

Package ‘logger’

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Type Package

Title A Lightweight, Modern and Flexible Logging Utility

Description Inspired by the the 'futile.logger' R package and 'logging' Python module, this utility provides a flexible and extensible way of formatting and delivering log messages with low overhead.

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Enhances logging, futile.logger, log4r

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`appender_async` *Delays executing the actual appender function to the future in a background process to avoid blocking the main R session*

Description

Delays executing the actual appender function to the future in a background process to avoid blocking the main R session

Usage

```
appender_async(  
  appender,  
  batch = 1,  
  namespace = "async_logger",  
  init = function() log_info("Background process started")  
)
```

Arguments

`appender` a [log_appender](#) function with a generator attribute (TODO note not required, all fn will be passed if not)

`batch` number of records to process from the queue at once

`namespace` logger namespace to use for logging messages on starting up the background process

`init` optional function to run in the background process that is useful to set up the environment required for logging, eg if the appender function requires some extra packages to be loaded or some environment variables to be set etc

Value

function taking lines argument

Note

This functionality depends on the `txtq` and `callr` packages. The R session's temp folder is used for staging files (message queue and other forms of communication between the parent and child processes).

See Also

This function is to be used with an actual `log_appender`, for example `appender_console`, `appender_file`, `appender_tee`, `appender_pushbullet`, `appender_telegram`, `appender_syslog` or `appender_kinesis`.

Examples

```

## Not run:
appender_file_slow <- function(file) {
  force(file)
  function(lines) {
    Sys.sleep(1)
    cat(lines, sep = '\n', file = file, append = TRUE)
  }
}

## log what's happening in the background
log_threshold	TRACE, namespace = 'async_logger')
log_appender(appender_console, namespace = 'async_logger')

## start async appender
t <- tempfile()
log_info('Logging in the background to {t}')
my_appender <- appender_async(appender_file_slow(file = t))

## use async appender
log_appender(my_appender)
log_info('Was this slow?')
system.time(for (i in 1:25) log_info(i))

readLines(t)
Sys.sleep(10)
readLines(t)

## check on the async appender (debugging, you will probably never need this)
attr(my_appender, 'async_writer_queue')$count()
attr(my_appender, 'async_writer_queue')$log()

attr(my_appender, 'async_writer_process')$get_pid()
attr(my_appender, 'async_writer_process')$get_state()
attr(my_appender, 'async_writer_process')$poll_process(1)
attr(my_appender, 'async_writer_process')$read()

attr(my_appender, 'async_writer_process')$is_alive()
attr(my_appender, 'async_writer_process')$read_error()

## End(Not run)

```

appender_console

Append log record to stderr

Description

Append log record to stderr

Usage

```
appender_console(lines)
```

```
appender_stderr(lines)
```

Arguments

lines character vector

See Also

This is a [log_appender](#), for alternatives, see eg [appender_stdout](#), [appender_file](#), [appender_tee](#), [appender_slack](#), [appender_pushbullet](#), [appender_telegram](#), [appender_syslog](#), [appender_kinesis](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

appender_file	<i>Append log messages to a file</i>
---------------	--------------------------------------

Description

Log messages are written to a file with basic log rotation: when max number of lines or bytes is defined to be other than Inf, then the log file is renamed with a .1 suffix and a new log file is created. The renaming happens recursively (eg logfile.1 renamed to logfile.2) until the specified max_files, then the oldest file (logfile.{max_files-1}) is deleted.

Usage

```
appender_file(
  file,
  append = TRUE,
  max_lines = Inf,
  max_bytes = Inf,
  max_files = 1L
)
```

Arguments

file	path
append	boolean passed to cat defining if the file should be overwritten with the most recent log message instead of appending
max_lines	numeric specifying the maximum number of lines allowed in a file before rotating
max_bytes	numeric specifying the maximum number of bytes allowed in a file before rotating
max_files	integer specifying the maximum number of files to be used in rotation

Value

function taking lines argument

See Also

This is generator function for `log_appender`, for alternatives, see eg `appender_console`, `appender_tee`, `appender_slack`, `appender_pushbullet`, `appender_telegram`, `appender_syslog`, `appender_kinesis` and `appender_async` for evaluate any `log_appender` function in a background process.

Examples

```
## Not run:
## #####
## simple example logging to a file
t <- tempfile()
log_appender(appender_file(t))
for (i in 1:25) log_info(i)
readLines(t)

## #####
## more complex example of logging to file
## rotated after every 3rd line up to max 5 files

## create a folder storing the log files
t <- tempfile(); dir.create(t)
f <- file.path(t, 'log')

## define the file logger with log rotation enabled
log_appender(appender_file(f, max_lines = 3, max_files = 5L))

## log 25 messages
for (i in 1:25) log_info(i)

## see what was logged
lapply(list.files(t, full.names = TRUE), function(t) {
  cat('\n##', t, '\n')
  cat(readLines(t), sep = '\n')
})

## enable internal logging to see what's actually happening in the logrotate steps
log_threshold	TRACE, namespace = '.logger')
## run the above commands again

## End(Not run)
```

Description

Send log messages to a Amazon Kinesis stream

Usage

```
appender_kinesis(stream)
```

Arguments

stream name of the Kinesis stream

Value

function taking lines and optional partition_key argument

Note

This functionality depends on the **botor** package.

