

G-Lock Email Processor



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Introduction

G-Lock Email Processor Overview

G-Lock Email Processor runs as a system service on your PC. It handles the actual reading and processing of the messages. The service will automatically start each time your PC starts, so it will always be running in the background processing your messages.

G-Lock Email Processor provides you with the ability to develop a set of rules that determine how you want to process your incoming messages. You can use it to read incoming messages from multiple sources (POP3 and IMAP accounts including accounts which require SSL connection) and perform multiple automated actions in response to those messages.

G-Lock Email Processor can filter incoming messages by different conditions, extract any data from the message body and message header and save it to a file of user definable format.

Using G-Lock Email Processor you can also send a text or HTML message to your recipients as well as forward the message you received to another email address. The program can be easily set up to automatically perform various operations with a selected database: insert data into a database, delete data from a database, update a database or extract fields from a database.

In addition, G-Lock Email Processor allows you to execute MS Windows Script (VBScript and JScript) when processing incoming messages.

You can use G-Lock Email Processor to automate the business processes that need to occur when your business receives incoming messages. For example, you can use G-Lock Email Processor to handle bounced emails, subscribe/unsubscribe emails, purchase orders, messages where the text layout is known (web forms), emails containing various kinds of viruses and spam, or any kind of specific format messages you receive.

Here is an overview of what G-Lock Email Processor can do for you:

- Work as a service on your PC automatically processing your incoming messages according to your rules
- Read messages from POP3 and IMAP accounts including the accounts which require SSL connection
- Filter incoming messages based on your criteria
- Automatically process purchase orders, all types of bounce emails, subscribe/unsubscribe emails, auto replies, or any kind of messages of a specific format you may receive
- Extract any data from the message header, body or attachment
- Perform various operations with the extracted data using the post-processing script (for example, replace lower case letters with capital letters, or replace a colon with a dot in the extracted fields and so on)
- Save extracted data to a file or to a database (works with any ODBC compatible database)

- Update the database using the extracted data
- Select or delete records from the database based on the extracted data
- Delete unwanted messages from the server
- Save messages and attachments to the disk
- Send an auto-reply message to the recipient in the plain text or HTML format
- Send scheduled follow-ups to the recipient xx days later after the email is processed
- Forward the original message to another email address
- Execute MS Windows Script (VBScript and JScript) when processing incoming messages

System Requirements to Use G-Lock Email Processor

Computer:	Pentium III or higher *
Operating System:	Windows 2000, ME, XP, Vista, 7
Memory:	512 megabytes
Disk space:	30 megabytes
Video:	256 colors
Internet Connection:	The faster, the better **

* Performance of G-Lock Email Processor is relative to the speed of your computer and the amount of memory (RAM) you have in your PC. These requirements are considered minimum, not ideal.

** The speed and quality of your Internet connection will determine how fast processing of incoming messages is performed.

No Mac or Linux version of G-Lock Email Processor is available.

Unregistered Version Limitations

You can use the free version of G-Lock Email Processor for 3 days since the installation date without any activation. After 3 days pass, the program stops working and displays a nag screen asking you to get a key for the free version. You must get a key and activate the free version if you want to extend your trial period up to 30 days.

When the trial period is over, you must either register (purchase a license to continue using the program), or discontinue using G-Lock Email Processor. After you purchase the license, you'll get a new personal key via email to unlock the trial version. You can order a license for G-Lock Email Processor at this page <http://www.glocksoft.com/registration.htm>

How to Install and Uninstall G-Lock Email Processor

To install G-Lock Email Processor:

1. Make a temp directory on your disk.
2. Extract the files from the gep.zip file to this directory.
3. Run the setup.exe file.
4. The setup will guide you through the rest of the installation process.

To uninstall G-Lock Email Processor, choose “Uninstall” from G-Lock Email Processor program group. Or, do this:

1. Open the Control Panel (Start -> Settings -> Control Panel).
2. Double-click on the "Add/Remove Programs" icon.
3. Search for "G-Lock Email Processor" and double-click on it.

How to Backup and Restore Workplace

G-Lock Email Processor provides you with a quick and easy way to backup and restore your workplace (rules and accounts). It is very useful option if you want to re-install software or move it to another computer. You can save a backup of your data and restore it in the new program installation at any time.

To backup the data:

1. Click on the **Tools** menu in G-Lock Email Processor.
2. Click on "**Backup Data**".
3. Specify the file on the disk to save a backup.
4. Click **Backup**.
5. Click **Close** when finished.

To restore the data:

1. Click on the **Tools** menu.
2. Click on "**Restore Data from Backup**".
3. Select the file on the disk with the data backup.
4. Click **Restore**.
5. Click Close when finished.

Important! The **Restore** operation has no **Undo** option. If you use the **Restore** operation, your current workplace in G-Lock Email Processor will be overwritten by the data from backup.

Working with G-Lock Email Processor

Program Settings

To configure G-Lock Email Processor settings, click on the **Tools** menu and then click **Settings**.

Clear log every xx day(s) - check this option if you want the program to automatically clear message processing log every xx days.

Don't store log if no messages are processed - check this option if you don't want to save the log when no messages were processed.

Log error events to the Windows Event Log - check this option if you want the program to write an error log to the Windows Event Log if the rule(s) stops working.

Creating Email Retrieval Account

Within G-Lock Email Processor you create one or more accounts. An account defines where the program will read and retrieve messages from. Click on "**Add New Account**" under the **Home** menu and fill in the fields.

Account Name - type any name for your account. For example, you can use the email address you will process the emails from as the account name.

Save processed emails to local disk - check this option if you want the program to save the messages to a local folder after they are processed.

The messages will be saved to this folder

`%commonappdata%\G-Lock Software\Email Processor\Processed`

On Windows 7 the folder will be

`C:\ProgramData\G-Lock Software\Email Processor\Processed`

Check Account Every xx min (-sec) - select this mode if you want the program to check your account for incoming emails in a regular time interval during the day.

Check Account Using Scheduler Settings - select this mode and set the scheduler if you want the program to process your incoming emails at the specified day of every week or month.

To set the scheduler, click on the **Scheduler** tab.

Check Daily	the program will check the account for incoming messages every specified day. You can scheduler G-Lock Email Processor to check the account every xx day, or every week day, or every weekend day.
Check Weekly	the program will check the account every week. You can select the week day(s) to check the account.
Check Monthly	the program will check the account every month. You can select the day of the month to check the account.
Range of recurrence	you can select the date and time when the account check will start.

Incoming Mail Server Settings

Server address - type your POP3 or IMAP server name into this field.

If you are not sure you type the correct POP3/IMAP server name, check the account settings of your regular email client for the server's information. If you are not able to find the servers information within your email client, you can contact your ISP directly.

Port - 110 for the POP3 server and 143 for the IMAP server.

Login - your login name for the POP3/IMAP server.

Password - your password for the POP3/IMAP server.

Delete processed messages from server - check this option if you want the program to delete the messages from the server after they are processed

(recommended for a POP3 account).

IMAP Account - check this option if you use the IMAP account.

Note: If your mail server supports both POP3 and IMAP protocols, it's recommended that you use the IMAP protocol. This is because the IMAP protocol supports the mechanism of reading new messages only. It remembers the last processed message and starts from new messages when it checks mail the next time. This is very convenient if there are many messages in the account.

Start processing from the first message (works for IMAP only) - click on this button if you want the program to start processing messages from the first message. By default the IMAP protocol reads only new messages which arrived after the last account check. If you click on this button, all messages (already processed and new) will be read and processed. This works only for the forthcoming account check. Next time when you want to process all messages, click on this button again.

Click "**Retrieve**" to retrieve folders from the IMAP server and select the folder you want to process incoming emails from. If you do not select any folder, the program will process the emails from Inbox.

Process Seen Messages - check this option if you want to process seen messages too.

Mark Processed Message as Seen - check this option if you want to mark the messages as seen after they are processed.

If the server doesn't require secure connection, check the Default (No SSL)

radio button.

If the server uses a security protocol, check the necessary radio button: SSL or STARTTLS.

STARTTLS is the ESMTP keyword used to initiate a secure connection between two servers using the Secure Sockets Layer (SSL) (also known as TLS). Once the connection has been successfully established all further communication between two servers is encrypted. This means that the source and destination email address and the entire message content are all encrypted during the transfer.

Clear Message ID Cache - click this button to clear the IDs of processed messages from the cache. The program remembers the ID of each processed message in order to not process the same message twice. If you want to re-process the same emails from this account, click on "Clear Message ID Cache" button.

Outgoing Mail Server Settings

Note: Enter the Outgoing mail server settings only if you are going to use the Send Email action in the rule.

From Name - type your name or your company name.

From Email Address - type your email address.

Outgoing (SMTP) Server - type your SMTP server name.

Port - 25.

Check the "**My server requires authentication**" option if your server requires your login and password.

If your SMTP server doesn't require secure connection, check the Default (No SSL) radio button.

If the server uses a security protocol, check the necessary radio button: SSL or STARTTLS.

Click **Test** to see if the account settings are correct.
If the test passes, click OK to save the account settings.

Your account will be shown under Accounts item at the left pane of the program window.

Editing Account

To edit the account settings, put the mouse on the account name at the left pane and click on "Edit Account" under the Home menu. Or, double click the mouse on the account name.

Deleting Account

To delete an account, put the mouse on the account name at the left pane and click on "Delete Account" under the Home menu.

Rule Settings

Once you have setup an account that defines where G-Lock Email Processor will read messages from, you can create any number of Rules that define 'if' a message should be processed, and 'what' to do with it.

To create a rule, click on **"Create New Rule"** under the **Home** menu.

Type a name for your rule. For example, if you create a rule to process bounced emails, you can call your rule "Bounce".

Click on the **Select** button and select an email message file on the local disk. This is not required but highly recommended because you can use this message to debug your rule.

After you select the message on the disk, the message source will be displayed at the right pane.

The program will copy the message to this folder

`%commonappdata%\G-Lock Software\Email Processor\Processed`

(On Windows 7 the folder will be `C:\ProgramData\G-Lock Software\Email Processor\Processed`)

The message will be loaded from the above folder in the future so you can delete the message from its original location on the disk.

Skip other rules for current message if this rule successfully executed - check this option if you don't want the message to be processed by other

rules if this rule executed successfully for the message.

Click OK to create the rule.

Editing Rule Settings

To edit the rule settings, click on the **Rules** item at the left pane of the program window, select the rule in the top pane and double click the mouse on the rule name. Or, select the rule name and click on the **Edit** button in the lower pane.

Deleting Rule

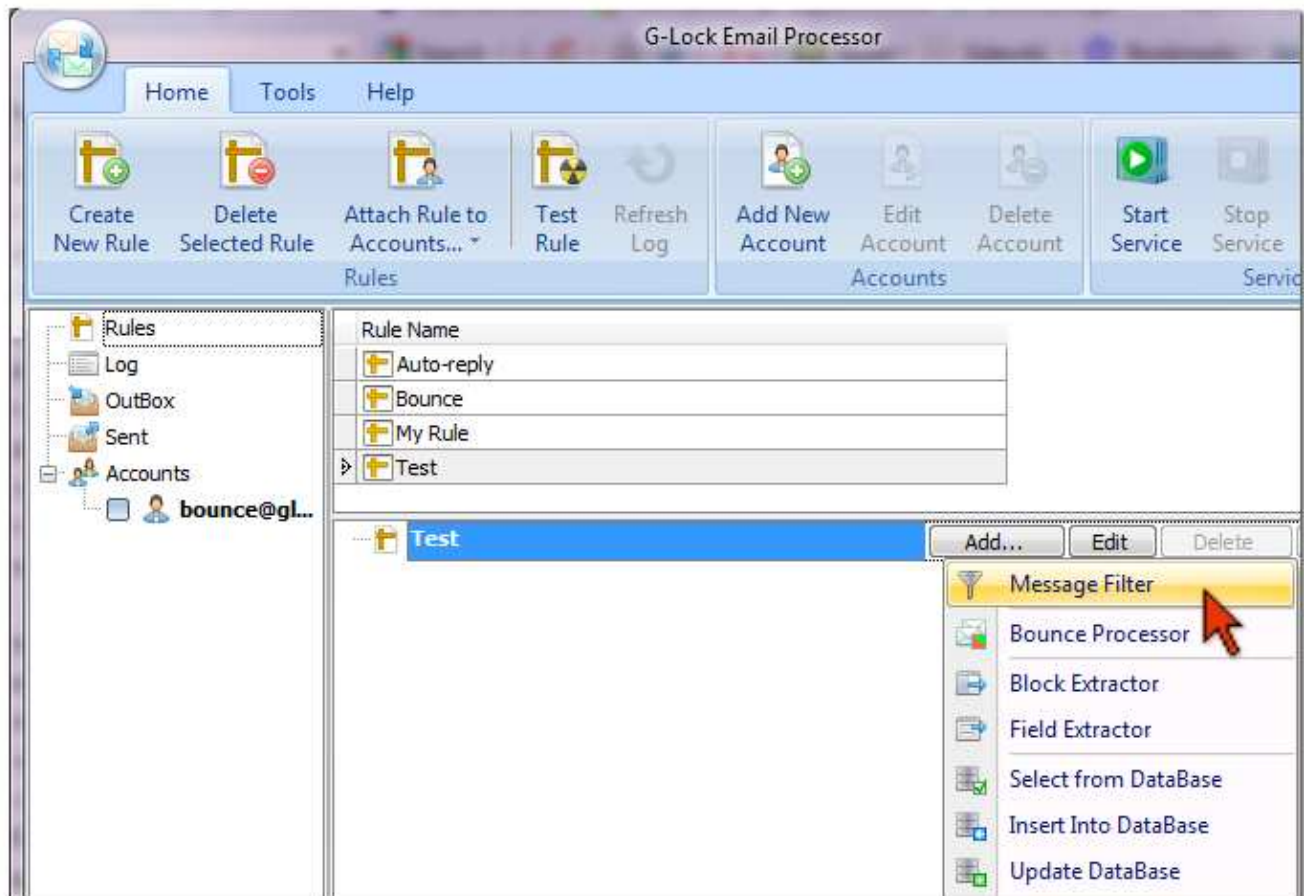
To delete a rule, click on the **Rules** item at the left pane of the program window, select the rule in the top pane and click on the "**Delete Selected Rule**" under the **Home** menu. Or, select the rule name and click on the **Delete** button in the lower pane.

Adding Message Filter

The filter includes a set of conditions that define if the message should be processed by the rule or not. If the message matches any or all conditions, G-Lock Email Processor executes a set of actions against the message.

To add the filter:

1. Click on the rule name in the top pane
2. Click on the **Add** button in the lower pane
3. Select "**Message Filter**" from the menu.



The Message Source panel automatically displays the source of the message that you selected in the Rule Settings.

From address(es) - here you type the email addresses messages from which will be processed by this rule. Separate email addresses with semi-colons.

Also, you can type a mask to process the messages from a specific domain, for example, *yyy.com; *zzz.com.

If you leave this field empty, the rule will catch emails from ALL senders. To filter the emails by size, check any of the options below and enter the message size in KB:

Message size larger than xx KB - check this option if you want the program to process messages which size is larger than xx Kb.

Message size smaller than xx KB - check this option if you want the program to process messages which size is smaller than xx Kb.

Select the filter criteria:

Any of the words below - the rule will catch the messages that contain ANY of the specified words/regular expressions in the Subject/Body. I.e. the filter will work on OR criteria.

All of the words below - the rule will catch the messages that contain ALL of the specified words/regular expressions in the Subject/Body. I.e. the filter will work on AND criteria.

Select the Source: Subject, Subject and Body, or Body. Or, type a header field name yourself.

Type the Value the source must contain. You can type a single word, phrase, or regular expression.

The value is not case sensitive. If you type "file sold", the filter will catch the messages which contain all the variations of this phrase: "file sold", "File sold", "File Sold", "FILE SOLD", etc.

If the case matters, write a regular expression. For example, if you write "(?i)file sold" and check the Regular Expression box, the filter will catch the messages with the "File sold" phrase which begins with the upper case letter only. You can read more about regular expressions [here](#).

To add a new filter item, click **Add**.

To delete the filter item, click **Delete**.

To see if your debug message passes through the filter, click **Test**.

To save the filter, click **OK**.

