



**The Events notification plugin
PRINTED MANUAL**

Events notification plugin

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1 Introduction

"Events notification" is an external plugin used to send messages about events generated by the core engine.

Once an event occurs (for example: "Port opened" or "Configuration changed"), the plugin creates a text message using the specified template and sends a notification. The form of the notification depends on the plugin settings.

The plugin supports the following notification types:

- Sending messages via e-mail;
- Sending a message to a remote computer on the network;
- Opening a message box on the local computer;
- Launching a program;
- Playing a sound;

Each event type can have its own notification settings.

2 System requirements

The following requirements must be met for "Events notification" to be installed:

Operating system: Windows 2000 SP4 and above, including both x86 and x64 workstations and servers. A latest service pack for the corresponding OS is required.

Free disk space: Not less than 5 MB of free disk space is recommended.

Special access requirements: You should log on as a user with Administrator rights in order to install this module.

The main application (core) must be installed, for example, Advanced Serial Data Logger.

Notes for Microsoft Vista and above:

Since our software saves data to the registry and installs to the Program Files folder, the following requirements must be met:

1. You need Administrator rights to run and install our software
2. The shortcut icon of our software will be located on the desktop;
3. Windows Vista will ask for your confirmation to continue the installation.

NOTE: You can configure the user account only once in order not to see the above dialog box any more. Search Google for the solution of this problem.

3 Installing Events notification

1. Close the main application (for example, Advanced Serial Data Logger) if it is running;
2. Copy the program to your hard drive;
3. Run the module installation file with a double click on the file name in Windows Explorer;
4. Follow the instructions of the installation software. Usually, it is enough just to click the "Next" button several times;
5. Start the main application. The name of the module will appear on the "Modules" tab of the "Settings" window if it is successfully installed.

If the module is compatible with the program, its name and version will be displayed in the module list. You can see examples of installed modules on fig.1-2. Some types of modules require additional configuration. To do it, just select a module from the list and click the "Setup" button next to the list. The configuration of the module is described below.

You can see some types of modules on the "Log file" tab. To configure such a module, you should select it from the "File type" list and click the "Advanced" button.

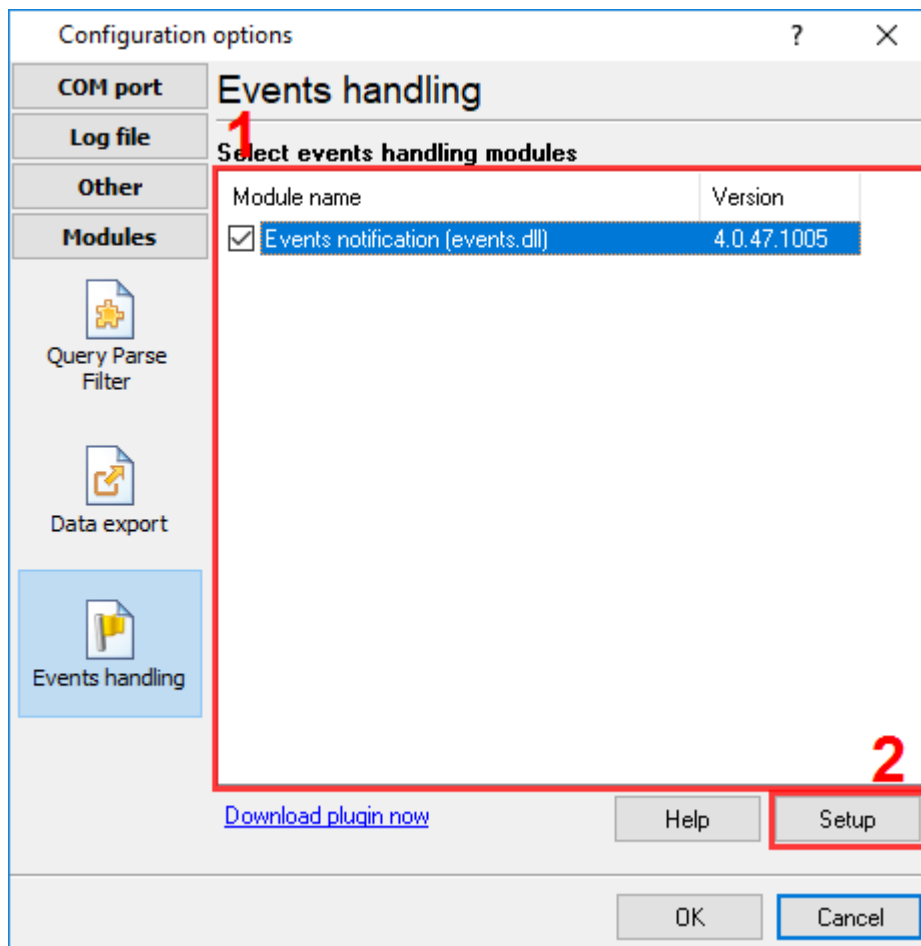


Fig.1. Example of installed module

4 Glossary

Plug-in - module

Main program – the program shell that uses this module. For example: Advanced Serial Data Logger

Parser – the module that processes the data flow singling out data packets from it and variables from data packets. These variables are used in data export modules after that.

Core - see "Main program".

5 Plugin settings

Before you start using the plugin, you should configure it. The settings are specified in the settings window that you open in the main program. Click the "**Plugin selection and configuration**" button on the toolbar or select "Options -> Settings" in the menu, open the "Plugins -> Data publication pairs" tab. After that select the line with the plugin name and press the Setup button.

