

Procidia iWare AlarmWorX32

Alarm Logger
February 2012

Introduction / Content

Scope

- Review Alarm server configuration
- Alarm Logger configuration
- Alarm Viewer setup

Content

- Overview
- Alarm Server Configurator
- Alarm Logger Configurator
- Alarm Report Viewer
- Runtime example

AlarmWorX32 Overview



AlarmWorX32 Overview

AlarmWorX32 Components

- AlarmWorX32 Server Configurator
- AlarmWorX32 Server

- AlarmWorX32 Viewer
 - GraphWorX32 ActiveX component

- AlarmWorX32 Logger Configurator
- AlarmWorX32 Logger Server

- AlarmWorX32 Report Viewer
 - GraphWorX32 ActiveX component

AlarmWorX32 Server Configurator

AlarmWorX32 Server Configurator utility builds the alarm management configuration database.

The alarm management database defines alarm tags and management criteria.

Alarm tags

- Alarm tags are associated with Data Access OPC tags.
- Alarm definition

Alarm management criteria

- Acknowledgement requirement
- Severity level
- Area filtering

AlarmWorX32 Server

The AlarmWorX32 Server is an Alarm & Event OPC server.

The Alarm Server is started when the project is launched.

- It runs in the background independent of other Procidia iWare components.
- GenTray manages the Alarm server.

Start-up

- Alarm Server connects with the alarm management configuration database in order to obtain the alarm tag list and management criteria.
- Alarm Server establishes connections with the Data Access OPC servers.

Runtime

- Monitors OPC tag values.
- Alarm Server manages the alarm event states.

Alarm Viewer

The AlarmWorX32 Viewer is an ActiveX component that runs within the GraphWorX32 environment.

- The Viewer connects to the Alarm server.
- The Viewer posts active and non-acknowledged alarm events.

AlarmWorX32 Logger Configurator

The AlarmWorX32 Logger Configurator defines alarm events to be recorded.

- Alarm events are logged to a database file or sent to a local printer.
- Alarms events to be recorded are indentified by specifying alarm tag filters.
- Alarm event attributes to be logged/printed are specified
 - Attributes are details about the alarm.

Database logging

- Alarm events can be logged to a Microsoft Access or SQL database.

AlarmWorX32 Report Viewer

The AlarmWorX32 Report viewer is an ActiveX components that runs within the GraphWorX32 environment.

- The alarm report viewer connects to the alarm logging database.
- The alarm report viewer displays a history of events.

Alarm Server Configurator

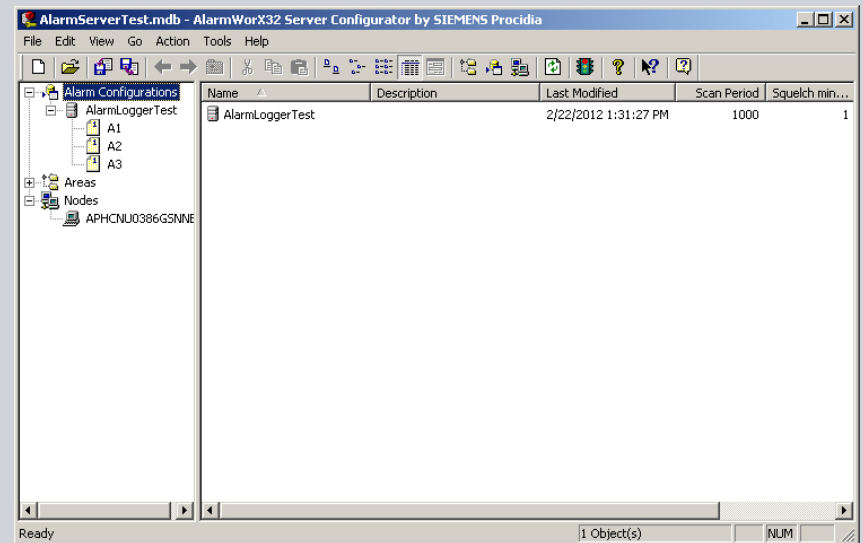


Alarm Server Configurator

At startup, the Alarm logger server connects to the Alarm and Event OPC servers.

The Alarm Logger server monitors for alarm event state changes.

- Alarm logger records events to the alarm logging database.
- Specific alarm attributes are recorded.

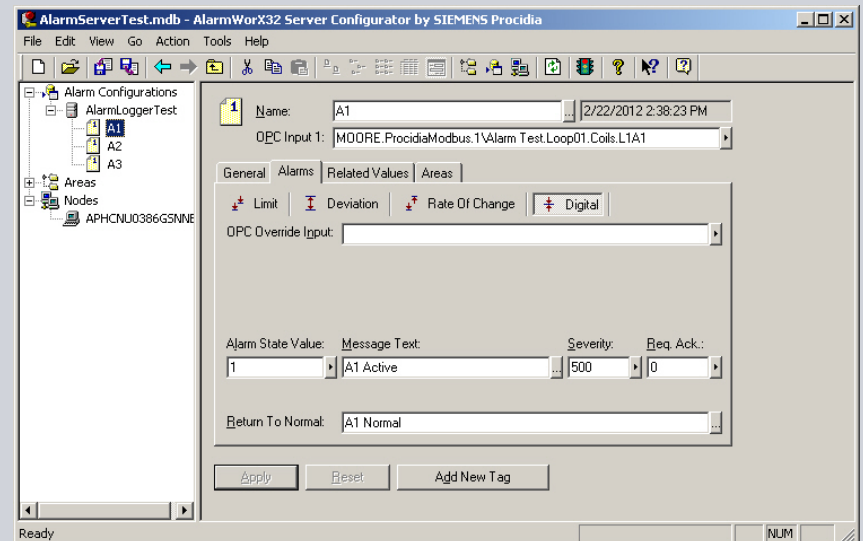


Alarm Server Configurator

In Procidia 353 applications let the controller determine alarm events.

- Monitor alarm coil status
- Monitor ODD coil status

Configure the Alarm server to monitor for digital alarms.

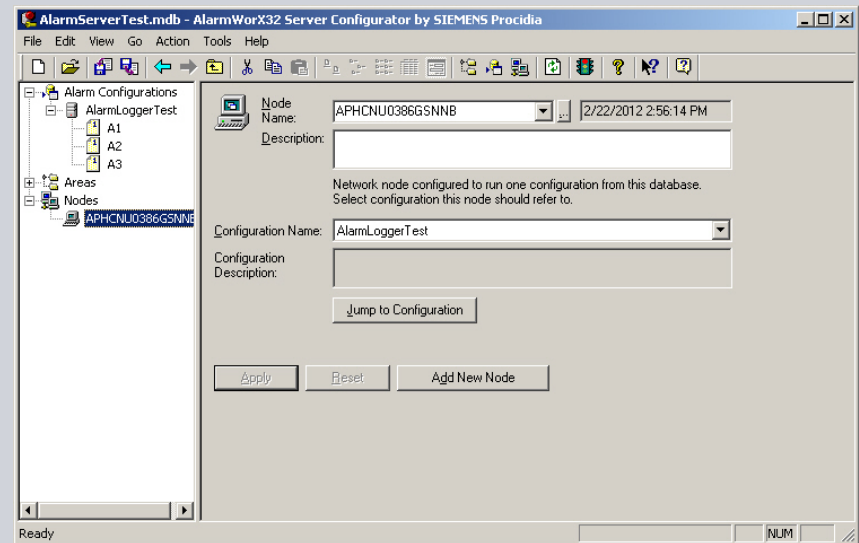


Alarm Server Configurator

When the Alarm OPC Server starts up, it connects to the configuration database in order to obtain the alarm tag list and alarm management criteria.

The Node parameter identifies the alarm configuration database.

- In Node Name list box enter the computer name.
- In Configuration Name list box select the alarm configuration name.



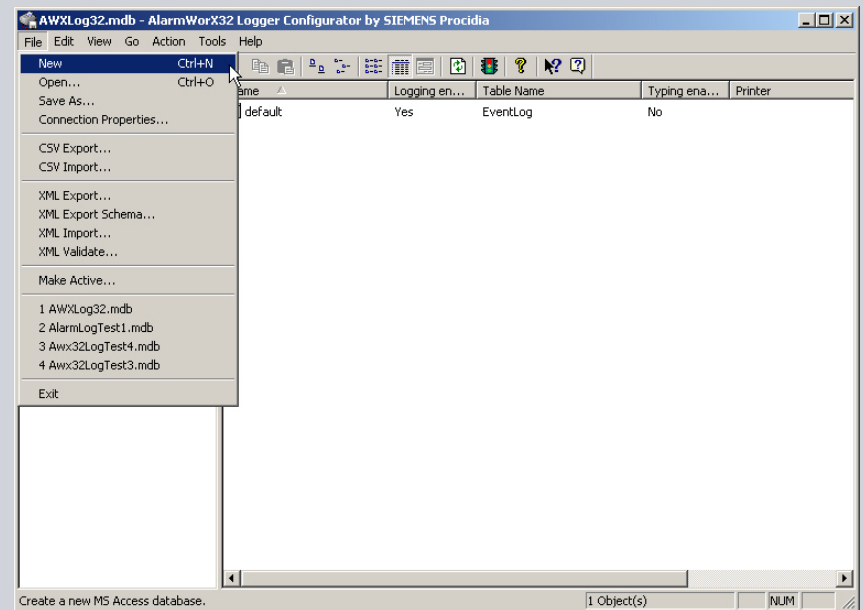
Alarm Logger Configurator



Alarm Logger – New Database

Create a new Alarm Logging database.

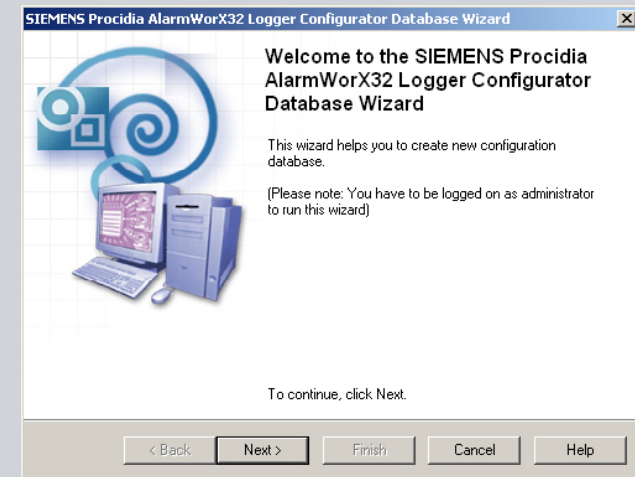
- Select File/New



Alarm Logger – New Database

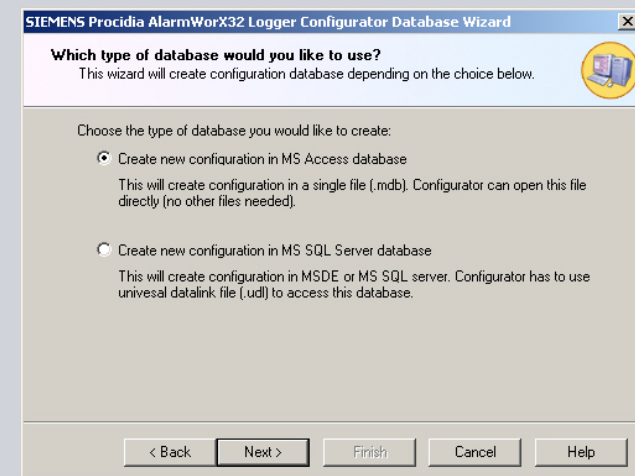
Method opens database wizard.

- Click Next



Select Microsoft Access database.

