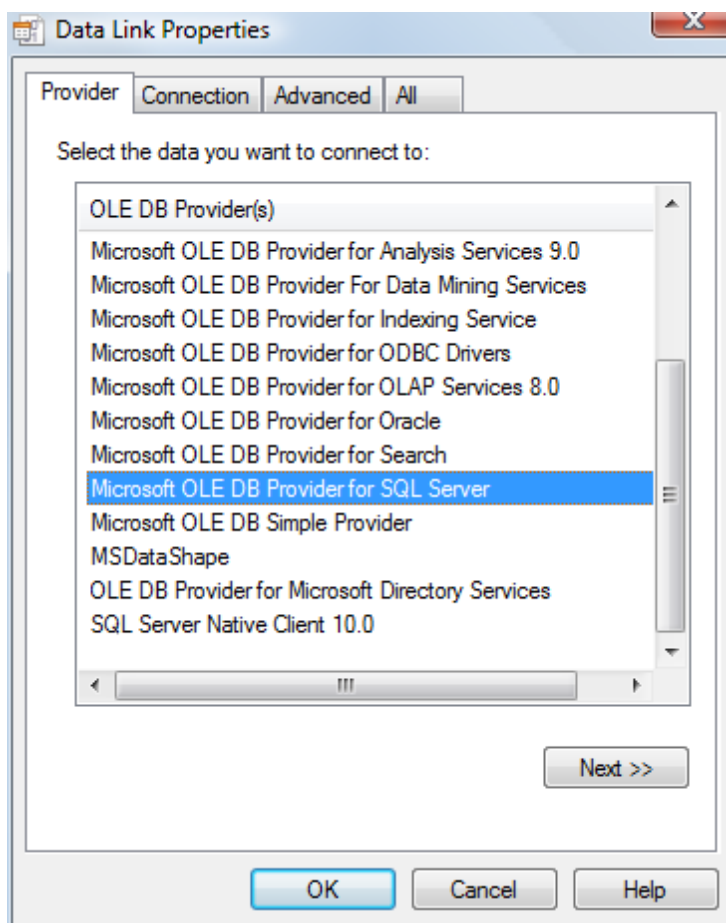
2. On the **Files** tab, under **Audit Trail**, click the **SQL Settings** button.



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



4. In the **Data Link Properties** dialog box, select the **SQL Server Native Client 10.0** data source. Click **Next >>** .



5. On the **Connection** tab, do the following:

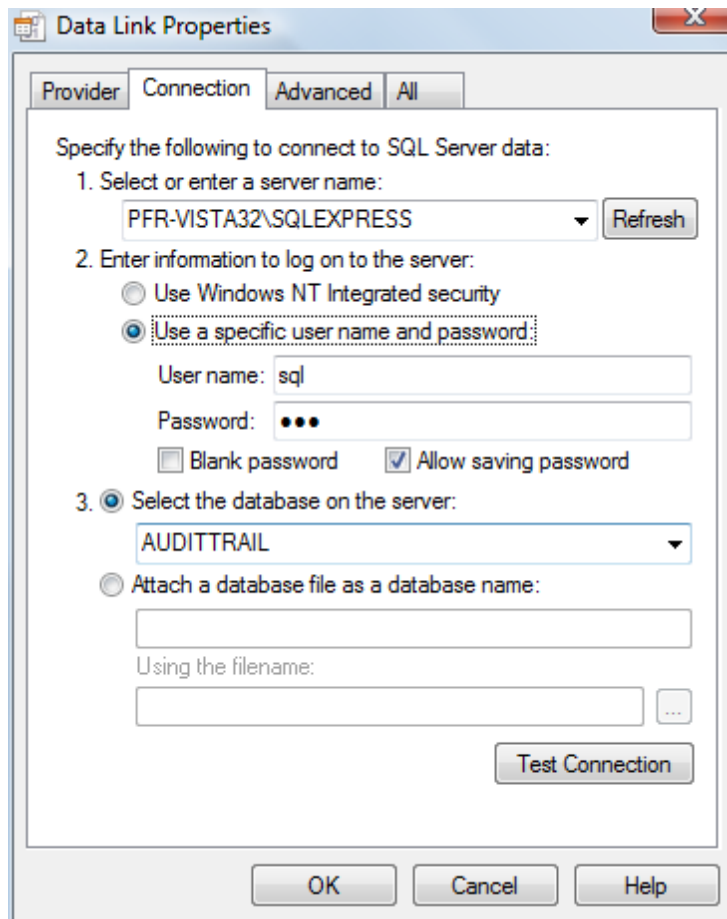
Step 1: Select the SQL Server in the drop-down list.

In a real multiuser system, we recommend that you use the actual IP address, for example, 192.168.0.1.

