

Alarm Extension Pack for Wonderware Application Server

**Demo Guide
Ver 1.0 Rev 1.0**

WONDERWARE FINLAND
P.O. Box 38
FIN-00371 Helsinki Finland
tel. int. + 358 9 5404940
fax int. + 358 9 5413541
www.klinkmann.com

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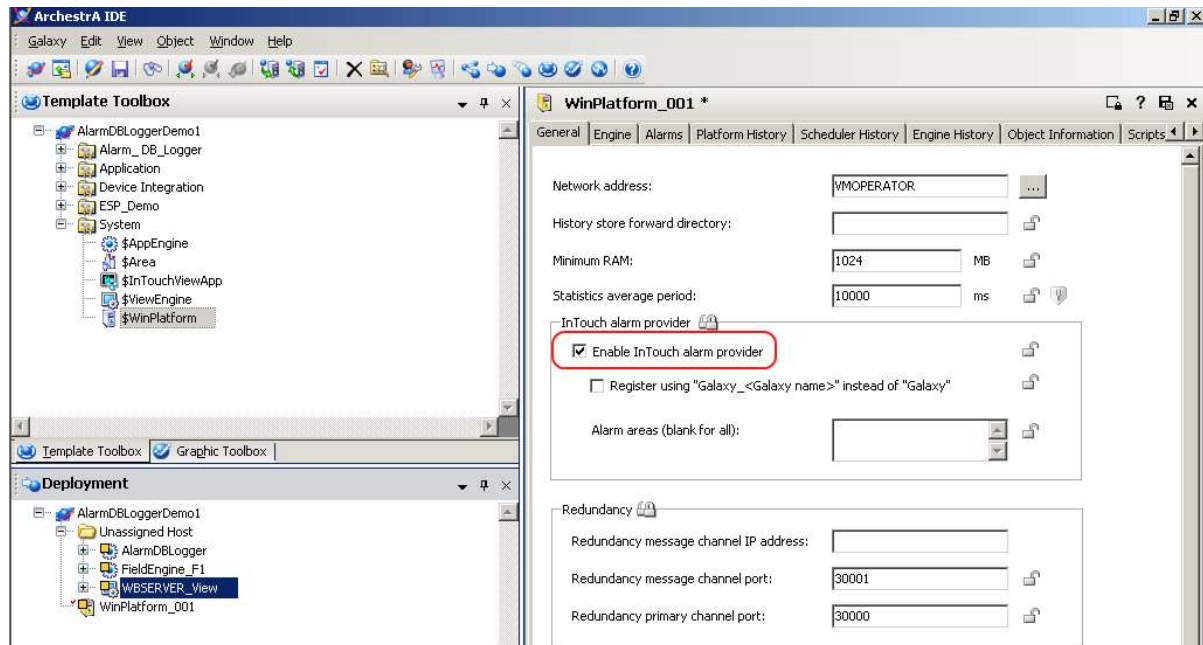
Alarm Extension Pack Demo

Software requirements

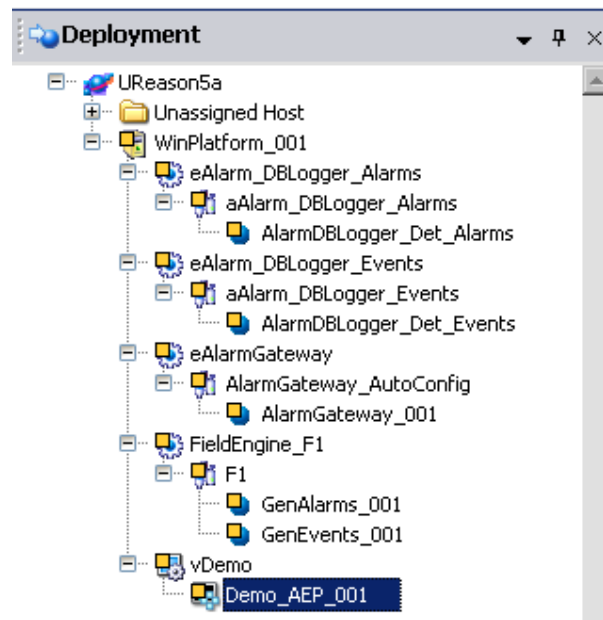
Alarm Extension Pack requires WAS (Wonderware Application Server) 3.1 SP3 or later and InTouch 10.1 SP2 or later installed.

Installation

1. Create a new galaxy or use existing galaxy for this demo installation.
2. Create and Configure WinPlatform (WinPlatform_001) object with enabled alarming if it does not exist already:



3. Import demo objects (AEP_DemoVer1.aaPKG) into galaxy:



Note: this package already contains Alarm DB Logger object and Alarm Gateway object no separate imports are required.

