Package ‘svUnit’

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check SciViews-R Unit assertions (check functions)

Description

These functions define the assertions in test functions. They are designed to check the result of some test calculation.

Usage

checkEquals(
  target,
  current,
  msg = "",
  tolerance = .Machine$double.eps^0.5,
  checkNames = TRUE,
  ...
)

checkEqualsNumeric(
  target,
  current,
  msg = "",
  tolerance = .Machine$double.eps^0.5,
  ...
)

checkIdentical(target, current, msg = "")

checkTrue(expr, msg = "")

checkException(expr, msg = "", silent = getOption("svUnit.silentException"))

DEACTIVATED(msg = "")

Arguments

target a target object as reference for comparison.
current An object created for comparison (not an S4 class object).
msg An optional (short!) message to document a test. This message is stored in the
log and printed in front of each test report.
tolerance numeric >= 0. A numeric check does not fail if differences are smaller than
'tolerance'.
checkNames Flag, if FALSE the names attributes are set to NULL for both current and target
before performing the check.
... Optional arguments passed to all.equal() or all.equal.numeric().
expr Syntactically valid R expression which can be evaluated and must return a logical vector (TRUE|FALSE). A named expression is also allowed but the name is
disregarded. In checkException(), expr is supposed to generate an error to
pass the test.
silent Flag passed on to try, which determines if the error message generated by the
checked function is displayed at the R console. By default, it is FALSE.

Details
These check functions are equivalent to various methods of the class junit.framework.Assert of Java
junit framework. They should be code-compatible with functions of same name in 'RUnit' 0.4.17,
except for checkTrue() that is vectorized here, but accept only a scalar result in 'RUnit'. For scalar
test, the behavior of the function is the same in both packages. See svTest() for examples of use
of these functions in actual test cases attached to R objects. See also the note about S4 objects in
the RUnit::checkTrue() online help of the 'RUnit' package.

Value
These function return TRUE if the test succeeds, FALSE if it fails, possibly with a 'result' attribute
containing more information about the problem. This is very different from corresponding functions
in 'RUnit' that stop with an error in case of test failure. Consequently, current functions do not
require the complex evaluation framework designed in 'RUnit' for that reason.

Author(s)
Written by Ph. Grosjean, inspired from the general design of the 'RUnit' package by Thomas
Konig, Klaus Junemann & Matthias Burger.

See Also
svTest(), Log(), guiTestReport(), RUnit::checkTrue

Examples

clearLog()  # Clear the svUnit log

# All these tests are correct
(checkEquals(c("A", "B", "C"), LETTERS[1:3]))
(checkEqualsNumeric(1:10, seq(1, 10)))
(checkIdentical(iris[1:50, ], iris[iris$Species == "setosa",])
(checkTrue(1 < 2))
(checkException(log("a")))
Log()  # See what's recorded in the log

# ... but these ones fail
(checkEquals("A", LETTERS[1:3]))
(checkEqualsNumeric(2:11, seq(1, 10)))
(checkIdentical(iris[1:49, ], iris[iris$Species == "setosa",]))
(checkTrue(1 > 2))
(checkException(log(1)))
Log()  # See what's recorded in the log

# Create a test function and run it
foo <- function(x, y = 2)
  return(x * y)
test(foo) <- function() {
  #DEACTIVATED()
  checkEqualsNumeric(5, foo(2))
  checkEqualsNumeric(6, foo(2, 3))
  checkTrue(is.test(foo))
  checkTrue(is.test(test(foo)))
  checkIdentical(test(foo), attr(foo, "test"))
  checkException(foo("b"))
  checkException(foo(2, "a"))
}
(runTest(foo))

# Of course, everything is recorded in the log
Log()

clearLog()

---

**guiTestReport**  
*Report or give feedback to the GUI client about running test units*

**Description**

These functions are usually not called from the command line. They return data to compatible GUI clients, like Komodo Edit with the SciViews-K extension.