The plugin has two types of settings:

1. [Preferences](#) – general settings of the module applied to all events and notifications. To edit them, select the "Preferences" item in the navigation tree to the left of the dialog window;
2. [Actions](#) – settings specified separately for each event. To edit settings common for all events, select the "Actions" item in the navigation tree. To edit settings separate for each event, select a subitem with the name of the corresponding event in the "Actions" item.

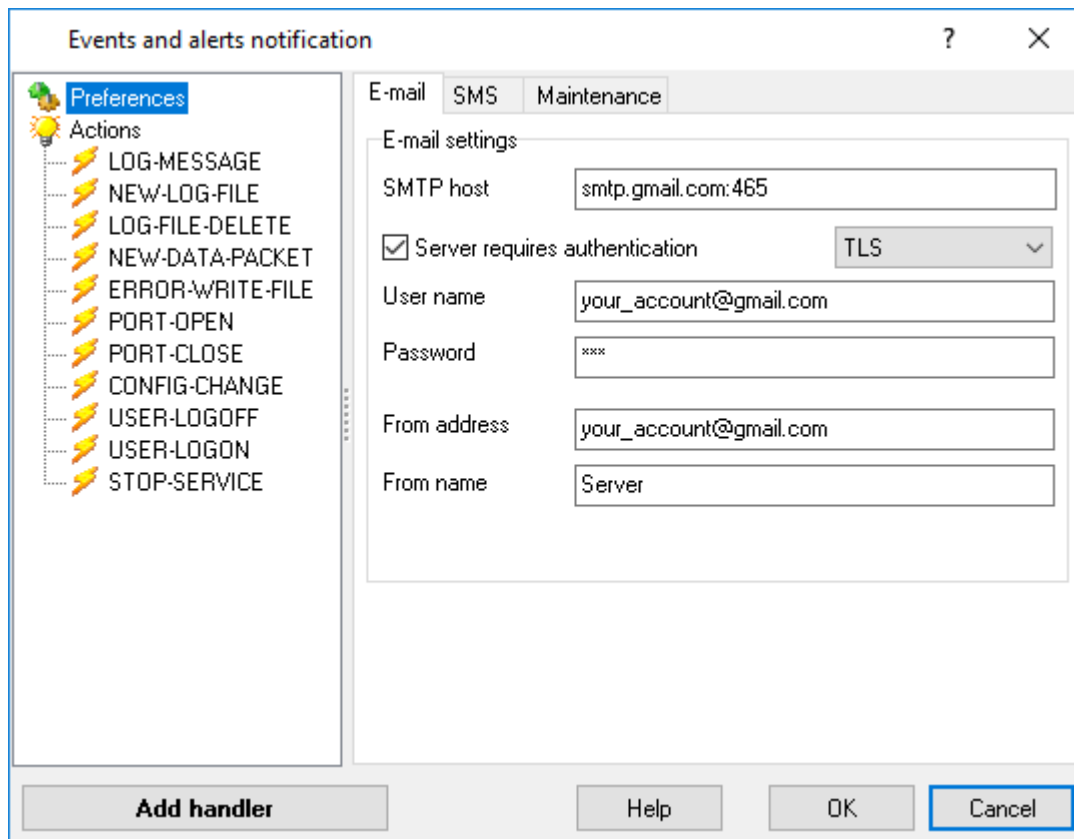


Fig.1 Plugin settings window

5.1 Preferences

General plugin settings are specified on the "**Preferences**" tab. To open the page, select the "Preferences" item in the navigation tree.

- The [E-mail](#) tab allows you to specify SMTP server settings for sending e-mail messages;
- The [Message template](#) tab defines templates to generate the text of the outgoing messages;
- The [Maintenance](#) tab defines the time interval for the message box to be displayed and allows you to specify the settings for putting messages in the buffer.

5.1.1 E-mail

The settings to be used to send notifications via e-mail are specified on "E-mail" tab.