See Also

This is generator function for [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_tee](#), [appender_pushbullet](#), [appender_telegram](#), [appender_syslog](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

appender_pushbullet *Send log messages to Pushbullet*

Description

Send log messages to Pushbullet

Usage

```
appender_pushbullet(...)
```

Arguments

... parameters passed to pbPost, such as recipients or apikey, although it's probably much better to set all these in the `~/rpushbullet.json` as per package docs at <http://dirk.eddelbuettel.com/code/rpushbullet.html>

Note

This functionality depends on the **RPushbullet** package.

See Also

This is generator function for [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_tee](#), [appender_slack](#), [appender_telegram](#), [appender_syslog](#), [appender_kinesis](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

appender_slack	<i>Send log messages to a Slack channel</i>
----------------	---

Description

Send log messages to a Slack channel

Usage

```
appender_slack(
    channel = Sys.getenv("SLACK_CHANNEL"),
    username = Sys.getenv("SLACK_USERNAME"),
    icon_emoji = Sys.getenv("SLACK_ICON_EMOJI"),
    api_token = Sys.getenv("SLACK_API_TOKEN"),
    preformatted = TRUE
)
```

Arguments

channel	Slack channel name with a hashtag prefix for public channel and no prefix for private channels
username	Slack (bot) username
icon_emoji	optional override for the bot icon
api_token	Slack API token
preformatted	use code tags around the message?

Value

function taking lines argument

Note

This functionality depends on the **slackr** package.

See Also

This is generator function for [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_tee](#), [appender_pushbullet](#), [appender_telegram](#), [appender_syslog](#), [appender_kinesis](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

appender_stdout	<i>Append log record to stdout</i>
-----------------	------------------------------------

Description

Append log record to stdout

Usage

```
appender_stdout(lines)
```

Arguments

lines	character vector
-------	------------------

See Also

This is a [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_tee](#), [appender_slack](#), [appender_pushbullet](#)

appender_syslog	<i>Send log messages to the POSIX system log</i>
-----------------	--

Description

Send log messages to the POSIX system log

Usage

```
appender_syslog(identifier, ...)
```

Arguments

identifier	A string identifying the process.
...	Further arguments passed on to open_syslog .

Value

function taking lines argument

Note

This functionality depends on the **rsyslog** package.

See Also

This is generator function for [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_tee](#), [appender_pushbullet](#), [appender_telegram](#), [appender_kinesis](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

Examples

```
## Not run:
if (requireNamespace("rsyslog", quietly = TRUE)) {
  log_appender(appender_syslog("test"))
  log_info("Test message.")
}

## End(Not run)
```

appender_syslognet *Send log messages to a network syslog server*

Description

Send log messages to a network syslog server

Usage

```
appender_syslognet(identifier, server, port = 601L)
```

Arguments

identifier	program/function identification (string).
server	machine where syslog daemon runs (string).
port	port where syslog daemon listens (integer).

Value

A function taking a lines argument.

Note

This functionality depends on the **syslognet** package.

Examples

```
## Not run:
if (requireNamespace("syslognet", quietly = TRUE)) {
  log_appender(appender_syslognet("test_app", 'remoteserver'))
  log_info("Test message.")
}

## End(Not run)
```

appender_tee	<i>Append log messages to a file and stdout as well</i>
--------------	---

Description

This appends log messages to both console and a file. The same rotation options are available as in [appender_file](#).

Usage

```
appender_tee(  
    file,  
    append = TRUE,  
    max_lines = Inf,  
    max_bytes = Inf,  
    max_files = 1L  
)
```

Arguments

file	path
append	boolean passed to cat defining if the file should be overwritten with the most recent log message instead of appending
max_lines	numeric specifying the maximum number of lines allowed in a file before rotating
max_bytes	numeric specifying the maximum number of bytes allowed in a file before rotating
max_files	integer specifying the maximum number of files to be used in rotation

Value

function taking lines argument

See Also

This is generator function for [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_slack](#), [appender_pushbullet](#), [appender_telegram](#), [appender_syslog](#), [appender_kinesis](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

appender_telegram	<i>Send log messages to a Telegram chat</i>
-------------------	---

Description

Send log messages to a Telegram chat

Usage

```
appender_telegram(  
    chat_id = Sys.getenv("TELEGRAM_CHAT_ID"),  
    bot_token = Sys.getenv("TELEGRAM_BOT_TOKEN"),  
    parse_mode = NULL  
)
```

Arguments

chat_id	Unique identifier for the target chat or username of the target channel (in the format @channelusername)
bot_token	Telegram Authorization token
parse_mode	Message parse mode. Allowed values: Markdown or HTML

Value

function taking lines argument

Note

This functionality depends on the **telegram** package.

See Also

This is generator function for [log_appender](#), for alternatives, see eg [appender_console](#), [appender_file](#), [appender_tee](#), [appender_pushbullet](#), [appender_syslog](#), [appender_kinesis](#) and [appender_async](#) for evaluate any [log_appender](#) function in a background process.

colorize_by_log_level *Colorize string by the related log level*

Description

Adding color to a string to be used in terminal output. Supports ANSI standard colors 8 or 256.