**Usage**

```r
guiTestReport(object, sep = "\t", path = NULL, ...)
guiSuiteList(sep = "\t", path = NULL, compare = TRUE)
guiSuiteAutoList(...)
guiTestFeedback(object, path = NULL, ...)
```
**koUnit**

*Interact with the test unit GUI in Komodo/SciViews-K*

**Description**

These functions allow controlling the test unit module (R Unit tab at right) in Komodo with SciViews-K and SciViews-K Unit extensions. R must be correctly connected to Komodo, meaning that the 'svGUI' package must be loaded with proper configuration of client/server socket connections between R and Komodo. See the manual about SciViews-K for more information. The functions defined here are the same as JavaScript functions defined in the 'sv.r.unit' namespace in Komodo/SciViews-K Unit. For instance, `koUnit_runTest()` is equivalent to `sv.r.unit.runTest()` in a Javascript macro in Komodo.

**Usage**

`koUnit_setAutoTest(state)`

`koUnit_isAutoTest()`

`koUnit_runTest()`

**Arguments**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>object</td>
<td>a 'svUnitData' object.</td>
</tr>
<tr>
<td>sep</td>
<td>Field separator to use in the results.</td>
</tr>
<tr>
<td>path</td>
<td>Path where to write a 'Suites.txt' file with the list of currently available test suites (to be used by the GUI client). If NULL, no file is written (by default).</td>
</tr>
<tr>
<td>...</td>
<td>Not used currently.</td>
</tr>
<tr>
<td>compare</td>
<td>Do we compare the list of available test suite and return something to the GUI client only if there are changes in the list? This is used (when TRUE) to avoid unnecessary multiple processing of the same list by the GUI client.</td>
</tr>
</tbody>
</table>

**Value**

`guiSuiteList()` returns the list of available test suites invisibly. `guiSuiteAutoList()` is used to establish a callback to automatically list the available test suites in the GUI. It is not intended to be called directly by the user. The other functions just return TRUE invisibly. They are used for their side effect of sending data to compatible GUI clients.

**Author(s)**

Philippe Grosjean

**See Also**

`svTest(), svSuite(), koUnit_version()`
koUnit_showRUnitPane(state)
koUnit_version()

Arguments

state TRUE or FALSE, or missing for koUnit_showRUnitPane(), in this case, the R Unit pane visibility is toggled.

Value

koUnit_isAutoTest() returns TRUE if the test unit is in auto mode in Komodo (the selected tests are run automatically each time a .R file edited in Komodo is saved).

koUnit_version() returns the version for which the SciViews-K Unit extension was designed for. This allow to check if this version is compatible with current ‘svUnit’ R package version, and to propose to update the Komodo extension if needed (this mechanism is not running currently, but it will be implemented in the future to avoid or limit incompatibilities between respective R and Komodo extensions).

The other functions are invoked for their side-effect and they return nothing. Note, however, that correct execution of this code in Komodo is verified, and the functions issue an error in R if they fail to execute correctly in Komodo.

Author(s)

Philippe Grosjean

See Also

guiTestReport()

Examples

```r
## Not run:
# Make sure R is communicating with Komodo before use, see ?koCmd in svGUI
koUnit_version()

# Toggle visibility of the R Unit pane in Komodo twice
koUnit_showRUnitPane()
koUnit_showRUnitPane()

# Make sure that the R Unit pane is visible
koUnit_showRUnitPane(TRUE)

# Is the test unit running in auto mode?
koUnit_isAutoTest()

# Toggle auto test mode off
koUnit_setAutoTest(FALSE)

# Run the test units from within Komodo
```
koUnit_runTest()

## End(Not run)

---

Log

SciViews-R log management functions

Description

These functions define the code of test functions. They are designed to check the result of some test calculation.

Usage

Log(description = NULL)

createLog(description = NULL, deleteExisting = FALSE)

clearLog()

errorLog(stopit = TRUE, summarize = TRUE)

lastTest()

lastSuite()

Arguments

description A (short) character string describing this test suite log.

deleteExisting Do we delete an existing .Log object already defined in .GlobalEnv (no, by default)?

stopit Do we issue an error (stop() in case of any error or failure? This is particularly useful if you want to interrupt R CMD check on packages, when you included one or more test suites in examples (see ?unitTests).

summarize Should the summary of the log be printed in case we stop execution of the code when an error is found (see stopit = argument. It is, indeed, useful to indicate at this time which tests failed or raised an error. So, this argument should usually be left at its default value.

