Log Expert



Feel good at work

LogExpert is a tool for real time log file displaying (also known as 'tail') as well as for analyzing log files 'offline'. A summary of features comes here:

- MDI-Interface with Tabs
- · Search function (including RegEx), Goto

line

- · Bookmarks with comments
- · A very flexible filter view
- Highlighting lines via search criteria

• Splitting log lines into columns for some logfile formats.

- Parse the timestamp of every log line.
- Navigation in the log file via timestamps.

• Timeshift: Add/sub an offset to all displayed date/time values.

• Launch external tools. Passing aruments to the tools.

• 3rd party plugin API for Columnizers, context menus, keyword triggers

Support for Log4j XML files



File handling

Loading files

Files can be loaded in 3 different ways:

• Passing the filenames as command line arguments when starting

LogExpert

- Using the 'Open...' item in the File menu or the Icon
- · Drag 'n' Drop the files onto LogExpert

LogExpert loads the complete file because it has to count the number of lines. If the file is very large LogExpert will purge unused lines out of the memory. If the purged lines are requested again (e.g. by scrolling through the log file), LogExpert will reload the content.

Watching files

Every open file is watched for size modifications (the file is polled in 250 ms interval). As soon as the file size grows up, the new lines will be read. If the file size decreases (e.g. if the file is created anew), LogExpert starts to load the complete file again. If you use the MultiFile feature, this behaviour is slightly different. See <u>MultiFile</u> chapter for more informations.

If the '*Follow tail*' checkbox is checked, LogExpert will always show the new content by scrolling to the end of the logfile.

An activity level meter will show you how frequent the logfile is changed.

The small LED on the right of the activity meter is the 'dirty LED'. This LED lits up when a log file content has changed and the tab window of the log file is not the active tab. It also lits up on the active tab if the log file content has changed and the *Follow tail* mode is switched off.

logfile.txt	E estlog.txt
Line	Text 👇
120174	This is a log line 6
Dirty LED	This is a log line 7
120170	Thi: Activity meter 8
120177	This is a log line 1
120178	This is a log line 2
120179	This is a log line 3

Follow tail state

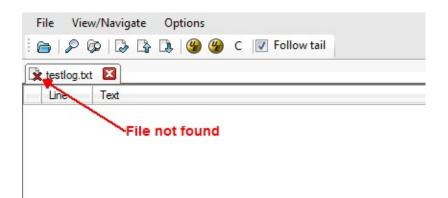
In the <u>settings</u> there's an option on the first page ("View settings) called "Show tail state on tabs". If this option is enabled, there's an additional LED on every tab. This LED lits up when *Follow tail* is active. The color can be choosen in the settings.

If *Follow tail* is switched off by a keyword trigger (<u>Highlighting and triggers</u>), the LED lits yellow.

dummyk	g.log 🚺	= te	estlog.txt	×		
Line	Text					
10548	18.09.2	2008	22-04-1		-	INFO:
Follow T	ail	2008	Follow	Tall Is	1]	INFO:
was swit	tched -	2008	active		.1]	INFO:
off by ac	tion	2008	22:04:1	0.755	[1]	INFO:
trigger	.2	2008	22:04:1	0.755	[1]	INFO:
10553	18.09.2	2008	22:04:1	0.755	[1]	INFO:

If a file is missed

If an open file does not exist or is deleted while watching, LogExpert will try to re-open it for some seconds. If the file is still missed, LogExpert clears the window and displays an appropriate icon on the tab.



LogExpert keeps watching for the file as long as the tab window is open. If the file appears again, it will be reloaded.

Reloading files manually

You can always press the F5 key to reload a file manually.

Renaming tabs

Double click a tab to rename it. Tab names will be saved in the <u>persistence</u> files.



Search

Choose 'Search' from the View/Navigate menu or Press Ctrl-F to open the search dialog.

earch for:	
\sim	
Search start	Options
From top	Case sensitive
From selected line	Regular expression Regex-Helper
Direction	
Forward	
Backward	

Simply enter your search item and press Enter (or click OK) to start the search. If the search item is found, the line containing the item is selected. If not, a 'not found' message is displayed on the status line.

After an item was found you can can use the F3 key to locate the next search hit. If the end of the file is reached, the search starts from the top. Use Shift-F3 to reverse the search direction.

You can also use <u>regular expressions</u> by selecting the "Regular Expression" option.

Locating a line

'Go to line' from the View/Navigate menu (Ctrl-G) opens a simple dialog where you can enter a line number. Use this if you want to jump to a specific line.

Normal navigation

Use the scrollbar or mouse wheel to navigate through the file. If you scroll to the

end, the 'Follow tail' checkbox will be enabled automatically. If you scroll upwards the checkbox is disabled.

Arrow up/down	One line up or down
Ctrl + Arrow up/downCtrl + Home/End	Jump to start/end of the logfile
PgUp/PgDown	Scroll one page up or down
Alt + PgUp/PgDown	Jump to prev/next <u>highlight</u> entry

You can also use the usually keyboard commands for navigation:

Adding blank lines

By pressing the Enter key you can double the height of the current line. This looks like a blank line. You can use this to get a better overview in logs or to group some lines. To remove a blank line use the Backspace key.

The blank lines will be saved in the <u>persistence</u> file. So make shure you have persistence enabled in the <u>settings</u>.



Filter

The filter is a powerful feature of LogExpert. You should read the filter chapters to get all the ideas behind the filter feature.

Simple filtering

Choose 'Filter' from the View/Navigate menu to open the filter panel. On top of the panel you see the input area. Below the input area you see the filter result list.

```
Text filter: Search Case sensitive Regex Filter tail Sync Show advanced...
```

Enter a search item and press Enter (or click the Search button). The result list will display all lines with a search hit. You can double click a line in the result list to locate this line in the main logfile view.

If you cange any of the filter options or enter a new search term, a red 'dirty' indicator on the search button will show you that the filter result list doesn't match the current filter settings:

Search

Filter tail

This option has the same function as the 'Follow tail' checkbox, but only for the filter result list. So the result list is always up-to-date, if the log file changes.

Sync

This options will sync the position in the filter result list to the position of the log file display. If you scroll through the content of the log file in the upper list, the filter view will synchronize its position.

RegEx

Use regular expressions in the search string.



Advanced Filter functions

By clicking the 'Show advanced' button you will see more interesting features of LogExpert's filter.

Text <u>filt</u> er:		• [Search	Case sensitive	Regex	🔽 Filtertail 🛛	Sync Sync	Hide advance	ced
Pro			\bigcirc	\bigcirc	\bigcirc	Invert Match	h	Filter to Tab	
Filter	Range search	Back	Spread Fo	ore Spread Fuz	zyness	Column restr	rict	Columns	

By clicking the 'Hide advanced' button you can close the Pro-Panel. Even if closed, the advanced options are active of course. There's a small red indicator on the button if you have set any of the advanced options but the panel is closed:

Range search

Enable 'Range search' and enter a second search item in the input field. Now the filter acts somewhat different. It searches for the first item. If found, the line with the search hit and all following lines will be added to the result list, until the second search item is found.

This can be useful to filter out content with defined start and end tags (like <html> </html>).

Back Spread

Click on the knob and drag your mouse up and down to change the value. If you set a value other than zero the filter result list contains not only the lines with a search hit. It also contains the adjusted number of lines beneath the search hit in backward direction.

Example: You set back spread to a value of 3 and search for "mouse". If "mouse" is found on line 200 of your log file, the lines 199, 198 and 197 will be added to the result list, too.

To distinguish between the real search hit lines and the spread lines, the search hit lines will be colored with gray background.

Fore Spread

Same as Back Spread but in forward direction.

Fuzzyness

(Experimental) This will use the Damerau-Levenshtein-Distance algorithm to add some fuzzyness to the search. The knob adjusts the fuzzyness factor. 0 means off (exact matches only). Depending on the search items the results may be unexpected and not very useful.