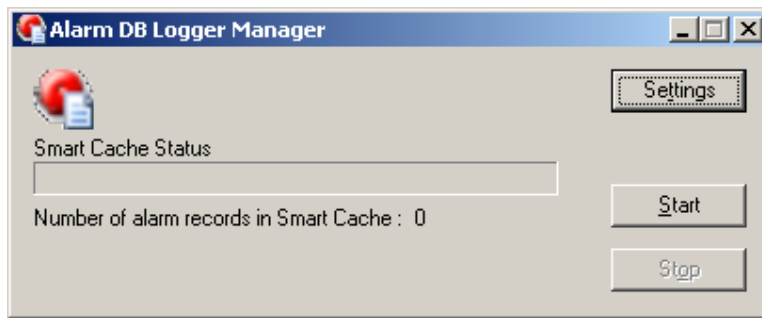
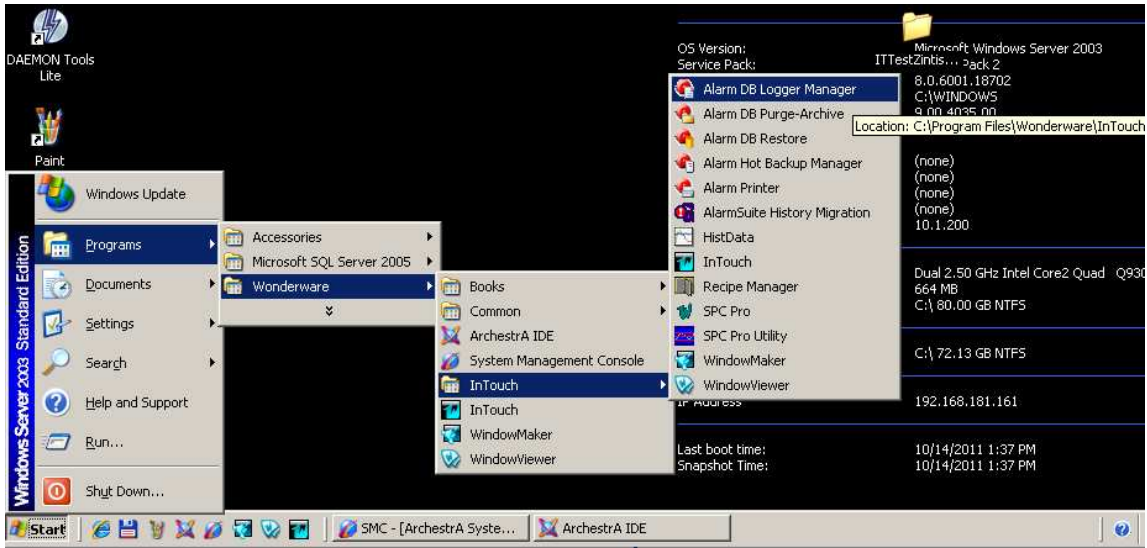
Configuration

Following steps is needed to configure and run Alarm DB Logger demo.

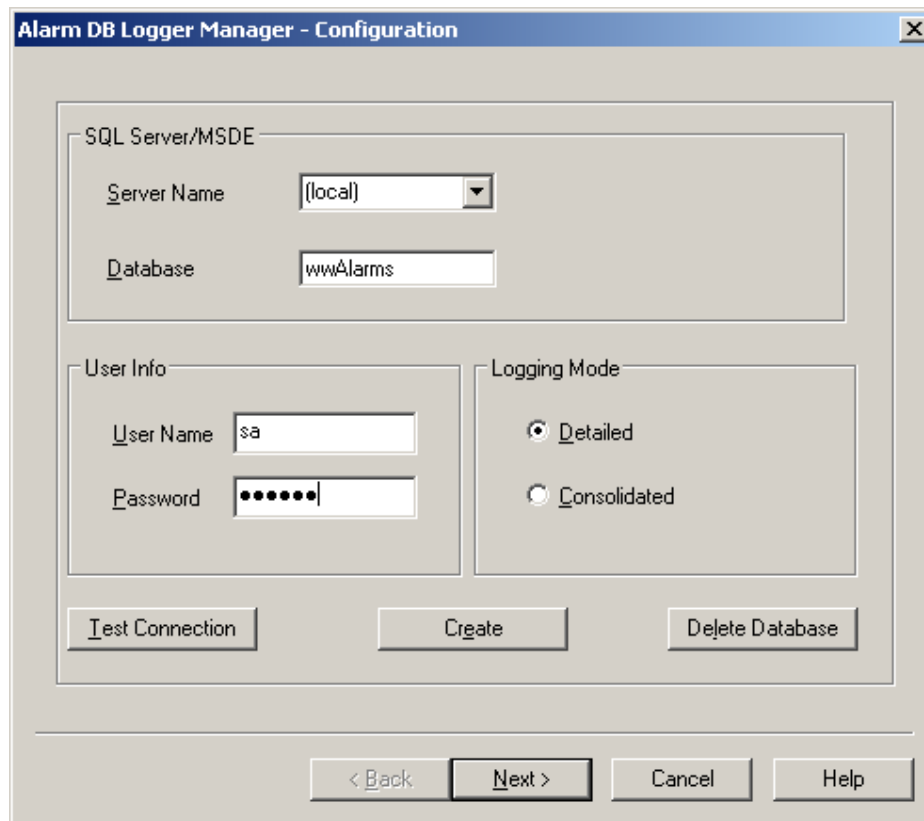
Alarm database creation

For this demo 2 alarm databases (named **wwAlarms** And **wwEvents**) with following configuration are needed:

1) Run Alarm DB Logger application (Alarm DB logger object do not have functionality to create Alarm database):



2) Press **Settings** button:



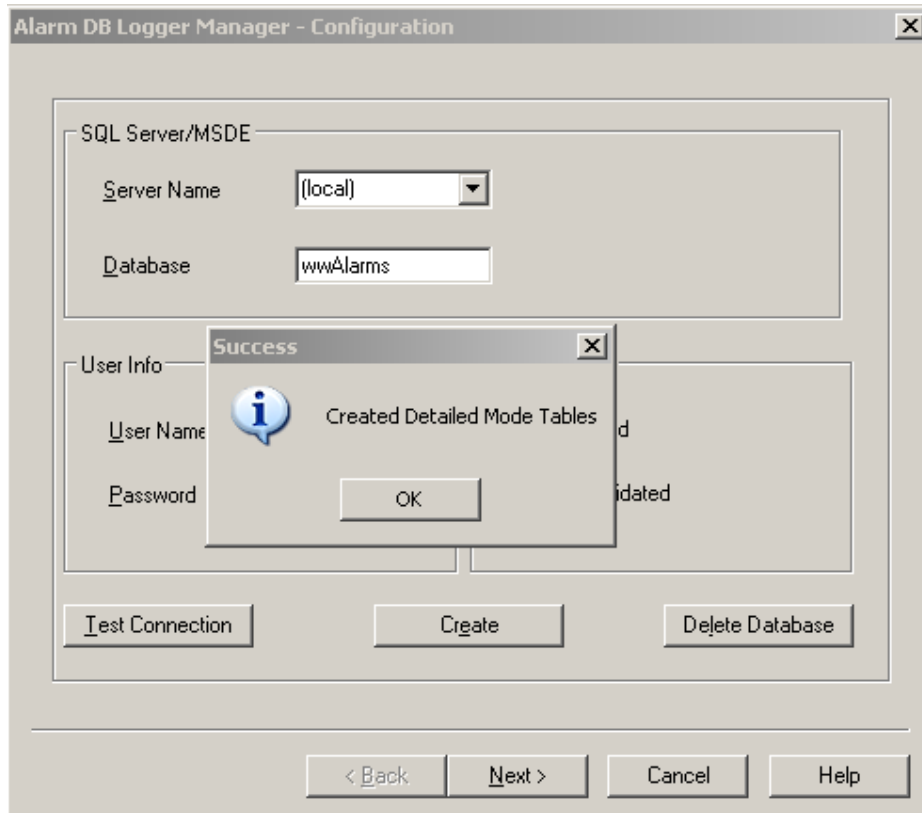
The screenshot shows the "Alarm DB Logger Manager - Configuration" dialog box. It is divided into several sections:

- SQL Server/MSDE:** Contains a "Server Name" dropdown menu set to "(local)" and a "Database" text box containing "wwAlarms".
- User Info:** Contains a "User Name" text box with "sa" and a "Password" text box with masked characters (dots).
- Logging Mode:** Contains two radio buttons: "Detailed" (which is selected) and "Consolidated".
- Buttons:** At the bottom of the main configuration area are three buttons: "Test Connection", "Create", and "Delete Database".
- Navigation:** At the very bottom are four buttons: "< Back", "Next >", "Cancel", and "Help".

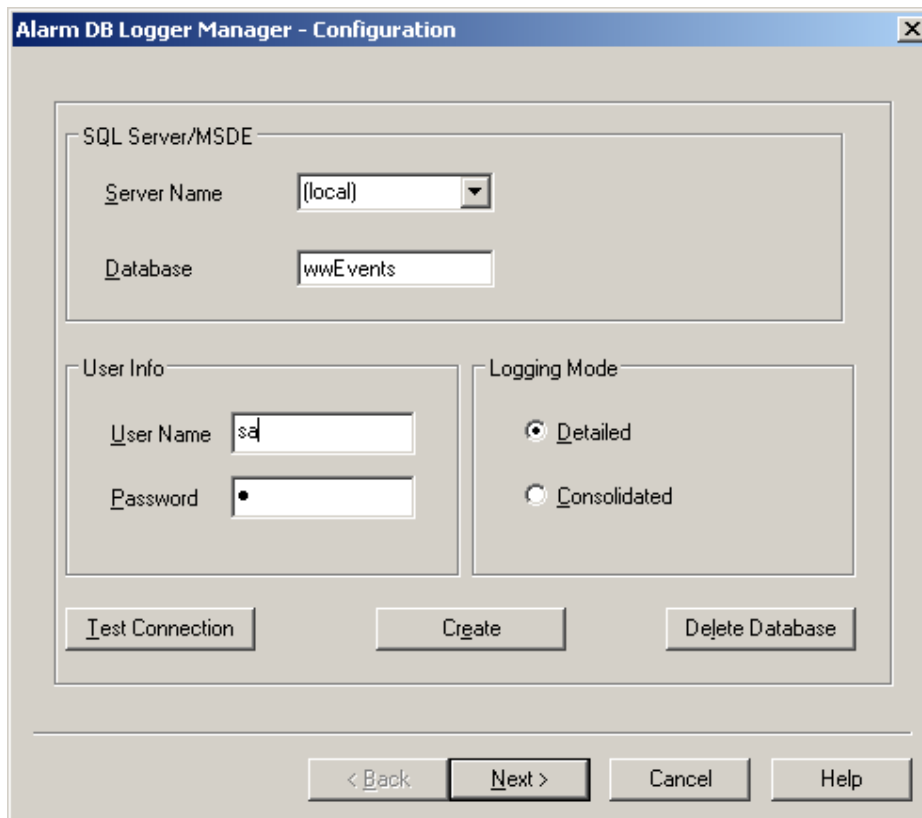
3) Enter configuration for first alarm database

- Database – wwAlarms
- Password – current sa account password

4) Press **Create** button and new alarm database is created:

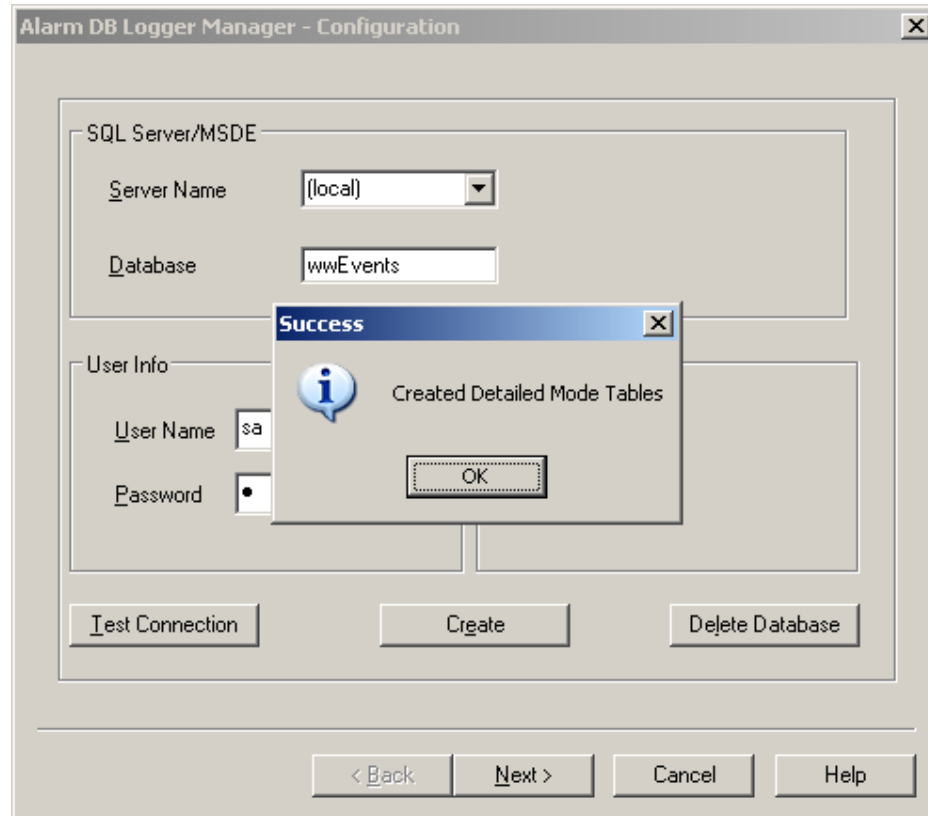


5) Press **OK** button and enter second wwEvent database configuration:



- Database – wwEvents
- Password – current sa account password.