Details

svUnit records results of assertions (using the checkxxx() functions) in a ’svSuiteData’ object named .Log and located in .GlobalEnv. Hence, this log is easy to access. However, in order to avoid errors in your code in case this object was deleted, or not created, it is better to access it using Log() which take care to create the object if it is missing.
Value

`Log()` and `createLog()` return the `.Log` object defined in `.GlobalEnv` by reference (it is indeed an environment). So, you can use its content (and change it, if you write functions to manipulate this log).

`clearLog()` return invisibly `TRUE` or `FALSE`, depending if an existing log object was deleted or not.

`errorLog()` is mainly used for its side-effect of stopping code execution and/or printing a summary of the test runs in the context of example massaging in R CMD check (see the "Writing R extensions" manual). However, this function also returns invisibly a contingency table with the number of successes, failures, errors and deactivated tests recorded so far.

`lastTest()` and `lastSuite()` recall results of last test and last suite run, respectively.

Author(s)

Philippe Grosjean

See Also

`svSuiteData()`, `svSuite()`, `svTest()`, `checkEquals()`

Examples

```r
clearLog()  # Clear the svUnit log

# Two correct tests
(checkTrue(1 < 2))
(checkException(log("a")))
errorLog()  # Nothing, because there is no error

## Not run:
(checkTrue(1 > 2))  # This test fails
lastTest()  # Print results of last test
errorLog()  # Stop and summarize the tests run so far

## End(Not run)

clearLog()
```

Description

Test functions are functions without arguments with class `svTest` containing one or more assertions using `checkxxx()` functions. They can be attached to any object as a `test` attribute. They can also be transferred into a more formal test unit file on disk by applying the `makeUnit()` method.
Usage

makeTestListFromExamples(packageName, manFilesDir, skipFailing = FALSE)

svTest(testFun)

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

as.svTest(x)

is.svTest(x)

is.test(x)

test(x)

test(x) <- value

makeUnit(x, ...)

## Default S3 method:
makeUnit(
  x,
  name = make.names(deparse(substitute(x))),
  dir = tempdir(),
  objfile = "",
  codeSetUp = NULL,
  codeTearDown = NULL,
  ...
)

## S3 method for class 'svTest'
makeUnit(
  x,
  name = make.names(deparse(substitute(x))),
  dir = tempdir(),
  objfile = "",
  codeSetUp = NULL,
  codeTearDown = NULL,
  ...
)

runTest(x, ...)

## Default S3 method:
runTest(
  x,
  name = deparse(substitute(x)),
  ...
objfile = ""
  tag = ""
  msg = ""
  ...
)

## S3 method for class 'list'
runTest(x, ...)

## S3 method for class 'svTest'
runTest(
  x,
  name = deparse(substitute(x)),
  objfile = "",
  tag = "",
  msg = "",
  ...
)

Arguments

packageName A character string identifying the package from which to extract examples.
manFilesDir A character string identifying the directory holding the manual pages and exam-
ples.
skipFailing A logical indicating whether missing or failing documentation examples should
be marked as skipped instead of as failure.
testFun A function without arguments defining assertions (using checkxxx() functions)
for tests to be transformed into a 'svTest' object.
x Any kind of object.
... Further arguments to the method (not used yet).
value The tests to place in the object (as 'test' attribute); could be a 'svTest' object, or
a function without arguments with assertions (checkxxx() functions).
name The name of a test.
dir The directory where to create the test unit file.
objfile The path to the file containing the original source code of the object being tested.
This argument is used to bring a context for a test and allow a GUI to automatically
open the source file for edition when the user clicks on a test that failed or
raised an error.
codeSetUp An expression with some code you want to add to the .setUp() function in your
unit file (this function is executed before each test).
codeTearDown An expression with some code you want to add to the .tearDown() function in
your unit file (this function is executed after each test).
tag A tag is a character string identifying a location in source code files (either a test
unit file, or the original source code of the tested objects defined in objfile =.
This character string will be searched by the text editor for easy location of the
cursor near the corresponding test command, or near the location in the original object that is concerned by this test. Use any string you want to uniquely identify your tag, both in your files, and in this argument.

`msg`  
A message you want to associate with this test run.

**Value**

A `svTest` object for `svTest()`, `as.svTest()` and `test()`. Function `is.svTest()` returns `TRUE` if 'x' is a `svTest` object, and `is.test()` does the same but also looks in the 'test' attribute if the class of 'x' is not `svTest` and returns `TRUE` if it finds something there.