- Click Next



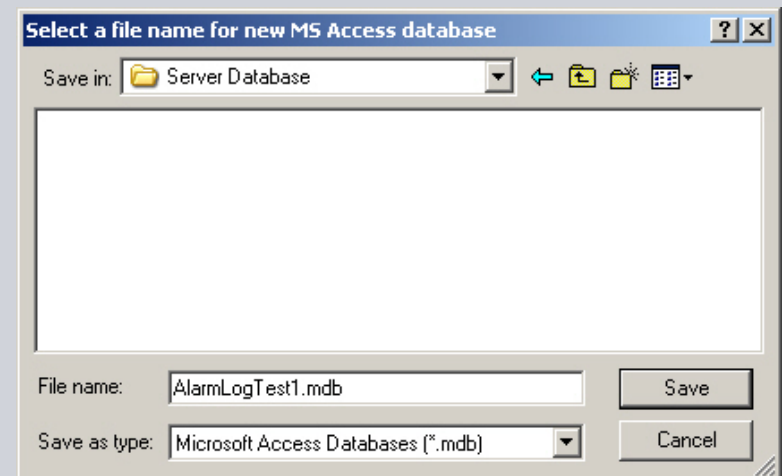
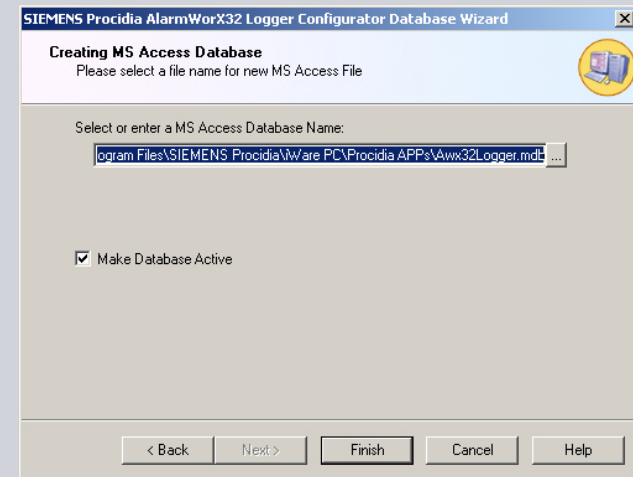
Alarm Logger – New Database

Create MS Access database file.

- Click “Select or Enter MS Access Database File” button.

Create a folder for project databases in Procidia APPs folder.

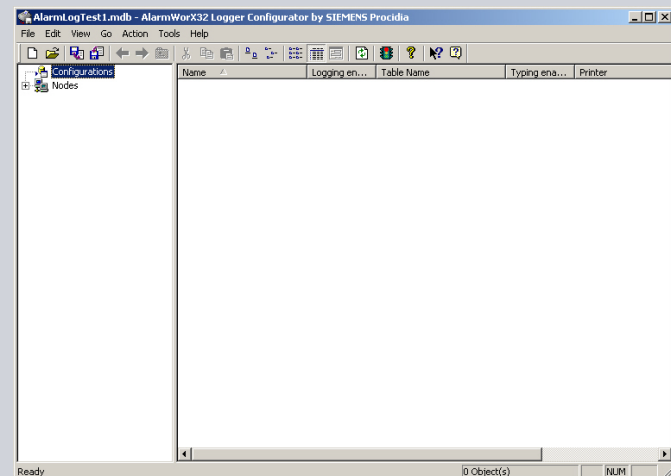
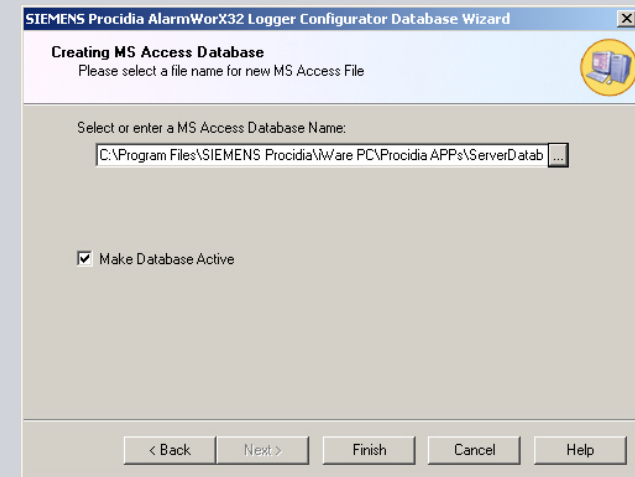
- Enter file name and Save.
- Name should identify mdb file as the alarm log database.



Alarm Logger – New Database

- Click Finish

Method opens Alarm Logger Configurator user interface.

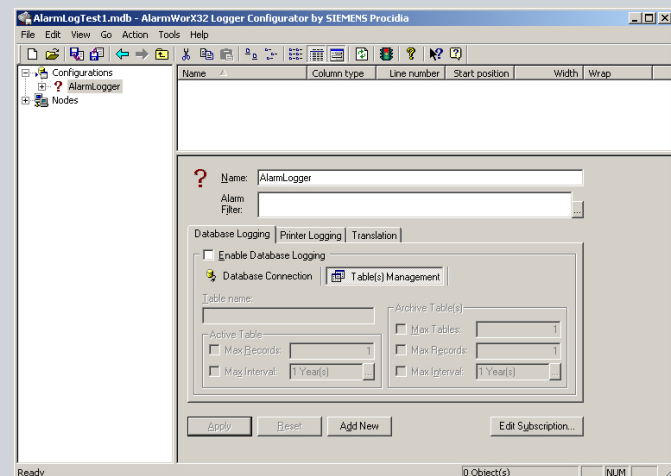
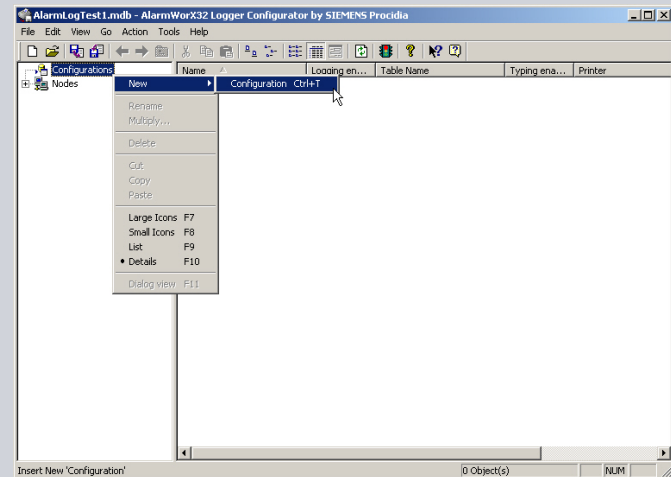


Alarm Logger – Add Configuration

Create a new logging configuration.

- Right-mouse click Configuration
- Select New/Configuration

- Enter logging configuration name
- Click Apply



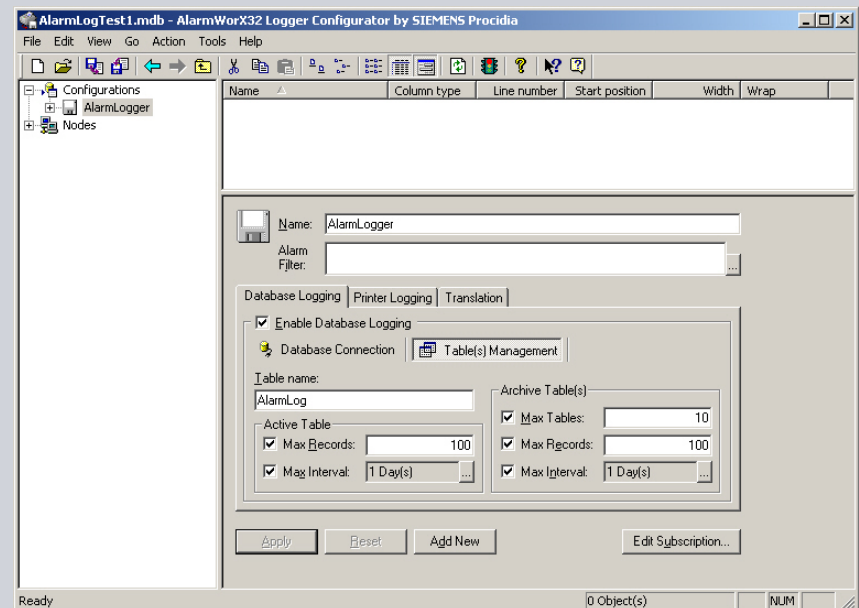
Alarm Logger – Database Logging

Alarm Logger can log alarm events to a database or a printer.

Configure to log to a database.

- Select Database Logging tab
- Click Table Management button
- Check Enable Database logging check box
- Enter logging Table Name
- Configure Active Table records
- Configure Archive Tables

- Click Apply

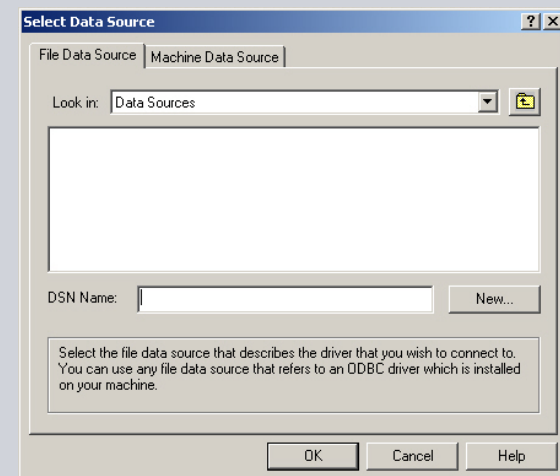
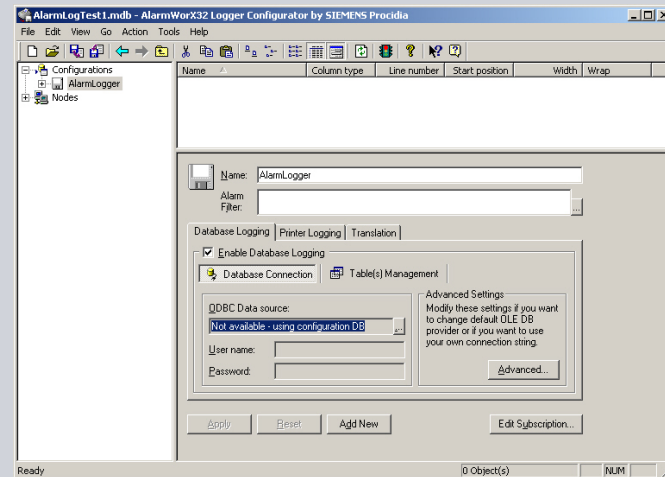


Alarm Logger – Database Connection

Make a connection between the Alarm Logger server and the Alarm Logging database.

- Click Database Connection button
- Click ODBC Data Source button

Method opens the ODBC Data Source selection dialog box.

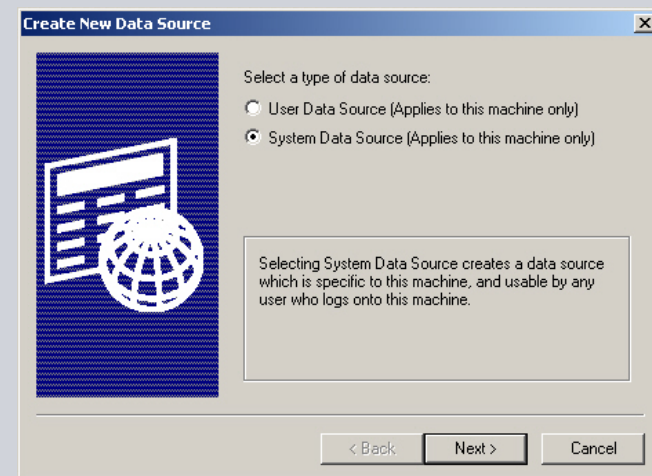
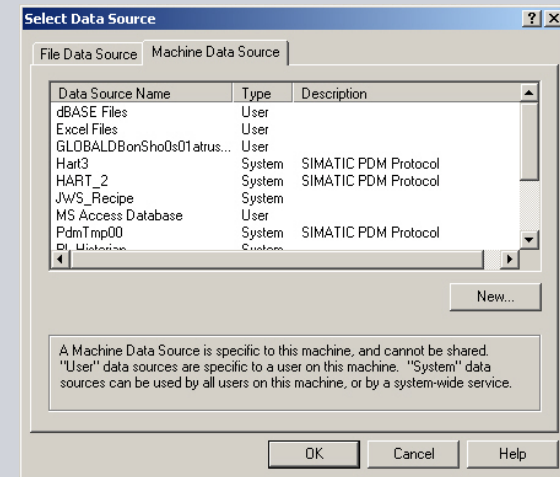


Alarm Logger – ODBC Data Source

Create an ODBC Data Source connection.