Example: Here is the message that we need to catch:

Date: Tue, 4 Aug 2009 18:26:06 +0200 (CEST) From: yyyy <email@yyy.com> To: test <test@xxx.xx>

Subject: File Sold MIME-Version: 1.0 Content-Type: text/Plain; charset=UTF-8

Content-Transfer-Encoding:

8bit

Hello, we are pleased to announce that one of your files has just been sold. Below is more information about the file sold:

File Reference : 718902

File Name : photo lens

Purchase Date : 2009-09-16 11:34:15

Purchase License : S

Sale Price : 2.5

Purchase Date : 2009-09-16 16:29:57

Purchase License : XS

Sale Price : 1

Purchase Date : 2009-09-16 21:57:17

Purchase License : L

Sale Price : 2

To catch our sample message, we setup the filter in this way:

From email address is *yyy.com OR *zzz.com

AND

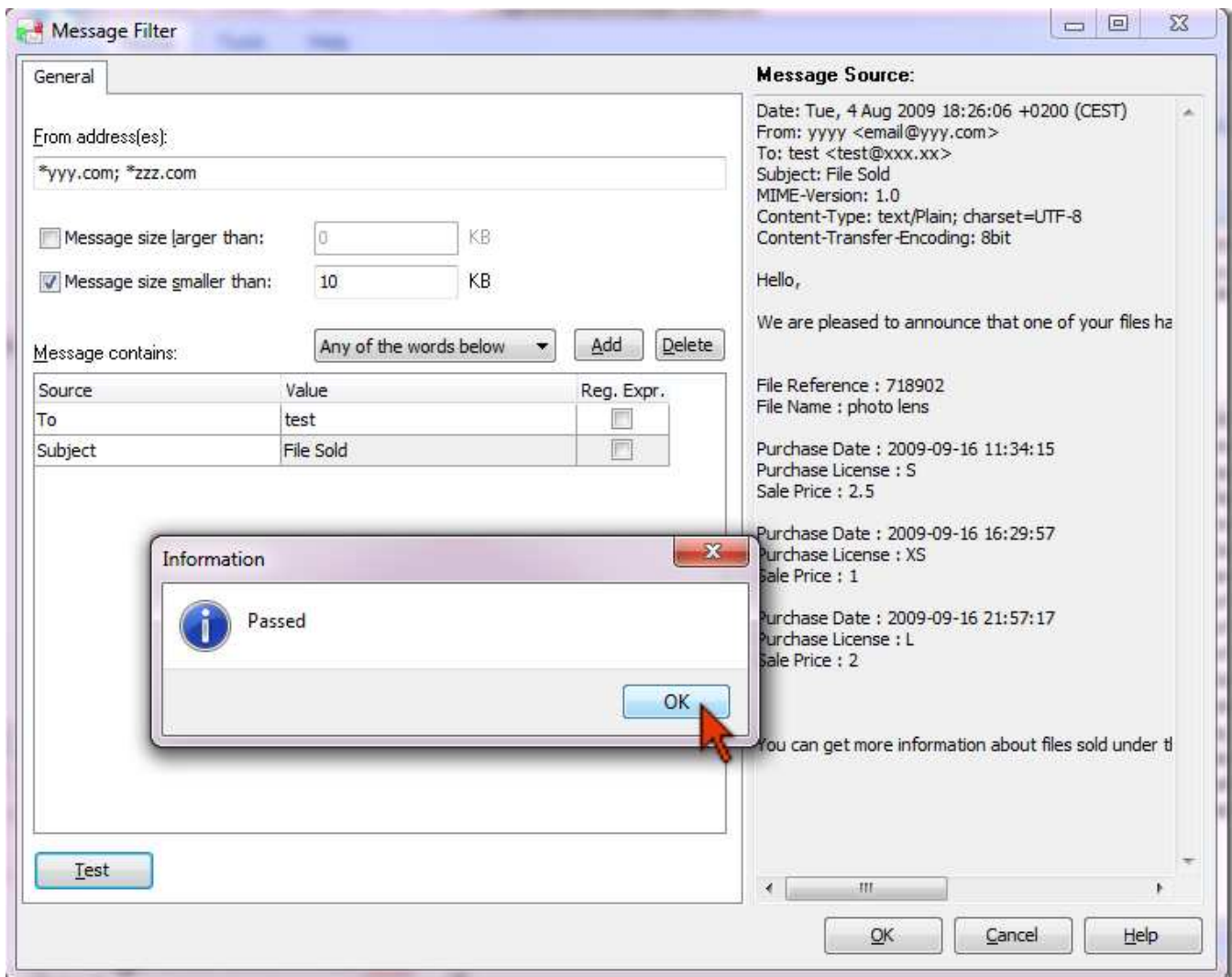
message size is smaller than 10 KB

AND

message contains "test" in the To field

OR

message contains "File Sold" in the Subject field.



Adding Bounce Processor

The **Bounce Processor** component allows you identify and process all types of bounced messages (hard, soft, transient and mail block) and some other types of emails such as subscribe requests, unsubscribe/remove requests, auto-replies and challenge-response messages.

To add the Bounce Processor:

1. Click on the rule name in the top pane
2. Click on the **Add** button in the lower pane
3. Select "**Bounce Processor**" from the menu.

In the Bounce Processor select the type(s) of bounce messages you want to process:

Hard Bounce: the email server was unable to deliver your message (ie. 550 Mailbox not found).

Soft Bounce: the email server temporarily cannot deliver your message (ie. Mailbox size exceeds quota, host not found).

Mail Block: notification that the recipient's email server is blocking email from your email server (i.e. 554 Client host rejected).

Transient Bounce: the email server temporarily cannot deliver your message, but it is still trying (i.e. Warning: message still undelivered after 4 hours. Will keep trying until message is 2 days old).

Challenge-Response: an automatic response from the recipient, requesting

that the sender confirms a real person is sending the message. Generally, confirmation is completed manually by clicking on a hyperlink within the Challenge-Response message itself. Challenge-Response email systems were created as a reaction to the increasing circulation of spam.

Subscribe: someone is requesting to be added to your opt-in email list.

Unsubscribe/Remove: recipient is requesting to be removed from your mailing list.

Auto-Reply/Out of Office Reply: an automatic response from the recipient (i.e. Out Of Office, Vacation Message).

While parsing bounced messages the Bounce Processor extracts the following fields: Bounced_Email, Bounced_Code, and Bounced_Type.

Bounced Code	Bounced Type	Description
1	Bounce Hard	The email could not be delivered and BounceAddress contains the failed email address.
2	Bounce Soft	A temporary condition exists causing the email delivery to fail. The BounceAddress property contains the failed email address.
3	General Bounced Email	Cannot determine if it is hard or soft, and the email address is not available.
4	General Bounced Email	Cannot determine if it is hard or soft, but an email address is available.
5	Mail Block	A bounce occurred because the sender was blocked.
6	Auto-Reply	Auto-Reply/Out of Office Reply email.

7	Transient Bounce	Such as "Delivery Status / No Action Required".
8	Subscribe	Subscribe request.
9	Unsubscribe	Unsubscribe request.
10	Virus email notification.	Virus email notification.
11	Suspected Bounce	Suspected Bounce, but no other information is available.
12	Challenge/Response	Auto-reply message sent by SPAM software where only verified email addresses are accepted.
13	Address Change Notification	Address Change Notification Messages.
14	Success DSN	Success DSN indicating that the message was successfully relayed.

Click OK to save the Bounce Processor settings.

Adding Block Extractor

Using the **Block Extractor** component you can extract repetitive components of text (blocks) from the message.

To add the Block Extractor:

1. Put the mouse on the rule name in the lower pane and click **Add**.
2. Select "**Block Extractor**" from the menu.

Block Name - type any name for the block you want to extract.

Skip execution of the rule if block is not found - check this option to stop rule execution if the block is not found in the message.

Source - select the source for block search.

Start Position - select the start position for block search:

After Defined Text	block starts after the defined text.
Defined Text	block starts from the defined text.
Defined Text from New Line	block starts from the new line after the defined text.
After Regular Expression	block starts after the text which matches the regular expression.
Regular Expression	block starts from the text that matches the regular expression.
Beginning of Source	block starts from the beginning of the value selected in the Source field.

End Position - select the end position for block search:

Before Defined Text	block ends before the defined text.
Defined Text	block ends after the defined text.

Defined Text to the End of Line	block ends at the end of the line that contains the defined text.
Before Regular Expression	block ends before the text which matches the regular expression.
Regular Expression	block ends after the text that matches the regular expression.
Empty Line	block ends before the empty line.
End of Line	block ends at the end of the line.
End of Source	block ends at the end of the value selected in the Source field.
Line Count	block ends after the defined number of lines.

Match Case - check this option if you want the program to recognize capital letters. If this option is unchecked, the program will ignore capital letters while searching for a block.

To see if the block is extracted correctly, click on the **Test** button.

Use **Next**, **Prior**, **First** and **Last** buttons to highlight the next, prior, first and last blocks in the message source.

Click **OK** to save the Block Extractor settings.

You can use the up and down arrows to move the Block Extractor component up and down.

Note: All the components within the block will be executed as many times as many blocks the program will find in the message.

Example: Our sample message contains 3 blocks:

Hello, we are pleased to announce that one of your files has just been sold. Below is more information about the file sold:

File Reference : 718902

File Name : photo lens

Block 1

Purchase Date : 2009-09-16 11:34:15

Purchase License : S

Sale Price : 2.5

Block 2

Purchase Date : 2009-09-16 16:29:57

Purchase License : XS

Sale Price : 1

Block 3

Purchase Date : 2009-09-16 21:57:17

Purchase License : L

Sale Price : 2

To extract each block, we setup the Block Extractor in this way:

Block Name - Block (for example)

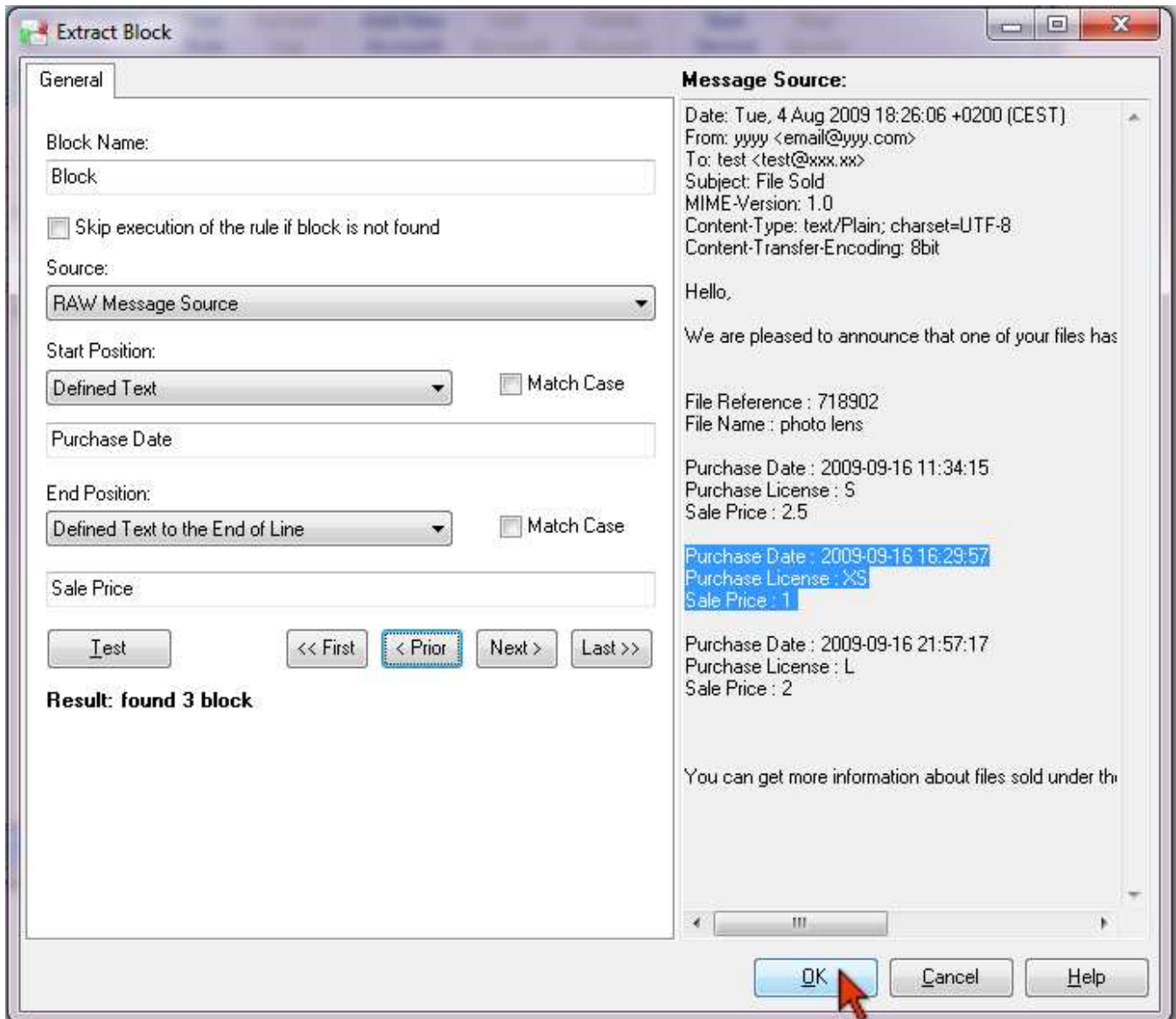
Source - RAW Message Source

Start Position - Defined Text: Purchase Date

End Position - Defined Text to the End of Line: Sale Price

Match Case – Unchecked

We click "Test" and "Next" to ensure all 3 blocks are properly highlighted.



Adding Field Extractor

Using the **Field Extractor** component you can extract data from the message header and message body. You can also use the Field Extractor within the block to extract the fields from each block.

To add the Field Extractor:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you add the Field Extractor within a block, put the mouse on the block name and click **Add**.
2. Select "**Field Extractor**" from the menu.

Field Name - type any name for the field you want to extract (you can use the letters from A to Z and the _ character in the field name).

Skip execution of the rule if field is not found - check this option to stop rule execution if the field is not found in the message.

Source - select the source for the field search. **Note:** if you extract a field from a block, the Source menu is greyed out because the source is automatically set as the defined block.

Start Position - select the start position for the field search. The following positions are available:

After Defined Text	field starts after the defined text.
Defined Text	field starts from the defined text.
Defined Text from New Line	field starts from the new line after the defined text.
After Regular Expression	field starts after the text which matches the regular expression.

Regular Expression	field starts from the text that matches the regular expression.
Beginning of Source	field starts from the beginning of the value selected in the Source field.

End Position - select the end position for the field search:

Before Defined Text	field ends before the defined text.
Defined Text	field ends after the defined text.
Defined Text to the End of Line	field ends at the end of the line that contains the defined text.
Before Regular Expression	field ends before the text which matches the regular expression.
Regular Expression	field ends after the text that matches the regular expression.
Empty Line	field ends before the empty line.
End of Line	field ends at the end of the line.
End of Source	field ends at the end of the value selected in the Source field.
Line Count	block ends after the defined number of lines.
Submatch String*	field has the value of the defined submatch string in the regular expression.

* The regular expression can include several submatch strings that are enclosed in round brackets (), for instance

```
([\w\W]+):([\w\W]+):([\w\W]+)
  1       2       3
```

The text which matches the above regular expression is:

Alex Markov: G-Lock Email Processor: subscribe

Thus, the values that correspond to the submatch strings are:

0 = Alex Markov: G-Lock Email Processor: subscribe

1 = Alex Markov

2 = G-Lock Email Processor

3 = subscribe

If you want to assign the value of the 1st submatch string (in our example, Alex Markov) to the appropriate field, you type 1 in the required box, etc. If you enter 0, the value of the entire regular expression will be assigned to the field.

Match Case - check this option if you want the program to recognize capital letters. If this option is unchecked, the program will ignore capital letters while searching for a field.

To check if the field is extracted correctly, click on the **Test** button and see the result. Click OK to save the Field Extractor settings.

You can use the up and down arrows to move the Field Extractor component up and down.

Adding Bulk Field Extractor

While the Field Extractor component allows you add only one field for extraction, using the **Bulk Field Extractor** you can add many fields for extraction with a few mouse clicks.