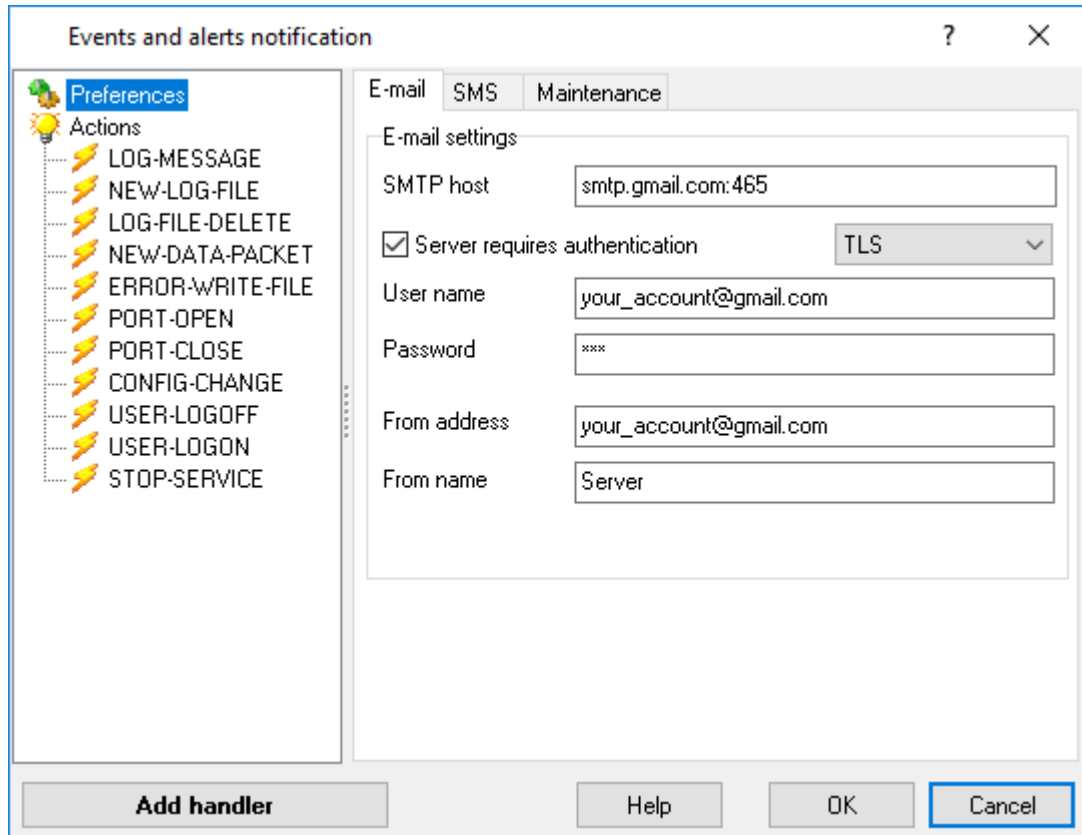


Fig. 2. E-mail settings

- **SMTP host** - The plugin will send messages via this SMTP server;
- **Server requires authentication** - Some SMTP servers require authentication for sending mail. If it is the case with your server, check this checkbox;
- **User name** - The username is specified if the server requires authentication;
- **Password** - The password is specified if the SMTP server requires authentication;
- **From Address** - The sender's e-mail address is specified here. You must specify it for the plugin to be able to send a message using the SMTP protocol;
- **From Name** - The sender's name is specified here.

5.1.2 Message template

The templates the program uses to generate the message text of notifications are specified on "Templates" tab

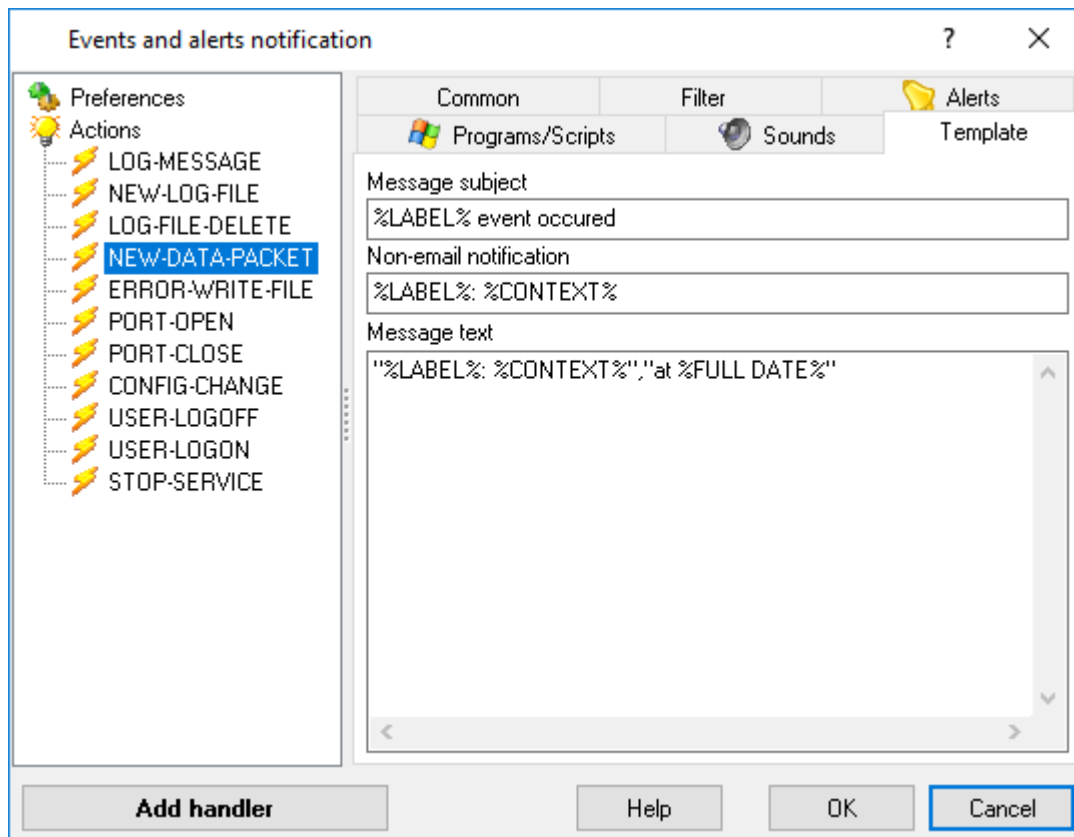


Fig.4. Templates settings

- **Message subject** - The template for generating text in the "Subject" field of the outgoing e-mail message;
- **Message text** - The template for generating text in the body of the outgoing e-mail message;
- **Non-email notification** - The template for generating text in the message sent to a remote computer or to the local one.

