# Package 'ttdo'

May 8, 2026

**Title** Extend 'tinytest' with 'diffobj' and 'tinysnapshot'

**Version** 0.0.10

**Date** 2025-01-21

**Description** The 'tinytest' package offers a light-weight zero-dependency unit-testing framework to which this package adds support via the 'diffobj' package for 'diff'-style textual comparison of R objects, as well as via 'tinysnapshot' package for visual differences in plots.

**License** GPL (>= 2)

**URL** https://github.com/eddelbuettel/ttdo/, https://dirk.eddelbuettel.com/code/ttdo.html

**BugReports** https://github.com/eddelbuettel/ttdo/issues

**NeedsCompilation** no

**Encoding** UTF-8

**Imports** tinytest (>= 1.4.1), diffobj, tinysnapshot (>= 0.0.8), base64enc

**RoxygenNote** 7.3.2

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**Date/Publication** 2025-01-21 15:40:02 UTC

## Contents

`expect_equal_with_diff` *Test for equality with explicit difference*

## Description

Test for equality with explicit difference

## Usage

```
expect_equal_with_diff(
  current,
  target,
  tol = sqrt(.Machine$double.eps),
  mode = getOption("diffobj.mode", "unified"),
  format = getOption("diffobj.format", "ansi256"),
  ...
)

expect_equivalent_with_diff(
  current,
  target,
  tol = sqrt(.Machine$double.eps),
  ...
)
```

## Arguments

| | |
|---|---|
| `current` | [R object or expression] Outcome or expression under scrutiny. |
| `target` | [R object or expression] Expected outcome |
| `tol` | [numeric] Test equality to machine rounding. Passed to `all.equal` (tolerance) |
| `mode` | [character] Comparison mode passed to `diffPrint`, defaults to using the "diffobj.mode" global option value with "unified" as fallback if no such option is set |
| `format` | [character] Comparison mode passed to `diffPrint`, defaults to to using the "diffobj.format" global option value with "ansi256" as fallback if no such option is set |
| `...` | Passed to `all.equal` |

## Details

`expect_equivalent_with_diff` calls `expect_equal_with_diff` with the extra arguments `check.attributes=FALSE` and `use.names=FALSE`

## Value

A tinytest object. A tinytest object is a `logical` with attributes holding information about the test that was run. The class attribute is set to `c("ttdo", "tinytest")` to signal that it is a 'diffobj' result.

## Examples

```
library(tinytest)
using(ttdo)
expect_equal_with_diff(1 + 1, 2) # TRUE
expect_equal_with_diff(1 - 1, 2) # FALSE
expect_equivalent_with_diff(2, c(x=2)) # TRUE
expect_equivalent_with_diff(2, c(x=2)) # TRUE
```

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`expect_equal_xl` *Extensions of equality tests for tinytest*

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## Description

Building on the tinytest functions for testing equality with optional enhanced object diffing and additional test feedback through addtional attributes.

## Usage

```
expect_equal_xl(
  current,
  target,
  useDiffObj = TRUE,
  tol = sqrt(.Machine$double.eps),
  info = NA_character_,
  mode = getOption("diffobj.mode", "unified"),
  format = getOption("diffobj.format", "ansi256"),
  ...
)

expect_identical_xl(
  current,
  target,
  useDiffObj = TRUE,
  info = NA_character_,
  mode = getOption("diffobj.mode", "unified"),
  format = getOption("diffobj.format", "ansi256"),
  ...
)

expect_equivalent_xl(
  current,
```

```
  target,
  useDiffObj = TRUE,
  tol = sqrt(.Machine$double.eps),
  info = NA_character_,
  mode = getOption("diffobj.mode", "unified"),
  format = getOption("diffobj.format", "ansi256"),
  ...
)
```

## Arguments

| | |
|---|---|
| current | [R object or expression] Outcome or expression under scrutiny. |
| target | [R object or expression] Expected outcome |
| useDiffObj | [logical] Whether you should use diffPrint for the diff field in the resulting tinytest object |
| tol | [numeric] Test equality to machine rounding. Passed to all.equal (tolerance) |
| info | An additional attribute to pass around with the tinytest object |
| mode | [character] Comparison mode passed to diffPrint, defaults to using the "diffobj.mode" global option value with "unified" as fallback if no such option is set |
| format | [character] Comparison mode passed to diffPrint, defaults to to using the "diffobj.format" global option value with "ansi256" as fallback if no such option is set |
| ... | Passed to all.equal and returned as a test attributes |

## Details

While tinytest does now support the passing of additional information with the info field in its tests, they are not yet supported in the as.data.frame.tinytests method.