To add the Bulk Field Extractor:

1. Put the mouse on the rule name in the lower pane and click **Add**.
2. Select "**Bulk Field Extractor**" from the menu.

Source - select the source for the field search. **Note:** if you extract fields from a block, the Source menu is greyed out because the source is automatically set as the defined block.

Skip execution of the rule if field is not found - check this option to stop rule execution if the fields are not found in the message.

Start Position - select the start position for the fields search.

End Position - select the end position for the fields search.

Match Case - check this option if you want the program to recognize capital letters. If this option is unchecked, the program will ignore capital letters while searching for a field.

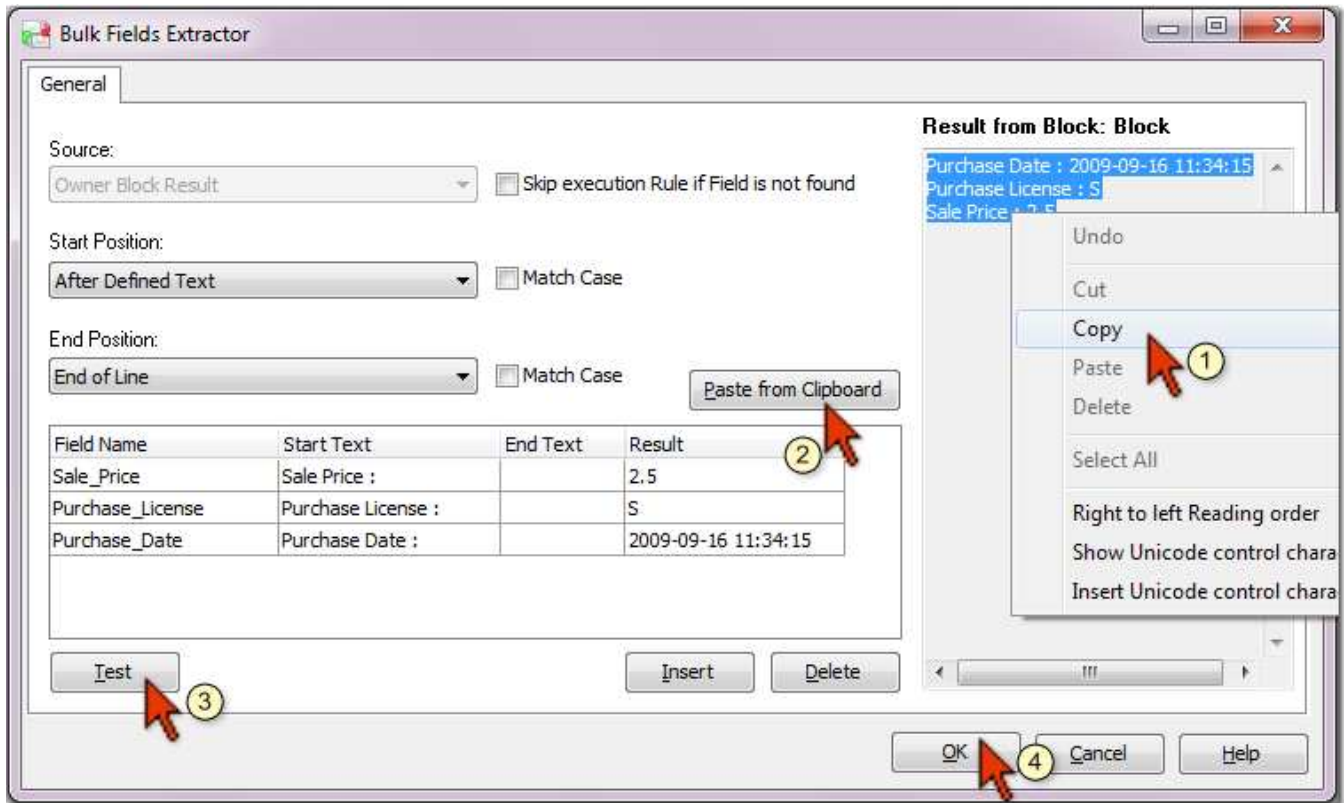
Copy the fields you want to add for extraction from the message and click on "**Paste from Clipboard**" button in the Bulk Field Extractor. If you loaded a debug message for your rule in the Rule Settings, the message source will be displayed at the right side of the Bulk Field Extractor. You can select the desired fields right here, copy them and click on "**Paste from Clipboard**" button.

When the fields are added, click **Test** to see the extracted value for each field.

In addition to copying/pasting the fields, you can insert/delete the fields manually here.

Use the **Insert** button to add a new field. To delete a field, click **Delete**.

When you add the desired fields and ensure the values are extracted correctly, click OK.



Using Post Processing Script in Field Extractor

The post-processing script allows you perform various operations with the data extracted by the Field Extractor. The post-processing script works only with the current field. To operate with multiple fields at a time, use the Script Processor component within the rule.

To use the post-processing script, click on the **Advanced** tab in the Field Extractor.

Check the **"Use post-processing script"** option and write the script.

The post-processing script works as a Pascal-like language interpreter. The basic differences from the standard Pascal are:

- all variables stored as variants;
- no need to declare variables, labels and functions. The variables are created dynamically on first assignment. Variable type depends on the last value assigned, type checking is not carried out.

With the post-processing script you can execute:

Expressions syntax:

Arithmetic operators:	+, -, *, /, ^ (power), SHL, SHL
Bitwise operators:	BITOR,BITAND,BITXOR,BITNOT
Logical operators:	>, <, >=, <=, =, <>, AND, OR, NOT, constants TRUE and FALSE
Operators precedence standard:	BEGIN... END IF... THEN... ELSE CASE FOR... TO/DOWNTO... DO WHILE... DO REPEAT... UNTIL BREAK CONTINUE GOTO EXIT USES INCLUDE

String functions/procedures:

Val	Val converts the string value S to its numeric representation, as if it were read from a text file with Read. procedure Val(S; var V; var Code: Integer);
IntToStr	IntToStr converts an integer into a string containing the decimal representation of that number. function IntToStr(Value: Integer): string;

StrToInt	<p>StrToInt converts the string S, which represents an integer-type number in either decimal or hexadecimal notation, into a number.</p> <pre>function StrToInt(const S: string): Integer;</pre>
StrToIntDef	<p>StrToIntDef converts the string S, which represents an integer-type number in either decimal or hexadecimal notation, into a number.</p> <pre>function StrToIntDef(const S: string; Default: Integer): Integer;</pre>
FloatToStr	<p>FloatToStr converts the floating-point value given by Value to its string representation.</p> <p>The conversion uses general number format with 15 significant digits.</p> <pre>function FloatToStr(Value: Extended): string;</pre>
StrToFloat	<p>Use StrToFloat to convert a string, S, to a floating-point value. S must consist of an optional sign (+ or -), a string of digits with an optional decimal point, and an optional mantissa. The mantissa consists of 'E' or 'e' followed by an optional sign (+ or -) and a whole number. Leading and trailing blanks are ignored.</p> <pre>function StrToFloat(const S: string): Extended;</pre>
Copy	<p>Copy returns a substring or sub array containing Count characters or elements starting at S[Index].</p> <pre>function Copy(S; Index, Count: Integer): string;</pre>
Pos	<p>Pos searches for a substring, Substr, in a string, S.</p> <pre>function Pos(Substr: string; S: string): Integer;</pre>
Length	<p>Length returns the number of characters actually used in the string or the number of elements in the array.</p> <pre>function Length(S): Integer;</pre>
Insert	<p>Insert merges Source into S at the position S[index].</p> <pre>procedure Insert(Source: string; var S: string; Index: Integer);</pre>
Delete	<p>Delete removes a substring of Count characters from string S starting with S[Index].</p>

	<pre>procedure Delete(var S: string; Index, Count:Integer);</pre>
Trim	<p>Trim removes leading and trailing spaces and control characters from the given string S.</p> <pre>function Trim(const S: string): string;</pre>
TrimLeft	<p>TrimLeft returns a copy of the string S with leading spaces and control characters removed.</p> <pre>function TrimLeft(const S: string): string;</pre>
TrimRight	<p>TrimRight returns a copy of the string S with trailing spaces and control characters removed.</p> <pre>function TrimRight(const S: string): string;</pre>
UpperCase	<p>UpperCase returns a copy of the string S, with the same text but with all 7-bit ASCII characters between 'a' and 'z' converted to uppercase.</p> <pre>function UpperCase(const S: string): string;</pre>
LowerCase	<p>LowerCase returns a string with the same text as the string passed in S, but with all letters converted to lowercase. The conversion affects only 7-bit ASCII characters between 'A' and 'Z'.</p> <pre>function LowerCase(const S: string): string;</pre>
Format	<p>This function formats the series of arguments in the open array Args.</p> <pre>function Format(const Format: string; const Args: array of const): string;</pre>
StrReplace	<p>StrReplace replaces occurrences of the substring specified by OldPattern with the substring specified by NewPattern. StrReplace assumes that the source string, specified by S, may contain Multibyte characters.</p> <pre>function StrReplace(const S, OldPattern, NewPattern: string; [[0/1],[0/1]]): string;</pre> <p>Square brackets enclose optional parameters.</p> <pre>function StrReplace(const S, OldPattern, NewPattern: string; 0): string; -</pre> <p>StrReplace only replaces the first occurrence of OldPattern in S.</p> <pre>function StrReplace(const S, OldPattern, NewPattern: string; 1): string; - all</pre>

	<p>instances of OldPattern are replaced by NewPattern.</p> <p>function StrReplace(const S, OldPattern, NewPattern: string; 0/1,1): string; - the comparison operation is case insensitive.</p> <p>Examples:</p> <pre>A := StrReplace(b,'old','new'); A := StrReplace(b,'old','new',1); A := StrReplace(b,'old','new',0,1);</pre>
Chr	<p>Chr returns the character with the ordinal value (ASCII value) of the byte-type expression, X.</p> <pre>function Chr(X: Byte): Char;</pre>
DateTime functions:	
Now	<p>Returns the current date and time, corresponding to Date + Time.</p> <pre>function Now: TDateTime;</pre>
Date	<p>Use Date to obtain the current local date as a TDateTime value.</p> <pre>function Date: TDateTime;</pre>
Time	<p>Time returns the current time as a TDateTime value.</p> <pre>function Time: TDateTime;</pre>
DateToStr	<p>Use DateToStr to obtain a string representation of a date value that can be used for display purposes.</p> <pre>function DateToStr(Date: TDateTime): string;</pre>
StrToDate	<p>Call StrToDate to parse a string that specifies a date.</p> <pre>function StrToDate(const S: string): TDateTime;</pre>
TimeToStr	<p>TimeToStr converts the Time parameter, a TDateTime value, to a string.</p> <pre>function TimeToStr(Time: TDateTime): string;</pre>
StrToTime	<p>Call StrToTime to parse a string that specifies a time value.</p>

	function StrToTime(const S: string): TDateTime;
FormatDateTime	FormatDateTime formats the TDateTime value given by DateTime using the format given by Format. function FormatDateTime(const Format: string; DateTime: TDateTime): string;
DayOfWeek	DayOfWeek returns the day of the week of the specified date as an integer between 1 and 7, where Sunday is the first day of the week and Saturday is the seventh. function DayOfWeek(Date: TDateTime): Integer;
IncMonth	IncMonth returns the value of the Date parameter, incremented by NumberOfMonths months. function IncMonth(const Date: TDateTime; NumberOfMonths: Integer = 1): TDateTime;
DecodeDate	The DecodeDate procedure breaks the value specified as the Date parameter into Year, Month, and Day values. procedure DecodeDate(Date: TDateTime; var Year, Month, Day: Word);
DecodeTime	DecodeTime breaks the object specified as the Time parameter into hours, minutes, seconds, and milliseconds. procedure DecodeTime(Time: TDateTime; var Hour, Min, Sec, MSec: Word);
EncodeDate	EncodeDate returns a TDateTime value from the values specified as the Year, Month, and Day parameters. function EncodeDate(Year, Month, Day: Word): TDateTime;
EncodeTime	EncodeTime encodes the given hour, minute, second, and millisecond into a TDateTime value. function EncodeTime(Hour, Min, Sec, MSec: Word): TDateTime;
Math functions:	
Abs	Abs returns the absolute value of the argument, X. function Abs(X);

Int	Int returns the integer part of X; that is, X rounded toward zero. function Int(X: Extended): Extended;
Frac	The Frac function returns the fractional part of the argument X. function Frac(X: Extended): Extended;
Round	The Round function rounds a real-type value to an integer-type value. function Round(X: Extended): Int64;
Ceil	Call Ceil to obtain the lowest integer greater than or equal to X. The absolute value of X must be less than MaxInt. function Ceil(const X: Extended): Integer;
Floor	Call Floor to obtain the highest integer less than or equal to X. function Floor(const X: Extended): Integer;
Trunc	The Trunc function truncates a real-type value to an integer-type value. function Trunc(X: Extended): Int64;
Sin	The Sin function returns the sine of the argument. function Sin(X: Extended): Extended;
Cos	Cos returns the cosine of the angle X, in radians. function Cos(X: Extended): Extended;
Tan	Tan returns the tangent of X. function Tan(const X: Extended): Extended;
ArcSin	ArcSin returns the inverse sine of X. function ArcSin(const X: Extended): Extended;
ArcCos	ArcCos returns the inverse cosine of X. function ArcCos(const X: Extended): Extended;

ArcTan	ArcTan returns the arctangent of X. function ArcTan(X: Extended): Extended;
Exp	Exp returns the value of e raised to the power of X, where e is the base of the natural logarithms. function Exp(X: Real): Real;
Ln	Ln returns the natural logarithm ($\text{Ln}(e) = 1$) of the real-type expression X. function Ln(X: Real): Real;
IntPower	IntPower raises Base to the Power specified by Exponent. function IntPower(Base: Extended; Exponent: Integer): Extended;
Sqr	The Sqr function returns the square of the argument. function Sqr(X: Extended): Extended;
Sqrt	Returns the square root of X. function Sqrt(X: Extended): Extended;
Inc	Inc adds one or N to the variable X. procedure Inc(var X [; N: Longint]);
Dec	The Dec procedure subtracts one or N from a variable. procedure Dec(var X[; N: Longint]);
Other functions:	
Beep	Beep calls the Windows API MessageBeep. procedure Beep;
ShowMessage	Call ShowMessage to display a simple message box with an OK button. procedure ShowMessage(const Msg: string);
Min	Call Min to compare multiple numeric or string values. Min returns the smaller value of all.

	function Min(A,B,[C,]: Integer): Integer; function Min('A','B',['C',]: String): String;
Max	Call Max to compare multiple numeric or string values. Max returns the greater value of all. function Max(A,B,[C,]: Integer): Integer; function Max('A','B',['C',]: String): String;

Example: We'll use the post-processing script to replace the 2.5 value extracted from the first block in our sample message with 2,5 to make it compatible with some databases.