`makeUnit()` takes an object, extract its test function and write it in a sourceable test unit on the disk (it should be compatible with 'RUnit' test unit files too).

`runTest()` returns invisibly a `svTestData` object with all results after running specified tests.

**Author(s)**

Philippe Grosjean

**See Also**

`svSuite()`, `is.svTestData()`, `Log()`, `checkEquals()`

**Examples**

```r
clearLog()  # Clear the log file

foo <- function(x, y = 2)  
  return(x * y)

is.test(foo)  # No

# Create test cases for this function

test(foo) <- function() {
  checkEqualsNumeric(4, foo(2))
  checkEqualsNumeric(6, foo(2, 3))
  checkTrue(is.test(foo))
  checkTrue(is.test(test(foo)))
  checkIdentical(attr(foo, "test"), test(foo))
  checkException(foo(2, "aa"))
  checkException(foo("bb"))
}

is.test(foo)  # Yes

## Not run:
# Create a test unit on disk and view it

unit <- makeUnit(foo)

file.show(unit, delete.file = TRUE)

## End(Not run)

# Run the test
(runTest(foo))
```

# Same as...
bar <- test(foo)
(runTest(bar))

# How fast can we run 100 times such kind of tests (700 test in total)?
# (just an indication because in real situation with test unit files, we
# have also the time required to source the units!)
system.time(for (i in 1:100) runTest(foo))[3]

is.svTest(test(foo))  # Yes, of course!
# When an object without associated test is passed to runTest(),
# a simple test containing only a DEACTIVATED entry is build
x <- 1:10
summary(runTest(x))

summary(Log())

rm(foo, bar, x)

svSuite

Create and run test suites by collecting together unit tests and function
tests defined in objects

Description

A 'svSuite' object is essentially a list of test units directories (or packages, in this case, corresponding
directories are PKG/unitTests and its subdirectories), and of object names containing tests to
add temporarily to the test suite. These must be formatted in a concise way as described for the'tests' argument.

Usage

svSuite(tests)

as.svSuite(x)

is.svSuite(x)

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

svSuiteList(
  packages = TRUE,
  objects = TRUE,
  dirs = getOption("svUnit.dirs"),
  excludeList = getOption("svUnit.excludeList"),
  pos = .GlobalEnv,
  loadPackages = FALSE
)
## S3 method for class 'svSuite'
makeUnit(
  x,
  name = make.names(deparse(substitute(x))),
  dir = tempdir(),
  objfile = "",
  codeSetUp = NULL,
  codeTearDown = NULL,
  pos = .GlobalEnv,
  ...
)

## S3 method for class 'svSuite'
runTest(x, name = make.names(deparse(substitute(x))), unitname = NULL, ...)

### Arguments

**tests**
A character string with items to include in the test suite. It could be 'package:PKG' for including test units located in the /unitTests subdirectory of the package PKG, or 'package:PKG (SUITE)' for test units located in the subdirectory /unitTests/SUITE of package PKG, or 'dir:MYDIR' for including test units in MYDIR, or 'test(OBJ)' for tests embedded in an object, or 'OBJ' for 'svTest' object directly.

**x**
Any kind of object.

**packages**
Do we list test units available in loaded packages? Alternatively one can provide a character vector of package names, and it will be used to filter packages (take care: in this case it will look at installed packages, not only loaded packages!)

**objects**
Do we list test available in objects? Alternatively, one can provide a character vector of object names, and it will filter objects in 'pos' according to this vector.

**dirs**
An additional list of directories where to look for more test units. For convenience, this list can simply be saved as an 'svUnit.dirs' options.

**excludeList**
A list of items to exclude from the listing. The function uses regular expression to match the exclusions. So, for instance, specifying "package:MYPKG" will exclude all items from package 'MYPKG', while using "package:MYPKG$" will exclude only tests suites defined in the ./MYPKG/unitTests directory, bur not in its subdirectories. For convenience, it can be saved in a 'svUnit.excludeList' option. By default, all tests for packages whose name start with 'sv' or 'RUnit' are excluded, that is, c("package:sv","package:RUnit").