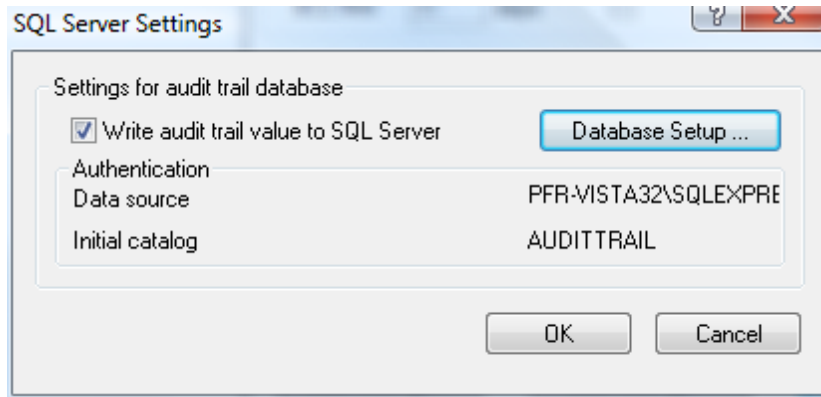
Step 2: Set user access to **Use Windows NT integrated security** or **Use a specific user name and password**, if you're using SQL Server Authentication. Enter the user name and password and remember to select **Allow saving password**.

Step 3: Under **Select the database on the server**, select the **AUDITTRAIL** database.

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



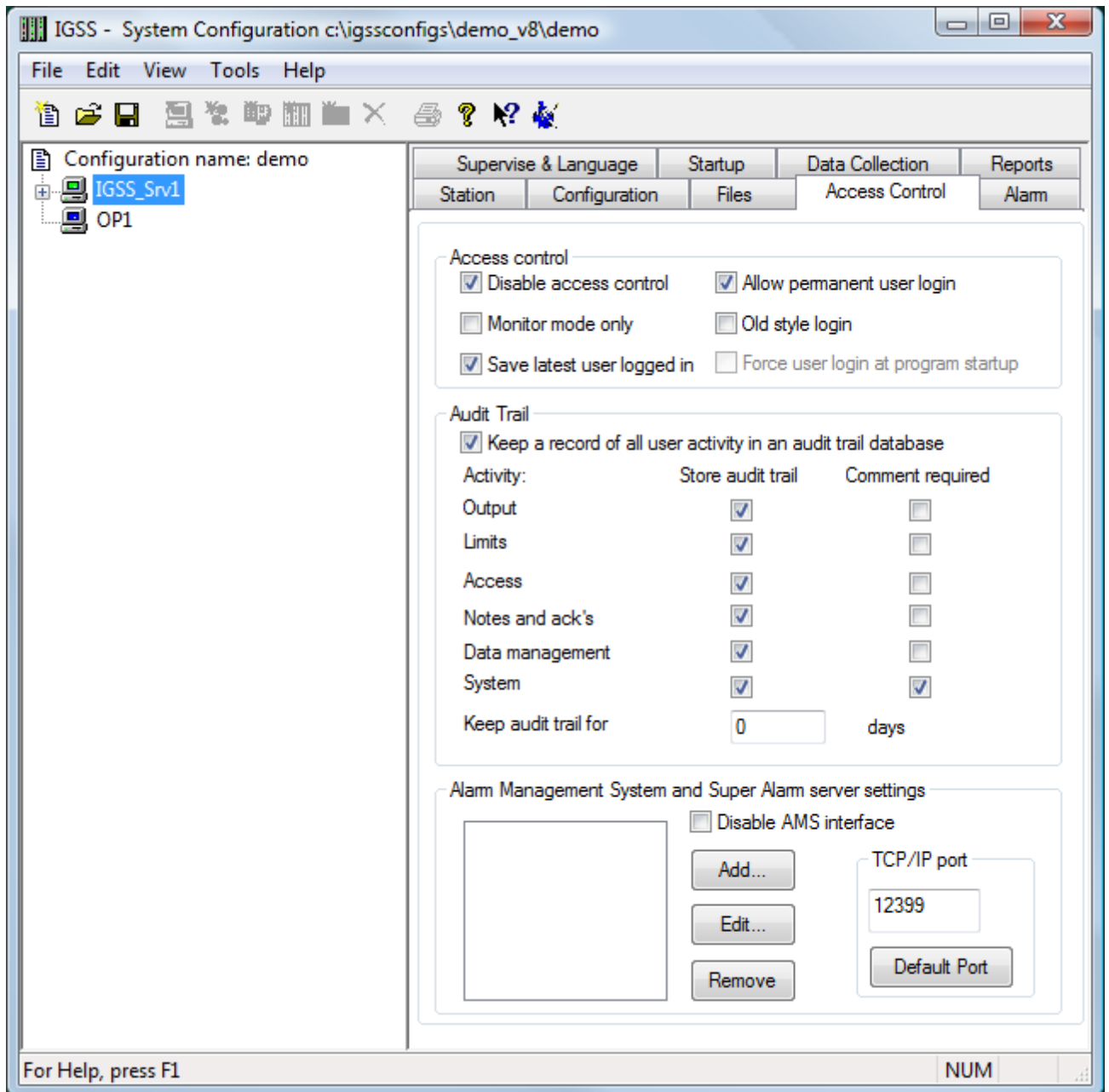
6. Verify that the **SQL Server Settings** dialog box has these settings and click **OK**.



