OpenEnterprise Alarm Bell Reference Guide (V2.83)
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1 AlarmBell

1.1 AlarmBell Overview

The AlarmBell provides the following features:

- The ability to sound an audible alarm via a Klaxon device connected to the PC COM port when pre-configured remote alarm signals go into alarm, or when a standing alarm changes state from cleared to in-alarm.

- A Klaxon test facility. This allows the operator to manually test the Klaxon apparatus by sounding and silencing it from the AlarmBell's main dialog.

- Displays alarm status regarding the configured alarm signals.

- Simple configuration of the data source and signals to be monitored.

1.2 Getting Started

1.2.1.1 Application Files

There are five files used by the AlarmBell application. They are:

1. AlarmBell.exe
2. Klaxon.dll
3. OEHelp.dll
4. AlarmBell.ini
5. Klaxon.ini
6. Names.txt

1.2.1.2 Installation Instructions

Before running the AlarmBell application, please do the following:

1. Copy the AlarmBell.exe, Klaxon.dll, OEHelp.dll and Names.txt files to the application directory of your choice.

2. Copy the AlarmBell.ini and Klaxon.ini files to the Windows/Winnt directory.

3. Open the AlarmBell.ini file using Notepad, and edit this file as necessary. You will probably need to change the DataService value as a minimum, although other values may need editing. See AlarmBell.ini Example for further information.

4. Open the Klaxon.ini file using Notepad, and view the default settings for the COM port. If you are using other settings, edit and save the file as necessary. See Klaxon.ini Example for further information.

5. Open the Names.txt file using Notepad, and enter the names of the signals which you require to be monitored. See Names Text Example for further information.
1.3 Alarm Bell Main Dialog

1.3.1 File Menu

The Exit option on this menu will hide the application's dialog. Note that the Alarm Bell will still be running as a process, and if there are any alarm inserts or updates on the signals defined in the Names.txt file, the dialog will be made visible again, and will be placed on top of any window currently having the focus, and the klaxon will be sounded.

1.3.2 Help Menu

This menu provides two options:

1. **Alarm Bell Help (or F1 key)**. Either select this menu option or the F1 key on the computer keyboard to open this help file.

2. **About AlarmBell**. This option will display the About... box for the AlarmBell application, which provides information on the version and build number of the application, along with contact details for Bristol.

AlarmBell Main Dialog
1.3.3 Number of Signals

The number of signals currently being monitored. This is set by the number of signals configured in the Names.Txt file.

1.3.4 Refresh Button

Causes a re-read of the Names.Txt file without closing the AlarmBell application when extra alarm signals have been added.

1.3.5 Connection Status

Displays the connection status of the AlarmBell application. There are two possible values:

- Connected
- Not connected

In the event that the field displays 'Not connected', firstly check that the 'Dataservice' in the AlarmBell.ini file is correctly defined.

AlarmBell Main Dialog

1.3.6 Active Query Status

Displays information on the status of the active query opened by the AlarmBell application. There are two possible values:

- Running
- Not Running

In the event that the field displays 'Not running', firstly check that the query is defined correctly in the AlarmBell.ini file.

Note: For queries where not all attributes from the table are defined (*), the table's primary key must be included as part of the query.

AlarmBell Main Dialog

1.3.7 Total Inserts

The total number of times that any of the configured alarm signals has been inserted into the AlarmSummary table.

1.3.8 Total Updates

The total number of times that any of the configured alarm signals in the AlarmSummary table have had their 'Cleared' attribute updated.

1.3.9 Total Deletes

The total number of times that any of the configured alarm signals has been deleted from the AlarmSummary table.

1.3.10 Silence Button

Silences the Klaxon device attached to the host PC.
1.3.11 Hide on Silence

If selected, the Alarm Bell main dialog will be hidden when the [Silence] button is selected. It will still be running as a process, and if there are any alarm inserts or updates on the signals defined in the Names.txt file, the dialog will be made visible again, and will be placed on top of any window currently having the focus, and the klaxon will be sounded.

1.3.12 Event History

Displays realtime information on alarm activity for any of the configured alarm signals. The information includes:

- The time of the activity
- The nature of the activity (i.e. insertion, deletion or update)
- The signal name

Events will be time-stamped, with the most recent event at the top of the list. When an alarm is updated, the AlarmBell application will automatically display its window, even when minimized. The list can be configured (via the AlarmBell.ini file) to contain a maximum number of entries (defaulted to 10).

AlarmBell Main Dialog

1.3.13 Help Button

Displays this help file.

1.3.14 Hide Button

When selected, the Alarm Bell dialog will be hidden. Note that it will still be running as a process, and if there are any alarm inserts or updates on the signals defined in the Names.txt file, the dialog will be made visible again, and will be placed on top of any window currently having the focus, and the klaxon will be sounded.

1.3.15 Close Button

When selected, the Alarm Bell dialog will be hidden. Note that it will still be running as a process, and if there are any alarm inserts or updates on the signals defined in the Names.txt file, the dialog will be made visible again, and will be placed on top of any window currently having the focus, and the klaxon will be sounded.

1.3.16 Test Button

Tests the Klaxon device attached to the host PC.

1.4 AlarmBell Configuration

Configuration for the AlarmBell is handled by three files. Click on each one below for more information.

1. The AlarmBell.ini file
2. The Klaxon.in file
3. The Names.Txt file
1.4.1 AlarmBell.ini File

The AlarmBell.ini file is a standard windows INI file and stores the information required for the AlarmBell application to:

- Connect to OpenEnterprise
- Run an active query on the database
- Locate the file which specifies the monitored alarm signals
- Determine how many lines will remain in the Event History list

It should be placed in the Windows (or WINNT) directory. A default AlarmBell.ini file is provided. This should be changed to suit particular needs.