Hello, we are pleased to announce that one of your files has just been sold. Below is more information about the file sold:

File Reference : 718902 File

Name : photo lens

Purchase Date : 2009-09-16 11:34:15

Purchase License : S

Sale Price : **2.5**

Purchase Date : 2009-09-16 16:29:57

Purchase License : XS

Sale Price : 1

Purchase Date : 2009-09-16 21:57:17

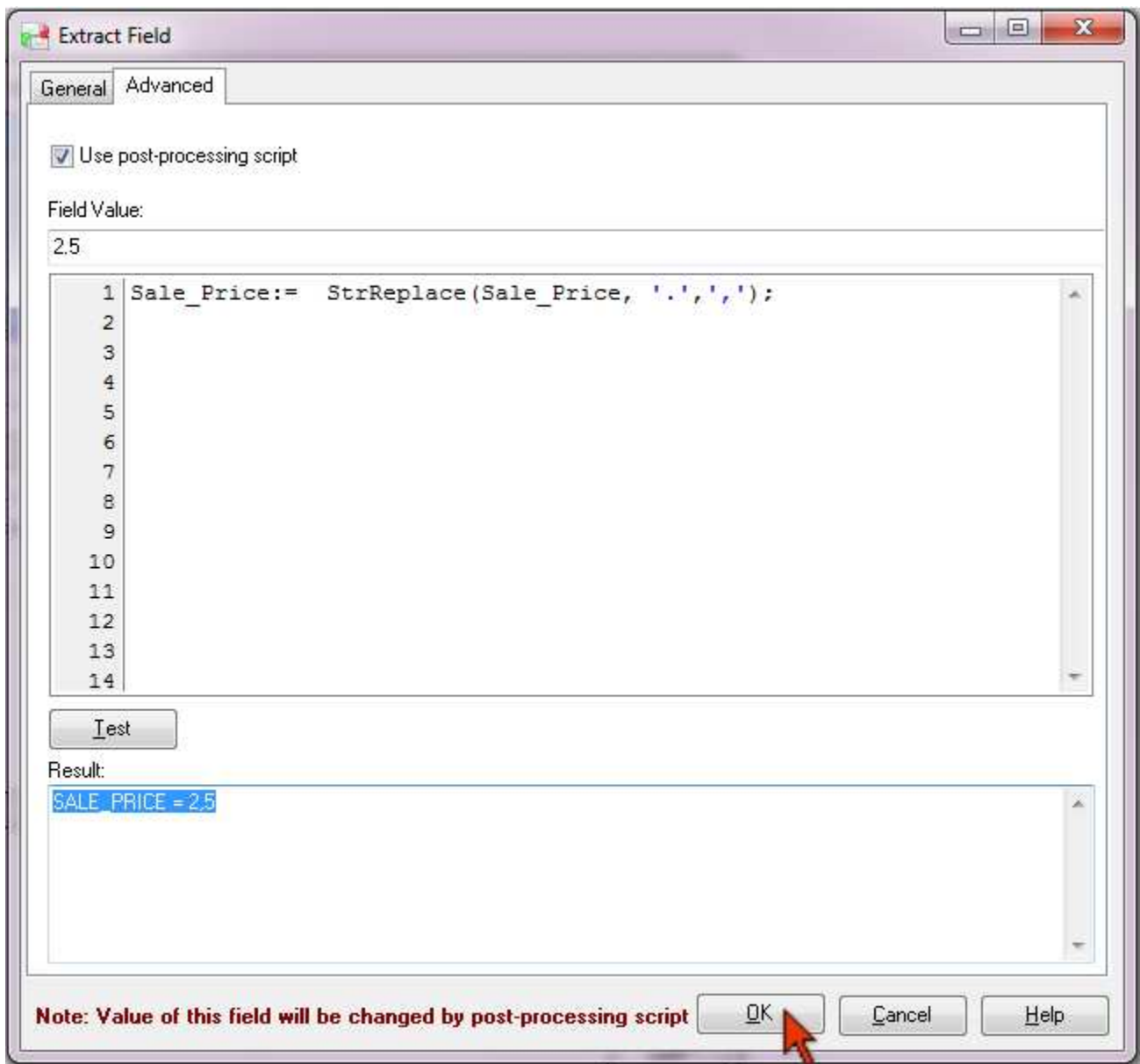
Purchase License : L

Sale Price : 2

The post-processing script we use is:

```
Sale_Price:= StrReplace(Sale_Price, '.', ',');
```

For test we type the field value 2.5 and click "Test". We get the result that the script is correct: SALE_PRICE = 2,5



Generate Value from Mask

The Field Extractor allows you automatically generate a value for the field. You can set the program to generate:

- random numbers;
- random characters;
- current date.

To set the Field Extractor to generate a field value, do the following:

1. Type a name of a field to generate in the **Field Name** box.
2. Select "**Generated value from mask**" in the **Source** box.
3. Type a mask for the value you want to generate in the empty box:

d - denotes random numeric values from 0 to 9

w - denotes random characters from

'a' to 'z' W - denotes random capital characters from 'A' to 'Z'

\ - inserts the symbols d, w, W (for example, \d means that the program inserts 'd' and do not replace it with a random number from 0 to 9)

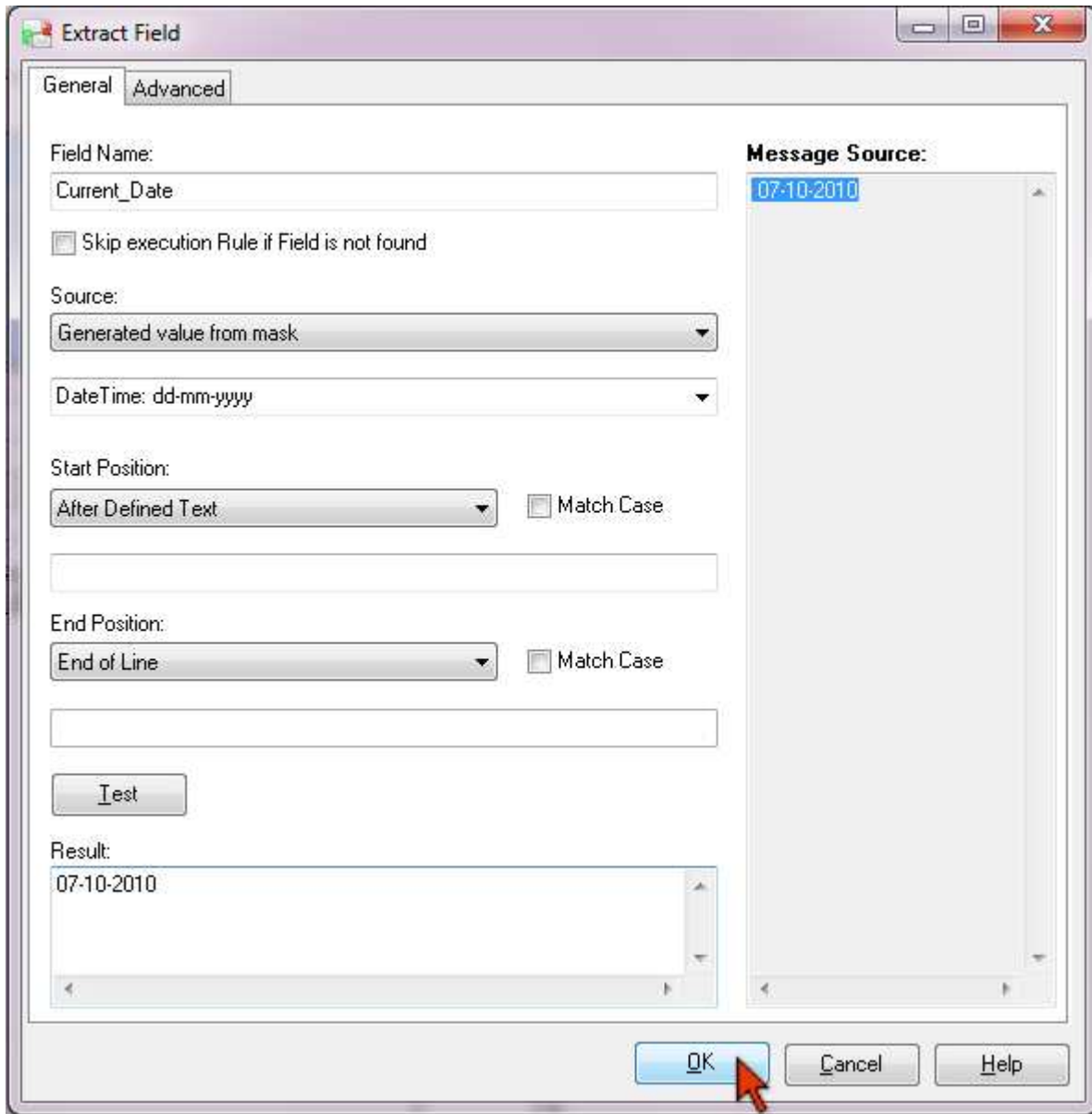
\\ - inserts the \ symbol

Click **Test** to see the result.

Example: If you enter a mask ddddd, the program will generate a value for your field from 5 random numbers: 86632.

If you enter a mask like this Or\derID: dddd-ddd-ddd-dddd, the program will generate the following: OrderID: 2435-645-987-0921.

You can also set a mask to generate a current date. To do this, enter `DateTime:` in the appropriate box and then specify the format of the date you want to be generated. For example: `DateTime: dd-mm-yyyy`.



The following formats of date are supported:

c	Displays the date using the format given by the ShortDateFormat global variable, followed by the time using the format given by the LongTimeFormat global variable. The time is not displayed if the fractional part of the DateTime value is zero.
d	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat) using the strings given by the ShortDayNames global variable.
dddd	Displays the day as a full name (Sunday-Saturday) using the strings given by the LongDayNames global variable.
ddddd	Displays the date using the format given by the ShortDateFormat global variable.
dddddd	Displays the date using the format given by the LongDateFormat global variable.
m	Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mm	Displays the month as a number with a leading zero (01-12). If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec) using the strings given by the ShortMonthNames global variable.
mmmm	Displays the month as a full name (January-December) using the strings given by the LongMonthNames global variable.
yy	Displays the year as a two-digit number (00-99).
yyyy	Displays the year as a four-digit number (0000-9999).
h	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
n	Displays the minute without a leading zero (0-59).

nn	Displays the minute with a leading zero (00-59).
s	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
t	Displays the time using the format given by the ShortTimeFormat global variable.
tt	Displays the time using the format given by the LongTimeFormat global variable
am/pm	Uses the 12-hour clock for the preceding h or hh specifier, and displays 'am' for any hour before noon, and 'pm' for any hour after noon. The am/pm specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
a/p	Uses the 12-hour clock for the preceding h or hh specifier, and displays 'a' for any hour before noon, and 'p' for any hour after noon. The a/p specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
ampm	Uses the 12-hour clock for the preceding h or hh specifier, and displays the contents of the TimeAMString global variable for any hour before noon, and the contents of the TimePMString global variable for any hour after noon.
/	Displays the date separator character given by the DateSeparator global variable.
:	Displays the time separator character given by the TimeSeparator global variable.
'xx'/"xx"	Characters enclosed in single or double quotes are displayed as-is, and do not affect formatting.

Selecting Fields from Database

Using the "**Select from database**" component you can select any fields from the local or remote database and use them in other components in the rule such as "Save to File", "Send Email", and "Script Processor".

To select fields from the database:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Select from database**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Select from database**" component in the menu.

Type the component name.

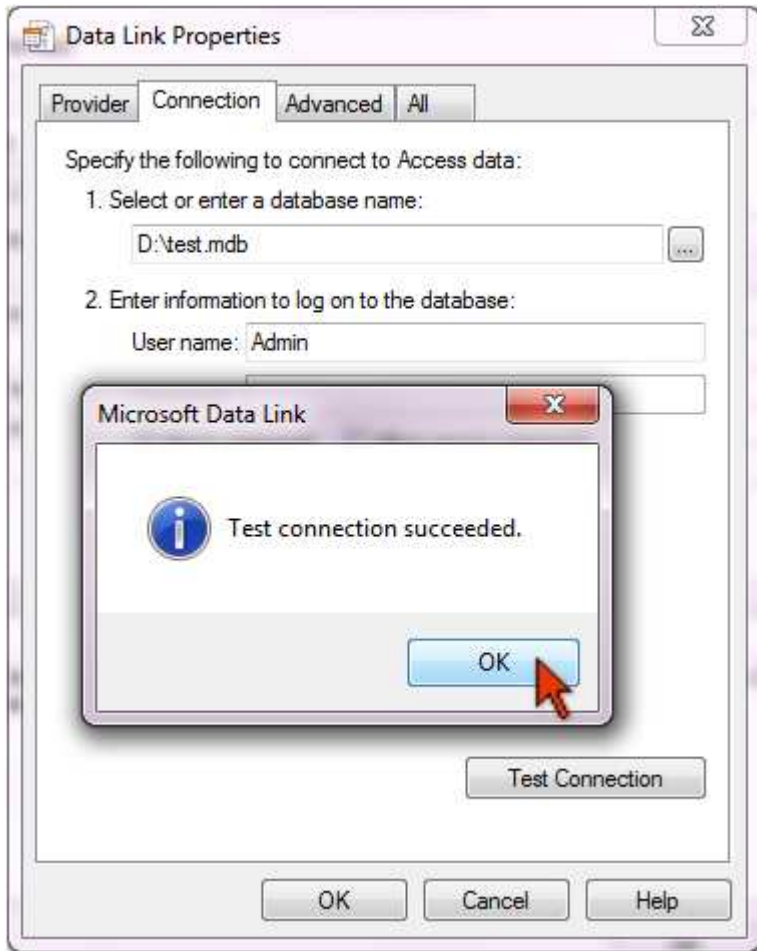
Click on the "**Select Database**" button to select the database you want to select fields from.

Select the provider and click **Next**.

On the **Connection** tab select or type the database name and click "**Test Connection**".

If the connection succeeds, click OK to close the message box and then click OK to close the "**Data Link Properties**" window.

Perform this action if the field - check this option if you want to set a condition to perform the action.



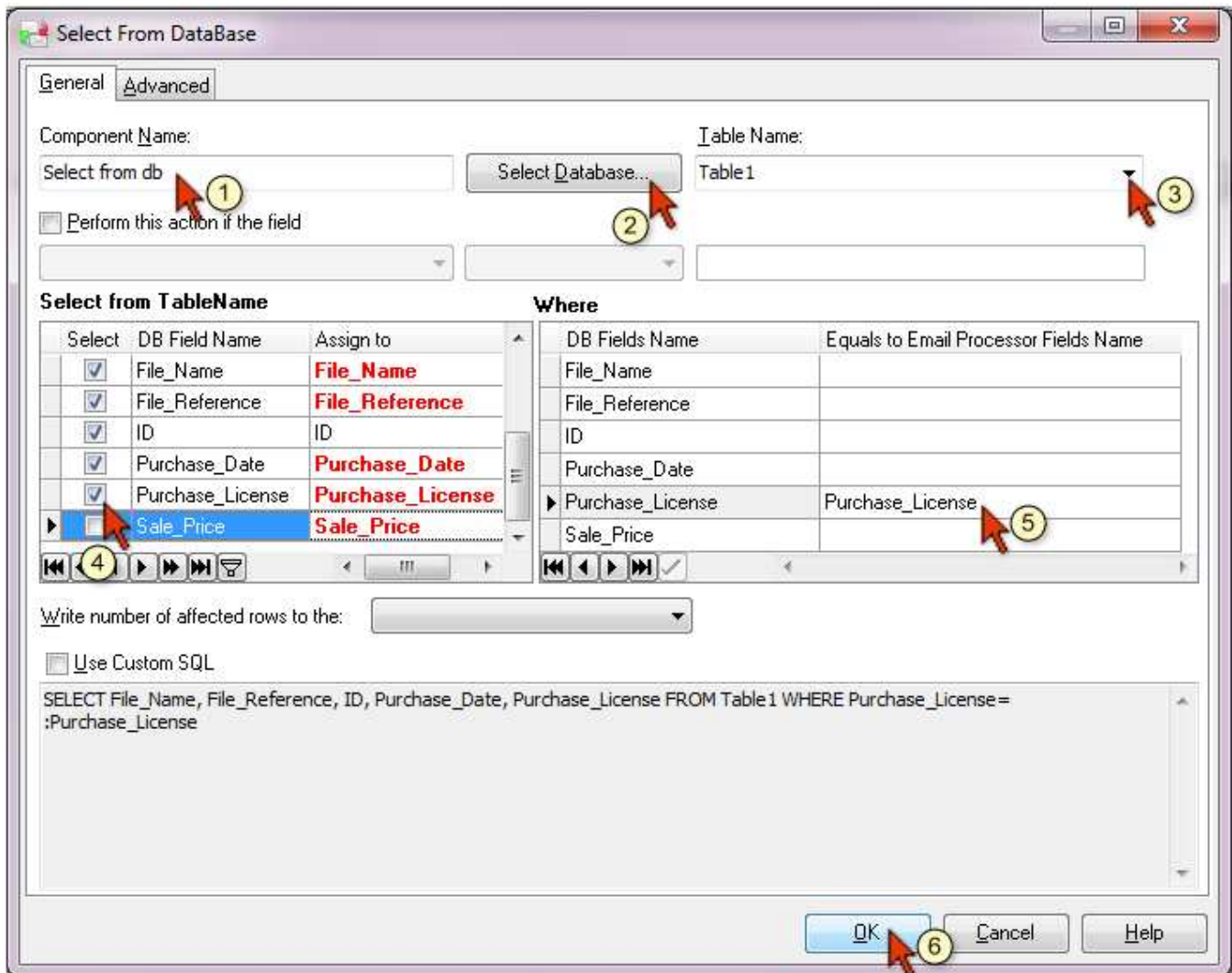
Select the table from the database in the "**Table Name**" field.