Usage

```
colorize_by_log_level(msg, level)
```

Arguments

msg	string
level	see log_levels

Value

string with ANSI escape code

Examples

```
## Not run:
cat(colorize_by_log_level(FATAL, 'foobar'), '\n')
cat(colorize_by_log_level(ERROR, 'foobar'), '\n')
cat(colorize_by_log_level(WARN, 'foobar'), '\n')
cat(colorize_by_log_level(SUCCESS, 'foobar'), '\n')
cat(colorize_by_log_level(INFO, 'foobar'), '\n')
cat(colorize_by_log_level(DEBUG, 'foobar'), '\n')
cat(colorize_by_log_level	TRACE, 'foobar'), '\n')

## End(Not run)
```

deparse_to_one_line *Deparse and join all lines into a single line*

Description

Calling `deparse` and joining all the returned lines into a single line, separated by whitespace, and then cleaning up all the duplicated whitespace (except for excessive whitespace in strings between single or double quotes).

Usage

```
deparse_to_one_line(x)
```

Arguments

x object to deparse

Value

string

fail_on_missing_package

Check if R package can be loaded and fails loudly otherwise

Description

Check if R package can be loaded and fails loudly otherwise

Usage

```
fail_on_missing_package(pkg, min_version)
```

Arguments

pkg string
 min_version optional minimum version needed

Examples

```
## Not run:
f <- function() fail_on_missing_package('foobar')
f()
g <- function() fail_on_missing_package('stats')
g()

## End(Not run)
```

FATAL

Log levels

Description

The standard Apache logj4 log levels plus a custom level for SUCCESS. For the full list of these log levels and suggested usage, check the below Details.

Usage

TRACE
DEBUG
INFO
SUCCESS
WARN
ERROR
FATAL

Format

An object of class loglevel (inherits from integer) of length 1.

Details

List of supported log levels:

1. FATAL severe error that will prevent the application from continuing
2. ERROR An error in the application, possibly recoverable
3. WARN An event that might possible lead to an error
4. SUCCESS An explicit success event above the INFO level that you want to log
5. INFO An event for informational purposes
6. DEBUG A general debugging event
7. TRACE A fine-grained debug message, typically capturing the flow through the application.

References

<https://logging.apache.org/log4j/2.0/log4j-api/apidocs/org/apache/logging/log4j/Level.html>, <https://logging.apache.org/log4j/2.x/manual/customloglevels.html>

formatter_glue

Apply glue to convert R objects into a character vector

Description

Apply glue to convert R objects into a character vector

Usage

```
formatter_glue(  
  ...,  
  .logcall = sys.call(),  
  .topcall = sys.call(-1),  
  .topenv = parent.frame()  
)
```

Arguments

...	passed to glue for the text interpolation
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

Note

Although this is the default log message formatter function, but when **glue** is not installed, [formatter_sprintf](#) will be used as a fallback.

See Also

This is a [log_formatter](#), for alternatives, see [formatter_paste](#), [formatter_sprintf](#), [formatter_glue_or_sprintf](#), [formatter_logging](#), [formatter_json](#), [formatter_pander](#) and [skip_formatter](#) for marking a string not to apply the formatter on it.

formatter_glue_or_sprintf

Apply glue and sprintf

Description

The best of both worlds: using both formatter functions in your log messages, which can be useful eg if you are migrating from `sprintf` formatted log messages to glue or similar.

Usage

```
formatter_glue_or_sprintf(
  msg,
  ...,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

<code>msg</code>	passed to <code>sprintf</code> as <code>fmt</code> or handled as part of <code>...</code> in <code>glue</code>
<code>...</code>	passed to <code>glue</code> for the text interpolation
<code>.logcall</code>	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
<code>.topcall</code>	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
<code>.topenv</code>	original frame of the <code>.topcall</code> calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Details

Note that this function tries to be smart when passing arguments to `glue` and `sprintf`, but might fail with some edge cases, and returns an unformatted string.

Value

character vector

See Also

This is a [log_formatter](#), for alternatives, see [formatter_paste](#), [formatter_sprintf](#), [formatter_glue_or_sprintf](#), [formatter_logging](#), [formatter_json](#), [formatter_pander](#) and [skip_formatter](#) for marking a string not to apply the formatter on it.

Examples

```
## Not run:
formatter_glue_or_sprintf("{a} + {b} = %s", a = 2, b = 3, 5)
formatter_glue_or_sprintf("{pi} * {2} = %s", pi*2)
formatter_glue_or_sprintf("{pi} * {2} = {pi*2}")

formatter_glue_or_sprintf("Hi ", "{c('foo', 'bar')}, did you know that 2*4={2*4}")
formatter_glue_or_sprintf("Hi {c('foo', 'bar')}, did you know that 2*4={2*4}")
formatter_glue_or_sprintf("Hi {c('foo', 'bar')}, did you know that 2*4=%s", 2*4)
formatter_glue_or_sprintf("Hi %s, did you know that 2*4={2*4}", c('foo', 'bar'))
formatter_glue_or_sprintf("Hi %s, did you know that 2*4=%s", c('foo', 'bar'), 2*4)

## End(Not run)
```

formatter_json	<i>Transforms all passed R objects into a JSON list</i>
----------------	---

Description

Transforms all passed R objects into a JSON list

Usage

```
formatter_json(
  ...,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

...	passed to toJSON wrapped into a list
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

Note

This functionality depends on the **jsonlite** package.

See Also

This is a [log_formatter](#) potentially to be used with [layout_json_parser](#), for alternatives, see [formatter_paste](#), [formatter_sprintf](#), [formatter_glue](#), [formatter_glue_or_sprintf](#), [formatter_logging](#), [formatter_pander](#) and [skip_formatter](#) for marking a string not to apply the formatter on it.