In all the fields on this tab you can use macros to insert the information about the occurred event in the message text. Macros are strings between the % characters. When sending a message, the program will change the macro for the value with the information about a specific event.

The following macros can be used:

%LABEL% - stands for the type of the occurred event, e.g. "PORT-OPEN"

%FULL DATE% - stands for the full date of the event (including time)

%DATE% - stands for the date of the event (without time)

%TIME% - stands for the time of the event

When an event occurs, the plugin receives not only the event type, but also its context (information specific for each event), for example, when a PORT-OPEN event occurs, the plugin also receives the PORT variable containing the number of the opened port.

To put the context of an event into the message, you should specify the macro consisting of the variable name between the characters % (e.g. %PORT%).

The list of the supported events and their context variables:

- **LOG-MESSAGE** – an event occurring when a new event is added to the kernel message log. Context: MESSAGE – message text; MSG-TYPE – the number of the source that caused the message from 0 to MAX (the list of sources is given in the message log settings window); MSG-LEVEL – the number specifying the level of the message importance (0 - information, 1 - warning, 2 - error); DATE-TIME – the date and time when the message was created;
- **NEW-LOG-FILE** – an event occurring when a new file with data is created. The event occurs when a new file is created for incoming and outgoing data. Context: OLD-FILE-NAME – the name and path of the old file. This variable will be empty when the file is created right after the program is launched for the first time; NEW-FILE-NAME – the name and path of the new file;
- **LOG-FILE-DELETE** – an event occurring when a file with data is deleted. Context: FILE-NAME – the path and name of the file that will be deleted right after the plugin processes the event;
- **NEW-DATA-PACKET** – an event occurring when the parser singles out a new data packet from the general data flow and this packet is received. Context: FULL_DATA_PACKET – a string containing the full data packet;
- **ERROR-WRITE-FILE** – an event occurring in case of a failed attempt to write to the file with data (for example, another application is using the file or there is no enough free space on the disk). Context: FILE-NAME – the path and name of the file; TEMP-FILE-NAME – the path and name of the file to which the data will be temporarily saved until it is possible to write data to the main file;
- **PORT-OPEN** – an event occurring in case a failed attempt to open a port. Context: PORT – the number of the port;
- **PORT-CLOSE** – an event occurring in case of a successful attempt to close a port. Context: PORT – the number of the port.

5.1.3 Maintenance

To avoid overloading the server with sending messages via e-mail in case events occur too often, the plugin allows you to save them to the buffer and create one notification (for [each address specified](#) in the settings) consisting of the events put in the event buffer at the specified time intervals.

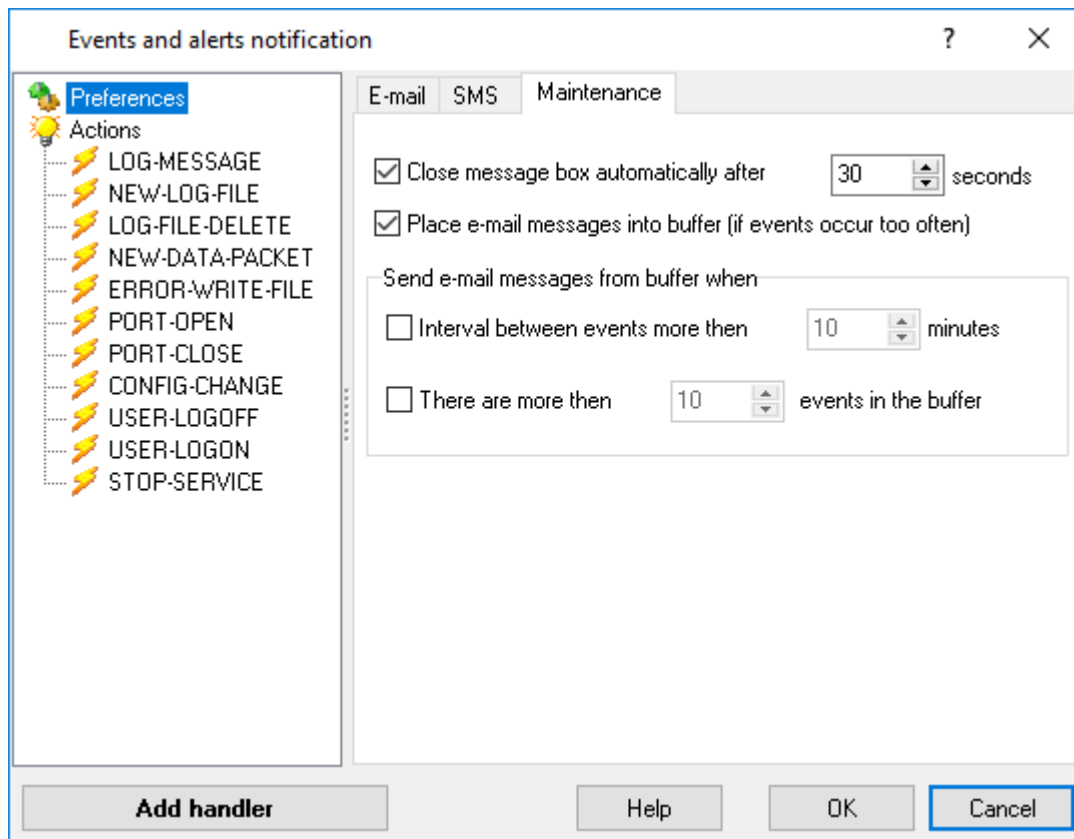


Fig.5. Maintenance

- **Close message box automatically after xx seconds** - Enable this option for the message box to be closed automatically, specify the time interval in seconds after which the message box will be closed;
- **Place e-mail messages into buffer** - Enable this option for the plugin to put events into the buffer before sending them. If this option is on, below you will see a box with additional options for specifying the parameters of sending messages from the buffer.
 - **Interval between events more then xx minutes**
Enable this option and specify the time interval in minutes for the plugin to send messages from the buffer if the interval between two successive events exceeds the specified value.
 - **There are more then xx events in the buffer**
Enable this option and specify the amount of messages in the buffer for the plugin to send messages from the buffer when their amount reaches the specified one.