DB Field Name column displays the fields from the selected table. Put the check marks next to the fields you want to select from the database.

Assign to column displays the fields which will be available in G-Lock Email Processor after selection from the database. **Note:** if the field names are highlighted by **red** in the **Assign to** column, it means such fields are already used in the Field Extractor and will be overwritten by the data selected from the database.

Define the search field in the **Where** section. Using this field the program will select the records from the table. If you do not define any search field, the program will select all the records from the table.

Write number of affected rows to the - this option allows count the number of lines selected from the database. Select the field name from the drop down box, which will store this variable. **Note:** You must add a field with Blank Value as source in the Field Extractor beforehand.

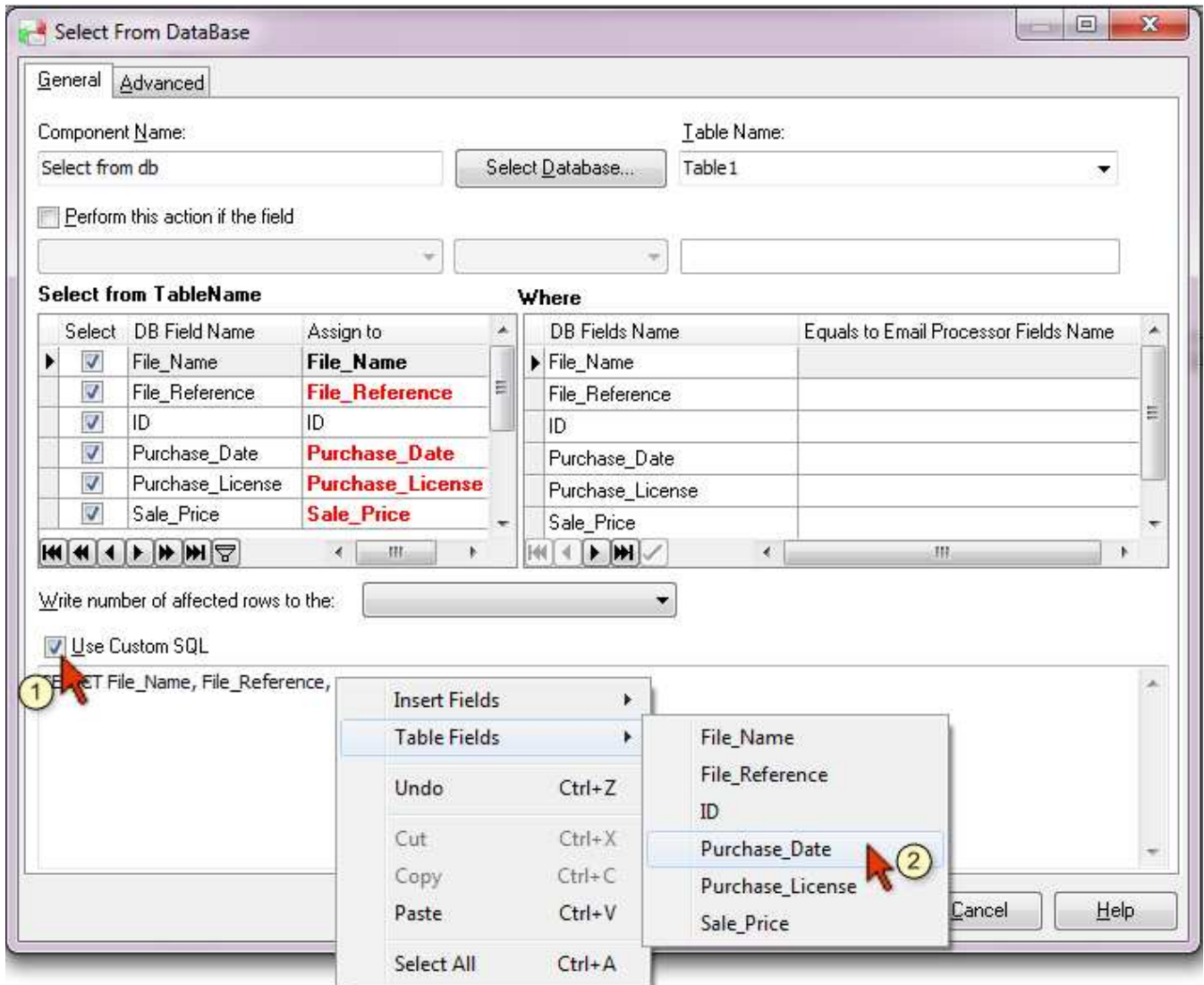


Using Custom SQL to Select Fields from Database

To use your own SQL query to select fields from the database, check the **"Use Custom SQL"** option and write your SQL text.

If you click the right mouse button on the screen, the popup menu will display. Click on **"Insert Fields"** and select the field name to use the field in the SQL query. Click on **"Table Fields"** to insert the fields from the selected table into the SQL query.

Note: when you add the **"Select from database"** component within a block, you can use all the fields extracted by the Field Extractor in your SQL text. When you add the **"Select from database"** component outside the block, you can use only those fields in your SQL text that are extracted outside the block (the fields extracted within a block are not available).



Connection String

Click on the **Advanced** tab to see the information about the connection to the selected database. Click OK to save the component settings.

Inserting Fields into Database

Using the "**Insert into database**" component you can insert the fields extracted from the message into the database.

To insert fields into the database:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Insert into database**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Insert into database**" component in the menu.

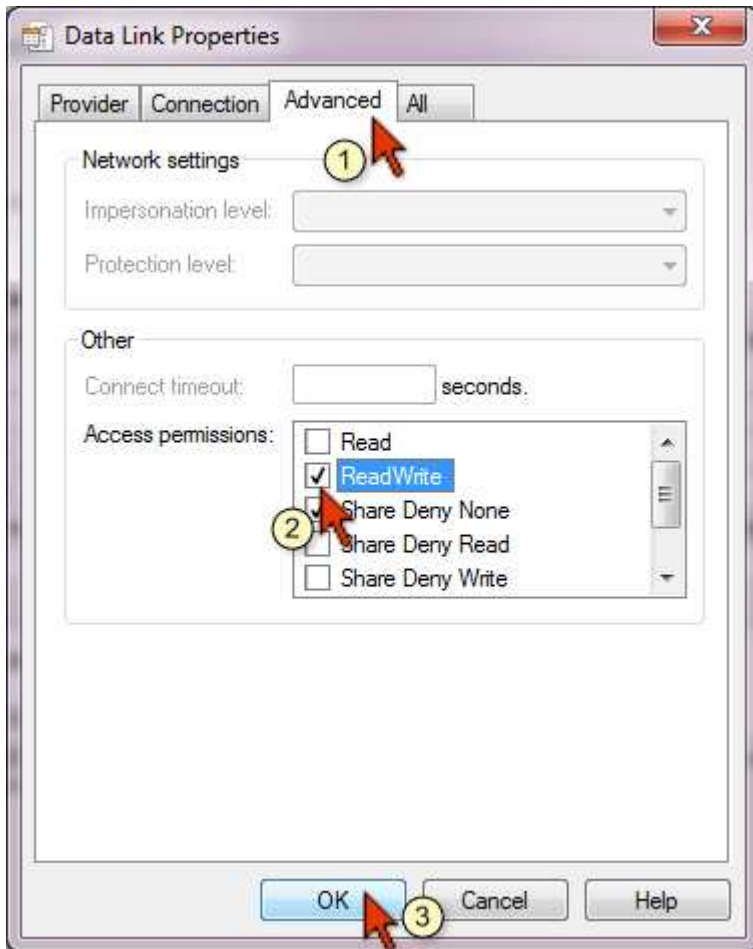
Type the component name.

Click on the "**Select Database**" button to select the database you want to insert the fields into. Select the provider and click **Next**.

On the Connection tab select or type the database name and click "**Test Connection**".

If the connection succeeds, click on the **Advanced** tab on the "**Data Link Properties**" screen.

Check the "**ReadWrite**" box and click OK.



Select the table from the database in the **"Table Name"** field. You will see the fields of the selected table on the screen.

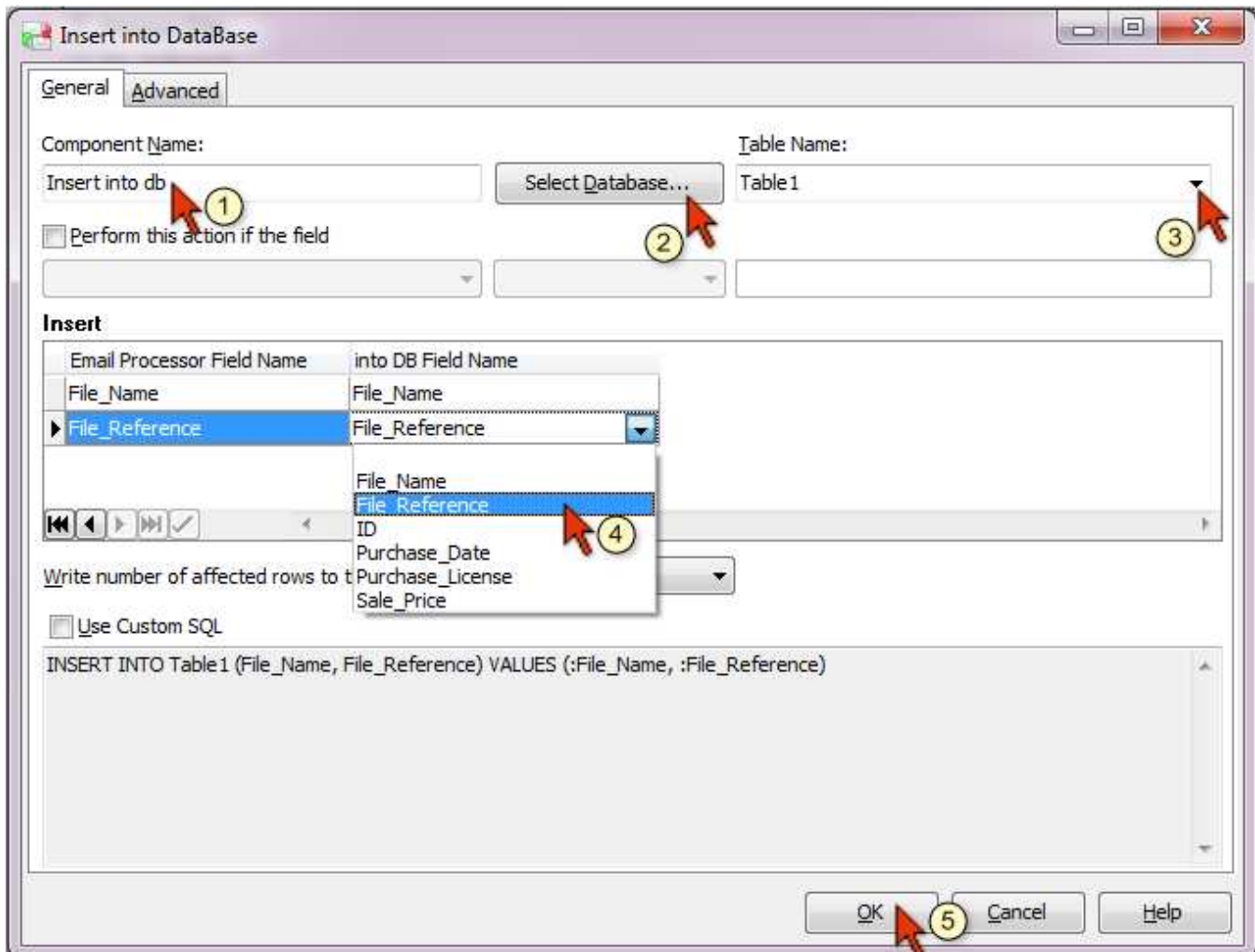
Email Processor Field Name column displays the fields extracted by G-Lock Email Processor from the message that you can insert into the database.

Select the fields in the database to which you will write extracted data in the **"into DB Field Name"** column.

Write number of affected rows to the - this option allows count the number of lines inserted into the database. Select the field name from the

drop down box, which will store this variable. **Note:** You must add a field with Blank Value as source in the Field Extractor beforehand.

Perform this action if the field - check this option if you want to set a condition to perform the action.



Using Custom SQL to Insert Fields into the Database

To use your own SQL query to insert fields into the database, check the **"Use Custom SQL"** option and write your SQL text.

If you click the right mouse button on the screen, the popup menu will display. Click on **"Insert Fields"** and select the field name to use the field in the SQL query. Click on **"Table Fields"** to insert the fields from the selected table into the SQL query.

Note: when you add the **"Insert into database"** component within a block, you can use all the fields extracted by the Field Extractor in your SQL text. When you add the **"Insert into database"** component outside the block, you can use only those fields in your SQL text that are extracted outside the block (the fields extracted within a block are not available).

Getting Identity Value from Table

Click on the **Advanced** tab in the **"Insert into database"** component.

Check the **"Get identity after insert SQL is executed"** option.

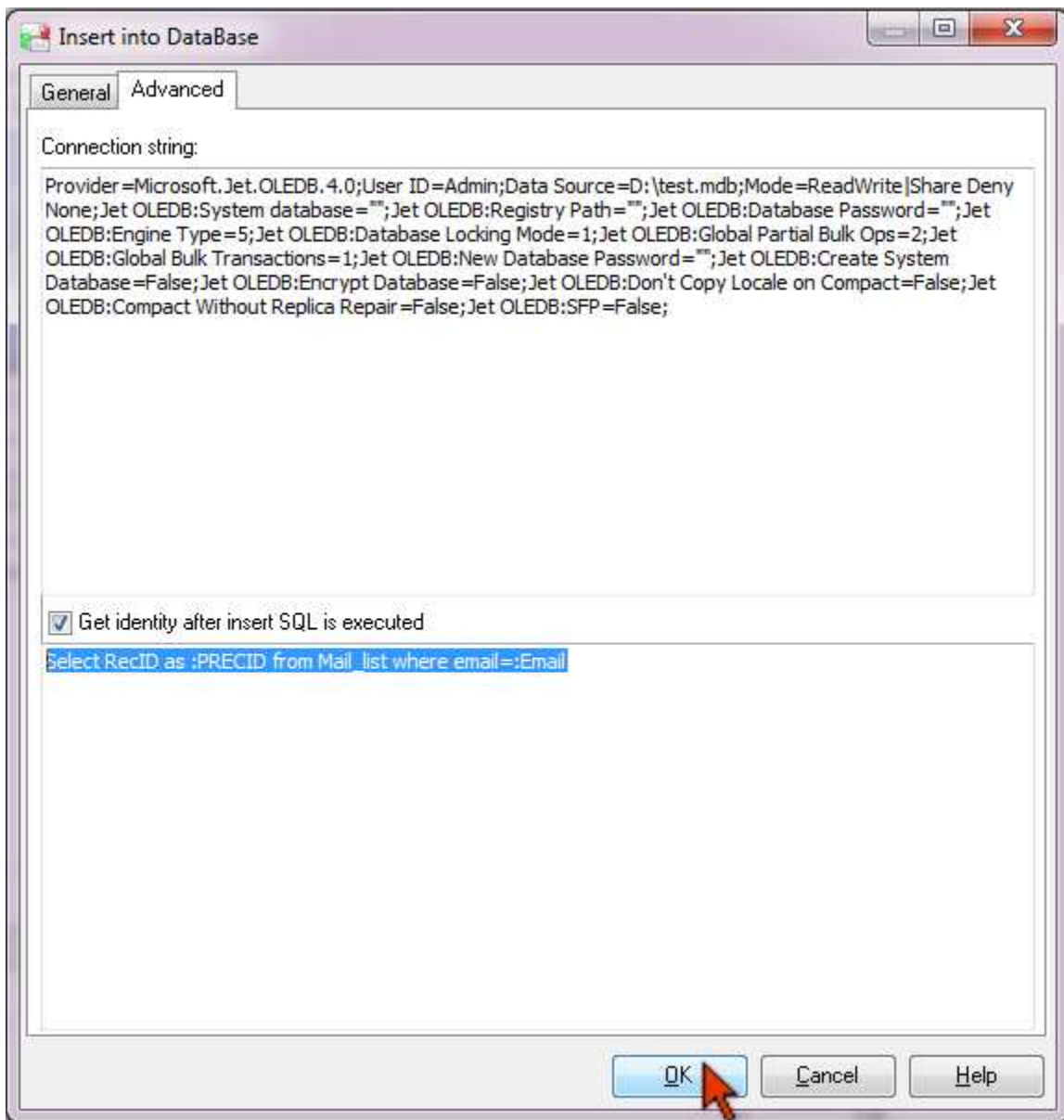
Write your query to get the Identity value after the fields are inserted into the database.