6) Press **Create** button and new alarm database is created:



7) Press **OK** button and exit Alarm DB Logger application by pressing **Cancel** button and close Alarm DB Logger Manager application.

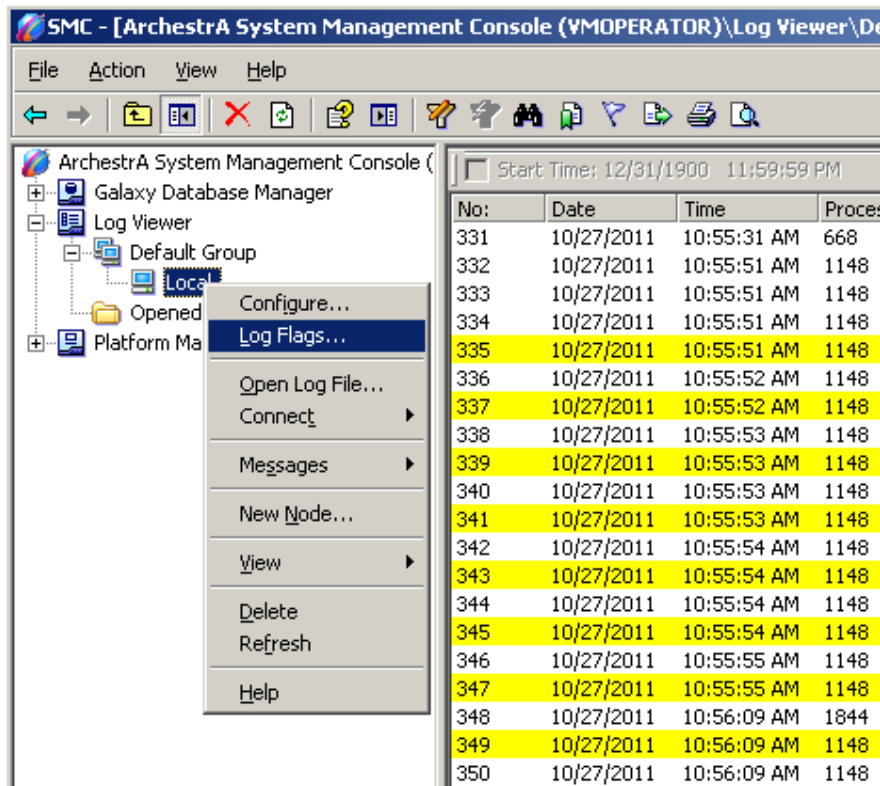
Logger configuration

To avoid log messages “Invalid alarm transition state found in FormatAlarmRecord function”, uncheck UNKNOWN component Log Flag **Info**:

1) Run System Management Console:



2) Select **Log Viewer** component, expand to **Local** group and right click it for context menu:



3) Browse to **Unknown** component and uncheck UNKNOWN component Log Flag Info:

The screenshot shows the SMC interface with a log viewer and a Log Flag Editor dialog. The log viewer displays a table of log entries with columns: No, Date, Time, Process ID, Thread ID, Log Flag, Component, and Message. The Log Flag Editor dialog is open, showing a tree view of components and a list of log flags for the selected component, UNKNOWN. The 'Info' log flag is currently checked, and the instruction is to uncheck it.

No	Date	Time	Process ID	Thread ID	Log Flag	Component	Message
45540	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45541	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45542	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45543	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45544	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45545	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45546	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45547	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45548	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45549	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45550	10/17/2011	10:57:30 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function
45551	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45552	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45553	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45554	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45555	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45556	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45557	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45558	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45559	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45560	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45561	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45562	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45563	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45564	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45565	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45566	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45567	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45568	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45569	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45570	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45571	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45572	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45573	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45574	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45575	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45576	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45577	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45578	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45579	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45580	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45581	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45582	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45583	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45584	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45585	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45586	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45587	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45588	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45589	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45590	10/17/2011						Invalid alarm transition state found in FormatAlarmRecord function
45591	10/17/2011	10:57:31 AM	2972	2976	Info	UNKNOWN	Invalid alarm transition state found in FormatAlarmRecord function