Examples

```
## Not run:
log_formatter(formatter_json())
log_layout(layout_json_parser())
log_info(everything = 42)
log_info(mtcars = mtcars, species = iris$Species)
```

```
## End(Not run)
```

formatter_logging *Mimic the default formatter used in the **logging** package*

Description

The **logging** package uses a formatter that behaves differently when the input is a string or other R object. If the first argument is a string, then `sprintf` is being called – otherwise it does something like `log_eval` and logs the R expression(s) and the result(s) as well.

Usage

```
formatter_logging(  
  ...,  
  .logcall = sys.call(),  
  .topcall = sys.call(-1),  
  .topenv = parent.frame()  
)
```

Arguments

...	string and further params passed to <code>sprintf</code> or R expressions to be evaluated
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a `log_formatter`, for alternatives, see `formatter_paste`, `formatter_glue`, `formatter_glue_or_sprintf`, `formatter_json`, `formatter_pander` and `skip_formatter` for marking a string not to apply the formatter on it.

Examples

```
## Not run:
log_formatter(formatter_logging)
log_info('42')
log_info(42)
log_info(4+2)
log_info('foo %s', 'bar')
log_info('vector %s', 1:3)
log_info(12, 1+1, 2 * 2)

## End(Not run)
```

formatter_pander	<i>Formats R objects with pander</i>
------------------	--------------------------------------

Description

Formats R objects with pander

Usage

```
formatter_pander(
  x,
  ...,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

<code>x</code>	object to be logged
<code>...</code>	optional parameters passed to pander
<code>.logcall</code>	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
<code>.topcall</code>	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
<code>.topenv</code>	original frame of the <code>.topcall</code> calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

Note

This functionality depends on the **pander** package.

See Also

This is a [log_formatter](#), for alternatives, see [formatter_paste](#), [formatter_sprintf](#), [formatter_glue](#), [formatter_glue_or_sprintf](#), [formatter_logging](#)

Examples

```
## Not run:
log_formatter(formatter_pander)
log_info('42')
log_info(42)
log_info(4+2)
log_info(head(iris))
log_info(head(iris), style = 'simple')
log_info(lm(hp ~ wt, mtcars))

## End(Not run)
```

formatter_paste	<i>Concatenate R objects into a character vector via paste</i>
-----------------	--

Description

Concatenate R objects into a character vector via paste

Usage

```
formatter_paste(
  ...,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

...	passed to paste
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a [log_formatter](#), for alternatives, see [formatter_sprintf](#), [formatter_glue](#), [formatter_glue_or_sprintf](#), [formatter_logging](#), [formatter_json](#), [formatter_pander](#) and [skip_formatter](#) for marking a string not to apply the formatter on it.

formatter_sprintf *Apply sprintf to convert R objects into a character vector*

Description

Apply sprintf to convert R objects into a character vector

Usage

```
formatter_sprintf(
  fmt,
  ...,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

fmt	passed to sprintf
...	passed to sprintf
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a [log_formatter](#), for alternatives, see [formatter_paste](#), [formatter_glue](#), [formatter_glue_or_sprintf](#), [formatter_logging](#), [formatter_json](#), [formatter_pander](#) and [skip_formatter](#) for marking a string not to apply the formatter on it.

`get_logger_meta_variables`

Collect useful information about the logging environment to be used in log messages

Description

Available variables to be used in the log formatter functions, eg in `layout_glue_generator`:

- `levelr`: log level as an R object, eg `INFO`
- `level`: log level as a string, eg `INFO`
- `time`: current time as POSIXct
- `node`: name by which the machine is known on the network as reported by `Sys.info`
- `arch`: machine type, typically the CPU architecture
- `os_name`: Operating System's name
- `os_release`: Operating System's release
- `os_version`: Operating System's version
- `user`: name of the real user id as reported by `Sys.info`
- `pid`: the process identification number of the R session
- `node`: name by which the machine is known on the network as reported by `Sys.info`
- `r_version`: R's major and minor version as a string
- `ns`: namespace usually defaults to `global` or the name of the holding R package of the calling the logging function
- `ns_pkg_version`: the version of `ns` when it's a package
- `ans`: same as `ns` if there's a defined `logger` for the namespace, otherwise a fallback namespace (eg usually `global`)
- `topenv`: the name of the top environment from which the parent call was called (eg R package name or `GlobalEnv`)
- `call`: parent call (if any) calling the logging function
- `fn`: function's (if any) name calling the logging function

Usage

```
get_logger_meta_variables(  
  log_level = NULL,  
  namespace = NA_character_,  
  .logcall = sys.call(),  
  .topcall = sys.call(-1),  
  .topenv = parent.frame()  
)
```

Arguments

log_level	log level as per log_levels
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

list

See Also[layout_glue_generator](#)

grayscale_by_log_level
*Render a string with light/dark gray based on the related log level***Description**

Adding color to a string to be used in terminal output. Supports ANSI standard colors 8 or 256.

Usage

```
grayscale_by_log_level(msg, level)
```

Arguments

msg	string
level	see log_levels

Value

string with ANSI escape code

Examples