If you have worked with MS SQL Server, MS Access, you are probably familiar with Identity columns. The main purpose of these columns is to provide a primary key to the table, when a primary key cannot be defined using other fields in the table.

The Identity columns are like any other column except that their value is not inserted by the user, but by the system itself.

Example:

Select RecID as :PRECID from Mail_list where email=:Email



Updating Fields in Database

Using the "**Update database**" component you can update fields in the database using the data extracted from the message.

To update the database:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Update database**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Update database**" component in the menu.

Type the component name.

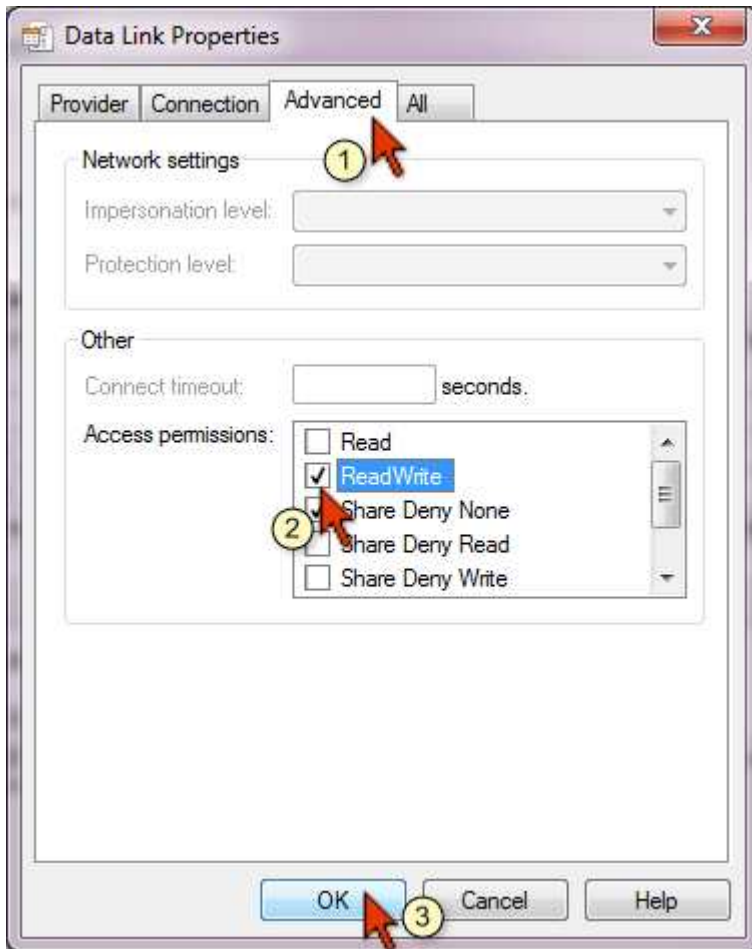
Click on the "**Select Database**" button to select the database you want to update.

Select the provider and click Next.

On the **Connection** tab select or type the database name and click "**Test Connection**".

If the connection succeeds, click on the **Advanced** tab on the "**Data Link Properties**" screen.

Check the "**ReadWrite**" box and click OK.



Select the table from the database in the "**Table Name**" field.

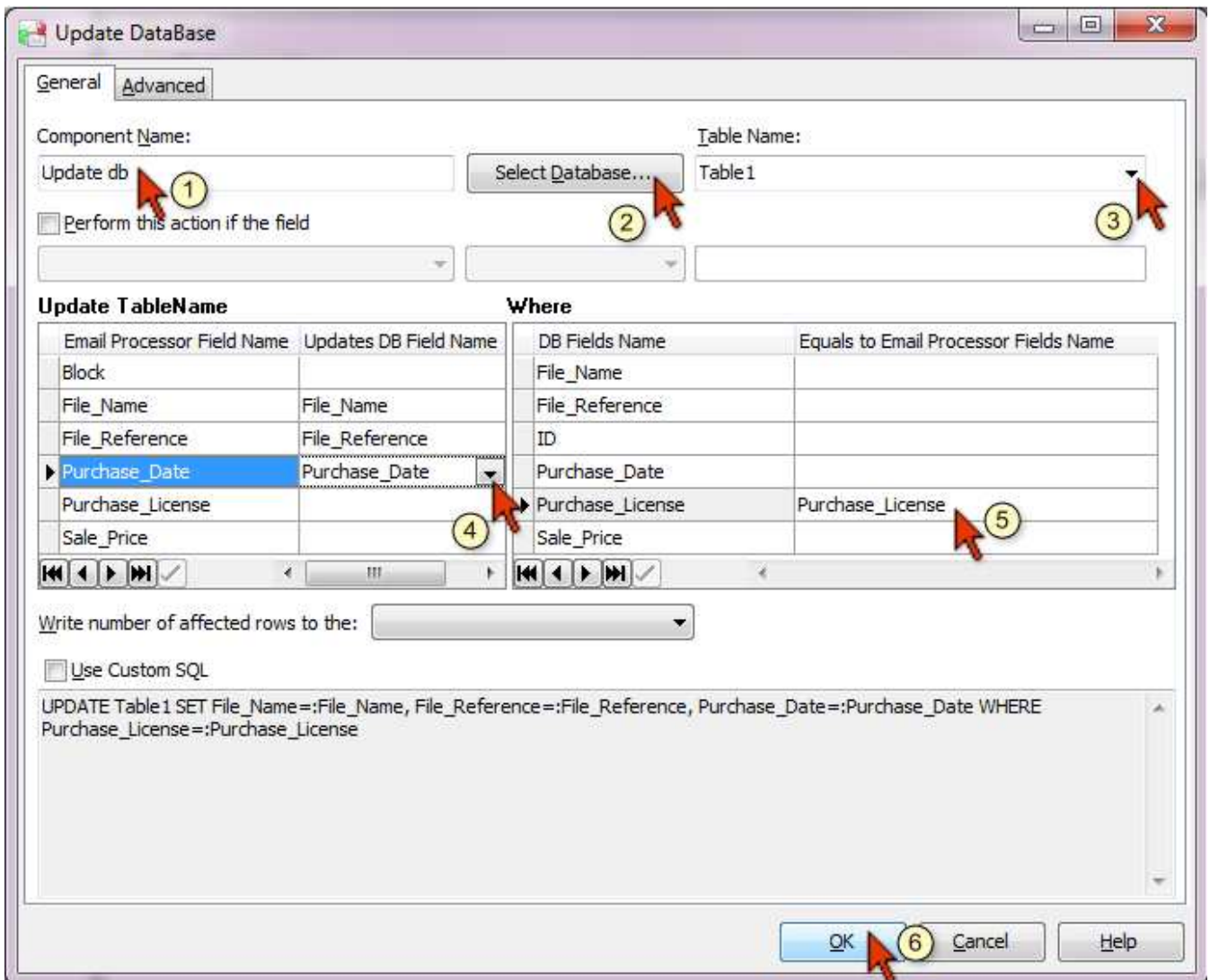
Email Processor Field Name column displays the fields extracted by G-Lock Email Processor from the message.

In the "**Updates DB Field Name**" column select the fields in your table that will be updated with the extracted fields.

Define the search field in the **Where** section. Using this field the program will select the records in the table and update them. If you do not define any search field, the program will update all the records in the table.

Write number of affected rows to the - this option allows count the number of lines selected from the database. Select the field name from the drop down box, which will store this variable. **Note:** You must add a field with Blank Value as source in the Field Extractor beforehand.

Perform this action if the field - check this option if you want to set a condition to perform the action.



Using Custom SQL to Update the Database

To use your own SQL query to update the database, check the "Use Custom SQL" option and write your SQL text.

If you click the right mouse button on the screen, the popup menu will display. Click on "Insert Fields" and select the field name to use the field in the SQL query.

Click on "Table Fields" to insert the fields from the selected table into the SQL query.

Note: when you add the "Update database" component within a block, you can use all the fields extracted by the Field Extractor in your SQL text. When you add the "Update database" component outside the block, you can use only those fields in your SQL text that are extracted outside the block (the fields extracted within a block are not available).

Connection String

Click on the **Advanced** tab to see the information about the connection to the selected database. Click OK to save the component settings.

Deleting Records from Database

Using the "**Delete from database**" component you can delete fields from the database.

To delete fields from the database:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Delete from database**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Delete from database**" component in the menu.

Type the component name.

Click on the "**Select Database**" button to select the database you want to select fields from.

Select the provider and click Next.

On the Connection tab select or type the database name and click "**Test Connection**".

If the connection succeeds, click OK to close the message box and then click OK to close the "**Data Link Properties**" window.

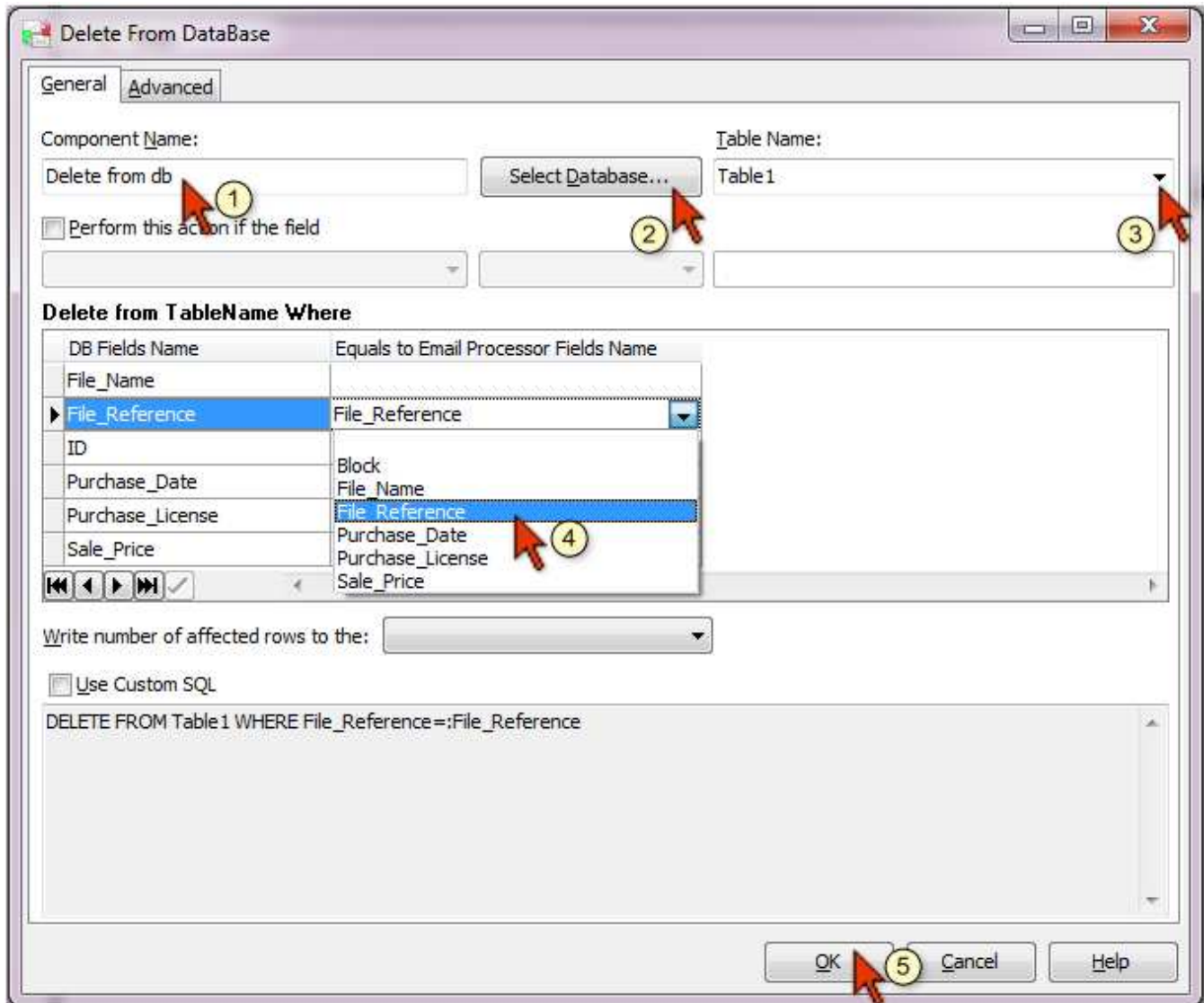
Select the table from the database in the "**Table Name**" field. You will see the fields of the selected table on the screen.

DB Fields Name column displays the fields from the selected table.

Define the search field in the "**Equals to Email Processor Fields Name**" column. Using this field the program will select the records from the table for deletion. If you do not define any search field, the program will delete all the records from the table.

Perform this action if the field - check this option if you want to set a condition to perform the action.

Write number of affected rows to the - this option allows count the number of lines selected from the database. Select the field name from the drop down box, which will store this variable. **Note:** You must add a field with Blank Value as source in the Field Extractor beforehand.



Using Custom SQL to Delete Records from Database

To use your own SQL query to delete records from the database, check the "Use Custom SQL" option and write your SQL text.

If you click the right mouse button on the screen, the popup menu will display. Click on "Insert Fields" and select the field name to use the field in the SQL query.

Click on "**Table Fields**" to insert the fields from the selected table into the SQL query.

Note: when you add the "**Delete from database**" component within a block, you can use all the fields extracted by the Field Extractor in your SQL text. When you add the "**Delete from database**" component outside the block, you can use only those fields in your SQL text that are extracted outside the block (the fields extracted within a block are not available).

Connection String

Click on the **Advanced** tab to see the information about the connection to the selected database. Click OK to save the component settings.

Saving Message Attachment to Disk

Using the "**Save Attachment**" component you can save the email attachment(s) to the disk. Click the black down arrow next to Actions and select Save Attachment.

To add the "**Save Attachment**" component:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Save Attachment**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Save Attachment**" component in the menu.

Type the component name.

Perform this action if the field - check this option if you want to set the condition for "Save Attachment" action, select the field name and criteria. Select the folder to save the attachment(s) to.

If you want to rename the attachment and save it under a new name to the disk, type a new name or mask. If you click the right mouse button in the "**Rename attached file by mask**" field, you can insert the fields from the Field Extractor into the file name.

Overwrite existing file(s) - check this option if you want the program to replace existing files in the folder with new files.

Saving Extracted Fields to File

Using the "**Save To File**" component you can save the data extracted from the message to a file.

To add the "**Save To File**" component:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Save To File**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Save To File**" component in the menu.

Type a component name.

Perform this action if the field - check this option if you want to set the condition to execute the "Save To File" action. This option is very useful if you want the program to automatically sort extracted data and save it to

different files.

If you did not check the **“Perform this action if the field”** option, the program will save to the file the extracted data regardless of any conditions.

File Name - click on the Select button in this field and select the folder to save the file to and type the file name. You cannot use the symbols that are not allowed in the file name: \, /, :, *, ?, ", <, >. The file will be created automatically.

Note: For your convenience you can insert any of the available fields into the file name. To do this, click the right mouse button in the "File Name" field and then select a field name from the "Insert Fields" menu. Field names must be enclosed in brackets and '%' characters. If you specify the file manually, make sure the variables are put in [%...%] brackets.

To specify the format of the file, click the right mouse button in the **"Specify File Format"** area and select the fields from the "Insert Fields" menu.

Click OK to save the component settings.

Sending and Forwarding Email Message

Using the "Send Email" component you can send an email message to one or more recipients including the data extracted from incoming messages into the email Subject or body.

To add the "Send Email" component:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "Send Email" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "Send Email" component in the menu.

Fill in the fields.