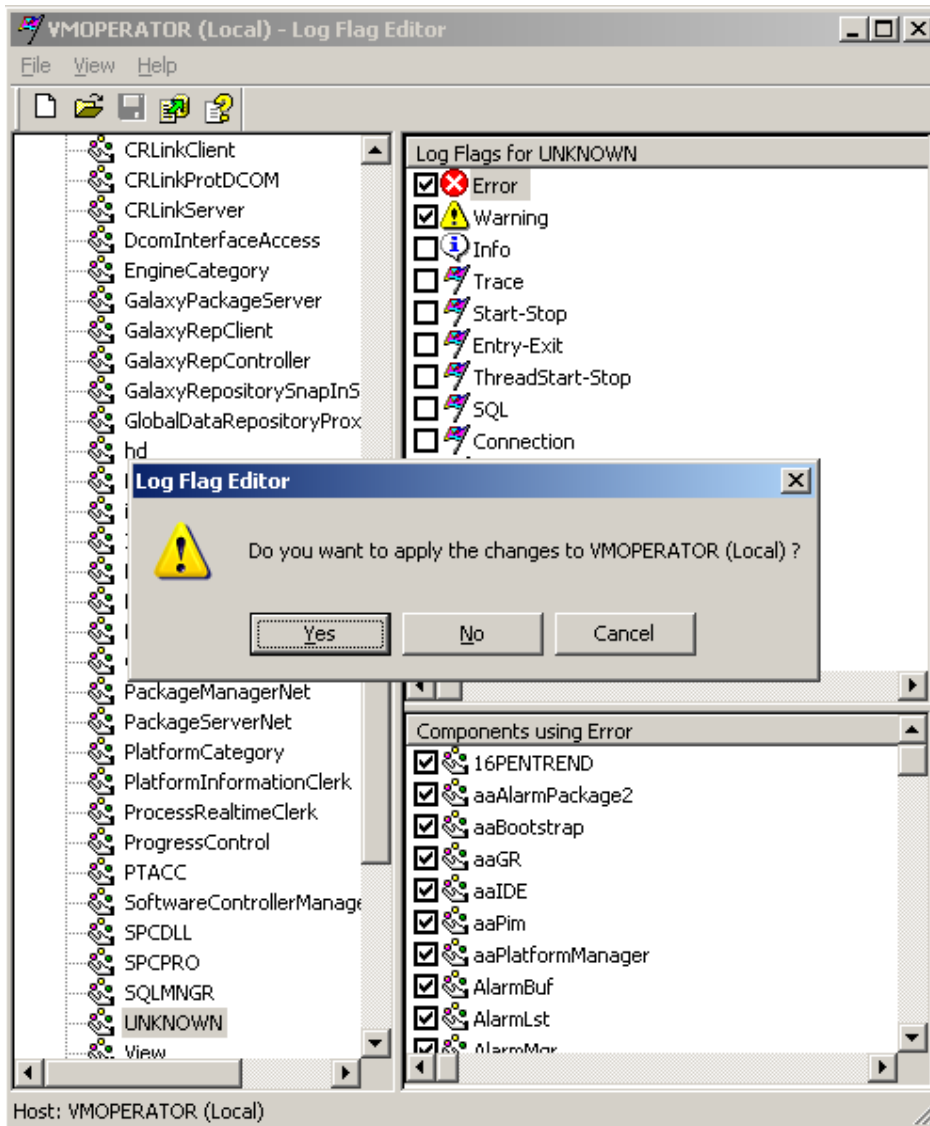
Log Flag Editor (UNKNOWN) - Log Flags for UNKNOWN

- Error
- Warning
- Info
- Trace
- Start-Stop
- Entry-Exit
- ThreadStart-Stop
- SQL
- Connection
- Clor-Dtor
- RefCount

Components using Error

- I6PENTREND
- aaAlarmPackage2
- aaAlarmRuntime2
- aaBootstrap
- aaCALWrapper
- aaEngine
- aaGlobalDataCacheMonitorSvr
- aaGR
- aaIDE
- aaInstantViewer

4) Close Log flag editor and save changes:



WAS object configuration

Following objects are needed to configure before deploying demo objects.

aAlarm_DBLogger_Alarms

This object at runtime sets alarm database connection configuration for object **AlarmDBLogger_Det_Alarms**

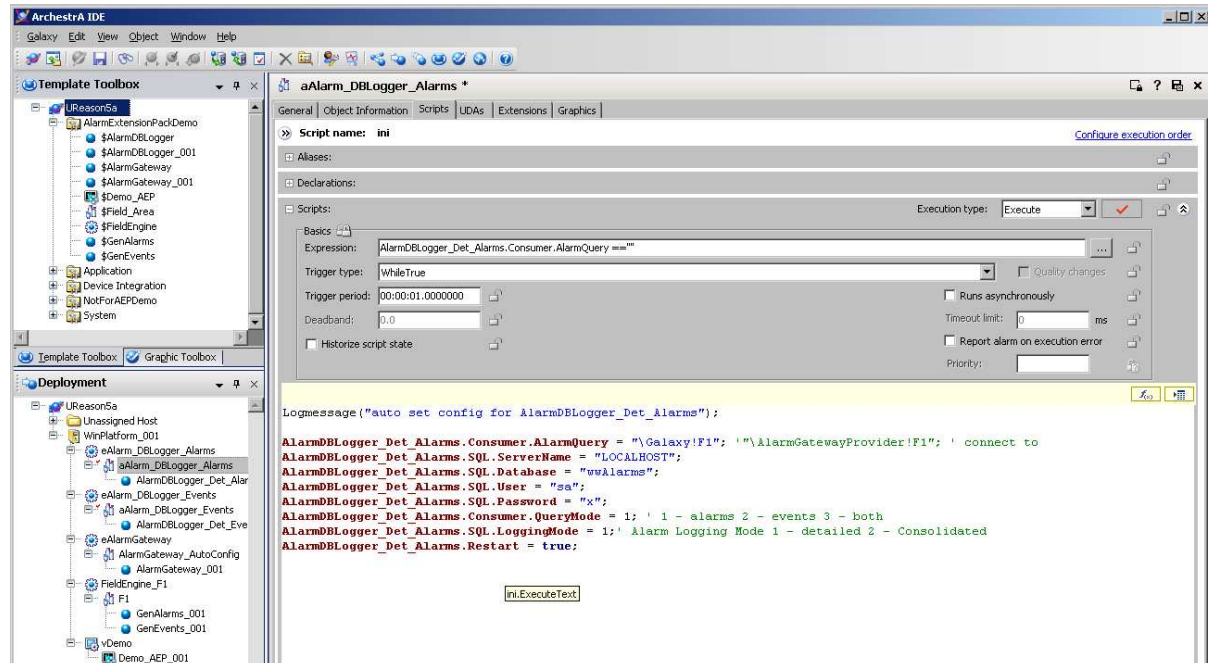
1) Configure **aAlarm_DBLogger_Alarms** object script **Ini** – set for SQL server password and user name. sa password **SQL.Password**

```
Logmessage("auto set config for AlarmDBLogger_Det_Alarms");
```

```
AlarmDBLogger_Det_Alarms.Consumer.AlarmQuery = "\Galaxy!F1";
"\AlarmGatewayProvider!F1"; ' connect to
AlarmDBLogger_Det_Alarms.SQL.ServerName = "LOCALHOST";
AlarmDBLogger_Det_Alarms.SQL.Database = "wwAlarms";
```

```
AlarmDBLogger_Det_Alarms.SQL.User = "sa";
AlarmDBLogger_Det_Alarms.SQL.Password = "x";
```

```
AlarmDBLogger_Det_Alarms.Consumer.QueryMode = 1; ' 1 - alarms 2 - events 3 -
both
AlarmDBLogger_Det_Alarms.SQL.LoggingMode = 1; ' Alarm Logging Mode 1 - detailed
2 - Consolidated
AlarmDBLogger_Det_Alarms.Restart = true;
```