- Select Machine Data Source tab
- Click New button

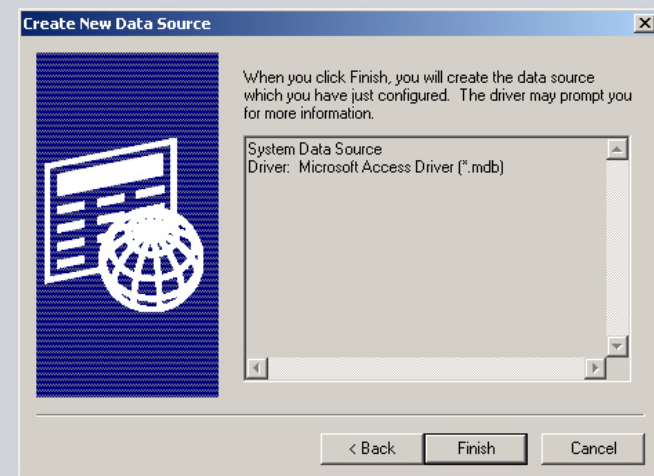
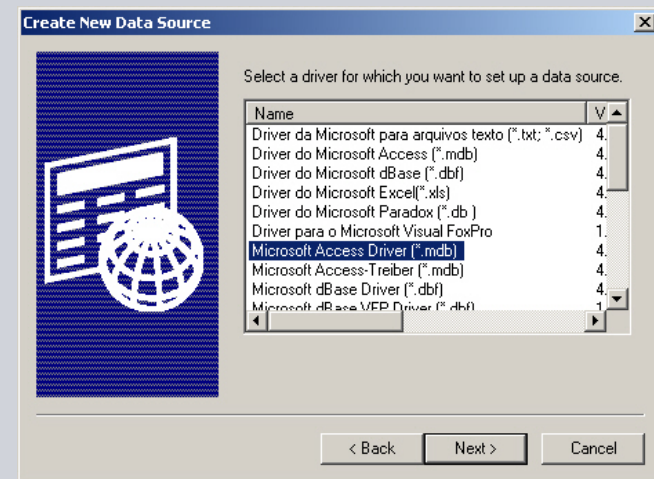
- Select “System Data Source to the machine only” option
- Click Next



Alarm Logger – ODBC Data Source

- Select Microsoft Access Drivers v4.0
- Click Next

- Click Finish



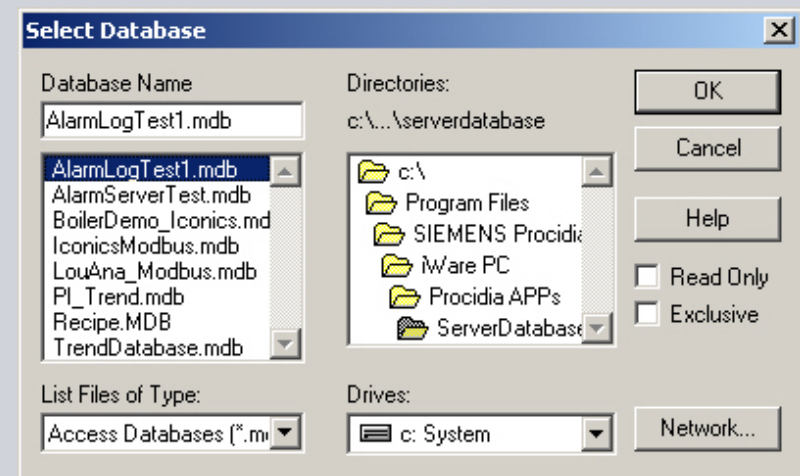
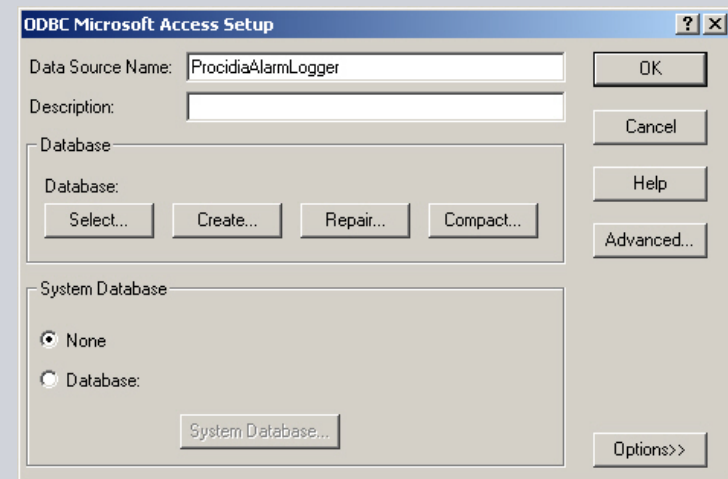
Alarm Logger – ODBC Data Source

Method opens ODBC Microsoft Access Setup dialog box.

- Enter Data Source Name
- Click Database Select button

- Select Alarm Logger database file
- Click OK

Optionally, a separate database to log events can be created.



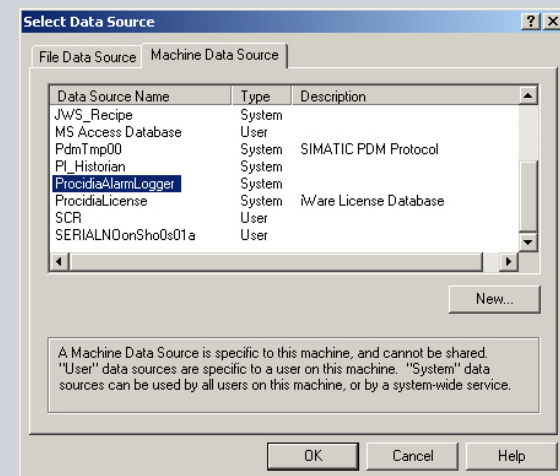
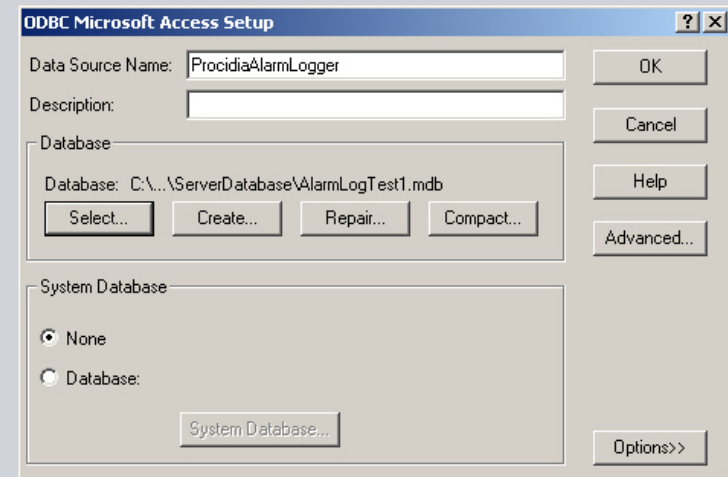
Alarm Logger – ODBC Data Source

Database file is associated with ODBC data source.

- Click OK

ODBC data source connection is listed under Machine Data Source.

- Click OK

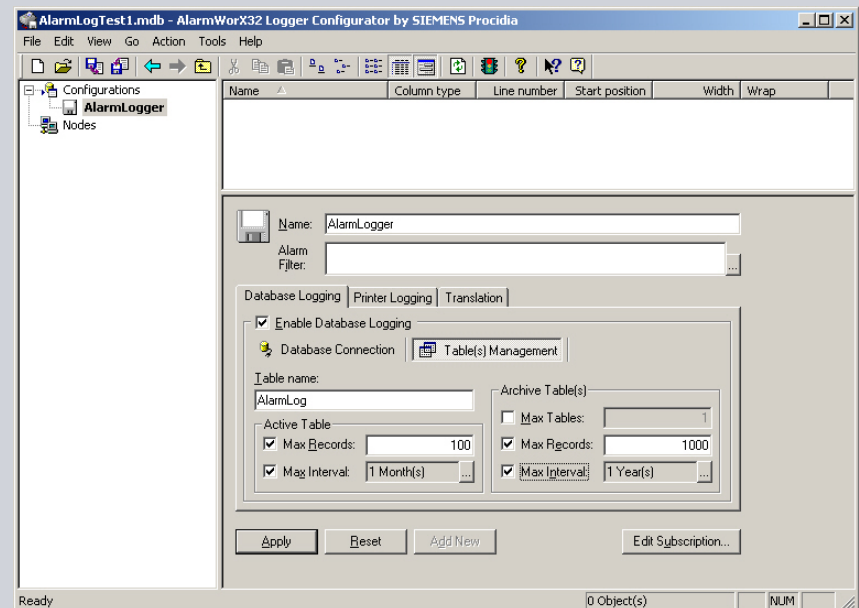


Alarm Logger – Alarm Server Connection

Alarm Logger server connects with the Alarm Server and/or the Event Server in order to monitor for alarm event state changes.

Create a connection with the Iconics Alarm OPC Server.

- Click Edit Subscription button.



Alarm Logger – Alarm Server Connection

Method opens the Subscription Properties dialog box.

Create a connection.

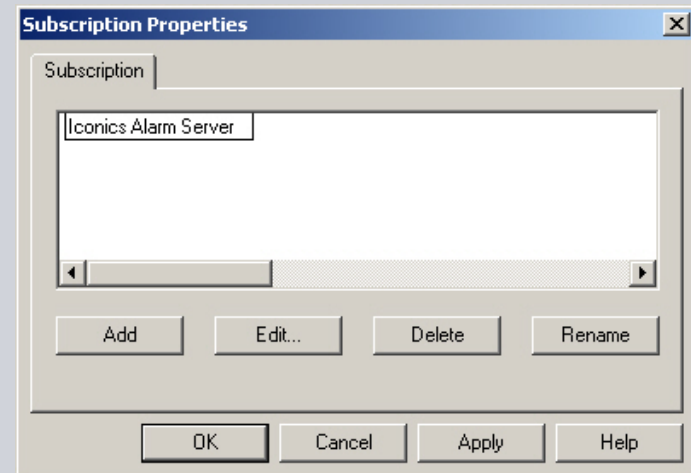
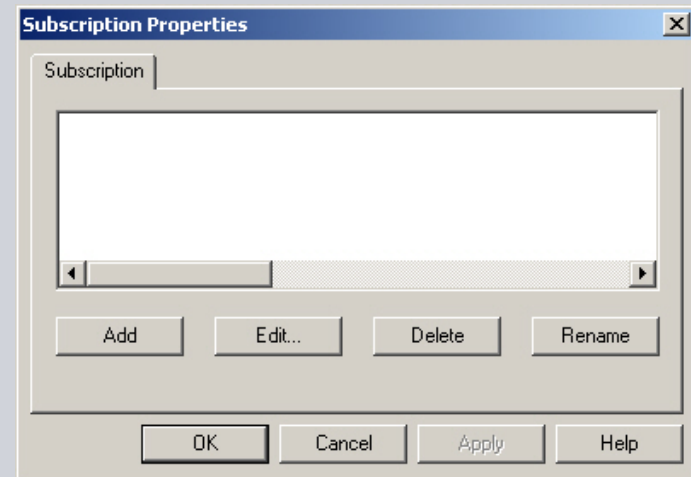
- Click Add button

Enter a connection name.

- Iconics Alarm Server

Specify the Alarm Server and edit subscription filters and attributes.