Filter to Tab

This button will open a new tab window and display the whole content of the filter result list in the new tab. But that's not all: The new tab window will watch for log file modifications and keep its content up-to-date (like the 'filter tail' feature). You can launch as many filter tab windows as you want. Every filter tab window will keep its own search criteria.

Note that you have to click the search button (or to press Enter) before you launch a new filter tab window.

Invert Match

If checked, the filter results contains all lines that does **not** match the search term.

Note that the *invert match* operates before the *Spread* settings. The order is:

- 1. Check for matching lines
- 2. Invert results
- 3. Add additional lines regarding to the Spread settings

Column restrict

If checked, the filter will search only in the columns you enabled in the Columns dialog (click on the "Columns" button to open the Columns dialog). The columns are provided by the currently selected <u>Columnizer</u>. So be sure you have

selected the right one. If more than one column is checked, the filter uses a kind of OR logic: A line matches if one of the columns contains the search string.

Options in the Column dialog

Exact match

If checked, the filter matches only if the search string equals exactly the column content. If not checked, a substring search is performed.

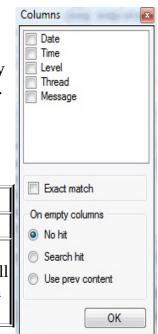
On empty columns

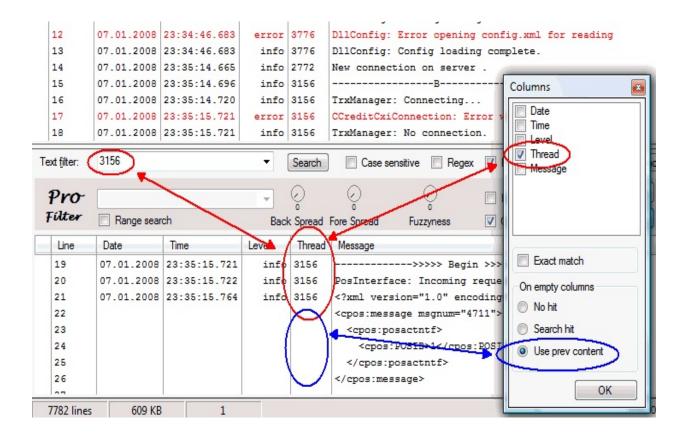
Choose the behaviour for empty columns

		Exact match
No hit	An empty column is no search hit.	
Search hit	An empty column is always a search hit.	On empty columns No hit
Lise prov content	The column is a search hit if the last non- empty column was a search hit. This is usefull for multi line content like stack traces or data dumps.	 Search hit Use prev content

Column restrict Example

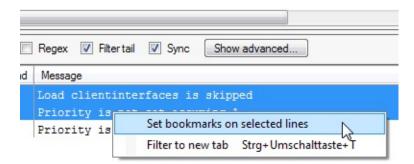
Here's an example for the "Use prev content" option. The filter is set up to search for the string "3156" in the column *Thread*. As you can see, the multi line XML dump is contained completely in the filter result even though the thread id we're looking for is found only on the first line of the dump.





Context menu in filter result list

The filter result list has its own context menu. Here you can - for example - set a bookmark for all selected filter results.





Hints and tips for using the filter

The filter function can be a very powerful feature if used in the right way. So be creative in using the filter for your daily work with logfiles! Here are some hints and use cases you might be interested in.

Use a filter on filter tabs

A filter tab window is like a normal logfile window. That means you can use a filter on that window. So you can filter an already filtered content - it's like a filter chain. In combination with the Back Spread and Fore Spread settings you can find issues in your logfiles that would be hard to find with traditional search functions.

Example:

Your customer says: "Sometimes I get an error message when using the function 'PlaySound' in your software". There are no date or time for you to narrow the search. All you have is 15 MBs of logfiles and that improper error message of your customer. The word "error" appears often in the logfile (because it sometimes reflects a normal user error situation). The word "PlaySound" appears very often too (in a non-error context). How to find the sporadic error when using the function "PlaySound"?

• Use the filter to search for "PlaySound".

• Before doing the search, adjust the 'Fore Spread' to a value that is usefull to include some log messages around the "PlaySound" log entry. Use 'Back Spread' too, if needed.

- Use 'Filter to tab' to see the filter results in a new tab window.
- Use a new filter on the new tab and search for the word "error"

Now you have all "error" log messages that appear in the near of the "PlaySound" messages.

The range search

Range search is useful for logfile content that is marked by some kind of start and end items (e.g. all kinds of XML tags).

Example:

You have an application that writes XML to some kind of external interface. For diagnostic reasons the output is also written to the logfile:

<output>

...some content...

</output>

If you are interested only in the output XML content you can use the range search in the filter. Use "<output>" as first search item and "</output>" as second search item (enable "Range search" in the advanced filter view). The filter result will include all the lines from "<output>" to "</output>".

Locate line in original file

There's an menu item called 'Locate filtered line in original file' in the context menu of every filter tab. When you choose this item you can quickly jump to the appropriate position in your original file tab.



Save and restore filter settings

On the right of the filter result list there's a small button which toggles a list. In this list you can save filter settings.

🗌 Regex 🔽 Filter tail 🔽 Sync 🛛 Show	advanced	Toggle filter save list 2427
<pre>1 port "COM1" to pinpad open 1 port "COM1" released 1 port "COM1" to pinpad open data over serial port "COM1": ved data on serial port "COM1":</pre>	NullPointer error <message> Rs232Connector</message>	Save filter Delete Delete Autostart

With the "Save Filter" button you can add the current filter settings to the list. So can recall the filter when you need it later by double-clicking an entry.

The state of the list (hidden/visible) is stored in the <u>persistence</u> settings of each log file.

Auto start

If the "Auto start" option is checked, the filter search will start immediately when the filter is restored.

This is a global option which is saved in the settings of LogExpert.

Auto hide

If the "Auto hide" option is checked, the list with the saved filters will be hidden after loading a filter setting from the list.

This is a global option which is saved in the settings of LogExpert.

Change color

By right-clicking an entry you can change the color of the entry in the list. This doesn't affect the filtering in any way. But it's useful for a better overview when

your filter list has many entries:

	NullPointer error Rs232Conr Color	Save filter Delete
is:		Autostar



Columnizers

A columnizer can split the logfile into well defined columns. So a columnizer must know the format of the logfile. Because there are many different logfile formats out there, LogExpert cannot handle all of them. But you can provide your own columnizer by writing a plugin.

To select a columnizer for the current log file Choose "Columnizer" from the Options menu.

Choose a columnizer:		
Timestamp Columnizer		•
	Config	
Splits every line into 3 fiel the log message Supports timeshift: Yes	lds: Date, Time and the rest of	*
		-

If you check the "Apply to all open files" option, the selected columnizer will be applied to all open log files.

LogExpert stores a history of log files and its selected columnizers. So when you load a file again, the last selected columnizer is enabled automatically.

The Config button is only enabled if the Columnizer provides an own configuration dialog. The columnizers shipped with LogExpert don't have configuration dialogs.

Timeshift support

A columnizer can optionally support timeshift. That means that the columnizer is capable of parsing the date/time values of a line in the logfile. The columnizer can add an offset to the displayed date/time value. Timeshift support is needed for the so called <u>Timeshift</u> feature and for navigating via date/time control.

Built-in columnizers

There are 4 built-in columnizers. 3 of them support <u>Timeshift</u>.

Timestamp columnizer

This columnizer splits the line into 3 fields: date, time and the rest of the log message. The columnizer expects a date at position 0 of the line followed by a time (separated by space).