eAlarm_DBLogger_Events

This object at runtime sets alarm database connection configuration for object AlarmDBLogger_Det_Alarms and AlarmDBLogger_Det_Events)

1) Configure **aAlarm_DBLogger_Alarms** object script **Ini** – set for SQL server password and user name. sa password **SQL.Password**

```
Logmessage("auto set config for AlarmDBLogger_Det_Events");
```

```
AlarmDBLogger_Det_Events.Consumer.AlarmQuery = "\Galaxy!F1";
AlarmDBLogger_Det_Events.SQL.ServerName = "LOCALHOST";
AlarmDBLogger_Det_Events.SQL.Database = "wwEvents";
```

```
AlarmDBLogger_Det_Events.SQL.User = "sa";
AlarmDBLogger_Det_Events.SQL.Password = "x";
```

```
AlarmDBLogger_Det_Events.Consumer.QueryMode = 2; ' 1 - alarms 2 - events 3 - both
```

```
AlarmDBLogger_Det_Events.SQL.LoggingMode = 1;' Alarm Logging Mode 1 - detailed 2 - Consolidated
```

```
AlarmDBLogger_Det_Events.Restart = true;
```

The screenshot shows the Archestra IDE interface. The main window displays the configuration for the script **aAlarm_DBLogger_Events**. The script name is **ini**. The expression is **AlarmDBLogger_Det_Events.Consumer.AlarmQuery ==**. The trigger type is **While True**. The trigger period is **00:00:01.0000000**. The deadband is **0.0**. The script state is **x**. The script content includes the following code:

```
Logmessage("auto set config for AlarmDBLogger_Det_Events");

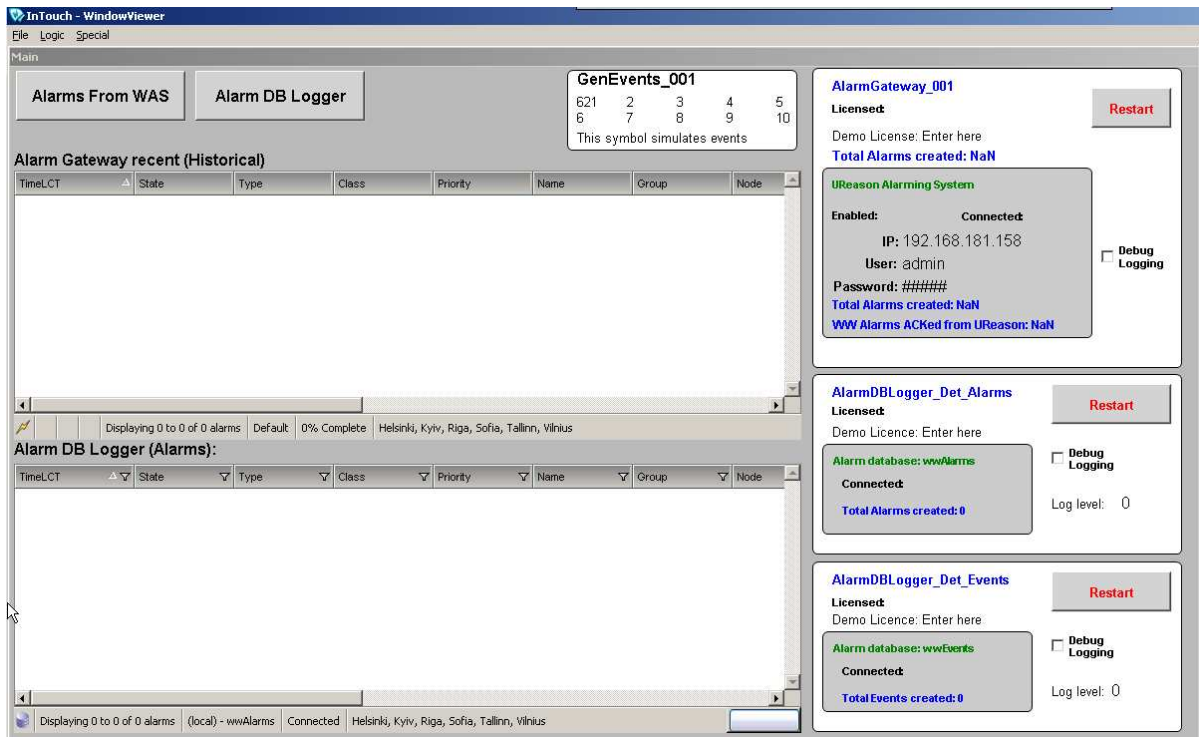
AlarmDBLogger_Det_Events.Consumer.AlarmQuery = "\Galaxy!F1";
AlarmDBLogger_Det_Events.SQL.ServerName = "LOCALHOST";
AlarmDBLogger_Det_Events.SQL.Database = "wwEvents";
AlarmDBLogger_Det_Events.SQL.User = "sa";
AlarmDBLogger_Det_Events.SQL.Password = "x";

AlarmDBLogger_Det_Events.Consumer.QueryMode = 2; ' 1 - alarms 2 - events 3 - both
AlarmDBLogger_Det_Events.SQL.LoggingMode = 1;' Alarm Logging Mode 1 - detailed 2 - Consolidated
AlarmDBLogger_Det_Events.Restart = true;
```

2) After object AlarmDBLogger_AutoConfig is configured save object configuration and deploy all objects.