## Value

A tinytest object. A tinytest object is a logical with attributes holding information about the test that was run

## Examples

```
library(tinytest)
using(ttdo)
expect_equal_xl(1 + 1, 2, score = 3) # TRUE
expect_equal_xl(1 - 1, 2, name = "check 1-1==2", score = 1, totalpts = 2) # FALSE
```

## expect_visual_equal_with_diff *Test for plot equality with 'diff' generation*

### Description

This `tinytest`-compatible expectation compares two plots supplied as files (which should be png files) and returns *visual* difference in a plot file (for which the designated file has to be supplied).

The labels "old" (for the reference plot compared against), "new" (for the candidate plot, and "diff" can be set as value to the global option `tinysnapshot_plot_diff_style`. For example settings `c("old", "new", "diff")` shows all three, setting `c("new", "diff")` just these two. The default is to only show the 'diff' plot.

### Usage

```
expect_visual_equal_with_diff(proposed, reference, difference, ...)
```

### Arguments

| | |
|---|---|
| `proposed` | Character value with filename of proposed solution, should be png |
| `reference` | Character value with filename of reference plot, should be png |
| `difference` | Character value with filename for difference plot (if plots differ) |
| `...` | Passes on to `tinysnapshot::expect_equivalent_images()` |

### Value

The `tinytest` result object where the `diff` attribute contains the suitable value that can be passed onto the JSON output, i.e. a character string beginning with `"date:image/png;base64,"` followed with the base64 encoded file. The class attribute is set to `c("ttvd", "tinytest")` to signal that it is a 'visual diff' result.

## makeDataFrame *Convert tinytest results to data.frame*

### Description

This method extends the `as.data.frame.tinytest` method to handle arbitrary attributes attached to each tinytest object. You can pass in the results of a single test (a tinytest object) directly or the results of one of the `run_test_*` functions (a tinytests object).

### Usage

```
makeDataFrame(x)
```

## Arguments

| | |
|---|---|
| x | a tinytest or tinytests object |

## Examples

```
# create a test file in tempdir
tests <- "
using(ttdo)

addOne <- function(x) x + 2

expect_true(addOne(0) > 0)
expect_equal(2, addOne(1))
"
testfile <- tempfile(pattern = "test_", fileext = ".R")
write(tests, testfile)

# extract testdir
testdir <- dirname(testfile)
# run all files starting with 'test' in testdir
library(tinytest)
out <- run_test_dir(testdir)
#
# convert results
dat <- makeDataFrame(out)
dat

dat2 <- makeDataFrame(expect_equal_xl(1-1, 2, useDiffObj = FALSE, name = 'subtr', pts = 1))
```

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# ttdo_boolean_and_message_tests

*Extensions of boolean and messaging tests from tinytest*

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## Description

Building on the tinytest functions for testing boolean values with additional test feedback through attributes.

## Usage

```
expect_true_xl(current, info = NA_character_, ...)

expect_false_xl(current, info = NA_character_, ...)

expect_null_xl(current, info = NA_character_, ...)

expect_silent_xl(current, quiet = TRUE, info = NA_character_, ...)
```

```
expect_error_xl(
  current,
  pattern = ".*",
  class = "error",
  info = NA_character_,
  ...
)

expect_warning_xl(
  current,
  pattern = ".*",
  class = "warning",
  info = NA_character_,
  strict = FALSE,
  ...
)

expect_message_xl(
  current,
  pattern = ".*",
  class = "message",
  info = NA_character_,
  strict = FALSE,
  ...
)
```

## Arguments

| | |
|---|---|
| current | [R object or expression] Outcome or expression under scrutiny. |
| info | scalar. Optional user-defined message. Must be a single character string. Multi-line comments may be separated by "\n". |
| ... | Passed to all.equal and returned as a test attribute |
| quiet | [logical] suppress output printed by the current expression (see examples) |
| pattern | [character] A regular expression to match the message. |
| class | [character] For condition signals (error, warning, message) the class from which the condition should inherit. |
| strict | [logical] scalar. If set to TRUE, any exception worse than the wanted exception will cause the test to fail. |

## Details

While tinytest does now support the passing of additional information with the info field in its tests, they are not yet supported in the as.data.frame.tinytests method.

## Value

A tinytest object. A tinytest object is a logical with attributes holding information about the test that was run

## Examples

```
library(tinytest)
using(ttdo)
expect_true_xl(TRUE, score = 3) # TRUE
expect_true_xl(FALSE, name = "check 1-1==2", score = 1, totalpts = 2) # FALSE
```

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