7. Finally, click the **Access Control** tab.
8. 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.

In the **Keep audit trail for** field, write 0 (zero) to keep records forever or write a specific number of days.



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:

1. Define the relevant users and user groups in the **User Administration** module.
2. Clear the check box **Disable access control** on the tab above in the **System Configuration** module.
3. 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.

2.2 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**.

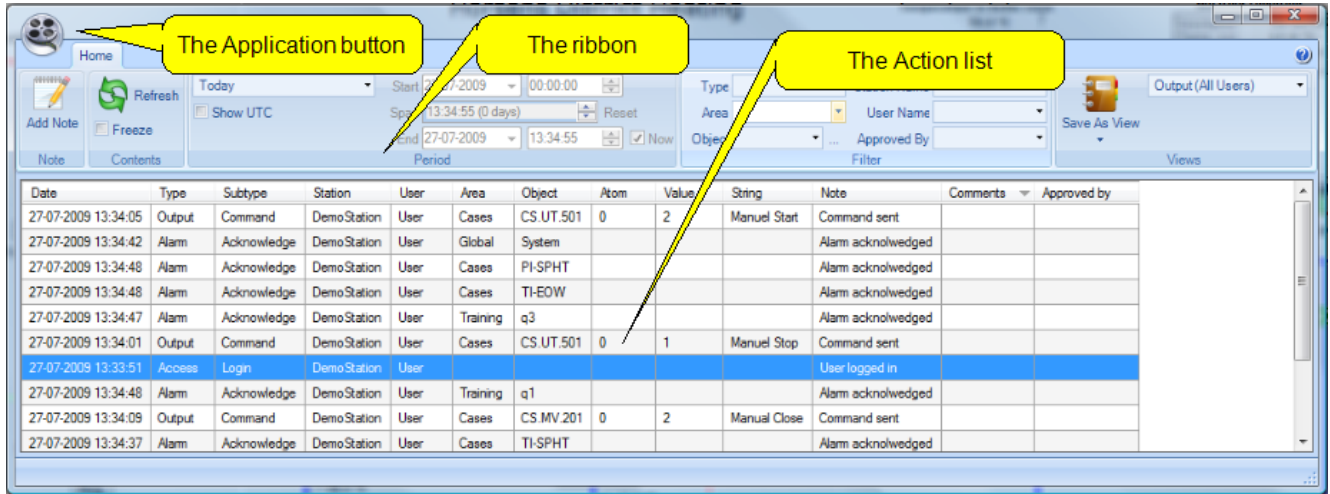
With the auto start option enabled, the Audit Trail module will now be started with the configuration and closed when the configuration is stopped.

Chapter 3: Using the Audit Trail

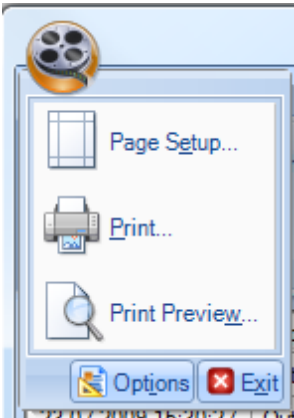
3.1 Understanding the Audit Trail window

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	<p>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.</p> 

Element	Description
The ribbon	"The Home ribbon" on page 20 includes all the functions you need to operate the Audit Trail.
Action list	"The Action list" on page 18 shows all the recorded system and user actions for the current view period.

3.2 The Action list

The Action list shows all recorded system and user actions in the current view period (specified in the **Home** ribbon).

The table below describes the individual fields in the list.