```
## Not run:
cat(grayscale_by_log_level(FATAL, 'foobar'), '\n')
cat(grayscale_by_log_level(ERROR, 'foobar'), '\n')
cat(grayscale_by_log_level(WARN, 'foobar'), '\n')
cat(grayscale_by_log_level(SUCCESS, 'foobar'), '\n')
cat(grayscale_by_log_level(INFO, 'foobar'), '\n')
cat(grayscale_by_log_level(DEBUG, 'foobar'), '\n')
cat(grayscale_by_log_level	TRACE, 'foobar'), '\n')

## End(Not run)
```

layout_blank	<i>Format a log record by including the raw message without anything added or modified</i>
--------------	--

Description

Format a log record by including the raw message without anything added or modified

Usage

```
layout_blank(
  level,
  msg,
  namespace = NA_character_,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

level	log level, see log_levels for more details
msg	string message
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a [log_layout](#), for alternatives, see [layout_simple](#), [layout_glue_colors](#), [layout_json](#), or generator functions such as [layout_glue_generator](#)

layout_glue	<i>Format a log message with glue</i>
-------------	---------------------------------------

Description

By default, this layout includes the log level of the log record as per [log_levels](#), the current timestamp and the actual log message – that you can override via calling [layout_glue_generator](#) directly. For colored output, see [layout_glue_colors](#).

Usage

```
layout_glue(
  level,
  msg,
  namespace = NA_character_,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

level	log level, see log_levels for more details
msg	string message
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a [log_layout](#), for alternatives, see [layout_blank](#), [layout_simple](#), [layout_glue_colors](#), [layout_json](#), [layout_json_parser](#), or generator functions such as [layout_glue_generator](#)

layout_glue_colors *Format a log message with glue and ANSI escape codes to add colors*

Description

Format a log message with glue and ANSI escape codes to add colors

Usage

```
layout_glue_colors(  
  level,  
  msg,  
  namespace = NA_character_,  
  .logcall = sys.call(),  
  .topcall = sys.call(-1),  
  .topenv = parent.frame()  
)
```

Arguments

level	log level, see log_levels for more details
msg	string message
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

Note

This functionality depends on the **crayon** package.

See Also

This is a [log_layout](#), for alternatives, see [layout_blank](#), [layout_simple](#), [layout_glue](#), [layout_json](#), [layout_json_parser](#), or generator functions such as [layout_glue_generator](#)

Examples

```
## Not run:
log_layout(layout_glue_colors)
log_threshold	TRACE
log_info('Starting the script...')
log_debug('This is the second line')
log_trace('That is being placed right after the first one.')
log_warn('Some errors might come!')
log_error('This is a problem')
log_debug('Getting an error is usually bad')
log_error('This is another problem')
log_fatal('The last problem.')

## End(Not run)
```

layout_glue_generator *Generate log layout function using common variables available via glue syntax*

Description

format is passed to glue with access to the below variables:

- msg: the actual log message
- further variables set by [get_logger_meta_variables](#)

Usage

```
layout_glue_generator(
  format = "{level} [{format(time, \"%Y-%m-%d %H:%M:%S\")}] {msg}"
)
```

Arguments

format glue-flavored layout of the message using the above variables

Value

function taking level and msg arguments - keeping the original call creating the generator in the generator attribute that is returned when calling [log_layout](#) for the currently used layout

See Also

See example calls from [layout_glue](#) and [layout_glue_colors](#).

Examples

```
## Not run:
example_layout <- layout_glue_generator(
  format = '{node}/{pid}/{ns}/{ans}/{topenv}/{fn} {time} {level}: {msg}')
example_layout(INFO, 'try {runif(1)}')

log_layout(example_layout)
log_info('try {runif(1)}')

## End(Not run)
```

 layout_json

 Generate log layout function rendering JSON

Description

Generate log layout function rendering JSON

Usage

```
layout_json(
  fields = c("time", "level", "ns", "ans", "topenv", "fn", "node", "arch", "os_name",
            "os_release", "os_version", "pid", "user", "msg")
)
```

Arguments

`fields` character vector of field names to be included in the JSON

Value

character vector

Note

This functionality depends on the **jsonlite** package.

See Also

This is a [log_layout](#), for alternatives, see [layout_blank](#), [layout_simple](#), [layout_glue](#), [layout_glue_colors](#), [layout_json_parser](#), or generator functions such as [layout_glue_generator](#)

Examples

```
## Not run:
log_layout(layout_json())
log_info(42)
log_info('ok {1:3} + {1:3} = {2*(1:3)}')

## End(Not run)
```

layout_json_parser	<i>Generate log layout function rendering JSON after merging meta fields with parsed list from JSON message</i>
--------------------	---

Description

Generate log layout function rendering JSON after merging meta fields with parsed list from JSON message

Usage

```
layout_json_parser(  
  fields = c("time", "level", "ns", "ans", "topenv", "fn", "node", "arch", "os_name",  
            "os_release", "os_version", "pid", "user")  
)
```

Arguments

fields character vector of field names to be included in the JSON

Note

This functionality depends on the **jsonlite** package.

See Also

This is a [log_layout](#) potentially to be used with [formatter_json](#), for alternatives, see [layout_simple](#), [layout_glue](#), [layout_glue_colors](#), [layout_json](#) or generator functions such as [layout_glue_generator](#)

Examples

```
## Not run:  
log_formatter(formatter_json)  
log_info(everything = 42)  
log_layout(layout_json_parser())  
log_info(everything = 42)  
log_layout(layout_json_parser(fields = c('time', 'node')))  
log_info(cars = row.names(mtcars), species = unique(iris$Species))  
  
