

Package ‘mod’

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Type Package

Title Lightweight and Self-Contained Modules for Code Organization

Version 0.1.3

Description Creates modules inline or from a file. Modules can contain any R object and be nested. Each module have their own scope and package ``search path" that does not interfere with one another or the user's working environment.

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Encoding UTF-8

LazyData true

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URL <https://github.com/iqis/mod>

BugReports <https://github.com/iqis/mod/issues>

Suggests testthat (>= 2.1.0), covr

NeedsCompilation no

Author Siqu Zhang [aut, cre]

Maintainer Siqu Zhang <iqis.gnahz@gmail.com>

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as_module	<i>Use a Package as if a Module</i>
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Description

Use a Package as if a Module

Usage

```
as_module(package)
```

Arguments

package name of a package; character

Value

a module that contains a package's exported objects

Examples

```
tcltk <- as_module("tcltk")
ls(tcltk)

tcltk$is.tclObj(NULL)
```

drop	<i>Drop a Module</i>
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Description

Detach a named module from the search path. If no arguments is supplied, detach the most recently attached module.

Usage

```
drop(name)
```

Arguments

name name of the module to exit from; character

Value

TRUE if successful; invisible

Examples

```
use(mod::ule({
  a <- 1
}), as = "my_module")

use(mod::ule({
  b <- 2
}), as = "my_other_module")

search()

# by name
drop("my_module")

# and at the head position
drop()

search()
```

is_module

Test if an Object is a Module

Description

Test if an Object is a Module

Usage

```
is_module(x)
```

Arguments

x An object

Value

TRUE if the object is a module, FALSE otherwise

is_thing	<i>Test if an Object is a Thing</i>
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Description

Test if an Object is a Thing

Usage

```
is_thing(x)
```

Arguments

x	an object
---	-----------

Value

TRUE if the object is a thing, FALSE otherwise

module	<i>Make a Module</i>
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Description

Institute a module object inline or from a file. `mod::ule()` is a useful shorthand for `module()` when this package is not attached.

Usage

```
module(..., parent = parent.frame(), lock = TRUE,
  expose_private = FALSE)
```

```
ule(..., parent = parent.frame(), lock = TRUE,
  expose_private = FALSE)
```

```
acquire(module, parent = baseenv(), lock = TRUE,
  expose_private = FALSE)
```

Arguments

...	module expression
parent	the enclosing environment
lock	lock the environment; logical
expose_private	expose the private environment as <code>'..private..'</code> ; logical
module	module object, or path to a module file

Value

an environment of class module containing defined objects

Examples

```
# from file
module_path <- system.file("misc", "example_module.R", package = "mod")
example_module <- acquire(module_path)

example_module$e(123)

# inline
my_module <- mod::ule({
  a <- 1
  .a <- 2
  f <- function(){.a}
})

my_module$a
my_module$f
```

name	<i>Name a Module</i>
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Description

Name a Module

Usage

```
name(name)
```

Arguments

name the name of the module; character

Value

the input

print.module	<i>Print a Module</i>
--------------	-----------------------

Description

Print a Module

Usage

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

Arguments

x	an object
...	dot-dot-dot, ignored

Value

the object itself; invisible

provide	<i>Provide Objects from a Module</i>
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Description

Can only be used inside a module expression. If this function is used, only the names included as argument are public. If not used, every name in the module will be public.

Usage

```
provide(...)
```

Arguments

...	name of any object to be accessible by user; name or character
-----	--

Value

NULL; invisible

Examples

```

mod_a <- mod::ule({
  # names included in provide() are public, however...
  mod::provide(var,.var, ..var)
  # It is suggested to omit mod:: when using
  var <- 1
  .var <- 2
  ..var <- 3 # objects denoted by .. prefix are always private.
  another_var <- 4 # objects not included in provide() are also private.
})

mod_b <- mod::ule({
  # if no call to provide(), all objects are public, except...
  var <- 1
  .var <- 2
  ..var <- 3 # objects denoted by .. prefix are always private.
})

ls(mod_a)
ls(mod_b)

```

refer

*Copy Bindings from a Module to Another***Description**

Can only be used inside a module expression. Makes reference to objects from one module, with specified filters.

Usage

```
refer(..., include = c(), exclude = c(), prefix = "", sep = ".")
```

Arguments

...	names of modules; dot-dot-dot
include	names to include; character
exclude	names to exclude; character
prefix	prefix to names; character
sep	separator between prefix and names; character

Value

NULL; invisible

Examples

```

mod_a <- mod::ule(number <- 1)
mod_b <- mod::ule(number <- 2)

mod_c <- mod::ule({
  mod::refer(mod_a, mod_b, prefix = .)
  # It is suggested to omit mod:: when using
  number <- mod_a.number + mod_b.number
})

mod_c$number

```

 require

Load/Attach Package to Local Search Path

Description

Can only be used in a module expression. Emulates the effect of `base::require()` in its containing module, making functions and their chain of environment available. Masks `base::require()` inside a module context.

Usage

```
require(package)
```

Arguments

package name of the package; name or character

Value

NULL; invisible

Examples

```

mod_tcl <- mod::ule({
  mod::require(tcltk)
  # It is suggested to omit mod:: when using
  f <- tcl
})

identical(mod_tcl$f, tcltk::tcl)

```

thing	<i>Make a Thing</i>
-------	---------------------

Description

A "thing" is a special object made based on a module. Contains an active binding, defined with the 'dot' argument.

Usage

```
thing(..., dot, parent = parent.frame(), lock = TRUE,  
      expose_private = FALSE)
```

Arguments

...	module expression
dot	function expression used for active binding to '.'
parent	the enclosing environment
lock	lock the environment; logical
expose_private	expose the private environment as '..private..'; logical

Value

a module containing an active binding

Examples

```
my_thing <- mod::thing({  
  a <- 1  
}, dot = function() a)
```

```
my_thing$.
```

```
my_thing[]
```

use *Load/Attach a Module to the Search Path*

Description

Load/Attach a Module to the Search Path

Usage

```
use(module, as, parent = baseenv(), lock = TRUE,
     expose_private = FALSE)
```

Arguments

module	module object, or path to a module file
as	name when attached to search; character
parent	the enclosing environment
lock	lock the environment; logical
expose_private	expose the private environment as ‘..private.’; logical

Value

TRUE if successful; invisible

Examples

```
module_path <- system.file("misc", "example_module.R", package = "mod")
example_module <- acquire(module_path)

# Attach module object to search path
use(example_module)
# or directly from file
use(module_path, "example_module")
```

[.thing *Invoke the Active Binding in a Thing*

Description

Invoke the Active Binding in a Thing

Usage

```
## S3 method for class 'thing'  
x[...]
```

Arguments

x	a thing
...	dot-dot-dot, ignored

Value

the return value of the active binding in a thing

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