

Package ‘GlobalOptions’

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Type Package

Title Generate Functions to Get or Set Global Options

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Imports utils

Suggests testthat (>= 1.0.0), knitr, markdown, GetoptLong

VignetteBuilder knitr

Description It provides more configurations on the option values such as validation and filtering on the values, making options invisible or private.

URL <https://github.com/jokergoo/GlobalOptions>

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`.DollarNames.GlobalOptionsFun`

The .DollarNames method for the GlobalOptionsFun class

Description

The `.DollarNames` method for the `GlobalOptionsFun` class

Usage

```
## S3 method for class 'GlobalOptionsFun'
.DollarNames(x, pattern = "")
```

Arguments

<code>x</code>	the object returned by <code>set_opt</code> or <code>setGlobalOptions</code> .
<code>pattern</code>	pattern, please ignore it.

Details

This makes the option object looks like a list that it allows option name completion after `$`.

Author(s)

z.gu@dkfz.de

Examples

```
# There is no example
NULL
```

.v	<i>Get value of other options</i>
----	-----------------------------------

Description

Get value of other options

Usage

```
.v(opt_name, name_is_character = NA)
```

Arguments

opt_name	name of the option, can be quoted or not quoted.
name_is_character	whether opt_name is a character, only used internally.

Details

When setting one option, the value can be dependent on other option names. The current value of other option can be accessed by `v(nm)` or `v$nm`.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1, b = function() .v$a*2)
opt$b
opt(a = 2); opt$b
```

dump_opt	<i>Print all fields of a single option</i>
----------	--

Description

Print all fields of a single option

Usage

```
dump_opt(opt, opt_name)
```

Arguments

opt	the option object returned by set_opt or setGlobalOptions .
opt_name	a single name of the option.

Details

Actually this function is identical to `opt[opt_name]`.

Author(s)

z.gu@dkfz.de

Examples

```
opt = set_opt(a = 1, b = "b")
dump_opt(opt, "a")
dump_opt(opt, "b")
```

names.GlobalOptionsFun

Option names

Description

Option names

Usage

```
## S3 method for class 'GlobalOptionsFun'
names(x)
```

Arguments

x the option object returned by [set_opt](#) or [setGlobalOptions](#).

Value

A vector of option names

Examples

```
opt = set_opt(
  a = 1,
  b = "text"
)
names(opt)
```

```
print.GlobalOptionsFun
```

Print the GlobalOptionsFun object

Description

Print the GlobalOptionsFun object

Usage

```
## S3 method for class 'GlobalOptionsFun'
print(x, ...)
```

Arguments

x	the option object returned by set_opt or setGlobalOptions .
...	other arguments

Author(s)

z.gu@dkfz.de

Examples

```
# There is no example
NULL
```

setGlobalOptions	<i>Produce a function which can get or set global options</i>
------------------	---

Description

Produce a function which can get or set global options

Usage

```
setGlobalOptions(...)
```

Arguments

...	specification of options, see 'details' section
-----	---

Details

The function has a short name `set_opt`.

The most simple way is to construct an option function (e.g. `opt()`) as:

```
opt = set_opt(
  "a" = 1,
  "b" = "text"
)
```

Then users can get or set the options by

```
opt()
opt("a")
opt$a
opt[["a"]]
opt(c("a", "b"))
opt("a", "b")
opt("a" = 2)
opt$a = 2
opt[["a"]] = 2
opt("a" = 2, "b" = "new_text")
```

Options can be reset to their default values by:

```
opt(RESET = TRUE)
```

The value for each option can be set as a list which contains more configurations of the option:

```
opt = set_opt(
  "a" = list(.value = 1,
            .length = 1,
            .class = "numeric",
            .validate = function(x) x > 0)
)
```

The different fields in the list can be used to filter or validate the option values.

- `.value` The default value.
- `.length` The valid length of the option value. It can be a vector, the check will be passed if one of the length fits.
- `.class` The valid class of the option value. It can be a vector, the check will be passed if one of the classes fits.
- `.validate` Validation function. The input parameter is the option value and should return a single logical value.
- `.failed_msg` Once validation failed, the error message that is printed.

- .filter Filtering function. The input parameter is the option value and it should return a filtered option value.
- .read.only Logical. The option value can not be modified if it is set to TRUE.
- .visible Logical. Whether the option is visible to users.
- .private Logical. The option value can only be modified in the same namespace where the option function is created.
- .synonymous a single option name which should have been already defined ahead of current option. The option specified will be shared by current option.
- .description a short text for describing the option. The description is only used when printing the object.

For more detailed explanation, please go to the vignette.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(  
  a = 1,  
  b = "text"  
)  
opt  
# for more examples, please go to the vignette
```

set_opt

Produce a function which can get or set global options

Description

Produce a function which can get or set global options

Usage

```
set_opt(...)
```

Arguments

... all go to [setGlobalOptions](#)

Details

This is just a short name for [setGlobalOptions](#).

Author(s)

z.gu@dkfz.de

Examples

```
# There is no example  
NULL
```

[.GlobalOptionsFun	<i>Get a single GlobalOption object</i>
--------------------	---

Description

Get a single GlobalOption object

Usage

```
## S3 method for class 'GlobalOptionsFun'  
x[nm]
```

Arguments

x	the option object returned by set_opt or setGlobalOptions .
nm	a single name of the option.

Details

This function is only used internally.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1, b = "b")  
opt["a"]  
opt["b"]
```

```
[[.GlobalOptionsFun    Get option value by subset operator
```

Description

Get option value by subset operator

Usage

```
## S3 method for class 'GlobalOptionsFun'
x[[nm]]
```

Arguments

x	the option object returned by set_opt or setGlobalOptions .
nm	a single option name.

Details

opt[["a"]] is same as opt("a") or opt\$a.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt[["a"]]
```

```
[[<-.GlobalOptionsFun  Set option value by subset operator
```

Description

Set option value by subset operator

Usage

```
## S3 replacement method for class 'GlobalOptionsFun'
x[[nm]] <- value
```

Arguments

x	the option object returned by set_opt or setGlobalOptions .
nm	a single option name.
value	the value which is assigned to the option.

Details

`opt[["a"]] = 1` is same as `opt("a" = 1)` or `opt$a = 1`.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt[["a"]] = 2
opt$a
```

\$.GlobalOptionsFun	<i>Get option value by dollar symbol</i>
---------------------	--

Description

Get option value by dollar symbol

Usage

```
## S3 method for class 'GlobalOptionsFun'
x$nm
```

Arguments

x	the object returned by set_opt or setGlobalOptions .
nm	a single option name.

Details

`opt$a` is same as `opt("a")`.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt$a
```

\$.InternalOptionValue *Get value of other options*

Description

Get value of other options

Usage

```
## S3 method for class 'InternalOptionValue'  
x$nm
```

Arguments

x	should always be .v
nm	name of the option

Details

.v\$nm is basically a short version of .v(nm).

Author(s)

Zuguang Gu <z.gu@dkfz.de>

See Also

[.v](#)

Examples

```
# There is no example  
NULL
```

\$<-.GlobalOptionsFun *Set option value by dollar symbol*

Description

Set option value by dollar symbol

Usage

```
## S3 replacement method for class 'GlobalOptionsFun'  
x$nm <- value
```

Arguments

<code>x</code>	the object returned by <code>set_opt</code> or <code>setGlobalOptions</code> .
<code>nm</code>	a single option name.
<code>value</code>	the value which is assigned to the option.

Details

`opt$a = 1` is same as `opt("a" = 1)`.

Note you cannot reconfigure the option by assigning a configuration list.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt$a = 2
opt$a
```

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