Note The settings for sending messages from the buffer can be used either together or separately. If no option is enabled, messages will not be put into the buffer, but sent as soon as they are generated.

5.2 Actions

The settings for sending notifications are specified on the "**Actions**" page. You can select what notifications should be activated when this or that event occurs.

To configure notifications applied to all events, select the "**Actions**" item in the navigation tree and enable the "**Use these settings for all events**" on the "**Common**" tab. If you uncheck "**Use these settings for all events**", all events will use their own settings defined on their respective pages.

To configure notifications separate for each event, select an item that is a subitem of the "**Actions**" item with the name of the event in the navigation tree. If "**Use these settings for all events**" is checked on the "**Common**" tab of the "**Actions**" page, the "**Use separate settings**" option will be available on the settings page of any event. Enable this option, if you want to use separate settings for the selected event.

When an event occurs, the plugin will perform an action checked for this event. For example, if the *NEW-LOG-FILE* event has "**To this email**" checked on the "**Alerts**" tab, an e-mail message will be sent to the specified address when the program creates a new log file. There is a "*Test*" button for each action to test it. In case an error occurs, (for example, you did not specify the recipient's e-mail address), you will see a message. If an error occurs when the main program performs an action, the error message will be put into the program log.

There is a number of tabs in the working area of the window:

- The [Common](#) tab displays the description of the selected event;
- The [Alerts](#) tab defines what notifications should be sent when the event occurs;
- The [Programs](#) tab allows you to specify the programs to be launched when the event occurs;
- The [Sounds](#) tab allows you to specify sound files to be played when the event occurs.

5.2.1 Common

The **"Common"** tab displays the description of the event selected in the navigation tree and allows you to specify whether to use common event settings or separate ones.

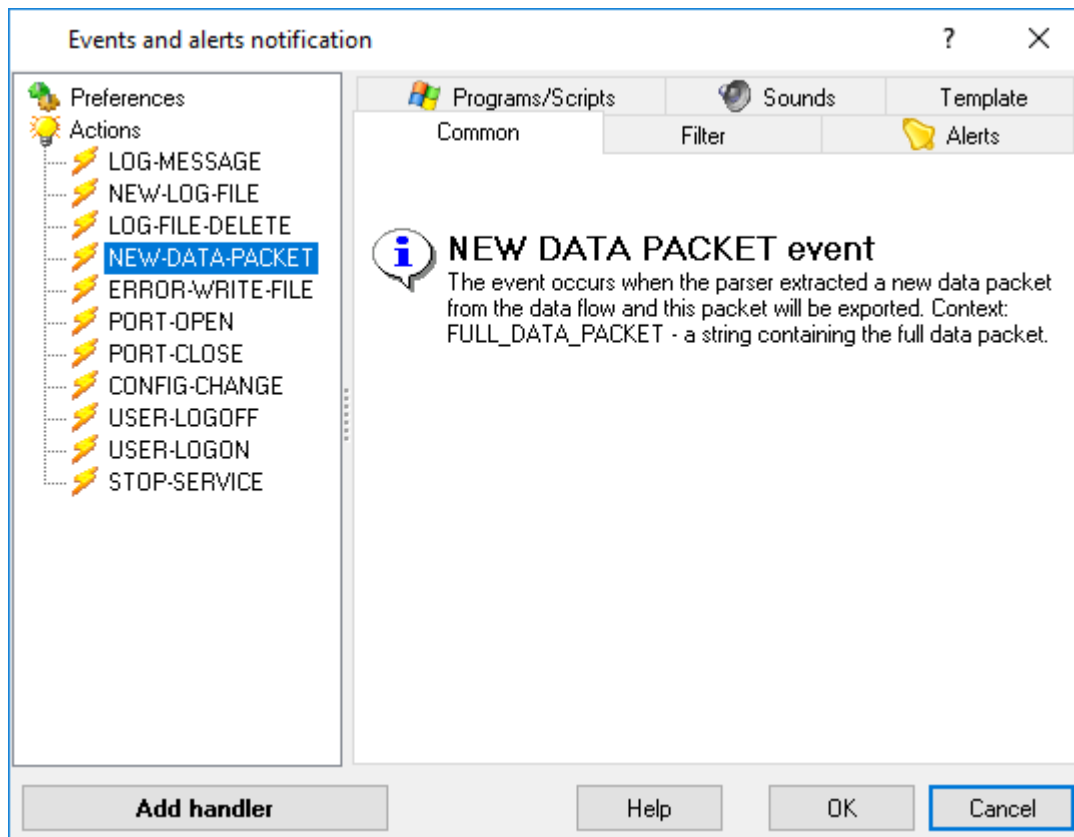


Fig.6. Common settings

1. If the **"Actions"** item is selected in the navigation tree, the **"Use these settings for all events"** checkbox will be displayed at the top of the tab. Check it if you want to use the specified settings for all events. If you uncheck this option, each event will stick to its own settings.
2. If an event (a subitem of the Actions item) is selected in the navigation tree and the **"Use these settings for all events"** checkbox is enabled on the "Actions" page, the **"Use separate settings"** checkbox will be displayed at the top of the tab. Check it if you want to use separate settings for the selected event no matter whether the **"Use these settings for all events"** is on or off. In the navigation tree the icon of those events that have the **"Use personal settings"** option enabled will be green.