**pos**
The environment to look for 'objects' (environment, character string with name of an environment, or integer with position of the environment in the search path.

**loadPackages**
In the case a list of packages is provided in packages =, do we make sure that these packages are loaded? If yes, the function will try to load all packages in that list that are not loaded yet and will issue a warning for the packages not found. Default, FALSE.
name

The name of the test suite to build.

dir

The directory where to create the test unit file.

objfile

The path to the file containing the original source code of the object being tested. This argument is used to bring a context for a test and allow a GUI to automatically open the source file for edition when the user clicks on a test that failed or raised an error.

codeSetUp

An expression with some code you want to add to the .setUp() function in your unit file (this function is executed before each test).

codeTearDown

An expression with some code you want to add to the .tearDown() function in your unit file (this function is executed after each test).

unitname

The name of a unit to run inside the suite. If NULL (by default), all units are run.

Details

svSuiteList() lists all loaded packages having /unitTests/runit*.R files (or similar files in subdirectories), and all objects in the user workspace that have a 'test' attribute, or are 'svTest' objects (by default). It is a rather exhaustive list of all test items currently available in the current R session, but restricted by getOption("svUnit.excludeList").

makeUnit() writes a test unit on disk with the tests from the objects listed in the 'svSuite' object that do not belong yet to a test unit. runTest() runs all the test in packages, directories and objects listed in the 'svSuite' object.

Thanks to the variety of sources allowed for tests, it is possible to define these tests in a structured way, inside packages, like for the 'RUnit' package (but with automatic recognition of test units associated to packages, in the present case). It is also easy to define tests more loosely by just attaching those tests to the objects you want to check. Whenever those objects are loaded in the user’s workspace, their tests are available. In both cases, a test unit file on disk is sourced in a local environment and test functions are run (same approach as in the 'RUnit' package, and the same test unit files should be compatibles with both 'RUnit' and 'svUnit' packages), but in the case of a loosely definition of the tests by attachment to objects, the test unit file is created on the fly in the temporary directory (by default).

At any time, you can transform a series of tests loosely attached to objects into a test unit file by applying makeUnit() to a 'svSuite' object, probably specifying another directory than the (default) temporary dir for more permanent storage of your test unit file. The best choice is the '/inst/unitTests' directory of a package source, or one of its subdirectories. That way, your test unit file(s) will be automatically listed and available each time you load the compiled package in R (if you list them using svSuiteList()). Of course, you still can exclude tests from given packages by adding 'package:PKG' in the exclusion list with something like: options(svUnit.excludeList = c(getOption("svUnit.excludeList"),"package:PKG")).

Value

svSuite(), as.svSuite() and svSuiteList() return a 'svSuite' object. is.svSuite() returns TRUE if the object is an 'svSuite'.

makeUnit() creates a test unit file on disk, and runTest() runs the tests in such a file. They are used for their side-effect, but the first one also returns the file created, and the second one returns invisibly the list of all test unit files that where sourced ans run.
Author(s)
Philippe Grosjean

See Also
svSuiteData(), svTest(), Log(), checkEquals(), RUnit::checkEquals()

Examples
svSuiteList() # List all currently available test units and test cases
# Exclusion list is used (regular expression filtering!). It contains:
(oex <- getOption("svUnit.excludeList"))
# Clear it, and relist available test units
options(svUnit.excludeList = NULL)
svSuiteList()

# Two functions that include their test cases
Square <- function(x)
  return(x^2)
test(Square) <- function()
  { checkEquals(9, Square(3))
    checkEquals(c(1, 4, 9), Square(1:3))
    checkException(Square("xx"))
  }

Cube <- function(x)
  return(x^3)
test(Cube) <- function()
  { checkEquals(27, Cube(3))
    checkEquals(c(1, 8, 28), Cube(1:3))
    checkException(Cube("xx"))
  }

# A separate test case object (not attached to a particular object)
# This is the simplest way to define quick and dirty integration tests
test_Integrate <- svTest(function()
  { checkTrue(1 < 2, "check1")
    v <- 1:3 # The reference
    w <- 1:3 # The value to compare to the reference
    checkEquals(v, w)
  })

# A function without test cases (will be filtered out of the suite list)
foo <- function(x)
  return(x)

# Look now which tests are available
svSuiteList()

# Only objects, no package units
svSuiteList(packages = FALSE)
svSuiteData

## Not run:
# Create the test unit file for all objects with tests in .GlobalEnv
myunit <- makeUnit(svSuiteList(), name = "AllTests")
file.show(myunit, delete.file = TRUE)

## End(Not run)

# Filter objects using a list (object with/without tests and a nonexisting obj)
svSuiteList(packages = FALSE, objects = c("Cube", "foo", "bar"))

# Create another svSuite object with selected test items
(mysuite <- svSuite(c("package:svUnit (VirtualClass)", "test(Cube)")))
is.svSuite(mysuite) # Should be!