Field	Description														
Date	Timestamp of the system or user action. By default, time is given in local time.														
Type	<p>The following action types exist:</p> <table border="1"> <tbody> <tr> <td>Output</td> <td>Commands sent by the user to the PLC.</td> </tr> <tr> <td>Limits</td> <td>Alarm limits changed by the user.</td> </tr> <tr> <td>Access</td> <td>When the user logs in and out of the system.</td> </tr> <tr> <td>Note</td> <td>Used for object notes and user notes.</td> </tr> <tr> <td>Alarm</td> <td>Used for alarm actions, such as acknowledgement and end alarms.</td> </tr> <tr> <td>System</td> <td>Used for system start and stop (automatic or user-activated).</td> </tr> <tr> <td>Data</td> <td>Used for operations concerning data logging and data collection.</td> </tr> </tbody> </table>	Output	Commands sent by the user to the PLC.	Limits	Alarm limits changed by the user.	Access	When the user logs in and out of the system.	Note	Used for object notes and user notes.	Alarm	Used for alarm actions, such as acknowledgement and end alarms.	System	Used for system start and stop (automatic or user-activated).	Data	Used for operations concerning data logging and data collection.
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System	Used for system start and stop (automatic or user-activated).														
Data	Used for operations concerning data logging and data collection.														
Subtype	<p>Shows a further specification of the type above.</p> <p>Example: For the Access type, you will see Login and Logout.</p>														
Station	Shows the name of the station where the action was taken, either by the system or by the user.														
User	Shows the name of the user currently logged in.														
Area	For object operations only. Shows the name of the area in which the object resides.														
Object	For object operations only. Shows the name of the manipulated object.														

Field	Description																																								
Atom	<p>For object operations only. Shows the atom which was manipulated.</p> <table border="1"> <thead> <tr> <th>Station</th> <th>User</th> <th>Area</th> <th>Object</th> <th>Atom</th> <th>Value</th> <th>String</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>DemoStation</td> <td>admin</td> <td>Cases</td> <td>CS.MV.213</td> <td></td> <td></td> <td></td> <td>Object note added</td> </tr> <tr> <td>DemoStation</td> <td>admin</td> <td>Cases</td> <td>CS.MV.213</td> <td>0</td> <td>2</td> <td>Manual Close</td> <td>Command sent</td> </tr> <tr> <td>DemoStation</td> <td>User</td> <td>Cases</td> <td>CS.UT.501</td> <td>0</td> <td>2</td> <td>Manuel Start</td> <td>Command sent</td> </tr> <tr> <td>DemoStation</td> <td>admin</td> <td>Cases</td> <td>CS.MV.213</td> <td>0</td> <td>2</td> <td>Manual Close</td> <td>Command sent</td> </tr> </tbody> </table>	Station	User	Area	Object	Atom	Value	String	Note	DemoStation	admin	Cases	CS.MV.213				Object note added	DemoStation	admin	Cases	CS.MV.213	0	2	Manual Close	Command sent	DemoStation	User	Cases	CS.UT.501	0	2	Manuel Start	Command sent	DemoStation	admin	Cases	CS.MV.213	0	2	Manual Close	Command sent
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Value	<p>Shows the value which was sent to the PLC, for example, alarm limits, set points, etc.</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Object</th> <th>Atom</th> <th>Value</th> <th>String</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Training</td> <td>q2</td> <td>4</td> <td>22</td> <td>22.0 m³/h</td> <td>Low limit changed</td> </tr> <tr> <td>Training</td> <td>q3</td> <td>4</td> <td>24</td> <td>24.0 m³/h</td> <td>Low limit changed</td> </tr> <tr> <td>Training</td> <td>q3</td> <td>0</td> <td>33</td> <td>33.0 m³/h</td> <td>High alarm changed</td> </tr> </tbody> </table>	Area	Object	Atom	Value	String	Note	Training	q2	4	22	22.0 m³/h	Low limit changed	Training	q3	4	24	24.0 m³/h	Low limit changed	Training	q3	0	33	33.0 m³/h	High alarm changed																
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String	<p>Shows the entire value string.</p> <p>For analog objects, the unit will be displayed as shown in the picture above.</p> <p>For digital objects, the command name will be shown (whereas the Value field shows number).</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Object</th> <th>Atom</th> <th>Value</th> <th>String</th> </tr> </thead> <tbody> <tr> <td>Cases</td> <td>CS.MV.213</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cases</td> <td>CS.M.124</td> <td>0</td> <td>0</td> <td>Auto</td> </tr> <tr> <td>Cases</td> <td>CS.MV.213</td> <td>0</td> <td>2</td> <td>Manual Close</td> </tr> <tr> <td>Cases</td> <td>CS.MV.213</td> <td>0</td> <td>2</td> <td>Manual Close</td> </tr> <tr> <td>Cases</td> <td>CS.MV.201</td> <td>0</td> <td>2</td> <td>Manual Close</td> </tr> </tbody> </table>	Area	Object	Atom	Value	String	Cases	CS.MV.213				Cases	CS.M.124	0	0	Auto	Cases	CS.MV.213	0	2	Manual Close	Cases	CS.MV.213	0	2	Manual Close	Cases	CS.MV.201	0	2	Manual Close										
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Cases	CS.MV.213	0	2	Manual Close																																					
Cases	CS.MV.201	0	2	Manual Close																																					
Note	<p>Shows an explanation of the system or user action.</p> <p>Examples are: Command sent, high alarm changed, set point changed, object note added, logged in, user note.</p> <table border="1"> <tbody> <tr> <td>Training</td> <td>q4</td> <td></td> <td></td> <td></td> <td>Alarm acknowledged</td> </tr> <tr> <td>Training</td> <td>q2</td> <td></td> <td></td> <td></td> <td>Alarm acknowledged</td> </tr> <tr> <td>Training</td> <td>q3</td> <td>0</td> <td>33</td> <td>33.0 m³/h</td> <td>High alarm changed</td> </tr> <tr> <td>Training</td> <td>q2</td> <td>4</td> <td>22</td> <td>22.0 m³/h</td> <td>Low limit changed</td> </tr> <tr> <td>Training</td> <td>q3</td> <td>4</td> <td>24</td> <td>24.0 m³/h</td> <td>Low limit changed</td> </tr> </tbody> </table>	Training	q4				Alarm acknowledged	Training	q2				Alarm acknowledged	Training	q3	0	33	33.0 m³/h	High alarm changed	Training	q2	4	22	22.0 m³/h	Low limit changed	Training	q3	4	24	24.0 m³/h	Low limit changed										
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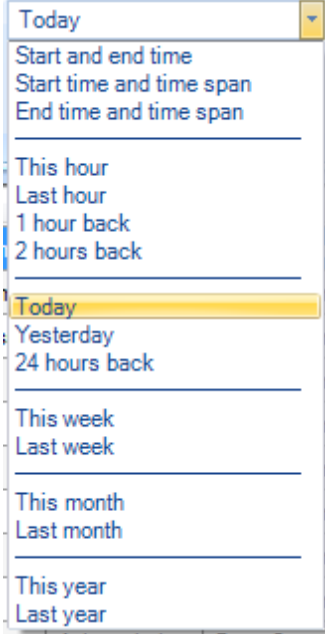
Field	Description																																				
Comments	Shows further details about the user action.																																				
	Examples are: Automatic user logout, We need to maintain this motor (object note), ice technician. We need to fix the pump now (user note).																																				
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CS.UT.501	0	2	Manuel Start	Command sent																																	
Approved by	This field is used with the Confirm 2 Users safe command only.																																				
	It shows the name of the user approving that the safe command will be sent.																																				