5.2.2 Sending notifications

On the "**Alerts**" tab the settings for sending messages with the description of the occurred event via e-mail, instant message, to a remote computer on the network or to the local computer are specified.

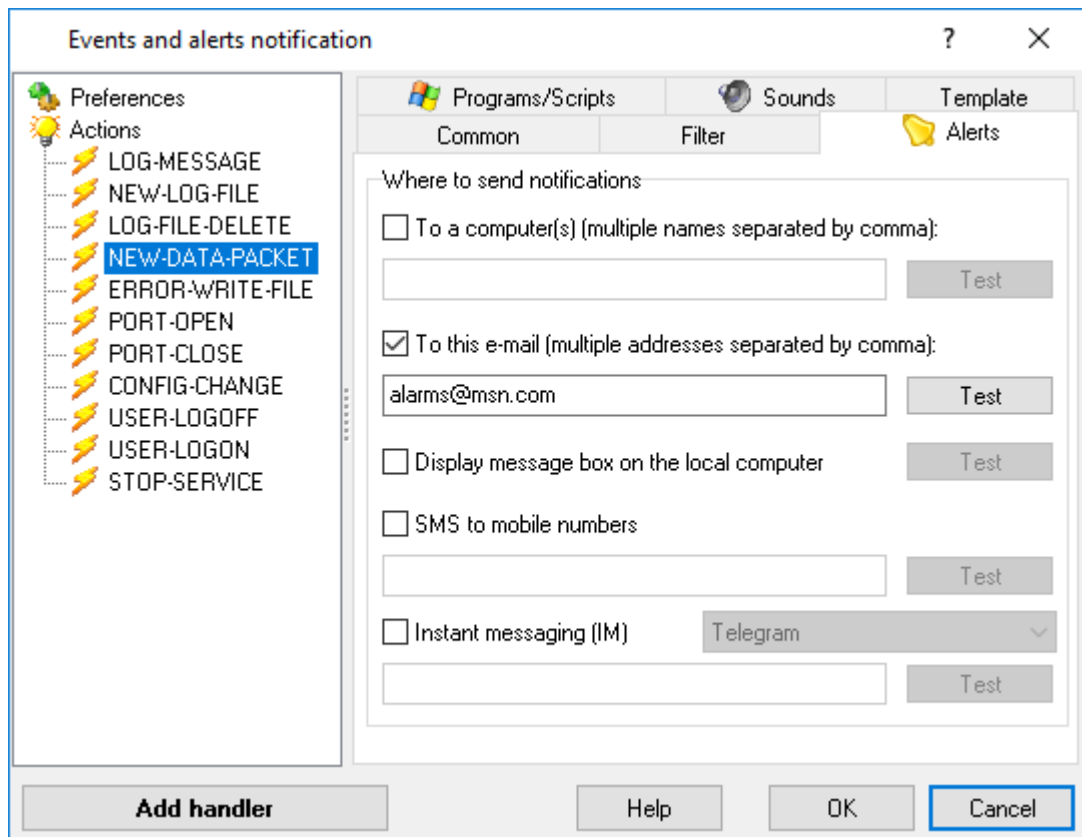


Fig.7. Alert settings

Where to send notification:

1. **To a computer(s)** - Enable this option if you want a message to be sent to a remote computer on the local area network as a Windows "NET SEND" notification once the event occurs. In the input field specify the name of a computer or several computers separated with commas where the message will be displayed. Message text will be generated according to the template specified in the [Non-email notification field](#) on the "Preferences" page;
2. **To this e-mail** - Enable this option if you want a message to be sent via e-mail once the event occurs. In the input field specify an e-mail address or several e-mail addresses separated with commas. Message text will be generated according to the template specified in the [Message text field](#) on the "Preferences" page;
3. **SMS to mobile numbers** - Enable this option if you want to send a SMS message to a mobile once the event occurs. In the input field specify the mobile number in the E164 format like +12008001122. Message text will be generated according to the template specified in the [Non-email notification field](#) on the "Preferences" page. The settings of the connection to the SMS provider are specified on the "Preferences" page;
4. **Display message box on the local computer** - If this option is on, a message box will be displayed on the local computer. Message text will be generated according to the template specified in the [Non-email notification field](#) on the "Preferences" page.

5. **Instant messaging (IM)** - If this option is on, the program will send a non-email message using the selected instant messenger.

Telegram

In the input field you may specify a chat ID (e.g. @mychat) or user ID (e.g. 1234567). You may find your user ID using [this link](#). You may specify a semicolon separated list with several recipients. An each individual user should send /start to our "@aggsoft_event_bot" Telegram bot. Otherwise the bot cannot send notifications to you. Telegram -> Find -> @aggsoft_event_bot -> Start.