- Click Edit button

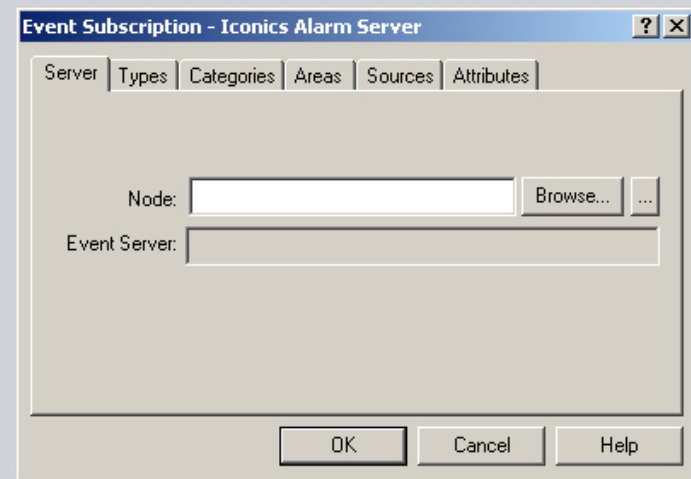


Alarm Logger – Alarm Server Connection

Method opens the Event Subscription dialog box.

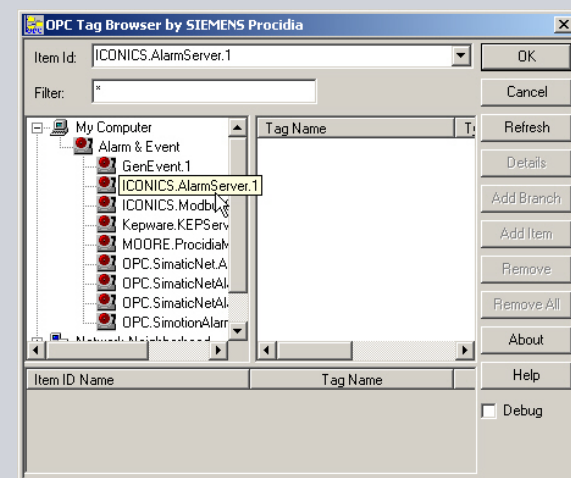
Specify the Iconics Alarm server.

- Click Browse button.



Method opens the Alarm & Event OPC Browser.

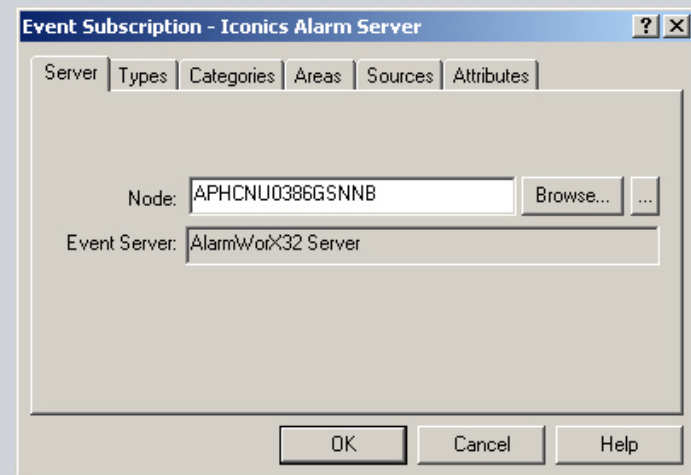
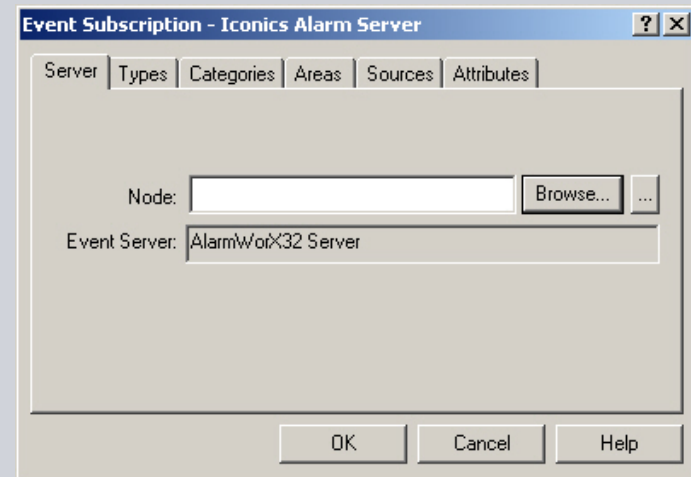
- Select Iconics.AlarmServer.1
- Click OK



Alarm Logger – Alarm Server Connection

The Alarm server requires the node name to be specified.

- Enter the computer name in Node list box.



Alarm Logger – User-Defined Attributes

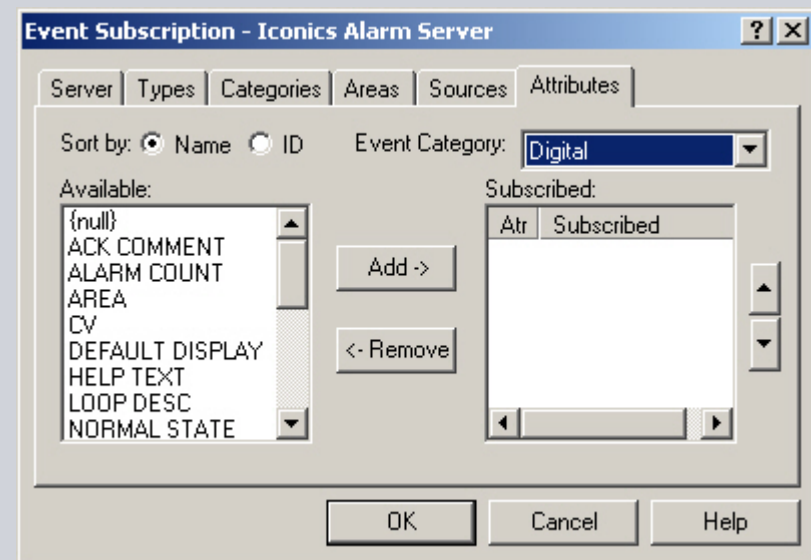
The Alarm logger has a set of standard alarm event attributes that can be selected for logging.

Attributes are details about an event.

- Tag name
- Time stamp

For alarm attributes that are not standard, the method is to specify user-defined attributes.

- Click Attributes tab
- Select Digital Event Category



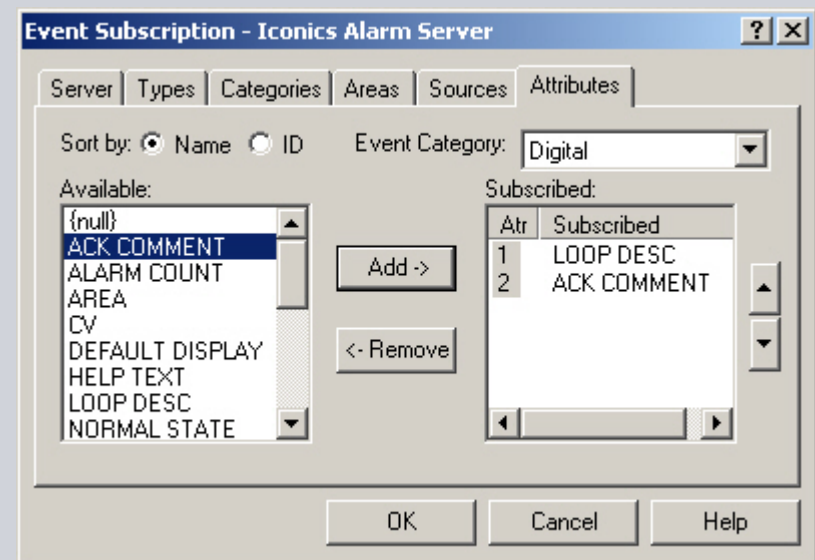
Alarm Logger – User-Defined Attributes

Specify user-defined attributes.

- Select attribute
- Click Add -> button to transfer

Note the attribute number assigned.

- This number is the attribute reference when configuring the Alarm Report Viewer.



Alarm Logger – Event Filtering

The project may require only specific alarm events to be logged.

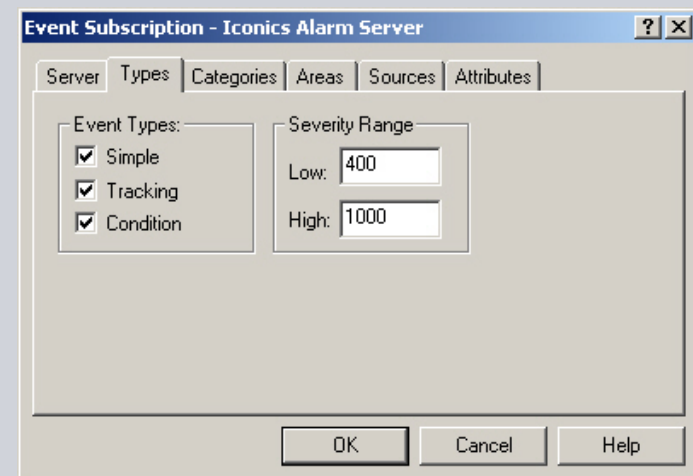
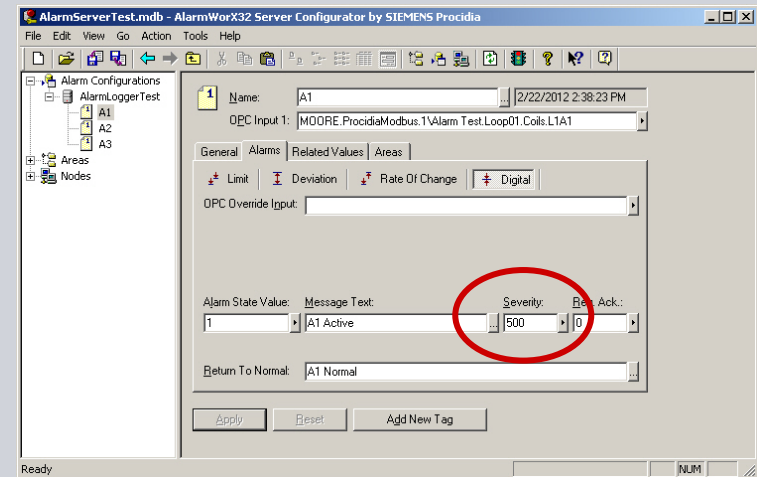
Event Subscriptions dialog box supports filtering.

- Types
- Categories
- Areas
- Sources

Alarm Logger – Event Filtering

Types

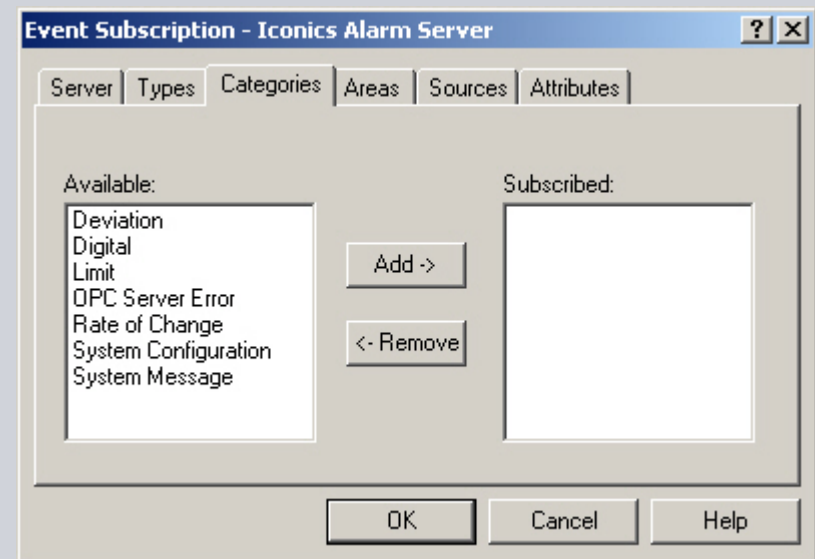
- In the Alarm Server Configurator, alarms are assigned a severity level.
- In the Alarm Logger Configurator, alarms that meet the severity criteria are logged.
- Default severity range is 1 to 1000.