Following formats are recognized:

dd.MM.yyyy HH:mm:ss.fff
dd.MM.yyyy HH:mm:ss,fff
dd.MM.yyyy HH:mm:ss
yyyy/MM/dd HH:mm:ss.fff
yyyy/MM/dd HH:mm:ss,fff
yyyy/MM/dd HH:mm:ss
yyyy.MM.dd HH:mm:ss.fff
yyyy.MM.dd HH:mm:ss,fff
yyyy.MM.dd HH:mm:ss
yyyy-MM-dd HH:mm:ss
yyyy-MM-dd HH:mm:ss.fff
yyyy-MM-dd HH:mm:ss,fff
dd MMM yyyy HH:mm:ss
dd MMM yyyy HH:mm:ss.fff
dd MMM yyyy HH:mm:ss,fff
dd.MM.yy HH:mm:ss.fff
yyyy-MM-dd HH:mm:ss:ffff

Here you can see an example. The first screenshot shows the original log file content (as shown when using no columnizer). The second screenshot shows the same log file using the Timestamp columnizer.

Line	Text		
61	11.05.200	8 00:42:08.44	45 [info][4488]: DllConfig: Loading config from file.
62	11.05.200	8 00:42:08.44	45 [error][4488]: DllConfig: Error opening config.xml for
63	11.05.200	8 00:42:08.44	46 [info][4488]: DllConfig: Config loading complete.
			· · · · · · · · · · · · · · · · · · ·
Line	Date	Time	Message
Line 61			Message
	11.05.2008	Time	Message [info][4488]: DllConfig: Loading config from file.

Webserver CLF columnizer

This columnizer expects lines to be formatted according the the CLF (Common logfile format) used by many web servers.

Line	IP	User	Date/Time	Request	Status	Bytes	Referrer	User agent
36659	anon-202-28-26-230.ip.invalid	-	08/Apr/2008:14:27:42 +0200	"POST /cgi-bin/addforumentry.pl HTTP/1.1"	200	5	"http://www.captain-kloppi.de/cgi-bi	"Mozilla/4

CSV Columnizer

The CSV Columnizer splits files with comma separated fields into columns. The number of columns is determined from the file content.

Line	Vomame	Nachname	Gehalt	Bemerkung
1	Klaus	Butter	1.000.000	
2	Gabi	Brückner	2.000.000	Verdient zu viel
3	Gudrun	Geier	95.400	Hochstufen!
4	Holger	Gampfmeiner	500	Praktikant

You can configure the Columnizer by clicking the Config-Button on the Columnizer-Chooser dialog.

			2.6
CSV Columnizer	Confi	guration	
Delimiter char:	:]	
Quote char:	"]	
Escape char:	"	use escape chars	
Comment char:	#]	
V First line con	itains f	field names	
		OK Cancel	
L			

Delimiter char	The character which separates the fields. In most CSV files this will be comma or semicolon. Excel uses a semicolon.
Quote char	The character which is used to quote fields, so it can contain delimiter chars in its content. Excel uses " (at least in the german version)
Escape char	Character letting insert quotation characters inside a quoted field. Excel uses " (at least in the german version)
Comment char	When a line starts with this character, its treated as non-existing
First line contains names	Check this option, if the first line in the file contains the names of the fields. The columns in LogExpert will be named like this field names. Also the first line isn't displayed as file content.

Log4j XML Columnizer

The Log4j XML Columnizer will parse log files produced by log4j when using XMLLayout. In XMLLayout every log entry is packed in a XML structure like this:

```
<log4j:message><![CDATA[This is log message number 0]]></log4j:message>
<log4j:locationInfo class="de.har.log4jtest.Main" method="main"
file="Main.java" line="28"/>
</log4j:event>
```

The Columnizer can parse this XML structures and will display the log entries in a human readable way just like normal text log files:

log4jtes	a log4jtestlog.xml 🗵												
Line	Timestamp	Level	Logger	Thread	Class	Method	File	Line	Message				
1	21.09.2009 21:41:57.552	INFO	root	main	de.har.log4jtest.Main	main	Main.java	28	This is	log message number 0			
2	21.09.2009 21:41:57.566	INFO	root	main	de.har.log4jtest.Main	main	Main.java	28	This is	log message number 1			
3	21.09.2009 21:41:57.576	INFO	root	main	de.har.log4jtest.Main	main	Main.java	28	This is	log message number 2			
4	21.09.2009 21:41:57.586	INFO	root	main	de.har.log4jtest.Main	main	Main.java	28	This is	log message number 3			
c	21 00 2000 21.41.57 601	THEO	mont	main	de han log/itest Main	main	Main java	20	This is	log monange number 4			

In the Columnizer configuration you can select the field to display and the maximum length.

Column							
V	Timestamp						
1	Level						
1	Logger	20					
1	Thread	20					
	Class						
	Method						
	File						
	Line						
1	Message						

The Log4j XMl Columnizer source code is provided the LogExpert SDK. You can use it as a starting point to create XML Columnizers for other log file formats.



Custom columnizers

You can create your own columnizers and use them with LogExpert.

Have a look at <u>www.log-expert.de/sdk.html</u>. There you can find instructions on how to build your own columnizers and some example code.

Short summary:

- 1. You have to provide a DLL written in some .NET language.
- 2. You have to implement the ILogLineColumnizer interface exported by the ColumnizerLib DLL.
- 3. Put the DLL into a subdirectory of LogExpert called 'plugins'



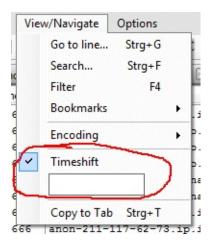
Timeshift and timestamp driven navigation

If the currently used columnizer supports timeshift you can be lucky. Because this gives you some extra features described here.

Timeshift

Timeshift means that you can add an offset to the displayed date and times values. This is useful if you have to work with logfiles of clients and servers with differing system clocks.

If the columnizer supports timeshift you can enable the timeshift feature in ther View/Navigate menu.



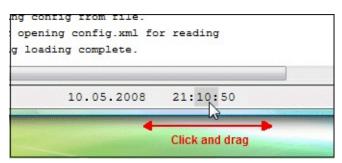
You can enter a time offset in the format HH:mm:ss.fff (fff = milliseconds).

If you don't want to calculate the needed offset by yourself you can also doubleclick in a log line into the column that displays the date/time. Now you are in the edit mode. Simply enter the time you want to see for this log entry and press Enter. The columnizer handles the time parsing and will calculate the needed offset.

Line	Date	Time	Mes	sage
1	10.05.2008	21:09:40.500	[info][3392]: Currer
	10.05.200	21:09:41.442	7	info][3392]: ======
3	10.05.2008	21:09:41.443	I	info][3392]: Status

Timestamp navigation

If the columnizer supports timeshift there's a date/time control at the status line of LogExpert. If you cannot see the control even if the columnizer supports timeshift, check the settings dialog. Maybe the timestamp control is disabled.

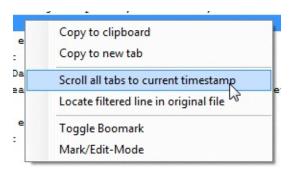


The timestamp control shows the timestamp of the current selected line. The displayed format is always "dd.MM.yyyy HH.mm.ss".

You can change every digit by clicking with the left mouse button and dragging up/down or left/right. The drag direction (horizontal or vertical) can be changed via context menu or in the global settings dialog.

After releasing the mouse button LogExpert tries to find the first logfile entry that matches the selected timestamp. It doesn't matter if no exact match ist found. LogExpert will select the line right before the selected time, if no exact match can be located.

Scroll to timestamp



In the context menu there's an item 'Scroll all tabs to current timestamp'. When you select this item all open logfiles will scroll to the timestamp of the selected line. Of course this works only for files with a selected columnizer that supports timeshift.

Determine timestamp difference

If you select 2 lines in the log file display, the time difference between the 2 selected lines will be displayed in the status line. No need to calculate that boring time diffs by yourself anymore!

Time spread view

Time spread view can give you an fast overview about the timestamps in your logfile. See <u>Time spread view</u> for more information.