## Not run:
# Run all the tests currently available
(runTest(svSuiteList(), name = "AllTests"))
summary(Log())

## End(Not run)

# Restore previous exclusion list, and clean up the environment
options(svUnit.excludeList = oex)
rm(Square, Cube, foo, test_Integrate, mysuite, myunit, oex)

---

svSuiteData

Objects of class 'svSuiteData' contain results from running test suites

Description

The 'svSuiteData' object contains results of all test run in one or more test suites. The checkxxx() functions and the runTest() method generate data (objects 'svTestData') contained in the default 'svSuiteData' named .Log and located in .GlobalEnv. It is then possible to display and report information it contains in various ways to analyze the results.

Usage

is.svSuiteData(x)

## S3 method for class 'svSuiteData'
stats(object, ...)

metadata(object, ...)

## S3 method for class 'svSuiteData'
metadata(
  object,
  fields = c("R.version", "sessionInfo", "time", "description"),
  ...
## S3 method for class 'svSuiteData'
print(x, all = FALSE, file = "", append = FALSE, ...)

## S3 method for class 'svSuiteData'
summary(object, ...)

protocol(object, type = "text", file = "", append = FALSE, ...)

## Default S3 method:
protocol(object, type = "text", file = "", append = FALSE, ...)

## S3 method for class 'svSuiteData'
protocol(object, type = "text", file = "", append = FALSE, ...)

protocol_text(object, file = "", append = FALSE, ...)

## S3 method for class 'svSuiteData'
protocol_text(object, file = "", append = FALSE, ...)

protocol_junit(object, ...)

## S3 method for class 'svSuiteData'
protocol_junit(object, file = "", append = FALSE, ...)

### Arguments

- **x** Any kind of object, or a 'svSuiteData' object in the case of `print()`.  
- **object** A 'svSuiteData' object.  
- **...** Further arguments to pass to methods. Not used yet.  
- **fields** Character vector. The name of all metadata items you want to extract for the object. The default value is an exhaustive list of all available metadata (i.e., defined by default) in the object, but you can add more: just add a corresponding attribute to your object.  
- **all** Do we print concise report for all test, or only for the tests that fail or produce an error?  
- **file** Character. The path to the file where to write the report. If file = "", the protocol report is output to the console.  
- **append** Do we append to this file?  
- **type** Character. The type of protocol report to create. For the moment, only type = "text" and type = "junit" are supported, but further types (HTML, LaTeX, Wiki, etc.) could be provided later.

### Details

A 'svSuiteData' is, indeed, an environment. The results for the various tests runs are in non hidden (i.e., names not starting with a dot) objects that are of class 'svTestData' in this environment. Var-
ious other objects that control the execution of the test, their context, etc. are contained as hidden objects with name starting with a dot. Note that using an environment instead of a list for this object allows for a call by reference instead of a usual call by value in R, when passing this object to a function. This property is largely exploited in all svUnit functions to make sure results of test runs are centralized in the same log (`svSuiteData` object).

Value

`is.svSuiteData()` returns TRUE if the object is an 'svSuiteData'. The various methods serve to extract or print content in the object.

Author(s)

Philippe Grosjean; Mario Frasca for the junit protocol.