Alarm Logger – Event Filtering

Categories

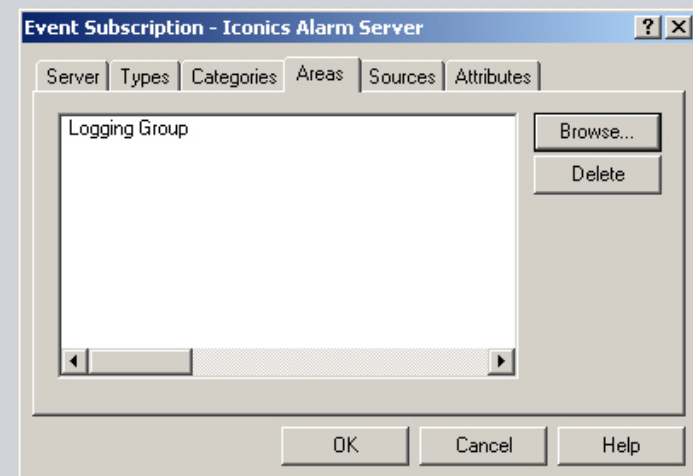
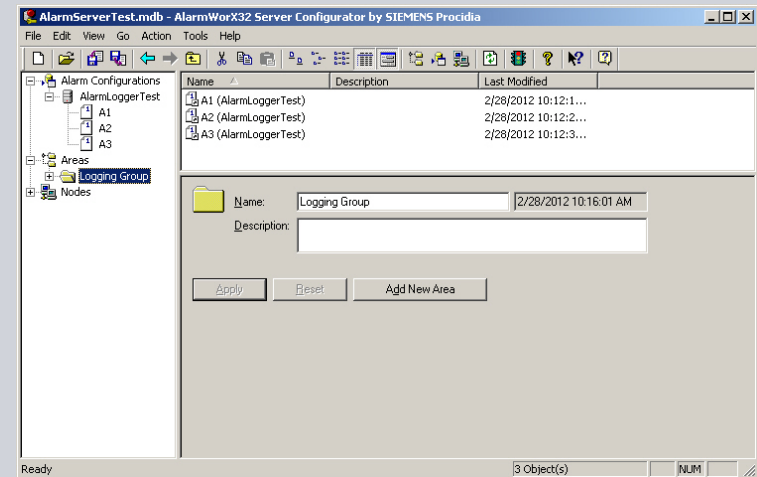
- Categories are alarm types.
- Digital alarm type is recommended.
- If no categories are specified, then category filter criteria is not applicable.



Alarm Logger – Event Filtering

Areas

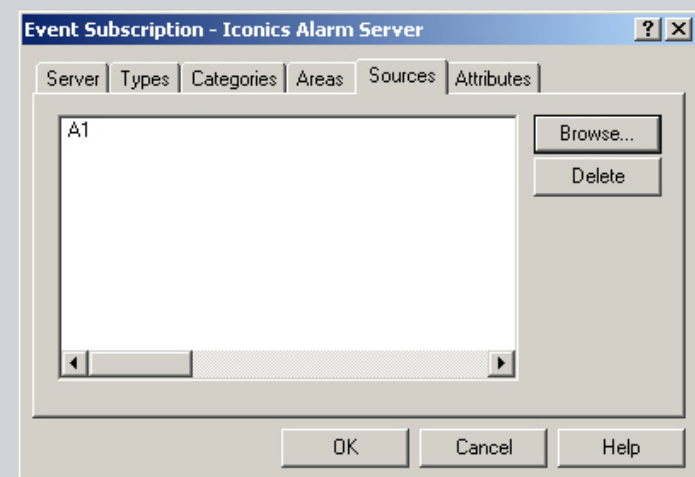
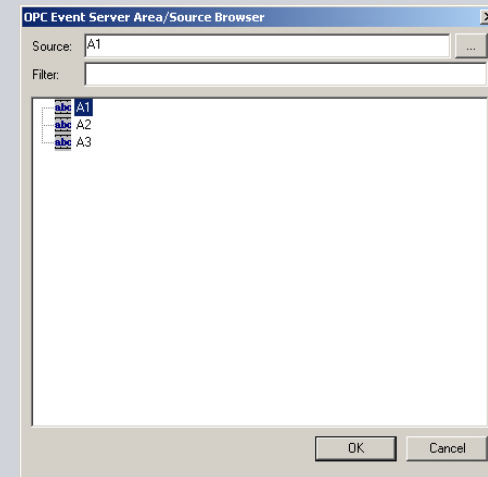
- In the Alarm Server Configurator, alarms can be assigned to areas.
- Areas are groupings of alarm tags.
- Example shows an alarm logging group.
- If no area is specified, then area filter criteria is not applicable



Alarm Logger – Event Filtering

Sources

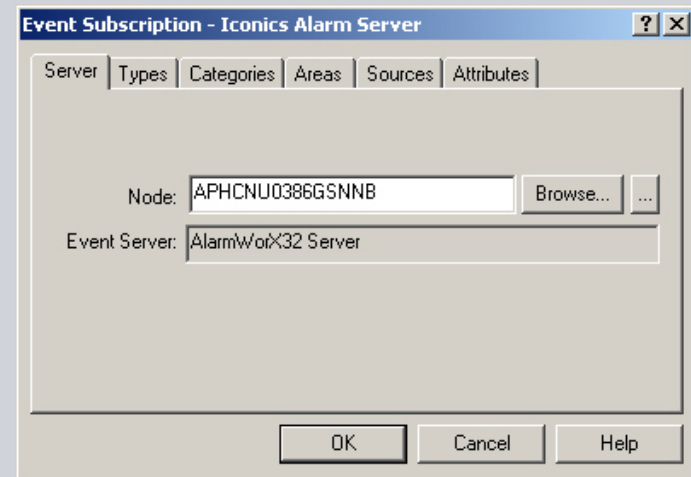
- A source is an alarm tag
- Specify events to log by tag name when filtered by other criteria.
- If no source is specified, then source criteria filter is not applicable.



Alarm Logger – Subscription Properties

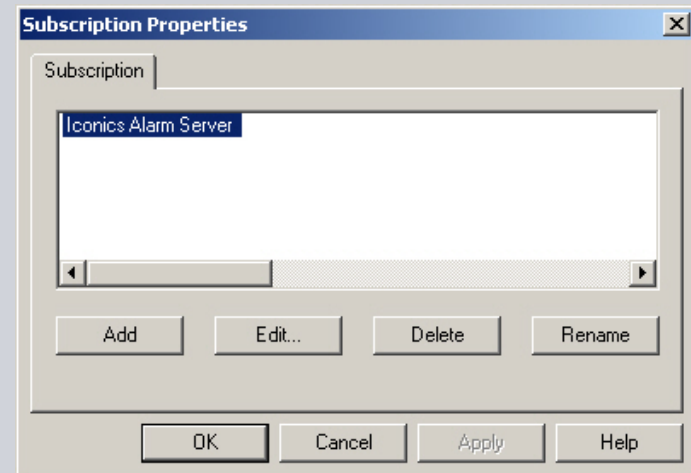
Exit Event Subscription dialog box.

- Click OK



Exit Subscription Properties dialog box.

- Click OK



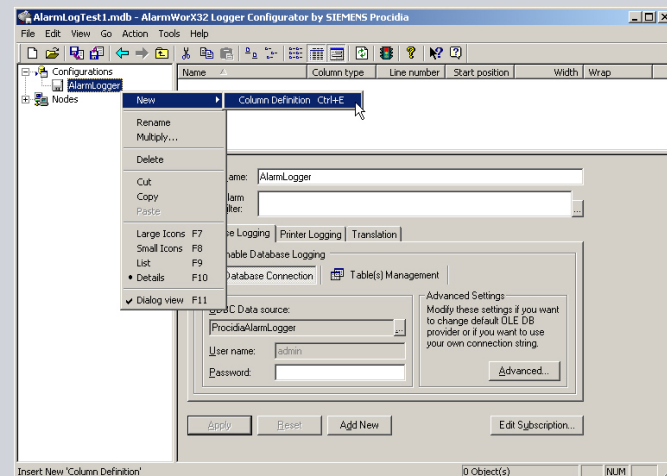
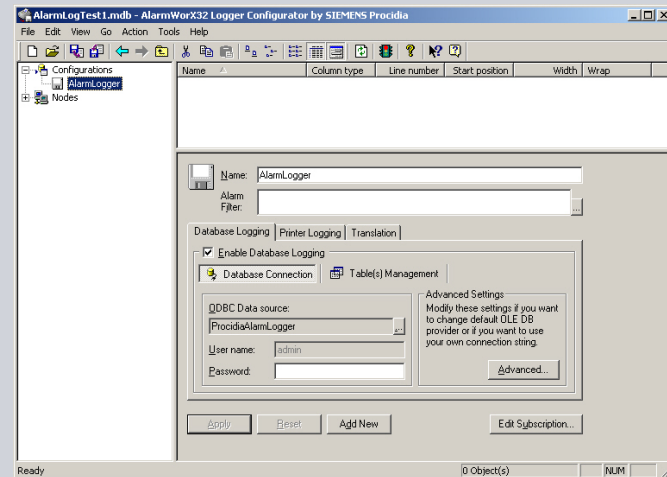
Alarm Logger – Column Definition

Column definitions are the alarm event attributes to be logged.

The column definition is the database field name.

Add a new Column Definition.

- Right-mouse click Database Configuration
- Select New
- Click Column Definition



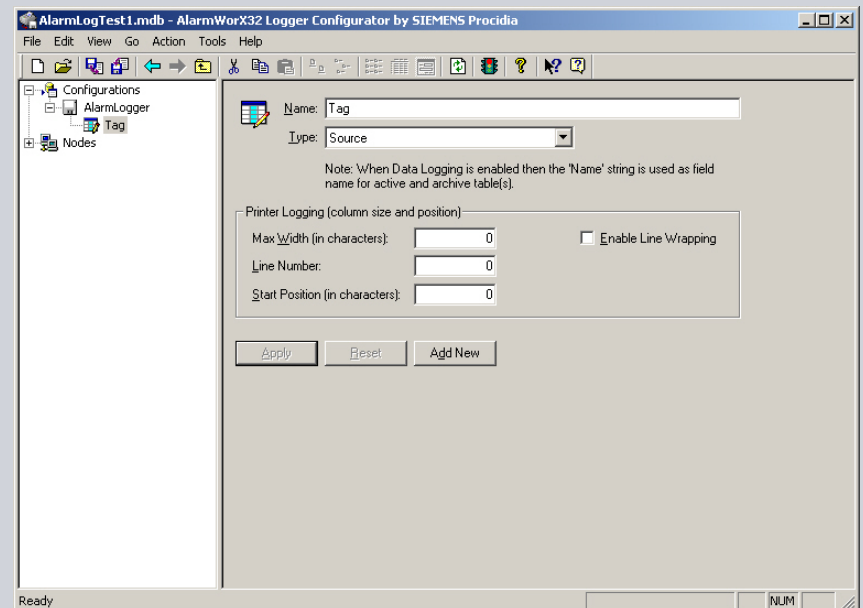
Alarm Logger – Column Definition

Method opens the column definition properties view.

Create a column definition for the alarm tag.

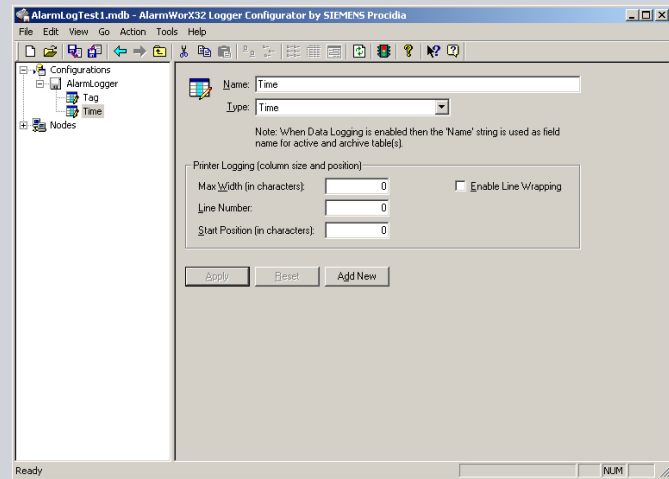
- Select attribute type
 - Source
- Enter column name
 - Tag
- Click apply

Source is the alarm tag.