AlarmBell.ini Example

1.4.2 Klaxon.ini File

The Klaxon.ini file is a standard windows INI file and stores the information required for the AlarmBell application to control a klaxon device which is connected to the computer through one of it's COM ports.

It has default settings, which are used by the AlarmBell application even when no Klaxon.ini file is present. However, the settings can be changed by editing this file.

It should be placed in the Windows (or WINNT) directory. A default file is provided. This should be changed to suit particular needs.

Klaxon.ini Example

1.4.3 Names File

The Names.Txt file contains the list of alarm signal names which the AlarmBell monitors for alarm activity.

Names Text Example

1.4.4 Examples

1.4.4.1 AlarmBell.ini Example

1.4.4.1.1 AlarmBell.ini Example

Click on the highlighted text below for more information.

```ini
[DB]
Dataservice = OpenEnterprise1:rtrdb1
RetryPeriod = 3
FTHearthbeatInterval = 7
FTHearthbeatTimeout = 9
Username = SYSTEM
Password = SYSTEM
```
1.4.4.1.2 AlarmBell.ini Example

Click on the highlighted text below for more information.

[DB]

dataservice = OpenEnterprise1:rtrdb1
retryperiod = 3
FTHeartbeatInterval = 7
FTHeartbeatTimeout = 9
Username = SYSTEM
Password = SYSTEM

1.4.4.1.3 AlarmBell.ini Features

1.4.4.1.3.1 DB Section
This section contains settings that affect the connectivity of the AlarmBell application.

1.4.4.1.3.2 DataService
The dataservice of the OpenEnterprise server. When the dataservice consists of a comma-separated list, the AlarmBell will automatically connect with fault tolerance enabled. No default.

1.4.4.1.3.3 Retry Period
The number of seconds between consecutive database connection attempts. Defaults to 10 seconds.

1.4.4.1.3.4 FTHeartbeatInterval
The number of seconds between heartbeats. Defaults to 30 seconds.

1.4.4.1.3.5 FTHeartbeatTimeout
The maximum number of seconds to wait for a heartbeat response. Defaults to 60 seconds.

1.4.4.1.3.6 Username
The name of the OpenEnterprise user to logon as. No default.

1.4.4.1.3.7 Password
The password of the openEnterprise user to logon as. No default.

1.4.4.1.3.8 AlarmSummary Section
This section is for configuration of the active AlarmSummary table query.

1.4.4.1.3.9 MinIntervalSecs
The optional number of seconds used to turn the active query into a polled query. E.g. When set to two seconds, the database will never update the client more frequently than once every two seconds. Defaults to zero.

1.4.4.1.3.10 AppSettings Section
This section contains settings for the signal names file, which defaults to Names.txt.

1.4.4.1.3.11 Names
The name and location of the names.txt file. Defaults to names.txt (in the working directory).

1.4.4.1.3.12 SignalsDisplayed
Limits the number of lines allowed for the Event History list within the AlarmBell's main dialog. When this number is exceeded, the oldest message is deleted to make way for the latest message. Defaults to 10.

1.4.4.2 Klaxon.ini Example

This is an example Klaxon.ini file, containing the default settings. Click on the highlighted text below for information on specific settings.

[PORT]
Name = COM1
BaudRate = 9600
Parity = no
StopBits = 1
ByteSize = 8

[OUTPUT_STRING]
ModuleAddress = 01
Output = 10

1.4.4.2.1 Klaxon.ini Example

1.4.4.2.2 Klaxon.ini Features

1.4.4.2.2.1 Name
This is the name of the COM port being used.

1.4.4.2.2.2 BaudRate
Sets the maximum rate in bits per second that you want data to be transmitted through this port. This is usually set to the maximum rate supported by the computer or the device attached to the port.

1.4.4.2.2.3 Parity
Changes the type of error checking you want to use for the selected port. The computer or device you are communicating with must have the same setting that you choose here. You must choose one of the following:
None - means that no parity bit will be added to the data bits sent from this port. This will disable error checking.

Even - means that a parity bit is set to 1 if it is needed to make the number of 1's in the data bits even. This will enable error checking.

Odd - means that a parity bit is added if it is needed to make the number of 1's in the data bits odd. This will enable error checking.

Mark - means that a parity bit is added, but it is always set to 0.

Space - means that a parity bit is added, but it is always set to 1.

1.4.4.2.2.4 StopBits
Changes the time between each character being transmitted (where time is measured in bits). Options are 1, 1.5 or 2.

1.4.4.2.2.5 ByteSize
The number of bits in one byte. Options are any integer between 4 and 8.

1.4.4.2.2.6 ModuleAddress
Can be any Hex based number between 00-FF.

1.4.4.2.2.7 Output
1c, Ac or Bc where c is the selected channel.

1.4.4.3 Names Text Example

1.4.4.3.1 Names Text Example
The text below is an example Names file. Click on the highlighted text for further information.

!This is a comment
TANKS:SINE.VALUE.001
TANKS:SINE.VALUE.003
TANKS:TANK3.LEVEL.
TANKS:TANK6.LEVEL.
TANKS:TANK6.AUTO.
TANKS:TANK6.DRAIN.CMD
TANKS:TANK4.FILL.INP
BUCKET:TANK4.DRAIN.CMD
BUCKET:TANK3.LEVEL.

1.4.4.3.2 Names Text File Features

1.4.4.3.2.1 Comment Mark
Signals can be commented out by placing an exclamation mark before them.

1.4.4.3.2.2 Signal Names
Each signal name should occupy a different line.
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