Slack

1. So first things first, in order to use the Slack API we require a token, for this purpose you should requested a Legacy token, which can be done at the following URI:

<https://api.slack.com/custom-integrations/legacy-tokens>

After clicking the "Create token" button you will get a string that resembles this:

```
xoxp-aaaaa-bbbbb-cccccc-dddddd
```

2. If you want to send to a public or private channel you either specify the channel's name (e.g. general) or encoded ID (e.g. C024BE91L), and the message will be posted to that channel. The channel's ID can be retrieved through web

interface: Side panel -> Right click over the channel name -> URL

<https://workspace.slack.com/messages/C024BE91L>

If you want to send a private message to an user you must specify the encoded user ID (e.g. D024BE91L).

3. In the input field you must specify a channel ID and your token like:

```
D024BE91L@xoxp-aaaaa-bbbbb-cccccc-dddddd  
mychannel@xoxp-aaaaa-bbbbb-cccccc-dddddd
```

You may specify a semicolon separated list with several recipients.

5.2.3 Launching programs and scripts

The plugin can launch external programs when an event occurs in the main program. The settings for launching programs are specified on the "**Programs**" tab.

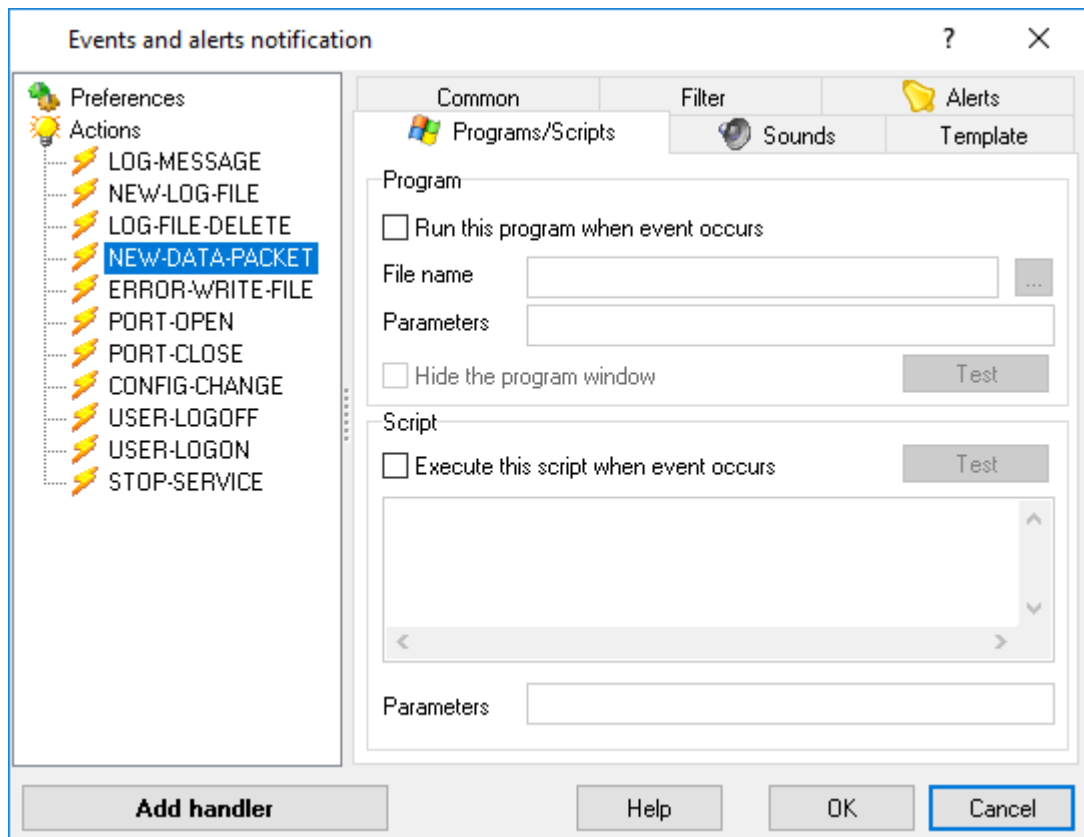


Fig.8. Launching settings

Run this program when event occurs - Enable this option, for the plugin to launch an external program once the event occurs.

- **File name** - Specify the full path and name of the program to be launched when this event occurs. To choose the file from the list of folders on your computer or on the local area network, press the [...] button.
- **Parameters** - If necessary, specify some command line parameters for the launched program. As a parameter, you can use macros for inserting information about the occurred event. Macros are strings between the % characters. When launching the program, the plugin will change the macro for the value with the information about the event. Detailed information on macros can be found in the [Message template](#) section.
- **Hide the program window** - If this option is on, the program window will be hidden after it is launched.

Execute this script when event occurs - Enable this option for the plugin to execute a VBScript once the event occurs. Enter the text of the script in the input field below.

- **Parameters** - If necessary, you can specify some parameters that should be used in the script. As a parameter, you can use macros for inserting information about the occurred event. Macros are strings between the % characters. When executing the script, the program will change the macro for the value with the information about the event. Detailed information on macros can be found in the [Message template](#) section.

5.2.4 Playing a sound

The plugin can play a sound file once an event occurs in the main program. The settings for playing sounds are specified on the "Sounds" tab.