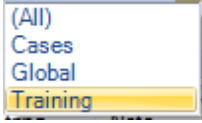
3.3 The Home ribbon

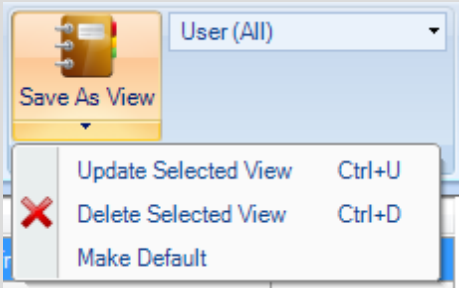
The Home ribbon includes all the functions needed for using the Audit Trail in the daily plant operation.

The table below explains the individual functions and is divided into the function groups shown at the bottom of the ribbon.

Group name	Field	Description
Note	Add Note	Allows you to add an operator note. The note will not be tied to any specific object in the configuration, but is a general operator note. <div style="border: 1px solid gray; padding: 5px; width: fit-content; margin: 10px auto;"> You must be logged in to have access to this function. The button is not active, if you are not logged in. </div>
Contents	Refresh	Performs a manual update of the Action list based on the current filter settings.
	Freeze	While this check box is selected, the automatic update of the Action list is disabled.

Group name	Field	Description
Period	View period	<p>Select the type of period you want to show.</p> <p>Choosing one of the first three options will open the relevant time options in the View tab.</p> <p>Choosing any of the other options will grey out all time options, as these are pre-defined periods.</p> 
	Show UTC	Shows all time stamps in the universal time format, UTC. This is the raw time format used in the IGSS databases.
	Start date	Click the drop-down arrow to browse through the calendar to find the date. Or type the date in the format DD-MM-YYYY.
	Start time	Type the time in the format HH:MM:SS. Or use the up/down arrows to change the time.
	Span	Enter the time span for the data period. Time span can be combined with either start time or end time.
	End date	Click the drop-down arrow to browse through the calendar to find the date. Or type the date in the format DD-MM-YYYY.
	End time	Type the time in the format HH:MM:SS. Or use the up/down arrows to change the time.