InTouch Application

Run managed InTouch application Demo_AEP_001.



1) All Extension Pack objects requires license to run, enter demo license code below:

3B 21 3A 99 27 9F 2C 0C B1 CC A8 7F 4B 94 D2 9B 6B 11 90 B4 64 AC D4 56 E6 F7
9B 33 EC 2E A4 47

Click on text **Enter here**:

AlarmGateway_001

Licensed: **Restart**

Demo License:

Total Alarms created: NaN

UReason Alarming System

Enabled: **Connected:**

IP: 192.168.181.158

User: admin

Password: #####

Total Alarms created: NaN

WW Alarms ACKed from UReason: NaN

Debug Logging

AlarmGateway_001

Licensed: **Restart**

Total Alarms created: NaN

UReason Alarming System

Enabled: **Connected:**

IP: 192.168.181.158

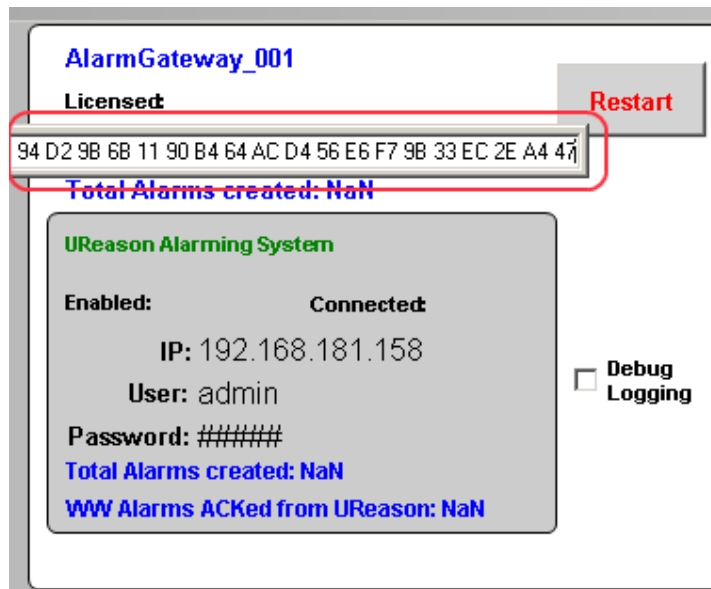
User: admin

Password: #####

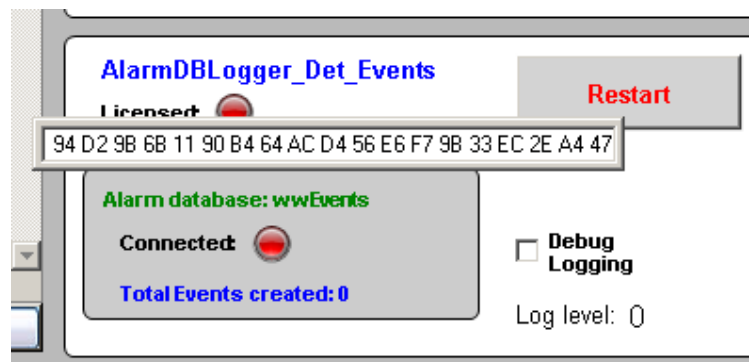
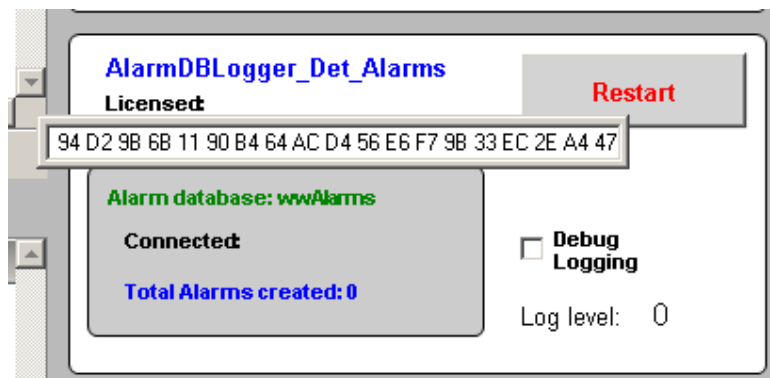
Total Alarms created: NaN

WW Alarms ACKed from UReason: NaN

Debug Logging



2) Enter same Demo License key also for both Alarm DB Logger objects:



3) After all objects are licensed after 15-20 seconds both Alarms views are filled with alarms:

The screenshot displays the InTouch - WindowViewer interface. It features three main data tables and three status panels on the right.

Alarm Gateway recent (Historical)

TimeLCT	State	Type	Class	Priority	Name	Group	Node
2011.10.28.11:44:10	UNACK	DSC	DSC	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:13	UNACK	HI	VALUE	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:14	UNACK	HHI	VALUE	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:16		OPR	EVENT	212	GenEvents_001...	F1	vmOperat
2011.10.28.11:44:16	UNACK_RTN	DSC	DSC	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:16	UNACK_RTN	HI	VALUE	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:16	UNACK_RTN	HHI	VALUE	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:16	UNACK	Lo	VALUE	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:16	UNACK	LoLo	VALUE	500	GenAlarms_001...	F1	vmOperat
2011.10.28.11:44:17	UNACK_RTN	LoLo	VALUE	500	GenAlarms_001...	F1	vmOperat

Alarm DB Logger (Alarms):

TimeLCT	State	Type	Class	Priority	Name	Group	Node
2011.10.28.11:44:27	UNACK_ALM	Lo	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:27	UNACK_ALM	LoLo	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:28	UNACK_RTN	LoLo	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:30	UNACK_RTN	Lo	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:32	UNACK_ALM	DSC	DSC	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:32	UNACK_ALM	HI	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:35	UNACK_ALM	HHI	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:36	UNACK_ALM	HHI	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:38	UNACK_RTN	DSC	DSC	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:38	UNACK_RTN	HI	VALUE	500	GenAlarms_001...	F1	VMOPER#
2011.10.28.11:44:38	UNACK_RTN	HHI	VALUE	500	GenAlarms_001...	F1	VMOPER#