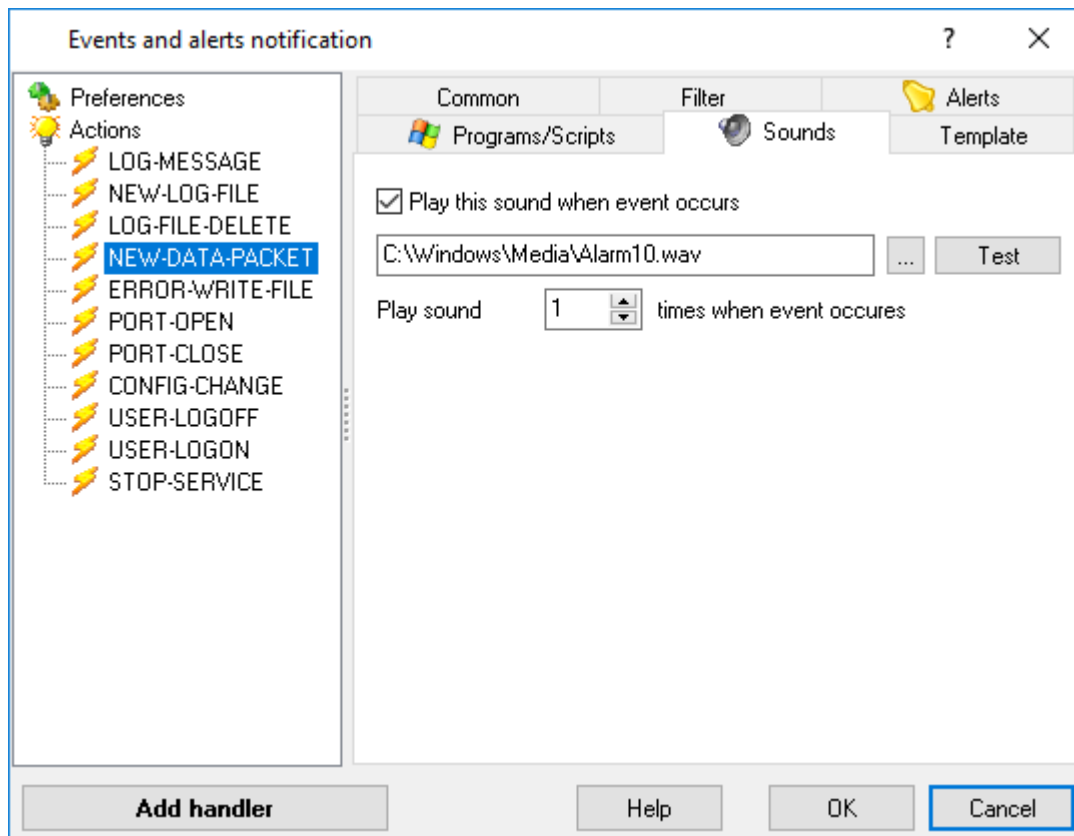


Fig.8. Playing settings

Play this sound when event occurs - Enable this option for the plugin to play a sound once the event occurs.

In the input field specify the full path and name of the sound file to be played when this event occurs. To choose the file from the list of folders on your computer or on the local area network, press the [...] button.

Play sound xx times when event occurs - Specify how many times the sound should be played.

6 Troubles?

6.1 Possible problems

No data for publication/exporting – no data is passed for exporting. Solution: configure the parser, make sure that one or more variables are declared in the parser.

Error on binding variable with name %s [%s] – the error usually occurs if data does not correspond to the specified format. For example, the date and time format does not correspond to the data.

Unable to disconnect from the database [%s] and **Unable to connect to a database [%s]** – it is impossible to connect/disconnect to/from the database. You should check the parameters of the database connection. The analysis of the additional information will help you locate the error.

Database access error [%s]. Stop operations with the database? – the message appears if an error occurs during an attempt to execute an SQL query if the second variant of reacting to errors is selected. The message implies a "Yes" or "No" answer. The analysis of the additional information will help you locate the error.

Unable to verify your SQL script [%s] – the message appears when an attempt to analyze your SQL query fails. Check if the syntax of your SQL query is correct.

Tested successfully – the message appears if your database connection is successfully tested. It requires no additional actions.

Database isn't used – the message appears if the module is temporarily disabled (the "Temporarily disabled" check box is selected) or the database name field is empty. Check the connection parameters.

Database isn't selected - the message appears if the database type is not selected. Check the connection parameters.

Database: %s – %s contains the database name. The message appears if the database connection is successful. Usually, you see it when you call the module for the first time. It requires no additional actions.

Invalid data block length (columns=%d,length=%d) – an internal application error. It means that the data sent by the parser is in an invalid format. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

The time of connection is not due yet (%d,%d) – the message appears during an attempt to connect to the database after the connection to it has been lost and the "Reconnect after" option is enabled. No additional actions are required.

Invalid procedure call. Bad arguments – an attempt to call the module using invalid parameters. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

Writing to the database is complete - the message appears if your queue of SQL queries is successfully executed. It requires no additional actions.

Writing to the database is complete with errors – the message appears if the executing your queue of SQL queries was interrupted by an error. It requires no additional actions.

Your SQL is empty. Please, specify some SQL text first – the message appears if you do not enter the text for your SQL query. Check if the options on the "SQL queue" tab are configured correctly.

Invalid temporary path – the path to the temporary file specified by you does not exist. Enter a new path in the "Temporary folder" field on the "Errors handling" tab.

%s, %d – will be replaced by additional information.