## End(Not run)
```

layout_logging	<i>Format a log record as the logging package does by default</i>
----------------	---

Description

Format a log record as the logging package does by default

Usage

```
layout_logging(  
  level,  
  msg,  
  namespace = NA_character_,  
  .logcall = sys.call(),  
  .topcall = sys.call(-1),  
  .topenv = parent.frame()  
)
```

Arguments

level	log level, see log_levels for more details
msg	string message
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a [log_layout](#), for alternatives, see [layout_blank](#), [layout_glue](#), [layout_glue_colors](#), [layout_json](#), [layout_json_parser](#), or generator functions such as [layout_glue_generator](#)

Examples

```
## Not run:
log_layout(layout_logging)
log_info(42)
log_info(42, namespace = 'everything')

devtools::load_all(system.file('demo-packages/logger-tester-package', package = 'logger'))
logger_tester_function(INFO, 42)

## End(Not run)
```

layout_simple	<i>Format a log record by concatenating the log level, timestamp and message</i>
---------------	--

Description

Format a log record by concatenating the log level, timestamp and message

Usage

```
layout_simple(
  level,
  msg,
  namespace = NA_character_,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

level	log level, see log_levels for more details
msg	string message
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

character vector

See Also

This is a [log_layout](#), for alternatives, see [layout_blank](#), [layout_glue](#), [layout_glue_colors](#), [layout_json](#), [layout_json_parser](#), or generator functions such as [layout_glue_generator](#)

layout_syslognet	<i>Format a log record for syslognet</i>
------------------	--

Description

Format a log record for syslognet. This function converts the logger log level to a log severity level according to RFC 5424 "The Syslog Protocol".

Usage

```
layout_syslognet(
  level,
  msg,
  namespace = NA_character_,
  .logcall = sys.call(),
  .topcall = sys.call(-1),
  .topenv = parent.frame()
)
```

Arguments

level	log level, see log_levels for more details
msg	string message
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

Value

A character vector with a severity attribute.

logger	<i>Generate logging utility</i>
--------	---------------------------------

Description

A logger consists of a log level threshold, a log message formatter function, a log record layout formatting function and the appender function deciding on the destination of the log record. For more details, see the package `README.md`.

Usage

```
logger(threshold, formatter, layout, appender)
```

Arguments

threshold	omit log messages below this log_levels
formatter	function pre-processing the message of the log record when it's not wrapped in a skip_formatter call
layout	function rendering the layout of the actual log record
appender	function writing the log record

Details

By default, a general logger definition is created when loading the logger package, that uses

1. `INFO` as the log level threshold
2. `layout_simple` as the layout function showing the log level, timestamp and log message
3. `formatter_glue` (or `formatter_sprintf` if `glue` is not installed) as the default formatter function transforming the R objects to be logged to a character vector
4. `appender_console` as the default log record destination

Value

function taking `level` and `msg` arguments

Note

It's quite unlikely that you need to call this function directly, but instead set the logger parameters and functions at `log_threshold`, `log_formatter`, `log_layout` and `log_appender` and then call `log_levels` and its derivatives, such as `log_info` directly.

References

For more details, see the Anatomy of a Log Request vignette at <https://daroczig.github.io/logger/articles/anatomy.html>.

Examples

```
## Not run:
do.call(logger, logger:::namespaces$global[[1]])(INFO, 42)
do.call(logger, logger:::namespaces$global[[1]])(INFO, '{pi}')
x <- 42
do.call(logger, logger:::namespaces$global[[1]])(INFO, '{x}^2 = {x^2}')

## End(Not run)
```

log_appender

Get or set log record appender function

Description

Get or set log record appender function

Usage

```
log_appender(appender, namespace = "global", index = 1)
```

Arguments

appender	function delivering a log record to the destination, eg appender_console , appender_file or appender_tee
namespace	logger namespace
index	index of the logger within the namespace

See Also

[logger](#), [log_threshold](#), [log_layout](#) and [log_formatter](#)

Examples

```
## Not run:
## change appender to "tee" that writes to the console and a file as well
t <- tempfile()
log_appender(appender_tee(t))
log_info(42)
log_info(42:44)
readLines(t)

## poor man's tee by stacking loggers in the namespace
t <- tempfile()
log_appender(appender_console)
log_appender(appender_file(t), index = 2)
log_info(42)
readLines(t)

## End(Not run)
```

log_errors	<i>Injects a logger call to standard errors</i>
------------	---

Description

This function uses trace to add a log_error function call when stop is called to log the error messages with the logger layout and appender.

Usage

```
log_errors()
```

Examples

```
## Not run:
log_errors()
stop('foobar')

## End(Not run)
```

log_eval	<i>Evaluate an expression and log results</i>
----------	---

Description

Evaluate an expression and log results

Usage

```
log_eval(expr, level = TRACE, multiline = FALSE)
```

Arguments

expr	R expression to be evaluated while logging the expression itself along with the result
level	log_levels
multiline	setting to FALSE will print both the expression (enforced to be on one line by removing line-breaks if any) and its result on a single line separated by =>, while setting to TRUE will log the expression and the result in separate sections reserving line-breaks and rendering the printed results