Component Name - any name for the "Send Email" component.

Format - click the arrow in this field and select the message format: Rich Text (HTML) or Plain Text.

Forward Original Email - check this option if you want to forward the original email message to another recipient. **Note:** you can type a new subject for the message. If you don't type a new subject, the program will forward the message with the original subject and add FW: at the beginning.

Perform this action if the field - check this option if you want to set the condition to execute the **Send Email** component. This option is very useful if you want the program to automatically send reply messages depending

on the message content. Select a field name in the first box, select a condition in the second box and type the value in the last box.

If you did not check the “**Perform this action if the field**” option, the program will send the message to all the emails regardless of any conditions.

Recipient Name: - type the recipient's name here.

Recipient Email: - type the recipient's email address here.

Subject: - type the message subject here.

For your convenience you can insert any of the extracted fields into the Recipient Name, Recipient Email and Subject fields as well as into the message content. To do this, click the right mouse button in the field and select the field name from the "**Insert Fields**" menu. Field names must be enclosed in brackets and '%' characters.

Encoding - select the message encoding here.

Send email in xx days after processing - check this option and type the number of days if you want to schedule email sending for the future.

Emails will be queued in the Outbox and sent in the specified number of days after incoming messages are processed by the rule.

Note: You don't need to enter the "From Name" and "From Email Address" in the **Send Email** component settings. After you create the rule, you will attach the rule to an account and the program will use the Outgoing Mail Server settings including "From Name" and "From Email Address" you setup in the account settings.

Advanced Send Email Options

BCC - type here additional email addresses you want to send your message to.

Additional header fields - there you can specify additional header fields for your message.

Attach file - here you can select a file on the disk to attach to your message. Put the cursor in the box and click **Add**. You will see the standard window to select the file to attach. Select the file and click **Open**. Your file will appear in **Attached file(s)** section.

To edit the attached file name, click **Edit**. For your convenience you can insert any of the extracted fields into the name of your file. To do this, click the right mouse button on the file name and select a necessary field from the “Insert Fields” menu. Field names must be enclosed in brackets and '%' characters. If you specify the file manually, make sure the variables are put in [%...%] brackets.

To delete the attached file, select the file and click **Delete**.

Click OK to save the settings.

Using Script Processor in the Rule

The **Script Processor** component allows you execute Visual Basic Script (VBScript) and Java Script (JScript) within the rule. You can read more about scripts here.

To add the "**Script Processor**" component:

1. Put the mouse on the rule name in the lower pane and click **Add**. If you want to add the "**Script Processor**" component within a block, put the mouse on the block name and click **Add**.
2. Click on the "**Script Processor**" component in the menu.

Component Name: - type any component name here, for example, Script 1.

Language: - select the scripting language here: JScript or VBScript.

Available Fields: - here you will see the fields that you can use in the script. The access to the values of these fields is available through the Value property:

```
Fields.FieldValue("Field_Name")
```

To test whether the script works or not, type the values for the fields in the Available Fields section and click **Test**. See the result in the Result screen.

In the Script Processor you can use the **MSG.** object which supports the following properties:

Property	Description
RawContent	Raw content of the message

and the following methods:

Method	Description	Syntax
CreateFolder	Creates a folder on the local disk recursively	CreateFolder(FolderName As String) As long
DeleteFile	Deletes the specified file from the local disk	DeleteFile(sFile As String) As long
GetBodyFormat	Returns the message format	GetBodyFormat() As long
GetBodyText	Returns the message HTML part	GetBodyText() As String
GetAltBody	Returns the message alternative body text. If the email consists of the HTML part and plain text part, GetAltBody returns TEXT/PLAIN part of the email. GetAltBody returns nothing if BodyFormat is TEXT/HTML.	GetAltBody () As String
GetAttachmentChunk	Returns the specified file attachment's binary data	GetAttachmentChunk(nCount As Integer) As Variant
GetAttachmentCount	Returns the total count of file attachments of the message	GetAttachmentCount() As long
GetAttachmentName	Returns the message attachment's name	GetAttachmentName(nCount As Integer) As String

GetAttachmentSize	Returns the message attachment's size in bytes	GetAttachmentSize(nCount As Integer) As long
GetCCAddr	Returns the specified CC recipient's email address	GetCCAddr(nCount As Integer) As String
GetCCCCount	Returns the total count of CC recipients	GetCCCCount() As long
GetCCName	Returns the specified CC recipient's friendly name. If the CC recipient has not a friendly name, this method returns the CC recipient's email address.	GetCCName(nCount As Integer) As String
GetDate	Returns the message date	GetDate() As String
GetFrom	Returns the sender's friendly name. If there is no sender's friendly name, this method returns the sender's email address.	GetFrom() As String
GetFromAddress	Returns the sender's email address	GetFromAddress() As String
GetHeader	Returns the message header	GetHeader() As String
GetHeaderItem	Returns the value of specified message header item	GetHeaderItem(sItem As String) As String
GetMessageSize	Returns the message size	GetMessageSize() As long
GetRecipientAddr	Returns the specified recipient's email address	GetRecipientAddr(nCount As Integer) As String
GetRecipientCount	Returns the total count of recipients	GetRecipientCount() As long
GetRecipientName	Returns the specified recipient's	GetRecipientName(nCount As

	friendly name. If there is no recipient's friendly name, this method returns the recipient's email address.	Integer) As String
GetReplyTo	Returns the reply email address. The sender's email address is the default reply address. But in some cases, sender requests the recipient to reply to another email address. This method returns that email address.	GetReplyTo() As String
GetSubject	Returns the message subject	GetSubject() As String
HtmlToText	Converts HTML body text to plain text and returns the converted plain text	HtmlToText(Html As String) As String
GMTToLocalDate	Converts GMT datetime string to DateTime type and returns the converted datetime	GMTToLocalDate(GMTDate As String) As Variant
SaveAttachment	Saves the attachment file to the local disk	SaveAttachment(sPath As String, nCount As Integer) As long
SaveAllAttachments	Saves all attachments to the specified directory	SaveAllAttachments(sPath As String) As long
SaveAttachmentAs	Saves the attachment as another file	SaveAttachmentAs(sFile As String, nCount As Integer) As long

Using Regular Expressions

Below we describe the syntax and semantics of the regular expressions supported by G-Lock Email Processor.

A **regular expression** is a pattern that is matched against a subject string from left to right. Most characters stand for themselves in a pattern, and match the corresponding characters in the subject. As a trivial example, the pattern

The quick brown fox

matches a portion of a subject string that is identical to itself. The power of regular expressions comes from the ability to include alternatives and repetitions in the pattern. These are encoded in the pattern by the use of meta-characters, which do not stand for themselves but instead are interpreted in some special way.

There are two different sets of meta-characters: those that are recognized anywhere in the pattern except within square brackets, and those that are recognized in square brackets.

Outside square brackets, the meta-characters are as follows:

- \ (backslash) - general escape character with several uses
- ^ (circumflex) - asserts start of string (or line, in multiline mode)
- \$ (dollar) - asserts end of string (or line, in multiline mode)
- . (full stop (period, dot)) - matches any character except newline (by default)
- [] (square brackets) - start and end character class definition

- | (vertical bar) - starts of alternative branch
- () (round brackets) - start and end subpattern
- ? extends the meaning of (also 0 or 1 quantifier, also quantifier minimizer
- * 0 or more quantifier
- + 1 or more quantifier
also "possessive quantifier"
- { start min/max quantifier

Part of a pattern that is in square brackets is called a "character class". In a character class the only meta-characters are:

- \ general escape character
- ^ negates the class, but only if the first character
- indicates character range
- [opens a character class
-] terminates the character class

Let's describe each of these meta-characters in details.

Backslash (\)

The backslash character has several uses:

1) if it is followed by a non-alphameric character, it takes away any special meaning that character may have. This use of backslash as an escape character applies both inside and outside character classes.

For example, if you want to match a * character, you write * in the pattern. This escaping action applies whether or not the following character would otherwise be interpreted as a meta-character, so it is

always safe to precede a non-alphanumeric with backslash to specify that it stands for itself. In particular, if you want to match a backslash, you write `\\`.

2) the second use of backslash provides a way of encoding non-printing characters in patterns in a visible manner. There is no restriction on the appearance of non-printing characters, apart from the binary zero that terminates a pattern, but when a pattern is being prepared by text editing, it is usually easier to use one of the following escape sequences than the binary character it represents:

- `\a` alarm, that is, the BEL character (hex 07)
- `\cx` "control-x", where x is any character
- `\e` escape (hex 1B)
- `\f` formfeed (hex 0C)
- `\n` newline (hex 0A)
- `\r` carriage return (hex 0D)
- `\t` tab (hex 09)
- `\ddd` character with octal code ddd, or backreference
- `\xhh` character with hex code hh
- `\x{hhh..}` character with hex code hhh... (UTF-8 mode only)

3) the third use of backslash is for specifying generic character types:

- `\d` any decimal digit
- `\D` any character that is not a decimal digit
- `\s` any whitespace character
- `\S` any character that is not a whitespace character
- `\w` any "word" character
- `\W` any "non-word" character

Each pair of escape sequences partitions is the complete set of characters into two disjoint sets. Any given character matches one, and only one, of each pair.

4) the fourth use of backslash is for certain simple assertions. An assertion specifies a condition that has to be met at a particular point in a match, without consuming any characters from the subject string. The backslashed assertions are:

- `\b` matches at a word boundary
- `\B` matches when not at a word boundary
- `\A` matches at start of subject
- `\Z` matches at end of subject or before newline at end
- `\z` matches at end of subject
- `\G` matches at first matching position in subject

These assertions may not appear in character classes (but note that `\b` has a different meaning, namely the backspace character, inside a character class).

Circumflex (^)

Outside a character class, in the default matching mode, the circumflex character is an assertion, which is true only if the current matching point is at the start of the subject string.

Inside a character class, circumflex has an entirely different meaning. Circumflex need not be the first character of the pattern if a number of alternatives are involved, but it should be the first thing in each alternative

in which it appears if the pattern is ever to match that branch. If all possible alternatives start with a circumflex, that is, if the pattern is constrained to match only at the start of the subject, it is said to be an "anchored" pattern.

Dollar (\$)

A dollar character is an assertion, which is true only if the current matching point is at the end of the subject string, or immediately before a newline character that is the last character in the string (by default).

Dollar does not need to be the last character of the pattern if a number of alternatives are involved, but it should be the last item in any branch in which it appears. Dollar has no special meaning in a character class.

Full stop (period, dot) (.)

Outside a character class, a dot in the pattern matches any one character in the subject, including a non-printing character, but not (by default) newline. The handling of dot is entirely independent of the handling of circumflex and dollar, the only relationship being that they both involve newline characters. Dot has no special meaning in a character class.

Square brackets []

An opening square bracket introduces a character class, terminated by a closing square bracket. A closing square bracket on its own is not special. If a closing square bracket is required as a member of the class, it should be the first data character in the class (after an initial circumflex, if present) or escaped with a backslash.

A matched character must be in the set of characters defined by the class, unless the first character in the class definition is a circumflex, in which case the subject character must not be in the set defined by the class. If a circumflex is actually required as a member of the class, ensure it is not the first character, or escape it with a backslash.

For example, the character class `[aeiou]` matches any lower case vowel, while `[^aeiou]` matches any character that is not a lower case vowel. Note that a circumflex is just a convenient notation for specifying the characters that are in the class by enumerating those that are not. It is not an assertion: it still consumes a character from the subject string, and fails if the current pointer is at the end of the string.

When caseless matching is set (`(?i)` characters are used to set a case insensitivity in the regular expression, for example, `[(?i)aeiou]`), any letters in a class represent both their upper case and lower case versions, so for example, a caseless `[aeiou]` matches "A" as well as "a", and a caseless `[^aeiou]` does not match "A", whereas a careful version would.

Minus (-)

The minus (hyphen) character can be used to specify a range of characters in a character class. For example, `[d-m]` matches any letter between d and m, inclusive. If a minus character is required in a class, it must be escaped with a backslash or appear in a position where it cannot be interpreted as indicating a range, typically as the first or last character in the class.

All non-alphanumeric characters other than `\`, `-`, `^` (at the start) and the terminating `]` are non-special in character classes, but it does no harm if they are escaped.

Vertical bar (|)

Vertical bar characters are used to separate alternative patterns. For example, the pattern

```
gilbert|sullivan
```

matches either "gilbert" or "sullivan". Any number of alternatives may appear, and an empty alternative is permitted (matching the empty string). The matching process tries each alternative in turn, from left to right, and the first one that succeeds is used. If the alternatives are within a subpattern (defined below), "succeeds" means matching the rest of the main pattern as well as the alternative in the subpattern.

Round brackets ()

Round brackets are used as subpatterns delimiters. Marking part of a pattern as a subpattern does two things:

1. It localizes a set of alternatives. For example, the pattern

```
cat(aract|erpillar|)
```

matches one of the words "cat", "cataract", or "caterpillar". Without the parentheses, it would match "cataract", "erpillar" or the empty string.

2. It sets up the subpattern as a capturing subpattern (as defined above). Opening parentheses are counted from left to right (starting from 1) to obtain the numbers of the capturing subpatterns.

For example, if the string "the red king" is matched against the pattern

```
the ((red|white) (king|queen))
```

the captured substrings are "red king", "red", and "king", and are numbered 1, 2, and 3, respectively.

The fact that plain parentheses fulfill two functions is not always helpful. There are often times when a grouping subpattern is required without a capturing requirement. If an opening parenthesis is followed by a question mark and a colon, the subpattern does not do any capturing, and is not counted when computing the number of any subsequent capturing subpatterns. For example, if the string "the white queen" is matched against the pattern

```
the ((?:red|white) (king|queen))
```

the captured substrings are "white queen" and "queen", and are numbered 1 and 2. The maximum number of capturing subpatterns is 65535, and the maximum depth of nesting of all subpatterns, both capturing and non-capturing, is 200.

Quantifiers

The quantifiers can follow any of the following items:

- a literal data character

- the `.` metacharacter

- the `\C` escape sequence

- escapes such as `\d` that match single characters

a character class

a back reference (see next section)

a parenthesized subpattern (unless it is an assertion)

The general repetition quantifier specifies a minimum and maximum number of permitted matches, by giving the two numbers in curly brackets (braces), separated by a comma. The numbers must be less than 65536, and the first must be less than or equal to the second. For example:

`z{2,4}`

matches "zz", "zzz", or "zzzz". A closing brace on its own is not a special character. If the second number is omitted, but the comma is present, there is no upper limit; if both the second number and the comma are omitted, the quantifier specifies an exact number of required matches. Thus

`[aeiou]{3,}`

matches at least 3 successive vowels, but may match many more, while

`\d{8}`

matches exactly 8 digits. An opening curly bracket that appears in a position where a quantifier is not allowed, or one that does not match the syntax of a quantifier is taken as a literal character. For example, `{,6}` is not a quantifier, but a literal string of four characters.

The quantifier `{0}` is permitted, causing the expression to behave as if the previous item and the quantifier were not present.

For convenience the three most common quantifiers have single-character abbreviations:

- * is equivalent to {0,}
- + is equivalent to {1,}
- ? is equivalent to {0,1}

By default, the quantifiers are "greedy", that is, they match as much as possible (up to the maximum number of permitted times), without causing the rest of the pattern to fail. The classic example of where this gives problems is in trying to match comments in C programs. These appear between the sequences `/*` and `*/` and within the sequence, individual `*` and `/` characters may appear. An attempt to match C comments by applying the pattern

```
^*.*\*/
```

to the string

```
/* first command */ not comment /* second comment */
```

fails, because it matches the entire string owing to the greediness of the `.*` item.

However, if a quantifier is followed by a question mark, it ceases to be greedy, and instead matches the minimum number of times possible, so the pattern

```
^*.?\*/
```

does the right thing with the C comments. The meaning of the various quantifiers is not otherwise changed, just the preferred number of matches. Do not confuse this use of question mark with its use as a quantifier in its own right. Because it has two uses, it can sometimes appear doubled, as in

```
\d??\d
```

which matches one digit by preference, but can match two if that is the only way the rest of the pattern matches.

Testing Rule

After you created the rule that defines how the messages should be processed, it's a good idea to test whether the rule works as it should. To do this, click on the **Rules** at the left pane.