Group name	Field	Description
Filter	Type	<p>Select the action types you want to view in the Action list.</p> 
	Area	<p>Filter the list by area. The drop-down list shows the areas of the current configuration.</p> 
	Object	<p>Filter the Action list by object. Type the name of the object directly in the list or click the three dots (...) beside the field to choose a specific object in the configuration.</p> <div style="border: 1px solid gray; padding: 10px; background-color: #f0f0f0;"> <p>To filter by multiple objects, you can filter the list using wildcards. For example, writing q* will list all objects starting with the character q.</p> </div>
	Station name	<p>Filter the Action list by IGSS station. Choose the relevant station in the list.</p>
	User name	<p>Filter the Action list by user. Choose the relevant user in the list. Users are defined in the User Administration module.</p>
	Approved by	<p>Filter the list by approving user. An approving user is a user that has approved sending of a safe command.</p>

Views	Save As View	<p>If you want to save a specific filter setup, click this button. You will then be asked to name the filter.</p> <p>Click the drop-down arrow to reveal this menu.</p>  <p>Update Selected View will update the current view with the current filter settings.</p> <p>Delete Selected View will remove the filter.</p> <p>Make Default will make this view the default view.</p>
	Saved Views	<p>This list shows the saved views. Choose the relevant view.</p>

3.4 Choosing the view period

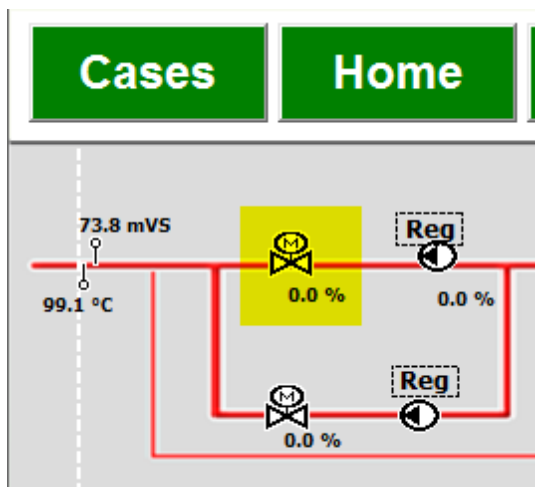
To get you up-and-running with the Audit Trail as fast as possible, we have developed a series of examples based on the IGSS Demo Configuration.

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.

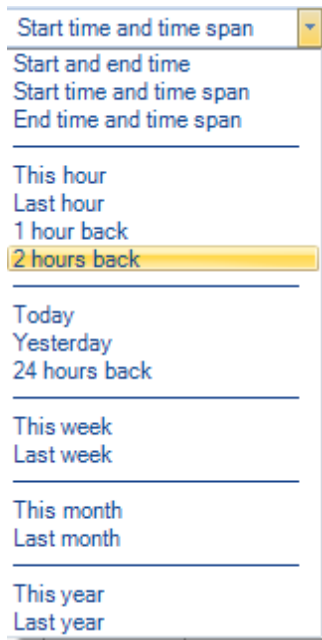
2. In the **File** menu, select **Open Demo Configuration** and then select **File** and **Save and Exit**.
3. In the IGSS Start menu, activate the **IGSS Starter** module. The IGSS Demo Configuration will now be automatically started.
4. In the **File** menu of **Supervise**, choose **Login**.
5. Log 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.
7. Click the motor symbol in the upper left corner of the mimic diagram.



8. In the command menu, select the first command named **Auto**.
9. Repeat step 6, only this time sending the command **Manual**.
10. 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		

11. Now stop the system from the **IGSS Starter**.
12. Start it again by hitting the **Start** button.
13. 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 25.

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.

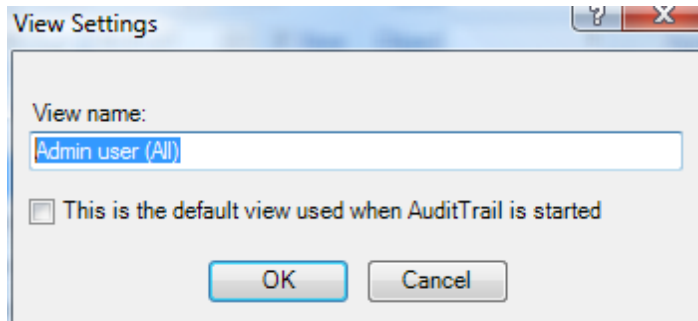
Date	Type	Subtype	Station	User	Area	Object	Atom	Value	String	Note
27-07-2009 18:04:08	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	3	Manual Open	Command sent
27-07-2009 18:04:06	Output	Command	DemoStation	admin	Cases	CS.MV.202	0	2	Manual Close	Command sent
27-07-2009 18:04:05	Output	Command	DemoStation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

4. As the next step we want to learn how we're "Saving and applying views" on page 26

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.