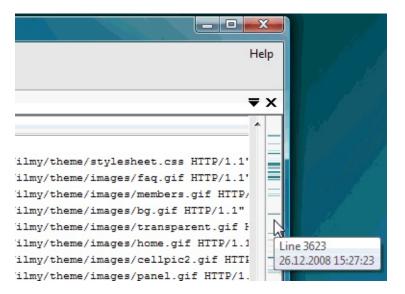


Time spread view

The time spread view can give you a fast overview about your logfile when you're interested in the timestamps of the log entries. You can see where the most "activity" can be found in the log. "Activity" means: "How many lines can be found in a specific time span?".

Time spread view works only when a Columnizer with Timeshift support is selected.

Have a look at this screenshot. On the right you can see some markers (small ines). Positions with lines means that there is more activity in the log.



There are 2 different display modes which you can select in the settings. Choose the one you like best.

Activating the Time spread display

ew settings Timestamp features External Tools Columnia	ers MultiFile Plugins Persistence
Timestamp navigation control	Time spread display Show time spread Color Reverse alpha Display mode Time view Line view
	OK Cancel

You have to activate the Time spread display in the settings. If activated, the display appears on the right side of the scrollbar. You can change the contrast of the display by right-clicking on the display and dragging the mouse up and down.

There's a low-prio background task which recomputes the display on the following events:

• The window size has changed (this includes opening/closing filter or bookmark window)

• The log file content has changed and there's no log activity since 2 seconds

Time mode

In time mode LogExpert will determine the time range of the whole log file. Then it uses the line count to compute an average lines-per-'time unit' value. The 'time unit' is a time range which depends on the time range of the log file and the height of the log view window. In fact it's computed as 'log file time range' / 'window height'. Now for every time unit the real number of lines in this unit will be counted. The more this value lies above the average value, the more the marker for this time unit is visible (by using alpha blending).

In short words: A marker indicates a time range which contains more log lines than usual in this log (= more activity).

The visible result depends on the log file. If you have continuously traffic in the file with some peaks (e.g. in a web server log), you should see the peaks in the time spread display.

The time spread view can be used as an easy timestamp based navigation tool. If you click on the time spread view, LogExpert will navigate your log file to the timestamp you selected on the time spread view. This can help to find a position in the file if you know the approx time.

Note that the display does not represent the range of lines in the file. It represents the time range. If you click in the middle of the display, LogExpert will locate to a timestamp in the middle of the whole time range. That's not the middle of the log file in most cases.

Line mode

The line mode is vice versa. It computes a 'line unit' value (line count / window height). Now for every 'line unit' it computes the time range. If this range is higher than the average time range, a marker will be drawn on the time spread display.

In line mode a marker indicates that more time than usual has passed by in a specific section of the log file. That means a marker shows locations in which the log has "paused" for a while. Thats quite the opposite to the time mode.

Note that in line mode the display does not represent the whole range of time (as in time mode) but the whole range of lines. So if you click in the middle of the display, the middle of the log file is located.



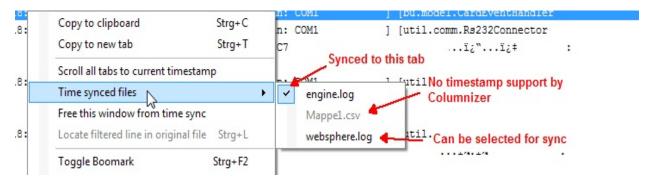
Time sync

Ever needed to scroll through 2 or more logfiles side by side just to keep the timestamp positions in sync? LogExpert can do this for you. All you need is a Columnizer that supports timestamp parsing and logfiles with proper timestamps (every good logfile should have timestamps). Now you can keep 2 or more file tabs in sync, if you want to.

"In sync" means: As soon as you change the current line in one of the synced files, all other files will re-locate its current position to the same timestamp. This works in all directions. There's no kind of master or slave. If you scroll in one file, all synced files will follow.

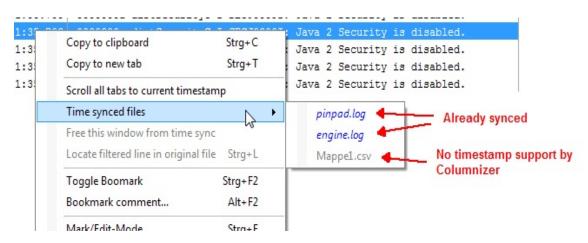
How to sync

Just select the "Time synced files" menu entry from the context menu. You will see all other tab names in the sub-menu:



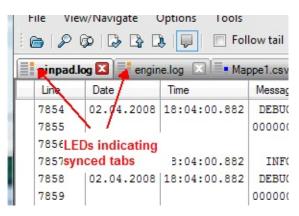
Files without timestamp Columnizers will be drawn disabled. All other files can be selected. When selected, the files will be in sync.

You can have various files synced independently. So there can be multiple "groups" of synced files which doesn't affect each other. In the context menu you can see if a file is already synced to another file:



Look at the screenshot above. The blue entries are 2 files which are already synced. Not to your current file but to another. You can join to an existing synced group by selecting one of the blue entries.

Synced files can be spotted by the orange LED on the tab:



Scroll behaviour when start syncing

If you select a file for syncing which is currently not synced, then the selected file (i.e. the 'other' file) will relocate to the timestamp of the current file.

If you select a file which is already synced (i.e. 'join a group' - the blue entries...you remember), then the current file will relocate to the timestamp position of the already existing sync group.

Disable syncing

You can release a file from the sync mode via contenxt menu. Just select "Free this window from time sync"



MultiFile

Most log file producing applications have a mechanism called "logfile rolling" or something like that. That means, if the logfile (e.g. logfile.txt) reaches a predefined file size, it will be renamed to logfile.txt.1 and a new logfile.txt will be created. If logfile.txt.1 already exists, it will be renamed to logfile.txt.2 and so on up to a pre-defined number of files. So you maybe have a history of logfiles with logfile.txt.9 (containing the oldest log entries), logfile.txt.8, logfile.txt.7 and so on up to to logfile.txt with the most recent log entries. The 9 ist only an example. It can be any number.

LogExpert can handle all this logfiles like one single large logfile. You you don't have to worry about, in which logfile you have to search something. It's like working with a single file.

Using MultiFile

For using MultiFile your files should follow the naming rule. That means if your most recent logfile is named "logfile.txt", the second most recent file must have the name "logfile.txt.1". The more less recent logfile is called "logfile.txt.2", and so on.

To enable MultiFile load the most recent logfile (e.g. logfile.txt) into LogExpert. Now choose 'MultiFile' from the File menu. LogExpert will now load all files following the naming rule for the currently loaded file. LogExpert tries to load files by adding the numbers 1, 2, 3... to the file name and stops as soon as a file with the resulting filename isn't found.

Navigating through MultiFiles

You can use all functions and all navigations in a loaded MultiFile. There's no difference to a normal file. When using MultiFile you can see the real filename of your current position in the status line. By using the Alt-Up and Alt-Down keys you can jump to the file boundaries.

The displayed line count is the sum of all lines in all loaded files. The file size display shows the file size of the most current file.

Rollover

If the application that produces your logfiles does a rollover (i.e. renaming all files by shifting the filenames) Logexpert will detect this situation. All internal file buffers will be shifted according to the new file names. If the oldest logfile gets lost (because your application reaches the logfile history limit) its content will be removed from the display.

Behind the scenes: File handling when using MultiFile

Just in case you're interested, here is how LogExpert handles the log files when MultiFile is enabled:

Imagine 3 logfiles: logfile.txt.2, logfile.txt.1 and logfile.txt. logfile.txt is the most current log file. It's the primary log file, feed by your application with new log entries.

Now you load logfile.txt and enable MultiFile. LogExpert will look for a file called "logfile.txt.1" and load it. Then it looks for "logfile.txt.2" and load it. Then it looks for "logfile.txt.3", does not find it and stop looking for more logfiles. All 3 log files will be displayed seamlessly in one window. LogExpert will watch "logfile.txt" for modifications and add the new log entries to the log window.