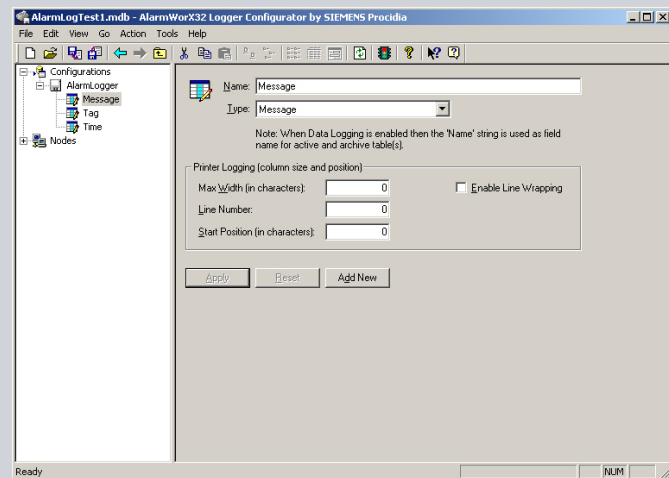


Alarm Logger – Column Definition

Create a column for the time stamp.



Create a column for the alarm message.

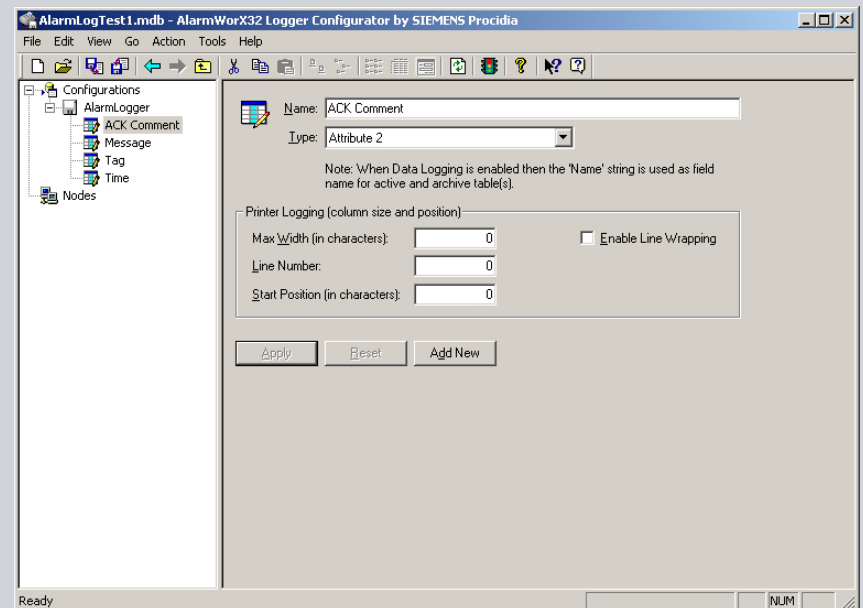


Alarm Logger – Column Definition

Create a column for the acknowledgement comment.

ACK Comment was a user-defined attribute assigned to Attribute 2.

- Select Attribute 2
- Name column ACK Comment
- Click apply



Alarm Logger – Node

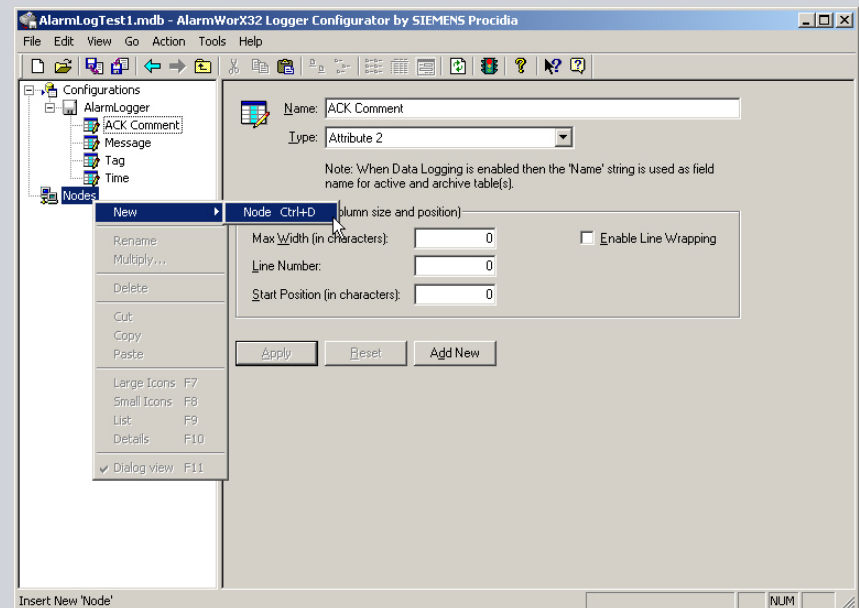
When an OPC client connects with an OPC server, the client provides a tag list.

- The Alarm Logger is the client.
- The Alarm Server is the server.

The Alarm Logger points to the alarm management configuration database.

Create the link to the alarm management configuration database.

- Right-mouse click Nodes
- Select New
- Click Node

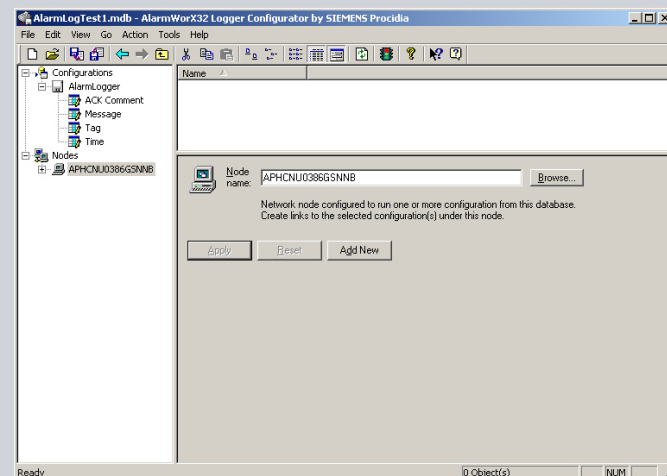
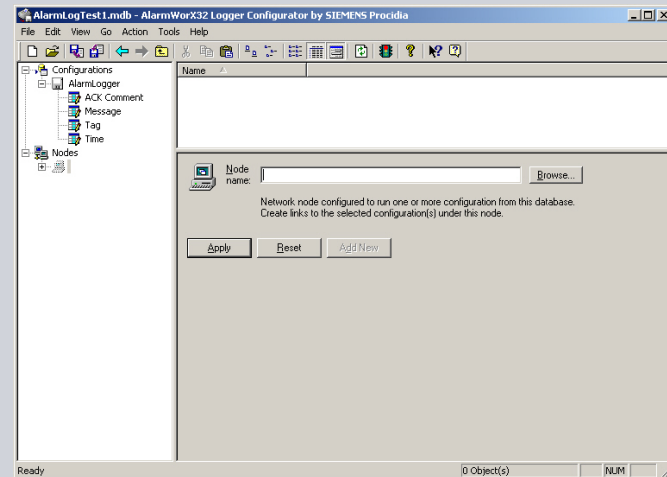


Alarm Logger – Node

Method opens the Node property view.

The node is the computer that contains the alarm configuration database.

- Enter computer name
- Click Apply

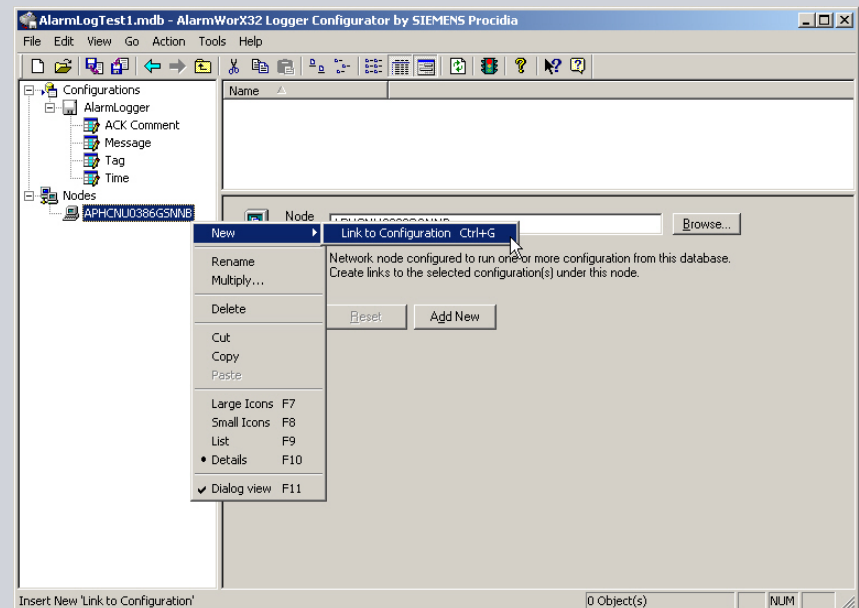


Alarm Logger – Node

Once the computer has been identified, then the alarm configuration must be specified.

Specify configuration link.

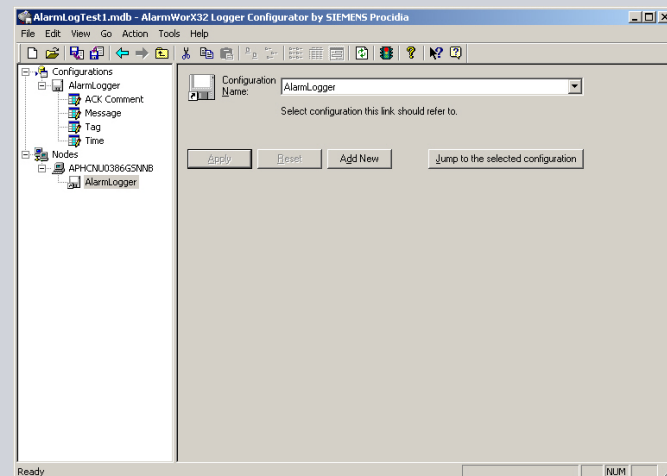
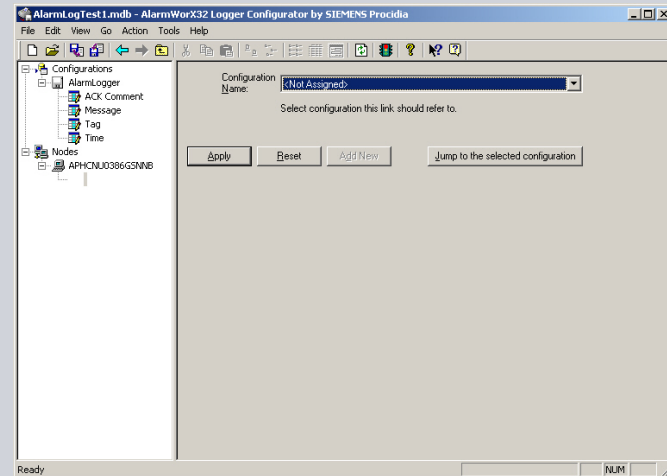
- Right-mouse click computer node
- Select New
- Click “Link to Configuration”



Alarm Logger – Node

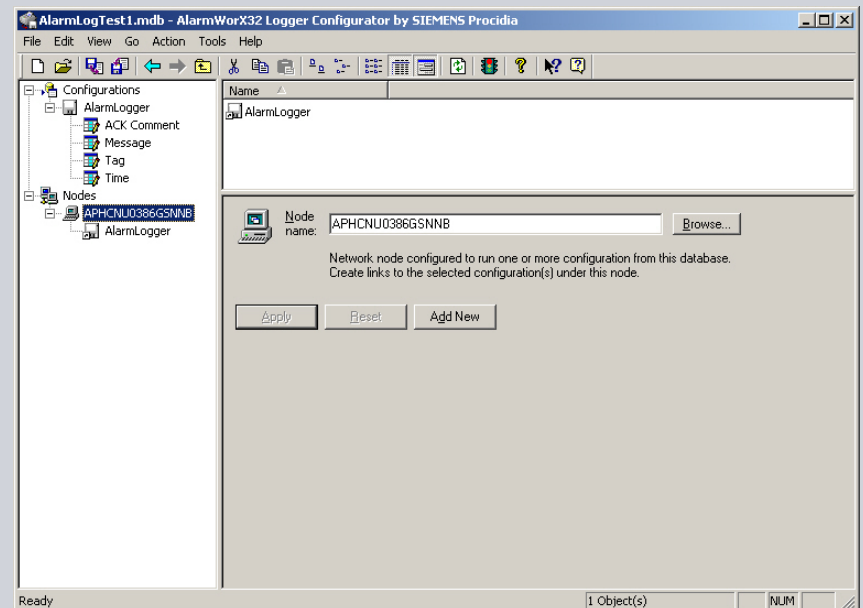
Method opens the Configuration Link view.