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



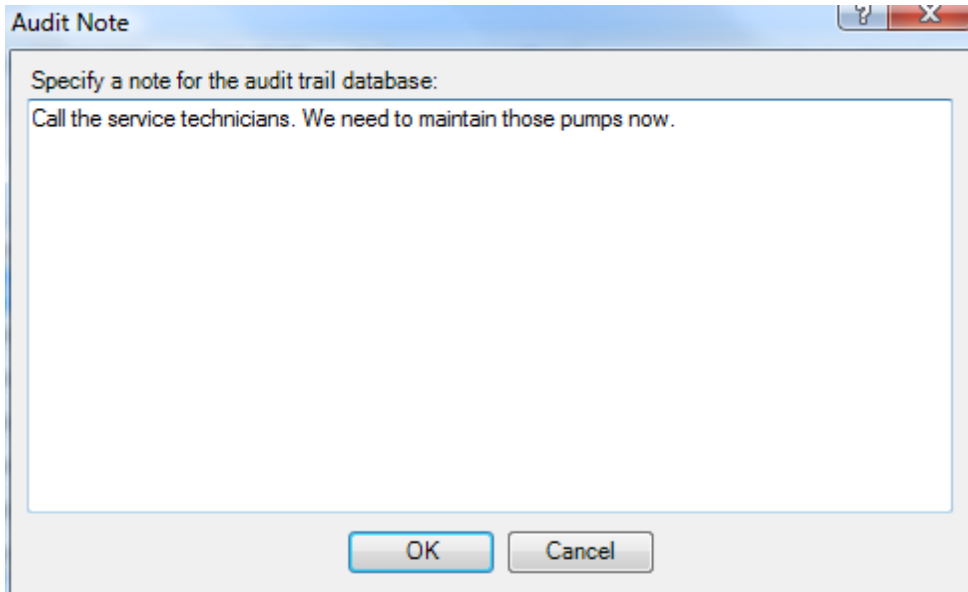
4. The next step is learning how we're "Adding a user note" on page 26

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.

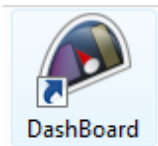


3. Click **OK**. The user note now appears in the Action list. Notice that the note text itself is shown in the **Comments** field.
4. The next step is optional, but useful if you are using the **IGSS Dashboard** module. You will learn how to "Presenting Audit Trail information in the IGSS Dashboard" on page 27

3.8 Presenting Audit Trail information in the IGSS Dashboard

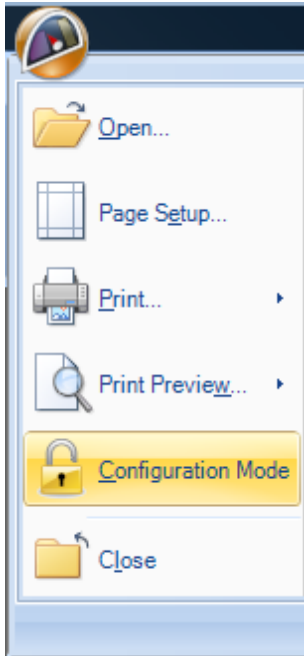
If you want to show Audit Trail information in your dashboard(s), you can insert an Audit Trail widget.

1. In the IGSS Start menu, click the Dashboard icon. The default dashboard named Pump Station appears. We will add the Audit Trail widget to this dashboard.



2. Click the Application button in the upper left corner of the window.

3. Select Configuration Mode.



4. On the **Configuration** tab under **Insert Widget**, click the Audit Trail icon.



5. Resize the widget and put it at the center of the screen. Notice that you can add user notes and activate views just the same, as if you were in the Audit Trail module.
6. On the **Audit Trail** tab under **Columns Visible When Minimized**, select the **Area**, **Object** and **Atom** check boxes.

Remember to explain to the end user that by clicking the Maximize button of the widget, he will be able view all information fields. As you can see, all fields are enabled under **Columns Visible When Maximized**.

*You have successfully completed the series
of Audit Trail examples.*

Chapter 4: Reference and Lookup

4.1 Conventions in this Manual

The following typographical conventions are used:

Convention	Description	Example
User interface element	When referring to labels and names in the user interface.	The Data Management tab.
User input	When the user has to type specific data in IGSS.	Type the following description: Incoming flow in Tank 2
Module name	When referring to a module in IGSS	Open the Definition module.
Note	A note emphasizes or supplements important points of the main text. A note provides information that may apply only in special cases.	By default, the timestamp is in universal time format, UTC ¹ . This can be changed in the Driver Log Filters dialog box.
Tip	A tip suggests alternative methods that may not be obvious in the user interface. A tip also helps the user in working more effectively with IGSS. A tip is not essential to the basic understanding of the text.	Alternative to this simple find function, you can also filter on text in the messages in Driver Log Filters dialog box.
Warning	A warning is an important note that is essential for the completion of a task. In some cases, disregarding a warning may result in undesirable functionality or loss of data.	If you disregard the System alarm, you may risk loss of data in the LOG and BCL files.

