Package 'mockr'

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Title Mocking in R

Version 0.2.2

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Description Provides a means to mock a package function, i.e.,
temporarily substitute it for testing. Designed as a drop-in
replacement for the now deprecated 'testthat::with_mock()' and
'testthat::local_mock()'.

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URL <https://krlmlr.github.io/mockr/>, <https://github.com/krlmlr/mockr>

BugReports <https://github.com/krlmlr/mockr/issues>

Imports rlang, withr

Suggests covr, fs, knitr, pkgload, rmarkdown, testthat, usethis

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get_mock_env   *Get environment for mocking*

Description

Called by default from `with_mock()` to determine the environment where to update mocked functions. This function is exported to help troubleshooting.

Usage

```
get_mock_env(.parent = parent.frame())
```

Arguments

.parent   [environment]
                   the environment in which to evaluate the expressions, defaults to `parent.frame()`.
                   Usually doesn't need to be changed.

Details

This function works differently depending on `testthat::is_testing()`.

Outside testthat, topenv(.parent) is returned. This was the default for mockr < 0.1.0 and works for many cases.

In testthat, asNamespace("<package>") for the tested package is returned. The tested package is determined via `testthat::testing_package()`. If this is empty (e.g. if a test_that() block is run in interactive mode), this function looks in the search path for packages loaded by `pkgload::load_all()`.

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local_mock   *Mock functions in a package*

Description

`local_mock()` temporarily substitutes implementations of package functions. This is useful for testing code that relies on functions that are slow, have unintended side effects or access resources that may not be available when testing.

`with_mock()` substitutes, runs code locally, and restores in one go.

Usage

```
local_mock(
  ...,
  .parent = parent.frame(),
  .env = get_mock_env(.parent),
  .defer_env = parent.frame()
)

with_mock(..., .parent = parent.frame(), .env = get_mock_env(.parent))
```

Arguments

...	[any] Named arguments redefine mocked functions. An unnamed argument containing code in braces ({}) should be provided to with_mock(), it will be evaluated after mocking the functions. Use := to mock functions that start with a dot to avoid potential collision with current or future arguments to with_mock() or local_mock(). Passing more than one unnamed argument to with_mock(), or code that is not inside braces, gives a warning.
.parent	[environment] the environment in which to evaluate the expressions, defaults to parent.frame(). Usually doesn't need to be changed.
.env	[environment] the environment in which to patch the functions, defaults to topenv(). Usually doesn't need to be changed.
.defer_env	[environment] Attach exit handlers to this environment. Typically, this should be either the current environment or a parent frame (accessed through parent.frame()). This argument is passed on as envir to withr::defer().

Details

This works by adding a shadow environment as a parent of the environment in which the expressions are evaluated. Everything happens at the R level, but only functions in your own package can be mocked. Otherwise, the implementation is modeled after the original version in the testthat package, which is now deprecated.

Value

local_mock() returns NULL, invisibly.

with_mock() returns the result of the last unnamed argument. Visibility is preserved.

References

Suraj Gupta (2012): How R Searches And Finds Stuff

Examples

```
some_func <- function() stop("oops")
some_other_func <- function() some_func()
my_env <- environment()

tester_func <- function() {
  # The default for .env works well most of the time,
  # unfortunately not in examples
  local_mock(some_func = function() 42, .env = my_env)
  some_other_func()
}
try(some_other_func())
tester_func()

tester_func_with <- function() {
  with_mock(
    some_func = function() 42,
    .env = my_env,
    {
      some_other_func()
    }
  )
}
tester_func_with()
```

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