GenEvents_001

182	2	3	4	5
6	7	8	9	10

This symbol simulates events

AlarmGateway_001

Licensed: Restart

Demo License: Enter here
Total Alarms created: 580

UReason Alarming System

Enabled: Debug Logging

Connected: Debug Logging

Total Alarms created: 0
WW Alarms ACKed from UReason: 0

Last alarm update: 10/28/2011 11:54:50 AM New Alarms = 7

AlarmDBLogger_Det_Alarms

Licensed: Restart

Demo License: Enter here

Alarm database: wwAlarms Debug Logging

Connected: Log level: 0

Total Alarms created: 560

Last alarm update: 10/28/2011 11:54:44 AM New Alarms = 5

AlarmDBLogger_Det_Events

Licensed: Restart

Demo License: Enter here

Alarm database: wwEvents Debug Logging

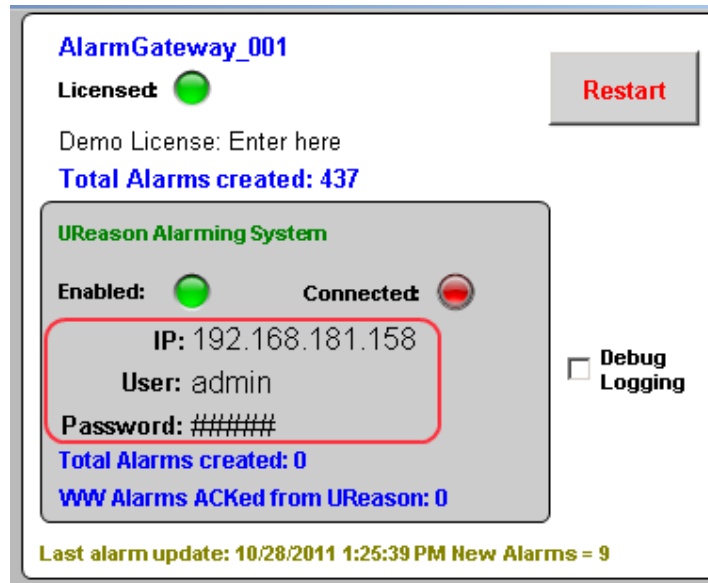
Connected: Log level: 0

Total Events created: 42

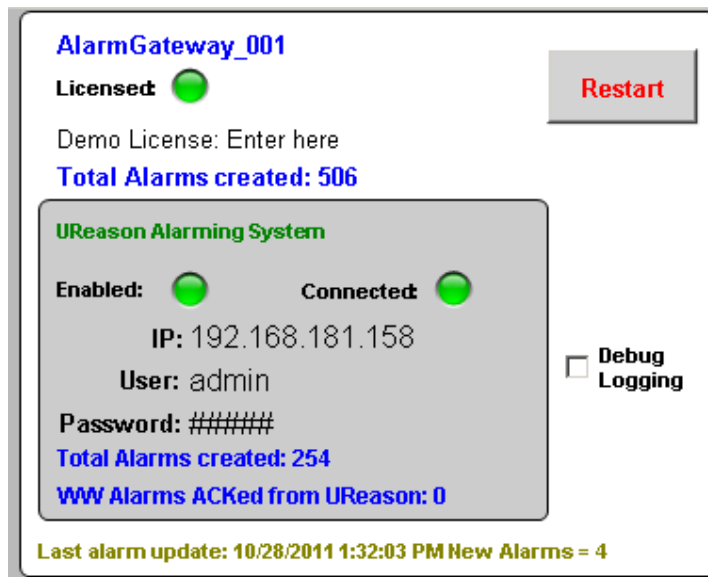
Last alarm update: 10/28/2011 11:54:45 AM New Alarms = 9

UReason alarming system

1) Alarm Gateway object can transfer Alarms to UReason alarming system to configure alarm gateway for connection to UReason enter computer IP were UReason alarm system is running and UReason alarming system user and password:



2) And press button **Restart** to establish connection to UReason alarming system.



The screenshot shows the BASYS AM Engineering interface. The main window displays a table of 'All ESP Alarms (ESP Surveillance) [102]'. The table has columns for Message, Source, Sent, and Ack. The messages are categorized into Analog and GenAlarms, with various severity levels like (Lo), (Hi), and (DSC). The left sidebar shows a tree view with 'Event Displays' expanded to show 'All ESP Alarms [102]'. The top menu bar includes File, Edit, Search, View, Tools, Window, and Help.

Message	Source	Sent	Ack
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:51	<input type="checkbox"/>
Analog_001(HiH)(AG)	GenAlarms_001	2011.28.10 13:30:51	<input type="checkbox"/>
Analog_001(LoLo)(AG)	GenAlarms_001	2011.28.10 13:30:51	<input type="checkbox"/>
Analog_001(Hi)(AG)	GenAlarms_001	2011.28.10 13:30:51	<input type="checkbox"/>
GenAlarms_001.Discrete_001(DSC)(AG)	GenAlarms_001	2011.28.10 13:30:45	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:41	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:41	<input type="checkbox"/>
Analog_001(HiH)(AG)	GenAlarms_001	2011.28.10 13:30:41	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Hi)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
GenAlarms_001.Discrete_001(DSC)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Hi)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Hi)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
GenAlarms_001.Discrete_001(DSC)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(HiH)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Hi)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
GenAlarms_001.Discrete_001(DSC)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(HiH)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
GenAlarms_001.Discrete_001(DSC)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Hi)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
GenAlarms_001.Discrete_001(DSC)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>
Analog_001(Lo)(AG)	GenAlarms_001	2011.28.10 13:30:40	<input type="checkbox"/>

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Alarm DB Logger Demo Guide
Revision History

Oct 2011	Rev 1.0	First Release
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