¹Universal Time Coordinated (formerly Greenwich Mean Time), used as the basis for calculating time in most parts of the world. IGSS uses this time format internally in the database. You can switch between UTC and local time by enabling or disabling the "UTC" field in various dialog boxes in the system.

4.2 Getting Help in IGSS

IGSS comes with a comprehensive help system designed to help both system designers and operators to get started with IGSS as quickly as possible.

Documentation overview

The IGSS documentation includes the following items:

Documentation item	Description
Getting Started	An introduction to IGSS and its most fundamental terms and features. Getting Started is intended to get you up and running as fast as possible. The manual provides a system and architecture overview followed by a number of real-life use cases you can go through before building your first real IGSS project. The manual is available in Adobe Acrobat format (.pdf).
Module help	For each module there is a help file with the same name as the module itself, for example, Igss.chm for the Master module, Igss.exe. The help file is invoked by clicking the in the upper right corner of the module. The Table of Contents will then allow you to browse through the topics.
Dialog box help	For each dialog box there is a help topic with the following standard information: <ul style="list-style-type: none">• Overview• Preconditions• Where do I find it?• Field help Dialog box help is invoked by clicking the help button in the upper right hand corner of the dialog box.
Thematic help	IGSS also provides thematic help. When there is a special theme that requires special attention from the user, a dedicated help file is provided. Examples include "Driver-Specific Help" and "Database Administration Help".

Where are the help files located?

The IGSS help files are located in the appropriate language folder under the [IGSS InstallPath]. The help files are available in English at release time.

The paths to the help files are:

Language	Path
English	[IGSS InstallPath]\ENG
Danish	[IGSS InstallPath]\DAN
German	[IGSS InstallPath]\DEU

Translated help files

Selected help files have been translated into Danish and German. If you require help files in your language, please contact 7T.

Help updates

The IGSS help files are continuously updated and improved. Check regularly with the **IGSS Update** module in the IGSS Start menu.

4.3 Version Information (IGSS Help System)

© 7-Technologies A/S, IGSS Version 9.0

The IGSS help files are based on software build number 10305 (initial release)

English help files

To update the help files, you must activate the **IGSS Update** module in the IGSS Start menu. There must be a connection from the PC to the Internet. Every time **IGSS Update** is run, IGSS help files as well as IGSS system files will automatically be updated on the PC from the 7-Technologies web server.

You select the languages you want to update in the **Tools** menu of the **IGSS Update** module.

If you are not able to update the IGSS system directly via the Internet, the alternative is to download the updates from the 7-Technologies website as zip files. These can then be transferred onto a CD or USB memory stick, which is then the medium used to update on site.

After running **IGSS Update**, the build numbers in various IGSS modules may change to a higher number. This signifies that the module in question has been updated with newer files. Build numbers consist of four digits, where the first digit represents the year and the last three represent the day number in the year in question. The build number can be seen in the **About** dialog box which can be activated from the **Help** menu.

An example:

Build number = 10305

10 = the year 2010

210 = The 210th day of the year

Chapter 5: Glossary

A

Application menu

The Application menu is the first ribbon in the IGSS Master module. Click the icon to drop down the menu. The menu contains items that were typically found in the File menu in previous versions of IGSS. In most modules, an "Options" item allows the user to define global module settings. The Application menu was introduced in the Microsoft Office 2010 package. It replaces the Application button (nicknamed Doughnut) which was introduced in IGSS V7 and V8.

D

descriptor

A descriptor is the graphical display of an object. IGSS includes many types of descriptors including: - Built-in standard symbols - Animated symbols (Symbol Factory library) - Graphics and animation - Drawing symbols - Windows controls - ActiveX controls An IGSS object can be represented with different descriptors on different diagrams.

Q

Quick Access Bar

You can customize the Quick Access Bar to include the functions you use most frequently. Simply drag the relevant function from the ribbon to the Quick Access Bar.

R

Ribbon

The Ribbon is a new term/element in the Microsoft universe. The Ribbon replaces the well-known toolbars in applications. The Ribbon provides quick access to the most commonly used functions in the application. The Ribbon is divided into logical groups (the tabs) and each tab is divided into sections (the blocks in the tab). The Ribbon is context-sensitive which means that only relevant functions are accessible dependent on the current user action.

S

SCADA

Supervisory Control & Data Acquisition

U

UTC

Universal Time Coordinated (formerly Greenwich Mean Time), used as the basis for calculating time in most parts of the world. IGSS uses this time format internally in the database. You can switch between UTC and local time by enabling or disabling the "UTC" field in various dialog boxes in the system.