Select the rule name at the right pane and click on the "**Test Rule**" button under the **Home** menu.

The rule will be tested using the email message you specified in the Rule Settings.

You'll see the log of the message processing. The log will show which components worked successfully, which ones were skipped and which ones failed.

You can tune up and test the rule until you make sure it works as it should.

Running G-Lock Email Processor as a Service

Running Service to Process Emails

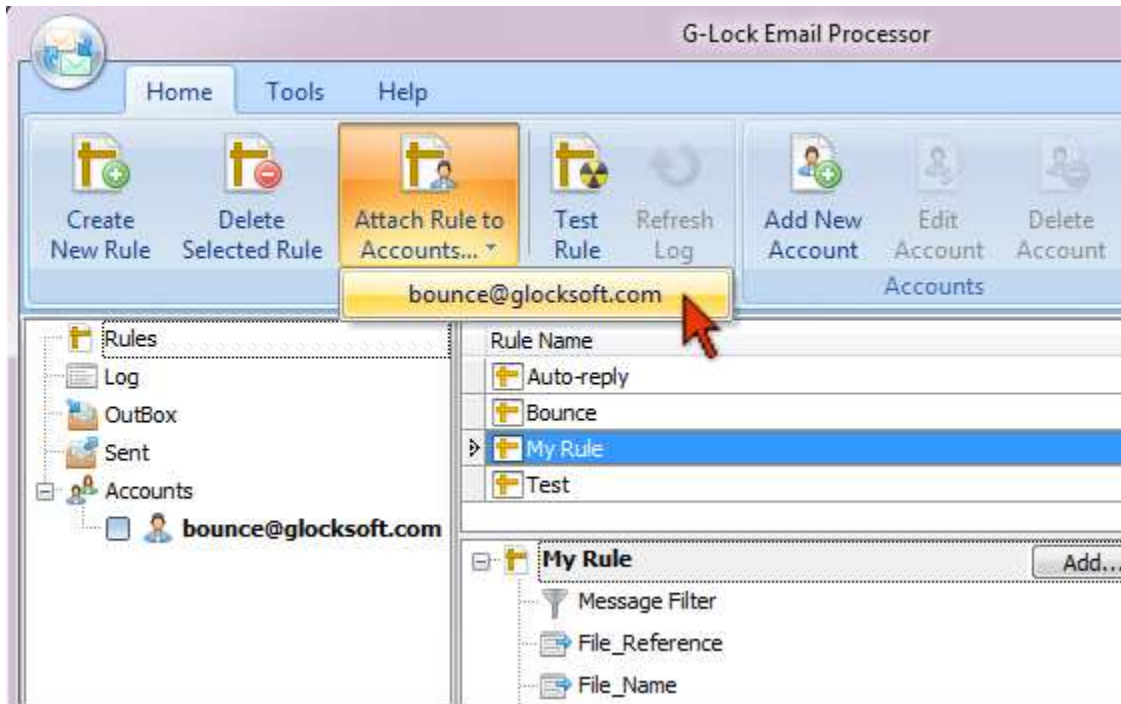
Once you setup an account to retrieve the messages from and created the rule, it's time to start the program to retrieve and process the messages.

To do this, you need to attach the rule to an account. This means that the messages retrieved from this account will be processed by the attached rule. You can attach one or more rules to the same account. And you can attach the same rule to one or more accounts.

Click on **Rules** at the left pane.

Select the rule at the right pane.

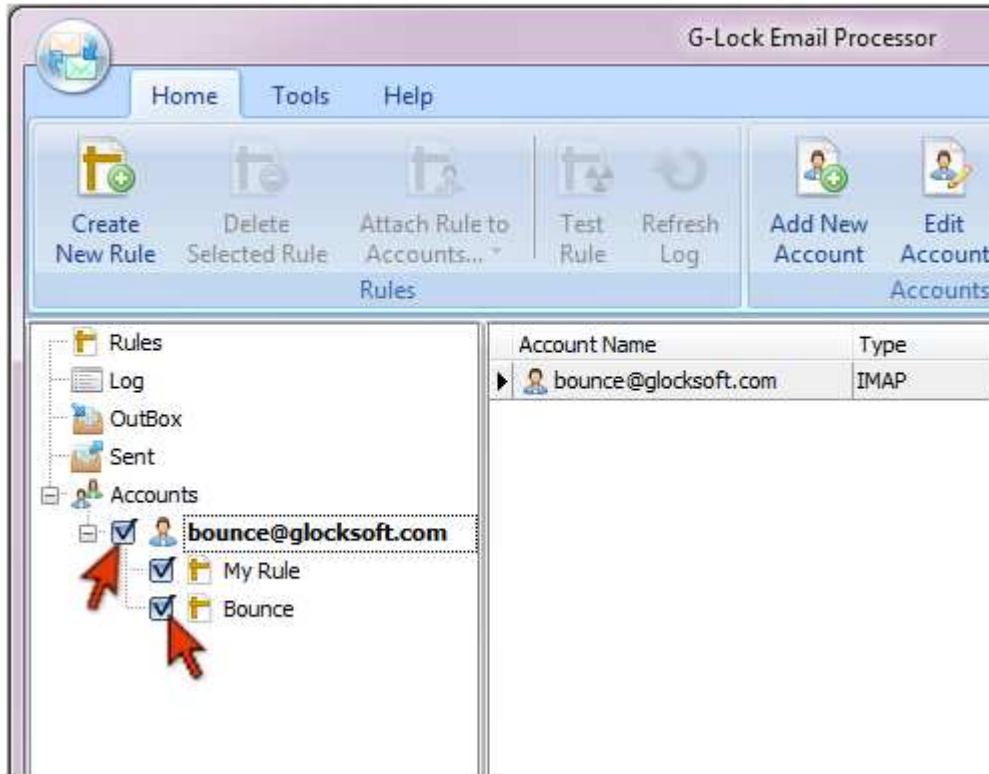
Click on the "**Attach this Rule to Account(s)**" button on the toolbar and select the account to which you want to attach the rule.



The rule will show up under the account name at the left pane.

You'll notice the check boxes next to the account name and next to the rule name.

Check the box next to the account and check the box next to the rule. This means that G-Lock Email Processor will retrieve the messages from this account and process them by the rule. If you have more than one rule attached to the account, you can select which rules to execute by checking the boxes next to the rules. If you created more than one account, you can check the boxes next to many accounts to let the program monitor them for incoming messages at the same time.



Click on the **"Start Service"** button under the **Home** menu. Now you can exit the program and it will work on the background as a service checking your account for messages and processing them.

Running Service under a Different User

By default G-Lock Email Processor runs under the SYSTEM account. The SYSTEM account does not have access to any network resources.

Therefore if you want G-Lock Email Processor to save files, update databases, save attachments, etc. to network devices then you must run the service under a different user.

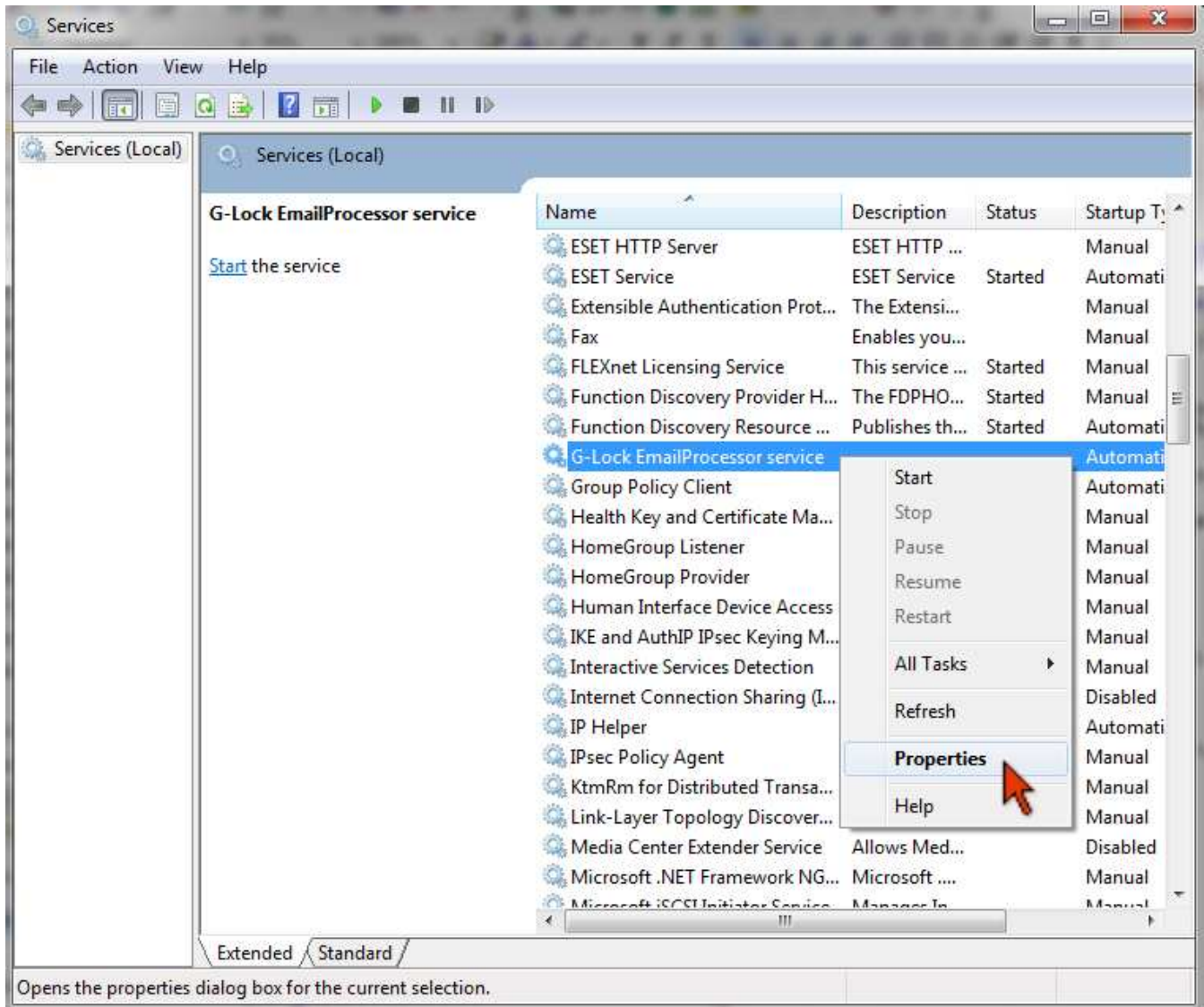
To do this, first stop G-Lock Email Processor service by clicking on the "Stop Service" button.

Then go to **Start -> Control Panel -> System and Security -> Administrative Tools**.

Click **Services**.

Select G-Lock Email Processor service.

Click the right mouse button and select **Properties**.



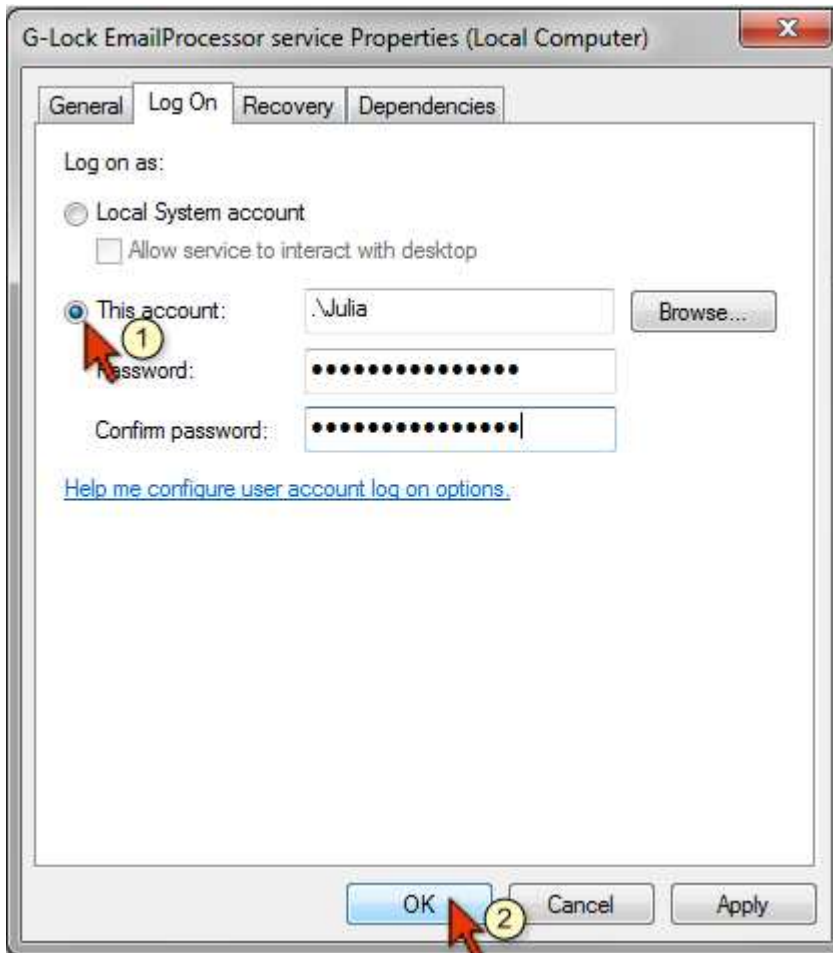
Click on the **Log On** tab on the **Properties** screen.

On the **Log On** tab un-select "**Local System Account**" and select "**This Account**".

Select a local user account that has access to the network resources you want G-Lock Email Processor to be able to access.

Type the password and confirm it. Click OK.

Restart G-Lock Email Processor service.



Viewing Email Processing Log

The **Log** stores the history of processed messages. Click on the Log item at the left pane to see how the message processing goes.

The upper pane at the right side shows the general information about the connection to the account:

RecID - account check number

Account Name - name of the account which was checked for incoming messages

Start Time - account check start time

End Time - account check end time

Total of Messages - total of messages found at the selected account

Processed Messages - number of messages processed during the account check

Rules Execution - shows how many times the rule(s) were executed during the account check

Rules Failed - shows how many times the rule(s) failed during the account check

Ready for sending - number of messages that are sitting in the Outbox ready to be sent

Sent Messages - number of messages already sent by the rules

To see the message log, click on the record in the upper pane. In the middle pane you will see the information about each processed message.

Message Number - unique message number assigned by the server

From - shows the sender's email address

Subject - displays the message subject

Result - shows the result of the message processing:

0 - the message did not pass through the filter and no rules were executed on it

1 - the message passed through the filter and was processed by the rule(s) successfully

2 - the message passed through the filter but the rule(s) execution failed because of an error

Click on the message in the middle pane and you will see the detailed log how this message was processed by the rule(s).

There are two tabs in the lowest pane: **Log** and **Email Message**.

The **Log** tab displays the detailed processing log of the message.

The **Email Message** tab shows the message content if you choose the option to save processed emails to the disk in the Account Settings.

To see the most recent log records, click on the "**Refresh Log**" button under the **Home** menu.

More Products From G-Lock Software

G-Lock Software publishes a suit of email marketing and SEO related softwares. These include:

Advanced Email Verifier	Advanced Email Verifier keeps your mailing lists and address books clean by helping eliminate non-working email addresses. Finally, you can run your mailing list campaigns at maximum performance!
Fast Blog Finder	Fast Blog Finder is the most complete software solution guaranteed to locate the blogs you want, in any niche, fast. It helps SEO firms and individuals compile a list of blogs you can leave comments on and build a ton of backlinks instantly!
Fast Directory Submitter	Fast Directory Submitter is an easy-to-use free directory submission tool that allows you submit your website with varying title (anchor text) and description to thousands of web directories in a record time!
G-Lock EasyMail	G-Lock EasyMail is the most cost effective bulk email sender software that companies and individuals all over the world are using to send fantastic email campaigns, split test/track results and manage their lists – within minutes – and increase their return on investment.
G-Lock SpamCombat	G-Lock SpamCombat is spam filtering software that lets you remove spam emails just from the mail server without pulling them down into your inbox. SpamCombat ensures the efficient and easy control under incoming emails, thus helping to save your time and money!

[G-Lock Temp Cleaner](#)

G-Lock Temp Cleaner is a free utility targeting to search and remove temporary, junk and obsolete files.