If logfile.txt reaches the size limit, your application starts to do a log file rollover:

File	renamed to			
logfile.txt.2	logfile.txt.3 logfile.txt.2 logfile.txt.1			
logfile.txt.1				
logfile.txt				
<created anew></created 	logfile.txt			

LogExpert will detect that logfile.txt is created anew (because of the smaller file size). It checks, if there's a file logfile.txt.3 and if so, it checks if logfile.txt.3 has the same file size as logfile.txt.2 had before. If this is true, it will be assumed that logfile.txt.3 is the same file previously known as logfile.txt.2. The same procedure is done with logfile.txt.2 and logfile.txt.1.

Because the files are the same as before (but only with other names) there is no need to reload all files again. Only some internal file infos have to be adjusted (file buffers, bookmarks, filter search results etc.). The new created logfile.txt is loaded completely, of course. LogExpert will also start to load the old files completely, as soon as it cannot match the new files with the old ones. In most cases this will be logfile.txt.1, because it may contain content that was not read before by LogExpert.

Most applications have a limit for the logfile history. If (in our the example) the limit would be 4, there's no logfile.txt.4. The content of logfile.txt.3 will be lost, when a rollover occurs.

LogExpert can handle this situation. If LogExpert cannot find a renamed file for the oldest log file, its content will be removed from the internal file buffers (and from the log file display). This will almost result in changed line numbers. But all bookmarks and filter results will be adjusted. Bookmarks and filter results that are invalid now (because of the deleted log file) will be removed.



Bookmarks

You can set bookmarks for marking positions in the log file.

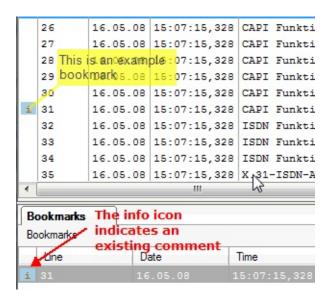
Use the following keyboard shortcuts:

F2	Jump to next boomark
Shift-F2	Jump to previous bookmark
Ctrl-F2	Toggle (set/unset) bookmark at current line
Alt-F2	Edit bookmark comment at current line
F6	Show/Hide bookmark list

By pressing the F6 key you can get a list of all current bookmarks. In the bookmark list you can jump to a bookmark (double click or Enter). You can also delete one or more bookmarks using the context menu or by pressing the delete key in the bookmark list.

	7878	1	Bookmark						
	7679	02.04.2008	10.04.01.275	DEBUG [[] [Co	nn: COM1		
	7880 9	Send data 🚤		00000000:	FF 00	90 00 99			
	7881			Commen	t				
i	7882	882 02.04.2008 18:04:01	18:04:01.288	DEBUG [I]	[61220580] [Co	nn: COM1		
_	7883			00000000:	01 00		1A 09 54 65		
•			Bo	okmark lis	+ (EC)	III			
B	ookmark	s		UKINALK IIS	(F0)				
	Bookma	rk Comment	¥	Line	Date	Time	Message		
i	Receiv	ed		7876	02	Delate here here	G		
					02.	Delete bookma	arks(s)		
i	Send d	ata		7882	02.	Remove comm	nent(s) IG		

Bookmark comments



You can add a comment to every bookmark. This can be done in 2 ways: Edit the comment in the text field in the bookmark list or press Alt-F2 in the log file view.

If the "Show bookmark bubbles" option in the toolbar is checked, the comments will be shown as an half-transparent overlay on the log file. If you don't like the default position, you can drag every bubble to another position.



In the bookmark list you can see all the bookmark comments when enabling the "Show comment column" switch:



Note:

The bookmarks (and their comments) are saved in the persistence file. If you

don't have enabled persistence in the <u>settings</u> your bookmarks will get lost on file closing.



Highlighting

You can set up a list of keywords that will mark lines in the log file in different colors. Every time a keyword is found, the whole line will be colored as configured in the Highlight settings.

Choose "Hilighting and triggers" from the Options menu to see the following dialog:

Hilighting and action triggers	X
Groups	
Server-Logs	New Del Copy
You can assign groups to file names in th	e settings.
[error] [warning]	Up Down Add Delete Apply
Line match criteria Search string:	
Coloring Foreground color Black Custom Background color White Custom	Actions Don't lit dirty LED Set bookmark Stop Follow Tail Plugin Select
	OK Cancel

Adding an entry

Enter a search string into the input field and choose a color for foreground and background. Then click on the "Add" button.

Removing an entry

Select the entry to be removed from the list. Then click on the "Delete" button.

Changing an entry

Select the entry to be changed from the list. Now you can change the search text and/or colors etc. As soon as you change something, the "Apply" button will be enabled. Click on the "Apply" button to commit your changes.

Entry order

You can change the order of the entries by using the "Up" and "Down" buttons. LogExpert will check the entries from top to bottom. As soon as a keyword matches a log line, the settings for this entry will be applied (the log line gets colored). If more keywords would match for the line, only the first wins.

Action triggers

Don't lit dirty LED	Lines containing the keyword will not lit the LED that indicates a "dirty" log file state. Useful for "unimportant" periodical log messages (connection pools, timing messages etc.)
	A bookmark will automatically be set on the line containing the keyword. You can enter a comment for this bookmark. In the bookmark comment you can use the following variables: %L = line number %P =directory path to file

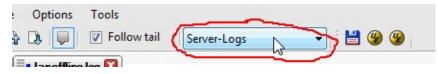
There are also 4 "actions" that can be triggered by keywords:

Set bookmark	%N = file name %F = complete path incl. name %E = file extension %M = file name without extension { <regex>} {<replace>} Regex-Search/Replace operation will be done on the content of the current selected line.</replace></regex>
Stop Follow Tail	"Follow Tail" will be switched off as soon as the keyword is found on a line. This can be usefull to let LogExpert stop scrolling when something important is happening in the logfile.
Plugin	Launch a plugin. You can use built-in plugins or write your own plugin using the SDK.

Note that the action triggers only work for new "incoming" log file content. In other words, the conditions for the actions triggers are only checked when a log file has been changed and only for the new appended lines.

Grouping

You can create various sets of highlight settings. A set of highlight settings is called a "group". You can choose the current group with the combo box in the toolbar:



Only the active group will be in effect. This allows fast switching of the file coloring depending on current needs or file types. You can also assign highlight groups for file types (via name pattern matching) in the settings.

Hint: Right-clicking the combo box will open the highlight settings.



External tools

You can configure 3 external tools which can be launched from LogExpert. LogExpert can add some command line arguments (file name, line number etc.). The output of a tool (stdout) can be piped to a new tab window in LogExpert.

Setting up the tools

Choose "Settings..." from the options menu and click on the "External Tools" tab in the setting dialog. Or choose "Configure..." from the tools menu.

Settings		-		8 99	41	10.00 M		
View settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
 ✓ TotalCmd ✓ UltraEdit ✓ UE old 			Add	new	Remove			
			Up		hecked too	ls will app	many tools as bear in the icor he tools menu.	h bar. All other
- Tool settings								
Name:	TotalCmd			con				
Program:	C:\Program Files\tot	talcmd\TOTALCI	MD.EXE					
Arguments:	"%F"							
	Pipe sysout to ta	b	Columniz	er for outpu	t: Default	t (single lir	ne)	•
						C	ок	Cancel

Here you can configure as many tools as you like. All the tools will appear in the Tools menu. Checked entries will also be available in the tool bar.

Name

The name that will used in the Tools menu and for tool bar tooltips.

Program

Enter the path to the executable to be lauched here or click the button on the right for opening a file chooser dialog.

