Package ‘logging’

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Description logging is a pure R package that implements the ubiquitous log4j package.
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logging-package

a tentative logging package

Description

a logging package emulating the python logging package.

What you find here behaves similarly to what you also find in Python. This includes hierarchic
loggers, multiple handlers at each logger, the possibility to specify a formatter for each handler (one
default formatter is given), same levels (names and numeric values) as Python’s logging package, a
simple logging.BasicConfig function to quickly put yourself in a usable situation...

This package owes a lot to my employer, r-forge, the stackoverflow community, Brian Lee Yung
Rowe’s futile package (v1.1) and the documentation of the Python logging package.

Details

Package: logging
Version: 0.4-35
Date: 2010-01-14
License: GPL (>=2)
Depends: R (>= 2.9.2)
Built: R 2.9.2; ; 2010-01-27 12:24:58 UTC; unix

Index:

basicConfig bootstrapping the logging package
addHandler add a handler to a logger
getLogger set defaults and get current values for a logger
removeHandler remove a handler from a logger
setLevel set logging.level for a logger

to use this package, include logging instructions in your code, possibly like this:

```r
library(logging)
basicConfig()
addHandler(writeToFile, logger="company", file="sample.log")
loginfo("hello world", logger="")
logwarn("hello company", logger="company.module")
```

the basicConfig function adds a console handler to the root logger, while the explicitly called
addHandler adds a file handler to the ‘company’ logger. the effect of the above example is two
lines on the console and just one line in the sample.log file.

the web pages for this package on r-forge are kept decently up to date and contain a usable tutorial.
check the references.
addHandler

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References

the python logging module: http://docs.python.org/library/logging.html
this package at r-forge: http://logging.r-forge.r-project.org/

addHandler | add a handler to or remove one from a logger

Description

use these functions to maintain the list of handlers attached to a logger.

addHandler and removeHandler are also offered as methods of the Logger S4 class. in that case
there is no logger argument.

Usage

addHandler(handler, ..., logger = "")
removeHandler(handler, logger='')

Arguments

handler | the name of the handler, or its action
... | extra parameters for the action, to be stored in the handler list
logger | character parameter for the functional form: the name of the logger to which to
attach the new handler, defaults to the root logger

Details

...may contain extra parameters that will be passed to the handler action. some elements in the
...will be interpreted here.

handler are implemented as environments. within a logger a handler is identified by its name and
all handlers define at least the three variables:

level | all records at level lower than this are skipped.
formatter | a function getting a record and returning a string
action(msg, handler) | a function accepting two parameters: a formatted log record and the handler
itself. making the handler a parameter of the action allows us to have reusable action functions.

being an environment, a handler may define as many variables as you think you need. keep in mind
the handler is passed to the action function, which can check for existence and can use all variables
that the handler defines.
Examples

```python
logReset()
addHandler(writeToConsole)
names(getLogger()[[['handlers']]])
logInfo('test')
removeHandler('writeToConsole')
logWarn('test')
```

```

Usage

basicConfig(level)
logReset()
```

Arguments

level  
the logging level of the root logger. defaults to INFO. please do notice that this has no effect on the handling level of the handler that basicConfig attaches to the root logger.

Details

**basicConfig** creates the root logger, attaches a console handler to it and sets the level of the handler to logging.level INFO. the level of the logger can be passed as a parameter to the function.

**logReset** reinitializes the whole logging system as if the package had just been loaded. typically, you would want to call basicConfig immediately after a call to logReset.

Examples

```python
library(logging)
basicConfig()
logDebug("not shown, basic is INFO")
logWarn("shown and timestamped")
logReset()
logWarn("not shown, as no handlers are present after a reset")
```
getHandler

getHandler retrieves a handler from a logger.

Description

Handlers are not uniquely identified by their name. Only within the logger to which they are attached is their name unique. This function is here to allow you grab a handler from a logger so you can examine and alter it.

Typical use of this function is in `setLevel(newLevel, getHandler(...))`.

Usage

```
getHandler(handler, logger='')
```

Arguments

- `handler` the name of the handler, or its action.
- `logger` optional: the name of the logger. Defaults to the root logger.

Examples

```
logReset()
addHandler(writeToConsole)
getHandler('writeToConsole')
```

getLogger

set defaults and get the named logger

Description

Make sure a logger with a specific name exists and return it as a Logger S4 object. If not yet present, the logger will be created and given the values specified in the ... arguments.

Usage

```
getLogger(name, ...)
```

Arguments

- `name` the name of the logger
- `...` any properties you may want to set in the newly created logger. These have no effect if the logger is already present.

Examples

```
getLogger()  # returns the root logger
getLogger('test.sub')  # constructs a new logger and returns it
getLogger('test.sub')  # returns it again
```
**Handler-Actions**

**Predefined Handler Actions**

**Description**

when you define a handler, you specify its name and the associated action. A few predefined actions are provided and this page documents them.

**Usage**

`writeToFile(msg, handler, ...)`
`writeToConsole(msg, handler, ...)`

**Arguments**

`msg` the final formatted message to be output
`handler` the handler owning this action
`...` placeholder: accept any extra future parameter.

**Details**

A handler action is a function taking two parameters: the formatted log record and the handler to which the action is associated. The second parameter is useful so you can register the same handler action to handlers with different properties.

**Examples**

```
# define your own function and register it with a handler.
# author is planning a sentry client function. please send
# any interesting function you may have written!
```

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**Logging-Internal**

**Undocumented Internal Functions and Variables**

**Description**

You hit this page because the function or variable has no real documentation page.

**Examples**

```
# no examples for undocumented functions
```
**loginfo**

**entry points for logging actions**

**Description**

generate a log record and pass it to the logging system.

A log record gets timestamped and will be independently formatted by each of the handlers handling it.

Leading and trailing whitespace is stripped from the final message.

**Usage**

```python
logdebug(msg, ..., logger='')
loginfo(msg, ..., logger='')
logwarn(msg, ..., logger='')
logerror(msg, ..., logger='')
```

**Arguments**

- **msg**
  - the textual message to be output, or the format for the ... arguments
- **...**
  - if present, msg is interpreted as a format and the ... values are passed to it to form the actual message.
- **logger**
  - the name of the logger to which we pass the record

**Examples**

```python
logReset()
addHandler(writeToConsole)
loginfo('this goes to console')
logdebug('this stays silent')
```

**loglevels**

**the logging levels, names and values**

**Description**

this list associates names to values and vice versa.

Names and values are the same as in the python standard logging module.

**Examples**

```python
loglevels['INFO']
loglevels['DEBUG']
```
**setLevel**  
*set logging.level for the object*

**Description**
alter an existing logger or handler, setting its logging.level to a new value. you can access loggers by name, while you must use getHandler to get hold of a handler.

**Usage**
```
setLevel(level, container)
```

**Arguments**
- **level**: the new level for this object. can be numeric or character.
- **container**: a logger or a handler.

**Examples**
```
basicConfig()
setLevel('FINEST')
setLevel('DEBUG', getHandler('basic.stdout'))
```
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