Examples

```
## Not run:
log_eval(pi * 2, level = INFO)

## lowering the log level threshold so that we don't have to set a higher level in log_eval
log_threshold	TRACE)
log_eval(x <- 4)
log_eval(sqrt(x))

## log_eval can be called in-line as well as returning the return value of the expression
x <- log_eval(mean(runif(1e3)))
x

## https://twitter.com/krlmlr/status/1067864829547999232
f <- sqrt
g <- mean
x <- 1:31
log_eval(f(g(x)), level = INFO)
log_eval(y <- f(g(x)), level = INFO)

## returning a function
log_eval(f <- sqrt)
log_eval(f)

## evaluating something returning a wall of "text"
log_eval(f <- log_eval)
log_eval(f <- log_eval, multiline = TRUE)

## doing something computationally intensive
log_eval(system.time(for(i in 1:100) mad(runif(1000))), multiline = TRUE)

## End(Not run)
```

log_failure

Logs the error message to console before failing

Description

Logs the error message to console before failing

Usage

```
log_failure(expression)
```

Arguments

expression call

Examples

```
## Not run:
log_failure('foobar')
log_failure(foobar)

## End(Not run)
```

log_formatter	<i>Get or set log message formatter</i>
---------------	---

Description

Get or set log message formatter

Usage

```
log_formatter(formatter, namespace = "global", index = 1)
```

Arguments

formatter	function defining how R objects are converted into a single string, eg formatter_paste , formatter_sprintf , formatter_glue , formatter_glue_or_sprintf , formatter_logging
namespace	logger namespace
index	index of the logger within the namespace

See Also

[logger](#), [log_threshold](#), [log_appender](#) and [log_layout](#)

log_layout	<i>Get or set log record layout</i>
------------	-------------------------------------

Description

Get or set log record layout

Usage

```
log_layout(layout, namespace = "global", index = 1)
```

Arguments

layout	function defining the structure of a log record, eg layout_simple , layout_glue or layout_glue_colors , layout_json , or generator functions such as layout_glue_generator
namespace	logger namespace
index	index of the logger within the namespace

See Also

[logger](#), [log_threshold](#), [log_appender](#) and [log_formatter](#)

Examples

```
## Not run:  
log_layout(layout_json())  
log_info(42)  
  
## End(Not run)
```

log_level	<i>Log a message with given log level</i>
-----------	---

Description

Log a message with given log level

Usage

```
log_level(level, ..., namespace = NA_character_,  
          .logcall = sys.call(), .topcall = sys.call(-1), .topenv = parent.frame())  
  
log_trace(...)  
  
log_debug(...)  
  
log_info(...)  
  
log_success(...)  
  
log_warn(...)  
  
log_error(...)  
  
log_fatal(...)
```

Arguments

level	log level, see log_levels for more details
...	R objects that can be converted to a character vector via the active message formatter function
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.

.logcall	the logging call being evaluated (useful in formatters and layouts when you want to have access to the raw, unevaluated R expression)
.topcall	R expression from which the logging function was called (useful in formatters and layouts to extract the calling function's name or arguments)
.topenv	original frame of the .topcall calling function where the formatter function will be evaluated and that is used to look up the namespace as well via <code>logger:::top_env_name</code>

See Also[logger](#)**Examples**

```
## Not run:
log_level(INFO, 'hi there')
log_info('hi there')

## output omitted
log_debug('hi there')

## lower threshold and retry
log_threshold	TRACE
log_debug('hi there')

## multiple lines
log_info('ok {1:3} + {1:3} = {2*(1:3)}')

log_layout(layout_json())
log_info('ok {1:3} + {1:3} = {2*(1:3)}')

## note for the JSON output, glue is not automatically applied
log_info(glue::glue('ok {1:3} + {1:3} = {2*(1:3)}'))

## End(Not run)
```

`log_messages`*Injects a logger call to standard messages*

Description

This function uses `trace` to add a `log_info` function call when `message` is called to log the informative messages with the `logger` layout and appender.

Usage

```
log_messages()
```


Examples

```
## Not run:
log_messages()
message('hi there')

## End(Not run)
```

log_namespaces	<i>Looks up logger namespaces</i>
----------------	-----------------------------------

Description

Looks up logger namespaces

Usage

```
log_namespaces()
```

Value

character vector of namespace names

log_separator	<i>Logs a long line to stand out from the console</i>
---------------	---

Description

Logs a long line to stand out from the console

Usage

```
log_separator(
  level = INFO,
  namespace = NA_character_,
  separator = "=",
  width = 80
)
```

Arguments

level	log level, see log_levels for more details
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.
separator	character to be used as a separator
width	max width of message – longer text will be wrapped into multiple lines

See Also

[log_with_separator](#)

Examples

```
log_separator()
log_separator(ERROR, separator = '!', width = 60)
```

log_shiny_input_changes

Auto logging input changes in Shiny app

Description

This is to be called in the server section of the Shiny app.