Arguments

Here you can type in the arguments for the command line of the lauched executable. You can use the following variables which will be replaced by its values when launching the tool:

	Current line number. This is the number of the currently selected line in the log window.
%N	Name of log file without path
%P	Directory of log file
%F	Full file name (incl. path) of the log file
%Е	File name extension of the log file
%M	Name of log file without extension
?" <param-name>"(def1,def2,)</param-name>	A parameter value that will be asked for on every tool launch. The optional param-name is only used for the parameter requester dialog. You can provide a list of pre-defined values (optional) which will be accessible in the requester dialog via combo box.
{ <regex>} {<replace>}</replace></regex>	A Regex-Search/Replace operation will be done on the content of the current selected line. The result is added to the command line.

If you use the <u>MultiFile</u> feature, the log file name is always the correct name of the file which contains the currently selected line. (remember that MultiFile treats 2 or more files like a single concatenated file). The line number will also be corrected.

The curly braces used as the regex markers will be removed and are not part of the regex. Curly braces used in regex itself will not be removed of course. Only the outer braces will be removed.

Pipe sysout to tab

If this option is checked, LogExpert will redirect all output (stdout) of the external tool to a tab window (a new tab will be opened).

Columnizer for output

Here you can select a <u>Columnizer</u> which will be used for the output tab. Only available if "Pipe sysout to tab" is enabled.

Icon button

You can choose any icon that you like. The icon doesn't need to be in the executable for the tool. It can be in any other executable, dll or icon file.

Tool Arguments Help

You can use the button on the right of the argument input field to show a helper dialog. In this dialog you see a summary of all the variables described above. Edit the argument line and click on the "Test" button to see the result. You see the result as it would be given as the argument line to the lauched tool.

Tool Arguments Help	X
Enter command ling	
%F/%L	Test
C:\work\LogExpert\testlog.txt/145792	RegEx Help
Test result	
<pre>%L = Current line number %N = Current log file name without path %P = Path (directory) of current log file %E = Full name (inkl. path) of log file %E = Extension of log file name (e.g. 'bt') %M = Name of log file without extension ?"<name>" = variable parameter 'name' ?"<name>" (def1,def2,) = variable parameter with predefined values {<regex>}{<regex>}{<replace>}: Regex search/replace on current selected line.</replace></regex></regex></name></name></pre>	Cancel

Regex-Example:

Regex is useful to parse compiler output an find the file name and line numbers. Imagine the following line in the build log of a C++ compiler:

```
c:\work\listplugsample\listplug.cpp(155) : warning C4996: 'stricmp' was declared deprecated
```

You can use the following 2 regex/replace-expressions to parse out file name and

line number from the compiler output

File name	{(.*)\(.*}{\$1}
Line number	{.*\((\d*)\).*}{\$1}

You can use both expressions on the argument line to start an editor with file name and line number. The argument line for UltraEdit in this example would be:

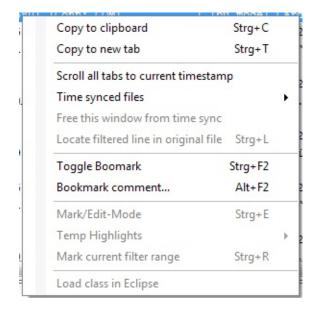
 $((.*)(.*){\$1}/{.*(((d*))).*}{\$1}$

(File name, slash, line number)



Context menu

Some functions are only available via context menu (right mouse click in the log view).



Copy to clipboard

Copies the selected lines or cells into the system clipboard. Choose "Cell select mode" in the Options menu to switch between selecting of single cells or full rows.

Copy to new tab

Copies the selected lines or cells into a new tab window. Choose "Cell select mode" in the Options menu to switch between selecting of single cells or full rows.

If you copy full rows to a new tab the copied rows will remember its original position in the original file. You can choose "Locate filtered line in original file" to jump to the position of the copied line in the original file.

Scroll all tabs to current timestamp

This menu item is only available if a <u>Columnizer</u> that supports <u>Timeshift</u> is active. By choosing this item, all open tabs will scroll to the same timestamp like the current selected line. Of course this works only if the other tabs have a timeshift capable Columnizer selected.

In some cases there's no exact match of timestamps beween logfiles. LogExpert will try to find an exact match. If no exact match is found the next smaller timestamp is selected.

Time synced files / free this window from time sync

This menu items are only available if a <u>Columnizer</u> that supports <u>Timeshift</u> is active. You can "link" 2 or more tabs together. If you select a line in one of the linked tabs then all other linked tabs will scroll to the same timestamp position.

See <u>Time sync</u> for more information about that feature.

Locate filtered line in original file

This item is available if the current tab is a filter result tab or a tab created by "Copy to new tab". By choosing this item you can easily jump to the position in the file where the selected line comes from.

Toggle bookmark

Set or remove a bookmark on the current line.

Mark/Edit-Mode

Switch to "edit mode". Because you cannot edit log files with LogExpert this is only usefull to copy parts of a log line to the clipboard or use the context menu to filter for the selected search term.

If <u>Timeshift</u> ist enabled you can use the edit mode to "edit" the timestamp of a log line. The timeshift offset will be calculated from the entered value. Then the offset will be applied to all log lines.

You can also switch to edit mode by double clicking a line.

Note that the mark/edit mode has its own context menu with useful functions!

Temp highlights

You can remove all temporary highlights or move them to the current highlight settings. Temporary highlights can be set when selecting parts of the line (mark/edit mode) and using the context menu.

Mark current filter range

This menu entry is only available if you have set up a filter with a range search (see <u>Filter</u> for more information). The range search mode doesn't need to be enabled, but you must have filled a range delimiter in the range search input field.

If the current line is located inside a range defined by that range filter, this function will select all lines of that range. Very useful to copy message dumps or something like that.

Additional entries from plugins

There may be additional context menu entries added by plugins. Refer to the LogExpert SDK for informations how to create own context menu plugins. There's one pluginin shipped with LogExpert called <u>eminus</u>.

Column headers context menu

There's another context menu for the column headers of the tables:

Line	Date	Time	Laurel Cliente TruelD Class
12	30.01.2008	17:12:	Freeze left columns until here (Time)
13	30.01.2008	17:12:	Move to last column
14	30.01.2008	17:12:	Move left
15	30.01.2008	17:12:	Movelen
16	30.01.2008	17:12:	Move right

Freeze columns until here

Freezes all columns starting from left until the selected column (including). The frozen colums will stay locked on their positions when scrolling horizontally.

Move (left/right/to last column)

Reorder columns. You can also drag the columns to another position with the mouse.

Tab context menu

Right-click on a tab to open its context menu.

	engine.	Close this tab
e	Time	•
02.2008	10:46	Close other tabs
02.2008	11:01	Close all tabs
02.2008	11:16	Tab color
02.2008	11:31	
02.2008	11:46	Copy path to clipboard
02.2008	12:01	Find in Explorer
02.2008	12:16	· · · · · · · · · · · · · · · · · · ·

Close this tab/Close other tabs/Close all tabs

Guess what!

Tab color

Allows you to change the color for a tab. The colors are saved in a history for the last used 40 files.

Copy path to clipboard

Will copy the full path (inkl. file name) of the tab's log file to the clipboard.

Find in Explorer

Will open a new Explorer window and select the log file.



Settings

Choose "Settings" from the Options menu to open the settings dialog. The Settings is divided into 5 pages.

View settings

🖺 Settings	A							X
View settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
Font								
Courier	New 9							
Change								
- Defaults			M	isc				
Follow ta	il enabled			Ask befor	e closing ta	abs		
Filter tail	enabled			Allow only	1 window			
Sync filte	er list enabled		V	Re-open I	ast used fil	es		
			V	Show tail	state on ta	bs [Color	
				Set last co	olumn width	n 20	000	
							ок	Cancel
							UN	

Font

Choose a font for the log file display.

Follow tail enabled

Configures if the Follow tail option is enabled by default.

Filter tail enabled

Configures if the Filter tail option is enabled by default. See Filter for details.

Sync filter list enabled

Configures if Sync filter is enabled by default. See Filter for details.

Ask before closing tabs

If checked, you will see a "really close?" dialog when closing a tab.