See Also

`svSuite()`, `is.svTestData()`, `Log()`, `checkEquals()`

Examples

clearLog() # Clear any existing log

# Run some tests
checkTrue(1 < 2)
checkException(log("a"))
foo <- function(x, y = 2)
  return(x * y)
test(foo) <- function() {
  checkEqualsNumeric(4, foo(2))
  checkEqualsNumeric(6, foo(2, nonexisting))
  checkTrue(is.test(foo))
  warning("This is a warning")
  cat("Youhou from test!\n") # Don't use, except for debugging!
  checkTrue(is.test(test(foo)))
  checkIdentical(attr(foo, "test"), test(foo))
  checkException(foo(2, nonexisting))
  #DEACTIVATED("My deactivation message")
  checkException(foo(2)) # This test fails
}
runTest(foo)

# Now inspect the log, which is a 'svSuiteData' object
is.svSuiteData(Log())
stats(Log())
metadata(Log())
Log() # Print method
summary(Log())

## Not run:
# To get a print of the test protocol on file, use:
protocol(Log(), type = "text", file = "RprofProtocol.out")
file.show("RprofProtocol.out")
unlink("RprofProtocol.out")

## End(Not run)

rm(foo)

## Not run:
# Profiling of very simple test runs
library(utils)
createLog(description = "test profiling", deleteExisting = TRUE)
imax <- 3
jmax <- 100
l <- 50
Rprof()
for (i in 1:imax) {
    # Change the context for these tests
    .Log$..Test <- paste("Test", i, sep = "")
    .Log$..Tag <- paste("#", i, sep = "")
    res <- system.time({
        for (j in 1:jmax) checkTrue(i <= j, "My test")
    }, gcFirst = TRUE)[3]
    print(res)
    flush.console()
}
Rprof(NULL)
# Look at profile
summaryRprof()
unlink("Rprof.out")

# Look at the log
summary(Log())

## End(Not run)

svTestData

Objects of class ‘svTestData’ contain results from running a test

Description

The ‘svTestData’ contains results of test run. The checkxxx() functions and the runTest() method generate one such object which is located in the .Log object in .GlobalEnv. It is then possible to display and report information it contains in various ways to analyze the results.

Usage

is.svTestData(x)

stats(object, ...)

svTestData
## S3 method for class 'svTestData'
stats(object, ...)

## S3 method for class 'svTestData'
print(x, all = FALSE, header = TRUE, file = "", append = FALSE, ...)

## S3 method for class 'svTestData'
summary(object, header = TRUE, file = "", append = FALSE, ...)

## S3 method for class 'svTestData'
protocol_junit(object, ...)

### Arguments

- **x** Any kind of object, or a 'svTestData' object in the case of `print()`
- **object** A 'svTestData' object.
- **...** Further arguments to pass to methods. Not used yet.
- **all** Do we print concise report for all test, or only for the tests that fail or produce an error?
- **header** Do we print a header or not?
- **file** Character. The path to the file where to write the report. If `file = ""`, the report is output to the console.
- **append** Do we append to this file?

### Value

`is.svTestData()` returns `TRUE` if the object is a 'svTestData'. The various methods serve to extract or print content in the object.

### Author(s)

Philippe Grosjean

### See Also

`svTest()`, `is.svSuiteData()`, `Log()`, `checkEquals()`

### Examples

```r
foo <- function(x, y = 2)
  return(x * y)
is.test(foo) # No
# Create test cases for this function
test(foo) <- function() {
  checkEqualsNumeric(4, foo(2))
  checkEqualsNumeric(5, foo(2, 3))
  checkEqualsNumeric(5, foo(nonexists))
}
# Generate a 'svTestData' object by running the test
```
obj <- runTest(foo)  # Equivalent to runTest(test(foo)), but shorter
obj
summary(obj)
stats(obj)
is.svTestData(obj)

rm(foo, obj)

unitTests.svUnit          Unit tests for the package 'svUnit'

Description

Performs unit tests defined in this package by running example(unitTests.svUnit). Tests are in runit*.R files located in the ’/unitTests’ subdirectory or one of its subdirectories (/inst/unitTests/ and subdirectories in package sources).

Author(s)

Philippe Grosjean

Examples

if (require(svUnit)) {
clearLog()
runTest(svSuite("package:svUnit"), "svUnit")

# Tests to run with example() but not with R CMD check
runTest(svSuite("package:svUnit (VirtualClass)"), "VirtualClass")

## Not run:
# Tests to present in ?unitTests.svUnit but not run automatically
# Run all currently loaded packages test cases and test suites
runTest(svSuiteList(), "AllTests")

## End(Not run)

# Check errors at the end (needed to interrupt R CMD check)
errorLog()
}


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