- Select alarm configuration in the Configuration Name drop down list box.
- Click Apply



Alarm Logger – Node

Link to Alarm Server configuration database.



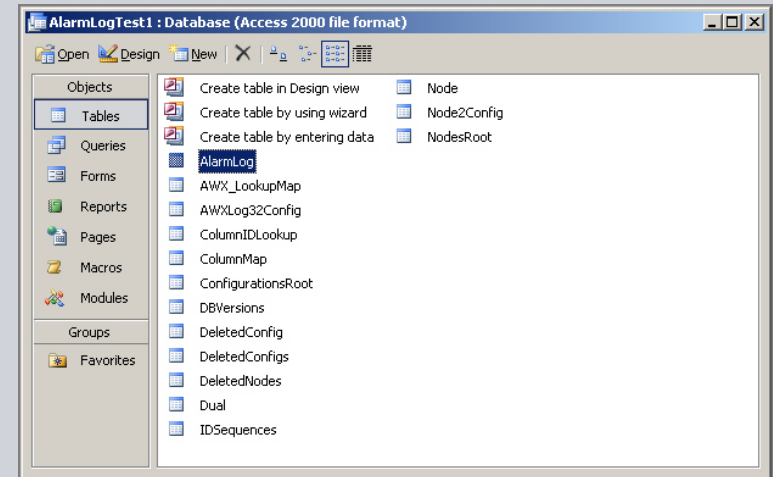
Microsoft Access Database

Microsoft Access database contains the logging table.

- AlarmLog

Logging table contains column definitions fields.

- Tag
- Time
- Description
- Message
- ACK Comment



TimeUTC	TimeMsecs	ConditionName	Tag	Time	Description	Message	ACK Comment
2/24/2012 9:07:59 PM	381	Digital	A1	2/24/2012 4:07:59 PM		Alarm A1 A1 Active	
2/24/2012 9:08:00 PM	365	Digital	A2	2/24/2012 4:08:00 PM		Alarm A2 A2 Active	
2/24/2012 9:08:02 PM	381	Digital	A3	2/24/2012 4:08:02 PM		Alarm A3 A3 Active	
2/24/2012 9:08:04 PM	381	Digital	A3	2/24/2012 4:08:04 PM		Alarm A3 A3 Normal	
2/24/2012 9:08:06 PM	365	Digital	A2	2/24/2012 4:08:06 PM		Alarm A2 A2 Normal	
2/24/2012 9:08:07 PM	365	Digital	A1	2/24/2012 4:08:07 PM		Alarm A1 A1 Normal	

SIEMENS

Alarm Report Viewer



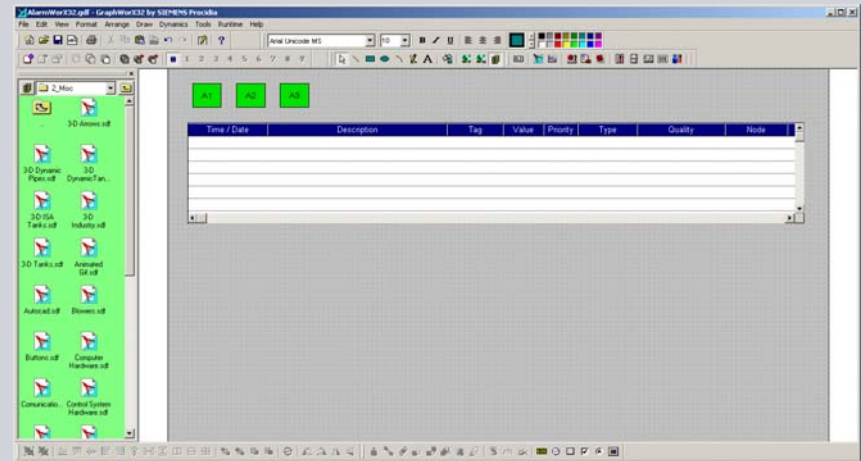
GraphWorX32

The alarm viewer displays active alarm events.

The alarm report viewer displays the logged event history.

To add a report viewer to a GraphWorX32 display, click on the Report button on the ActiveX toolbar.

- Add AlarmWorX32 Report ActiveX

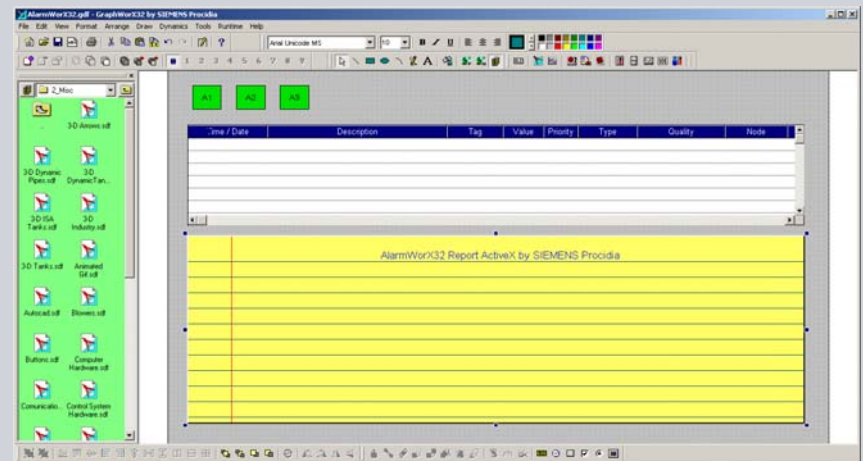


GraphWorX32

The report viewer is an ActiveX component that supports customization.

Open the report viewer properties dialog box.

- Double click on report viewer

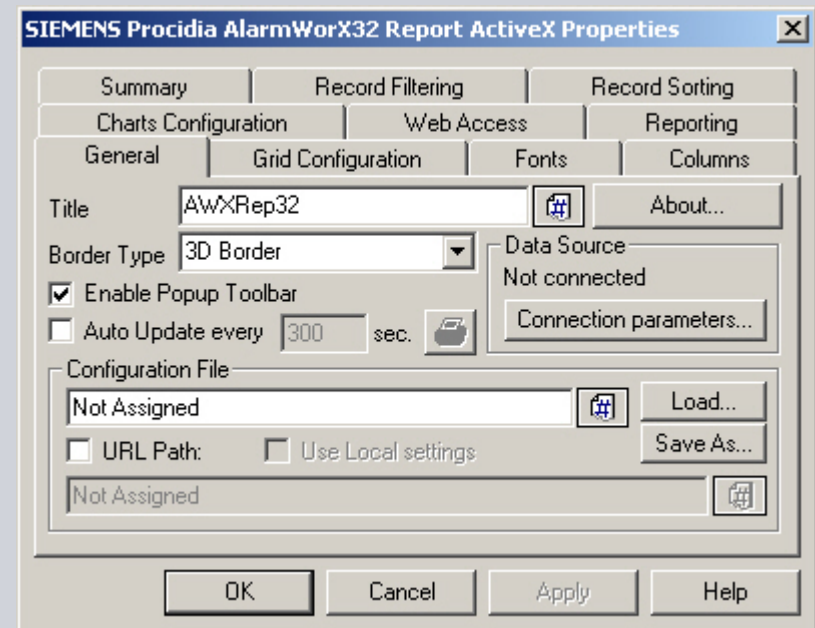


Report Viewer – Properties

The report viewer connects to the alarm logging database.

Make connection with alarm logging database.

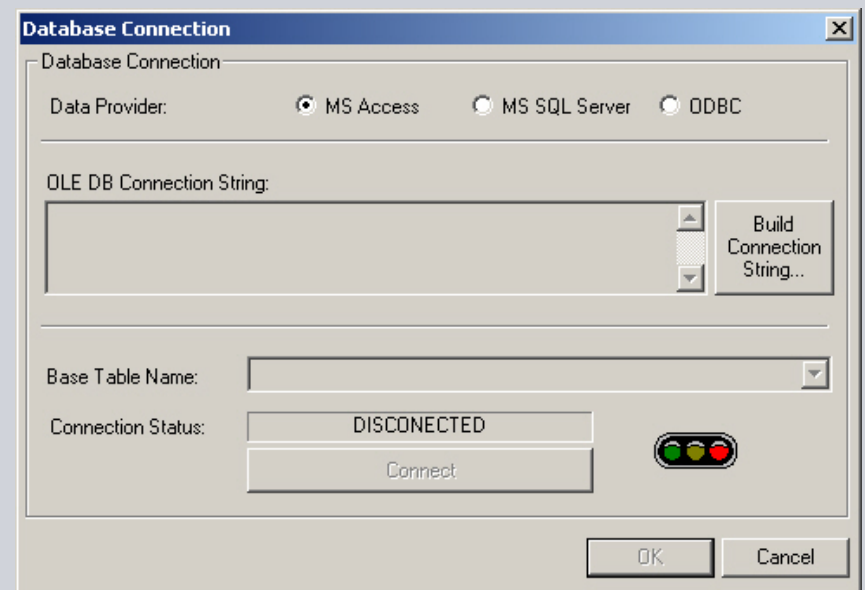
- Click Connection Parameters button.



Report Viewer – Database Connection

Method opens the Database Connection dialog box.

- Select MS Access database option.
- Click Build Connection String button.



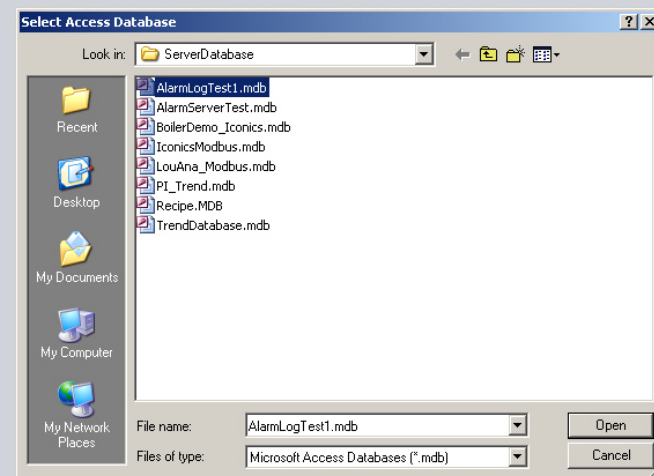
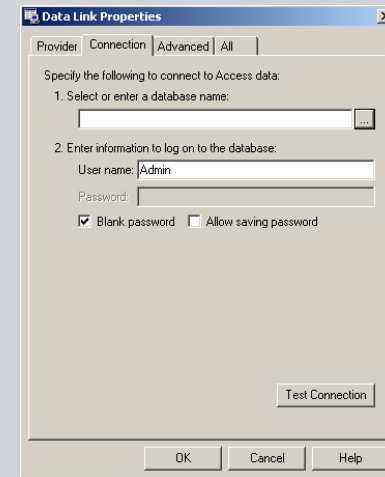
Report Viewer – Data Link

Method opens Data Link Properties dialog box.

Specify the logging database.