Allow only 1 instance

If checked, only one instance of LogExpert can be started. Additional instances will quit immediately. All files (given by command line args) will be loaded by the one and only running instance.

Re-open last used files

If checked, LogExpert will load the last used files on startup.

Show tail state on tabs

Shows an additional LED on every file tab. The LED shows the current state of Follow tail on every tab. See <u>File handling</u> for more information. The Color button lets you choose a color for the LED.

Set last column width

You can force a column width for the rightmost column. Just enable the option and adjust a value of your choice. The column with is applied every time a Columnizer is selected (i.e. loading a file or changing the Columnizer).

If you don't use this option, the width of the last column is determined automatically by using the width of the displayed lines when selecting a Columnizer.

Timestamp control

View settings Tir	mestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
Timestamp navi Show time Mouse Drag Horizont Vertical	estamp control, if su g Default al	upported by colu	mnizer	 Sho Re Displa Ti 	ead display ow time spr verse alpha ay mode me view ne view	read [Color	
							ОК	Cancel

Choose here if you want to see the timestamp control in the status line. You can also choose how you want the control to operate: by left/right dragging or by up/down dragging. See <u>Timeshift</u> for more information.

The options for the Time spread display are described in the <u>Time spread view</u> <u>help page</u>.

External tools

The settings for the external tools are described in the <u>External tools</u> section of this document.

Columnizers

Settir	iys						S			
iew set	tings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/C	PU
	File n	ame mask (RegEx)				Colum	nizer			
•	\xml					Log4j >	XML			-
	engine	е				Timest	amp Colur	mnizer		-
*										-
Del	ete		ask has priority be	fore history						

You can set default <u>columnizers</u> for file names matching a file name mask.

For adding new entries enter a file name mask into the empty field at the last line and choose a columnizer from the list. To delete an entry select it and click on the Delete button.

Mask has priority before history

If checked, the settings in this dialog will always be used when loading files. If not checked, the settings will only be used if no entry in the columnizer history is found for the file to be loaded. The columnizer history stores the last 40 file names with its columnizer selections.

Highlight

🖺 Setti	ings			/	1	0			X
View se	ttings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
	Filer	name mask (RegEx)			Highligh	nt group			
	engine				Server-Logs 🗸				
▶*						_	_		•
							_		
								OK	Cancel

You can select default <u>Highlight</u> groups for file names matching a file name mask.

For adding new entries enter a file name mask into the empty field at the last line and choose a columnizer from the list. To delete an entry select it and click on the Delete button.

Multi File

⑤ Settings								X
View settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
Load ev	ing multiple files ery file into a separate files as one 'MultiFile' at to do	tab						
Hint: Pressing the Shift key while dropping files onto LogExpert will switch the behaviour from single to multi and vice versa.								
MultiFile nami	Note: You can always load your logfiles as MultiFile automatically if the files names follow the MultiFile naming rule (dilename), dilename), dilename),). Simply choose 'MultiFile' from the File menu after loading the first file.							
							ОК	Cancel

This page configures how LogExpert operates if you load multiple files at once. Multiple files can be loaded by selecting more than one file in the Open file dialog or by drag & drop multiple files onto LogExpert.

The default behaviour is to load every file into a separate tab window. But you can also configure that LogExpert treats the files as <u>MultiFile</u>. So you can use the MultiFile feature even if your file names don't fit the naming convention for the automatic MultiFile feature. Note that LogExpert cannot handle a logfile rollover with MultiFiles correctly, if the logfiles don't follow the naming convention.

Plugins

iew settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
Plugins ProcessLau G15 Logger	ncher keyword plugin • display		Settings Enter the ho listening to. I password to Host Port Password	f a passwor	ort where t	the Eclips ured, ente	e plugin is r the	
							ОК	Cancel

Here you can configure the plugins, if you have any plugins available. The config options depends on the plugin. If the plugins provides an in-place config dialog you will see the settings directly embedded on the Plugins tab (like in the screenshot above). If the plugin needs a larger GUI, it can provide it's own config dialog. In this case you will see a "Config" button which causes the plugin to show its own dialog.

Persistence

Settings							1	X
View settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
<table-cell> Save</table-cell>	atically save persisten and restore filter and fi nce file location							
Same	e directory as log file							
	ocuments/LogExpert							
Own	directory							
						C	ОК	Cancel

Here you can choose if LogExpert saved <u>persistence</u> files automatically. A persistence file is an XML files which contains informations about a logfile. You can also select an location where to store these files.

A persistence files has the file extension *.lxp*. If you Choose "Same directory as log file" the persistence file will have the same name as your log file (with added .lxp). If you choose one of the other options, the persistence file name is built from the absolute pathname of your log file (with added .lxp).

Memory / CPU

Settings								x
View settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
Line buffer u Number of b Lines/block Changes wil	locks 200	e load		l stuff ig interval (r threaded fil				
							ОК	Cancel

You can adjust the memory that uses LogExpert for buffering lines. Also you can adjust the file polling interval for the tail mode.

Buffer usage

The buffer usage for every file can be adjusted. When working with large files you should consider to increase the defaults. This will speed up operations like filtering a lot! This is especially true when opening log files directly from a network drive (which is not recommended for large files).

Here's how it works internally:

When loading files, LogExpert will group all lines into *blocks*. The number of lines per block can be adjusted. When the maximum number of blocks is reached, LogExpert will start to remove blocks from memory. The blocks which are used least will be removed at first. As soon as one of the lines of a removed blocks is needed again (because of scrolling or searching/filtering) the complete block will be reloaded from the file.

To find optimal sizes you can experiment a bit. For my system it seems be be a good choice to have large blocks (about 500 to 3000 lines) instead of too much blocks. But this experience may vary from system to system.

For a better performance the buffer limit will not be checked every time a block is added. Instead there's a kind of garbage collector thread which checks the number of blocks from time to time (10 secs interval for now). This means there may be a larger memory consumption for some seconds, before blocks are free'd by the garbage thread.

Buffer usage values count for every loaded file. If you have 10 large files open with settings of 2000 lines/block and number of blocks = 100, you will have 2.000.000 lines in memory. Beause the internal representation of strings is 2-byte-Unicode, every character will take 2 bytes of memory. That means, a 40 MB ASCII log file will consume about 80 MB memory if loaded completely.

If you're using LogExpert mostly as a tail tool (only viewing the last few lines), you may be happy with small buffer usage values. If you use LogExpert for heavy 'offline' analysis of large log files, you should try to increase buffer values (if you have enough RAM). The increased filtering speed is worth the RAM consumption. Trust me, your live will be easier a lot! ;)

Multi threaded filter

If enabled, the filter function will use multiple threads. This can improve the speed of the filter. The real speed gain depends on the actual system (number of processors etc.). On my dual core notebook it's about twice as fast if the file is completely held in memory. When the file doesn't fit completely in memory (buffer settings), then multi threading can be even faster than twice. Because if some threads are waiting for disk, the other ones can continue with filter searching in already loaded buffers.

Currently, the number of threads started for filtering is *processor count* + 2. Every thread will get a part of the logfile. When all threads have completed, the results are merged. Because every thread works on a different part of the logfile, the block size settings may affect the speed, if buffer purges/reloads occure while filtering.

File polling interval

You can adjust the polling interval. This is the interval a log file is checked for changes. In most situations you should have no reason to change the value.

The smallest allowed value is 20ms.



Persistence

The new persistence feature added with LogExpert 1.2 allows you to restore the state of work with LogExpert. The following data is saved in/restored from the persistence file:

- Bookmarks and bookmark comments
- Added rowheights ("blank lines" added with the Enter key)
- Tab name
- Columnizer
- Current selected line
- Scroll position
- Follow tail state (on/off)
- Filter window state (on/off/advanced) and size
- Bookmark window state (on/off) and size
- Filter settings
- All filter tabs

So make shure to enable the automatic persistence saving in the settings to get most fun with LogExpert.