Usage

```
log_shiny_input_changes(input, level = INFO, excluded_inputs = character())
```

Arguments

input	passed from Shiny's server
level	log level
excluded_inputs	character vector of input names to exclude from logging

Examples

```
## Not run:
library(shiny)

ui <- bootstrapPage(
  numericInput('mean', 'mean', 0),
  numericInput('sd', 'sd', 1),
  textInput('title', 'title', 'title'),
  textInput('foo', 'This is not used at all, still gets logged', 'foo'),
  passwordInput('password', 'Password not to be logged', 'secret'),
  plotOutput('plot')
)

server <- function(input, output) {

  logger::log_shiny_input_changes(input, excluded_inputs = 'password')

  output$plot <- renderPlot({
    hist(rnorm(1e3, input$mean, input$sd), main = input$title)
  })
}
```

```
}  
  
shinyApp(ui = ui, server = server)  
  
## End(Not run)
```

log_threshold	<i>Get or set log level threshold</i>
---------------	---------------------------------------

Description

Get or set log level threshold

Usage

```
log_threshold(level, namespace = "global", index = 1)
```

Arguments

level	see log_levels
namespace	logger namespace
index	index of the logger within the namespace

Value

currently set log level threshold

See Also

[logger](#), [log_layout](#), [log_formatter](#), [log_appender](#)

Examples

```
## Not run:  
## check the currently set log level threshold  
log_threshold()  
  
## change the log level threshold to WARN  
log_threshold(WARN)  
log_info(1)  
log_warn(2)  
  
## add another logger with a lower log level threshold and check the number of logged messages  
log_threshold(INFO, index = 2)  
log_info(1)  
log_warn(2)  
  
## set the log level threshold in all namespaces to ERROR
```

```
log_threshold(ERROR, namespace = log_namespaces())  
## End(Not run)
```

log_tictoc

Tic-toc logging

Description

Tic-toc logging

Usage

```
log_tictoc(..., level = INFO, namespace = NA_character_)
```

Arguments

...	passed to log_level
level	x
namespace	x

Author(s)

Thanks to Neal Fultz for the idea and original implementation!

Examples

```
## Not run:  
log_tictoc('warming up')  
Sys.sleep(0.1)  
log_tictoc('running')  
Sys.sleep(0.1)  
log_tictoc('running')  
Sys.sleep(runif(1))  
log_tictoc('and running')  
  
## End(Not run)
```

log_warnings	<i>Injects a logger call to standard warnings</i>
--------------	---

Description

This function uses `trace` to add a `log_warn` function call when `warning` is called to log the warning messages with the logger layout and appender.

Usage

```
log_warnings()
```

Examples

```
## Not run:  
log_warnings()  
for (i in 1:5) { Sys.sleep(runif(1)); warning(i) }  
  
## End(Not run)
```

log_with_separator	<i>Logs a message in a very visible way</i>
--------------------	---

Description

Logs a message in a very visible way

Usage

```
log_with_separator(  
  ...,  
  level = INFO,  
  namespace = NA_character_,  
  separator = "=",  
  width = 80  
)
```

Arguments

...	R objects that can be converted to a character vector via the active message formatter function
level	log level, see log_levels for more details
namespace	string referring to the logger environment / config to be used to override the target of the message record to be used instead of the default namespace, which is defined by the R package name from which the logger was called, and falls back to a common, global namespace.

separator character to be used as a separator
width max width of message – longer text will be wrapped into multiple lines

See Also

[log_separator](#)

Examples

```
log_with_separator('An important message')
log_with_separator('Some critical KPI down!!!', separator = '$')
log_with_separator('This message is worth a {1e3} words')
log_with_separator(paste(
  'A very important message with a bunch of extra words that will',
  'eventually wrap into a multi-line message for our quite nice demo :wow:'))
log_with_separator(paste(
  'A very important message with a bunch of extra words that will',
  'eventually wrap into a multi-line message for our quite nice demo :wow:'),
  width = 60)
log_with_separator('Boo!', level = FATAL)
```

skip_formatter	<i>Adds the skip_formatter attribute to an object so that logger will skip calling the formatter function on the object(s) to be logged</i>
----------------	---

Description

Adds the skip_formatter attribute to an object so that logger will skip calling the formatter function on the object(s) to be logged

Usage

```
skip_formatter(message, ...)
```

Arguments

message character vector directly passed to the appender function in [logger](#)
... should be never set

Value

character vector with skip_formatter attribute set to TRUE

with_log_threshold	<i>Evaluate R expression with a temporarily updated log level threshold</i>
--------------------	---

Description

Evaluate R expression with a temporarily updated log level threshold

Usage

```
with_log_threshold(  
  expression,  
  threshold = ERROR,  
  namespace = "global",  
  index = 1  
)
```

Arguments

expression	R command
threshold	log_levels
namespace	logger namespace
index	index of the logger within the namespace

Examples

```
## Not run:  
log_threshold	TRACE)  
log_trace('Logging everything!')  
x <- with_log_threshold({  
  log_info('Now we are temporarily suppressing eg INFO messages')  
  log_warn('WARN')  
  log_debug('Debug messages are suppressed as well')  
  log_error('ERROR')  
  invisible(42)  
}, threshold = WARN)  
x  
log_trace('DONE')  
  
## End(Not run)
```

%except%	<i>Try to evaluate an expressions and evaluate another expression on exception</i>
----------	--

Description

Try to evaluate an expressions and evaluate another expression on exception

Usage

```
try %except% except
```

Arguments

try	R expression
except	fallback R expression to be evaluated if try fails

Note

Suppress log messages in the except namespace if you don't want to throw a WARN log message on the exception branch.

Examples

```
everything %except% 42  
everything <- '640kb'  
everything %except% 42
```

```
Mean(1:10) %except% sum(1:10) / length(1:10)  
Mean(1:10) %except% (sum(1:10) / length(1:10))  
Mean(1:10) %except% MEAN(1:10) %except% mean(1:10)  
Mean(1:10) %except% (MEAN(1:10) %except% mean(1:10))
```


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