- Click “1. Select or enter a database name” button

- Select alarm logging database
- Click OK

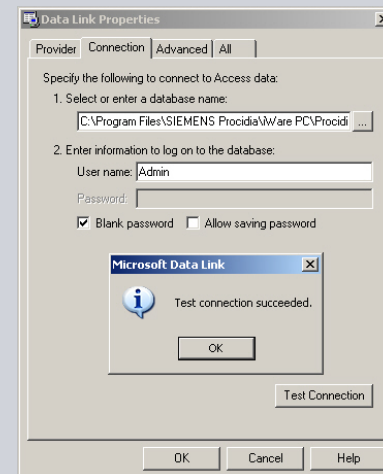
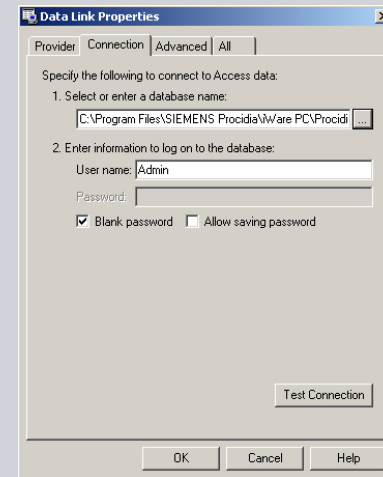


Report Viewer – Data Link

Test data link connection.

- Click Test Connection button

- Close Data Link Test box
- Close Data Link Properties box

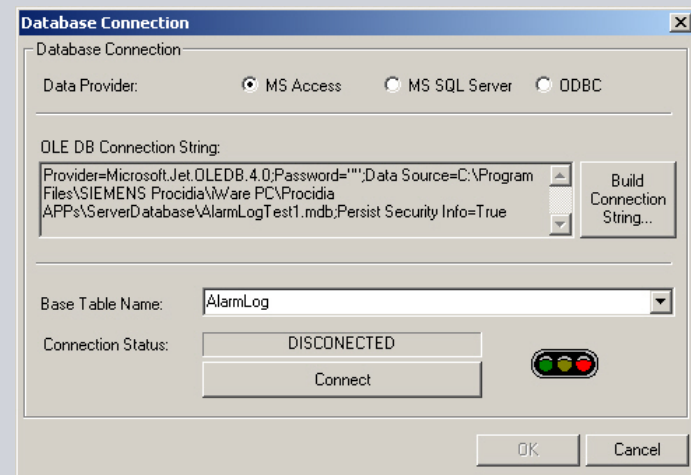
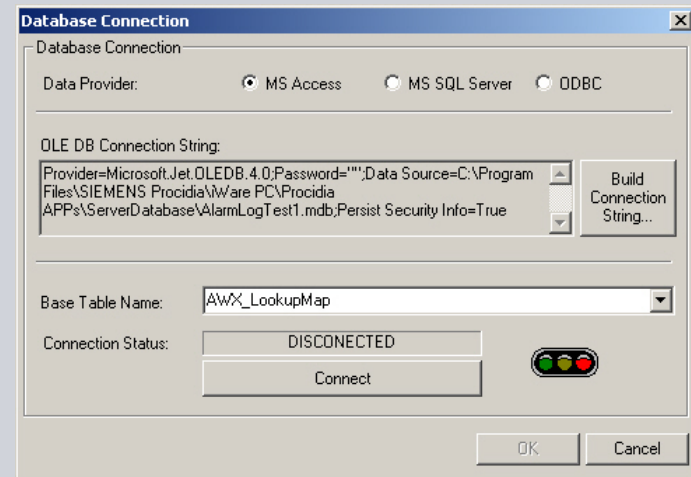


Report Viewer – Database Connection

When database connection is made, the first table in the database is selected.

Select the logging table.

- Click Base Table Name button
- Select logging table
 - AlarmLog



Report Viewer – Database Connection

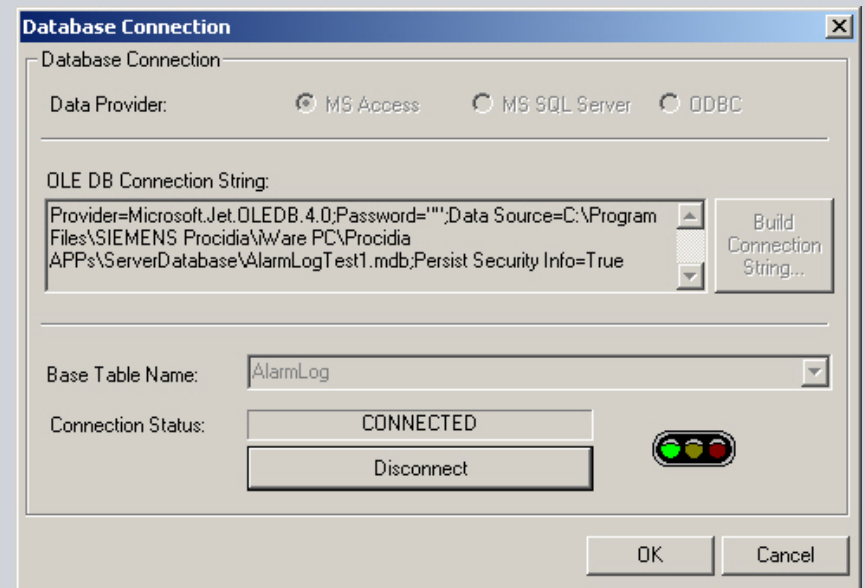
Establish and confirm database connection.

- Click Connect button

Note that connection status is Connected and green LED is lighted.

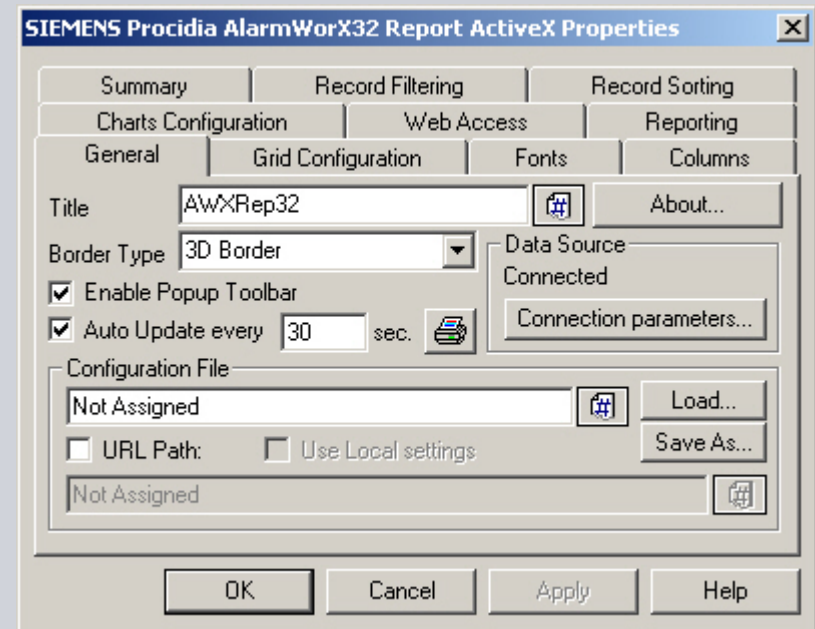
Close Database Connection box.

- Click OK



Report Viewer – Update Rate

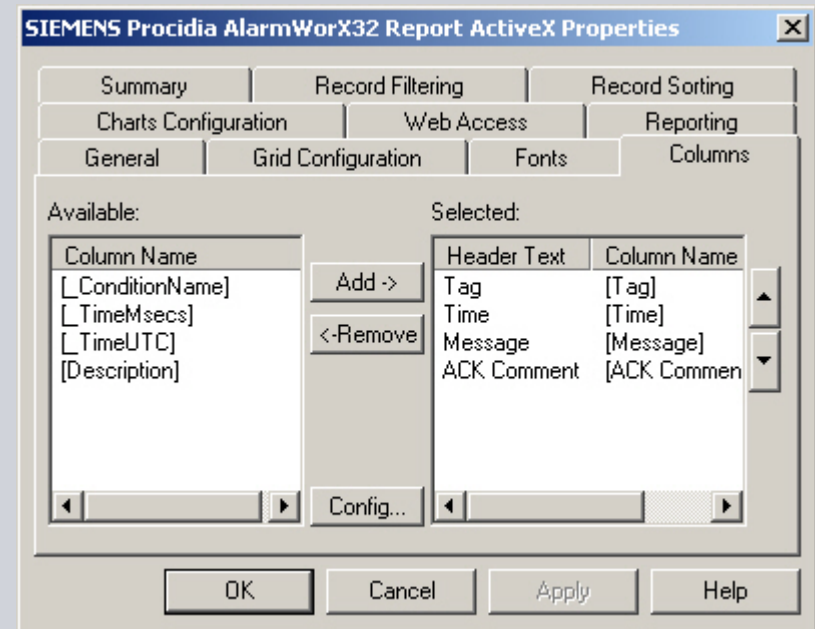
Set Auto Update rate.



Report Viewer – Columns

Configure report viewer column headers.

- Click Columns tab.
- Configure column order.

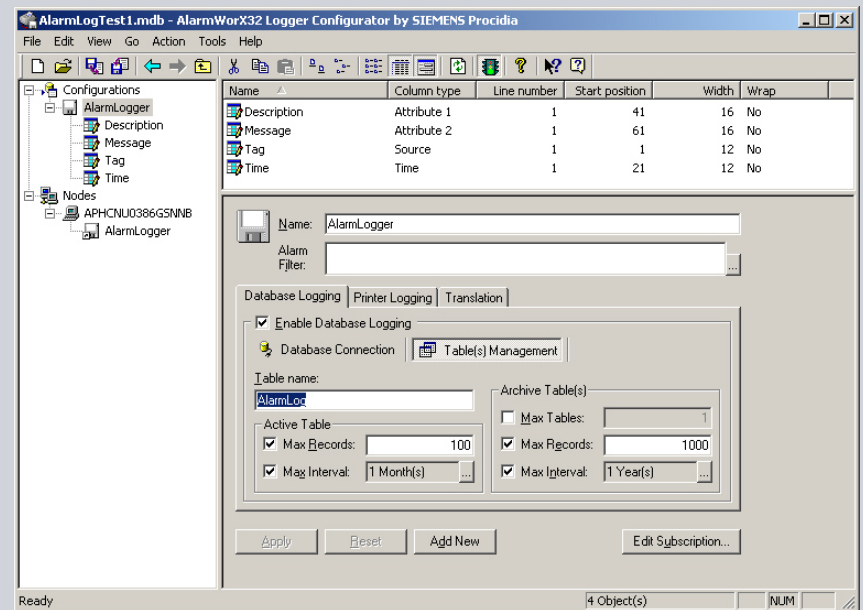




Alarm Logger Runtime

Runtime

Start Alarm Logger server.



Runtime

AlarmWorX32.gdf - GraphWorX32 by SIEMENS Proclia

File View Tools Configure Help

A1 A2 A3

Time / Date	Description	Tag	Value	Priority	Type	Quality	Node

AWXRep32 - [AlarmLog]

Tag	Time	Message	ACK Comment
A1	2/24/2012 4:07:59 PM	Alarm A1 A1 Active	
A2	2/24/2012 4:08:00 PM	Alarm A2 A2 Active	
A3	2/24/2012 4:08:02 PM	Alarm A3 A3 Active	
A3	2/24/2012 4:08:04 PM	Alarm A3 A3 Normal	
A2	2/24/2012 4:08:06 PM	Alarm A2 A2 Normal	
A1	2/24/2012 4:08:07 PM	Alarm A1 A1 Normal	

Contact Slide



For support and the location of your local Siemens representative, refer to the table below for the URL of the Process Instrumentation (PI) portion of the Siemens public Internet site. Once at the site, click **Support** in the right column and then **Product Support**. Next select the type of support desired: sales, technical (see the table below), documentation, or software.

Online Support Request	http://www.siemens.com/automation/support-request
Technical Support	1-800-333-7421; 8 a.m. to 4:45 p.m. eastern time, Monday through Friday (except holidays)
Customer Service & Returns	1-800-365-8766 (warranty and non-warranty)
Public Internet Site	http://www.usa.siemens.com/pi
Technical Publications in PDF	Click the above link to go to the PI home page. Click Support and then Manuals and then, under "Additional Manuals," select the product line (e.g. Control Solutions)