When loading a log file LogExpert looks for the appropriate persistence file too. If found, it will be loaded and used. You can choose a location for the persistence files in the <u>settings</u>.



Sessions

Use the 'Save session...' entry in the File menu to save a session. Session means that all open tabs will be saved. When loading a session all tabs of the session will be restored (i.e. all the log files will be opened).

A session file is a small XML file which contains references to the <u>persistence</u> files of the log files. When saving a session, persistence file saving is forced even if persistence saving is disabled in the settings.

To load a session use the 'Load session...' menu entry. You can also drag'n'drop a session file onto LogExpert or use a session file as command line argument.



'eminus' context menu plugin

Since version 1.2 LogExpert has a plugin API to provide additional functions. There's one default plugin shipped with LogExpert: It's called 'eminus'. The plugin is able to parse log lines for valid Java stack trace entries. If a valid stack trace entry is found, the plugin sends the Java class name and the line number via TCP/IP to it's counterpart: The eminus Eclipse plugin. The Eclipse plugin will load the class into the Eclipse code editor and locate to the given line.

The Eclipse plugin can be downloaded from the LogExpert website.

Configuration

In the LogExpert settings you can configure the eminus plugin. Normally you will use the localhost IP address (127.0.0.1) and a port which is not used by other applications on your computer. If you want to remote-control an Eclipse IDE running on another computer you can configure its IP address. A password is required if you have set a password in the eminus settings in your Eclipse IDE. This is usefull to prevent your team-mates from remote-controlling your Eclipse IDE. :)

/iew settings	Timestamp features	External Tools	Columnizers	MultiFile	Plugins	Persistence	
Plugins			Settings Enter the ho listening to. I password to Host Port Password	f a passwo	port where rd is confi	e the Eclipse plugin is gured, enter the	
					C	ОКС	ancel

How to use

Right-click on a log line with a Java stack trace entry to bring up the context menu. the menu entry 'Load class in Eclipse' is available if a valid stack trace entry is found.

EmbedSQLException(Unknown erateCsSQLException(Unknow nection.newSQLException(Un	Copy to clipboard Copy to new tab	Strg+C Strg+T
nection. <init>(Unknown Sou nection30.<init>(Unknown S ewEmbedConnection(Unknown</init></init>	Scroll all tabs to current timestar Locate filtered line in original file	
r.connect(Unknown Source) ver.connect(Unknown Source n(DriverManager.java:525)	Toggle Boomark Bookmark comment	Strg+F2 Alt+F2
	Mark/Edit-Mode	Strg+E
	Load class in Eclipse	

eminus Eclipse plugin

Copy the eminus plugin (a jar file) into the *dropins* folder (or *plugins* folder) of

your Eclipse installation.

You can configure the plugin in the Eclipse preferences:

eminus		🔶 🕶 🖨
Here you	can configure eminus.	
Connect	ion settings	
Port:	12345	
Authoriz	ation key:	
V Perm	it access only from localhost.	
_	clipse to front if a function is requested. one class with given name: Open type dialog.	•
Opacity		

To activate the plugin, you have to check the eminus toolbar button. If the button is not active the plugin won't listen for TCP/IP messages.



The eminus Eclipse plugin is written by Mathias Dräger. He also does a lot of beta testing for LogExpert since the very early development phase.

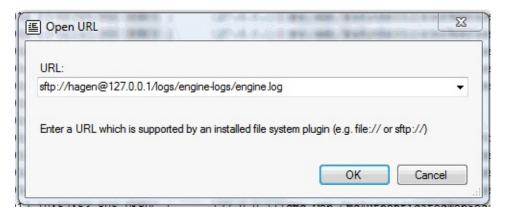


SFTP Plugin

LogExpert comes with an SFTP plugin. This allows to load files directly from a remote server via SFTP.

Loading files

Use "File->Open URL..." and enter a URL like "sftp://<host>/<file>". Optional a user can be specified.



The plugin will ask for user and password. For every host the credentials are cached and will not be asked again.

Using SSH keys

The plugin also supports authentication via SSH keys. Go to LogExpert's settings (plugin tab) and specify your private key file:

iew settings	Timestamp features	External Tools	Columnizers	Highlight	MultiFile	Plugins	Persistence	Memory/CPU
Plugins			Settings					
eminus ProcessLau Flash Icon Local file sy SFTP plugir	incher keyword plugin stem 1		Use keyfil Select file C:\Users\Ha Key will be loa	gen\Docur	○ Oper nents\putty	r private k n SSH priv rkey.ppk	rate key	ked then.

Note: Only one key is supported. Different per-host keys won't work.

The key file is loaded on first use (when first file is loaded via SFTP). You will be asked for the key's passphrase for key decryption. Once loaded, the key is cached as long as LogExpert is running.

LogExpert SFTP	Plugin	×
Enter password f	or private key or leave blank v	when not encrypted
Key password:	•••••	
	ОК	Cancel

Now when loading a file via SFTP you only need to specify the user name but not the password. Therefore the password field is disabled then.

Server:	127.0.0.1		
User name:	hagen	•	
Password:			

If authentication via SSH keys failed for any reason, you have the choice to try again or to fall back to password authentication.

LogExpert SFTP Plu	ıgin	
Opening file via S	SH key failed!	
Retry	Use password auth	Cancel
		.11



Regular expressions

Here are the most important regular expressions you can use in the filter, search dialog and in the command line arguments for external tools. There are some more, but the author is too lazy to copy them all from the Microsoft MSDN pages (and probably it may be illegal). On the end of the page there's a link to the original regular expression documentation for .NET.

Character classes

[char_group]	Any char of the group. E.g. [abc] will find a, b or c.
[^ char_group]	A char not contained in the group. [^abc] will find all but a, b or c
[from_char- to_char]	Chars contained in the range. [a-z] will find all lowercase letters.
	Any char but \n. Note: a . in a character group ([.]) is a literal, not a placeholder for 'any char'.
\w	same as [a-zA-Z_0-9]
\W	same as [^a-zA-Z_0-9]
\s	Space
\S	No Space
\d	Decimal digit
\D	No decimal digit

Quantifiers

*	Zero or more matches
+	One or more matches
?	Zero or one matches
{n}	Exactly n matches
{n,}	At least n matches
{n,m}	n to m matches
*;	First match that consumes as few repeats as possible
+?	As few repeats as possible, but at least one

Escapes

\t	Tab
\r	Carriage return
\n	New line
\x20	ASCII char in hex notation (2 digits)
\	Use $\$ to escape the following character. For example $*$
\b	When in [] it's a backspace char. Otherwise a word boundary.

Grouping

(subexpression)	Captures the matched subexpression. Captures using () are numbered automatically based on the order of the opening parenthesis, starting
	from one. The first capture, capture element number zero, is the text
	matched by the whole regular expression pattern.

Substitutions

Substitutions are used in replacement patterns.

\$number	Substitutes the last substring matched by group number number (decimal).
\$\$	Substitutes a \$ literal.
\$&	Substitutes the match itself.
\$`	Substitutes all the text of the input string before the match.
\$'	Substitutes all the text of the input string after the match.
\$+	Substitutes the last group captured.
\$_	Substitutes the entire input string.

The complete documentation of all RegEx options for .NET can be found on the Microsoft MSDN pages:

http://msdn.microsoft.com/en-us/library/az24scfc(VS.80).aspx



Keyboard Shortcuts

Close current file
Reload current file
Open/close filter view
Goto line
Open search dialog
Search next
Open/close bookmark view
Jump to next bookmark
Jump to prev bookmark
Toggle bookmark
Add bookmark comment
Copy selected lines to new tab window
Mark/Edit mode
Locate line in original file
MultiFile: Jump to prev file
MultiFile: Jump to next file
Jump to prev highlight line
Jump to next highlight line
Insert a virtual 'blank line'
Remove a blank line
Mark the current matching filter range in the log file