Package 'job'

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Title Run Code as an RStudio Job - Free Your Console

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URL https://lindeloev.github.io/job/

BugReports https://github.com/lindeloev/job/issues

Description Call job::job({<code here>}) to run R code as an RStudio job and keep your console free in the meantime. This allows for a productive workflow while testing (multiple) long-running chunks of code. It can also be used to organize results using the RStudio Jobs GUI or to test code in a clean environment. Two RStudio Addins can be used to run selected code as a job.

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Language en-US

Depends R (>= 3.5.0)

Imports rstudioapi (>= 0.13), digest (>= 0.6.27)

Suggests testthat (>= 3.0.0)

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NeedsCompilation no

Author Jonas Kristoffer Lindeløv [aut, cre]
(<https://orcid.org/0000-0003-4565-0595>)

Maintainer Jonas Kristoffer Lindeløv <jonas@lindeloev.dk>

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`export` *What to return from a job*

Description

Call this function as the last line in `job::job()` to select what is exported back into `globalenv()`. `export()` does nothing if called in any other context.

Usage

```
export(value = "changed", file = NULL)
```

Arguments

`value`	What to return. One of: • `"all"`: Return everything, including imports • `"changed"` (default): Return all variables that are not identical to import. • `"new"`: Return only new variable names. • `c(var1, var2, ...)`: Return these variable names. • `NULL` or `"none"`: Return nothing. This is particularly useful for unnamed code chunks.
`file`	Name of `.RData` file to export to. If not `NULL`, nothing will be returned to the main session (corresponding to `export("none")`).

Details

Under the hood, this function merely `rm()` variables that does not match `value`. Because `job::job()` returns everything at the end of the script, this defines what is returned.

Value

`NULL` invisibly.

Author(s)

Jonas Kristoffer Lindeløv, <jonas@lindeloev.dk>

Examples

```
if (rstudioapi::isAvailable()) {
  a = 55
  b = 77
  d = 88
  job::job({n = 11; a = 55; job::export("all")})  # export a, b, d, n
  job::job({n = 11; a = 11; job::export("changed")})  # export a, n
  job::job({n = 11; a = 11; job::export("new")})  # export n
```

```
  job::job({n = 11; a = 55; job::export(c(a, d, b))})  # export a, d, b
  job::job({n = 11; a = 55; job::export("none")})  # export nothing

  # To file
  job::job({n = 11; a = 11; job::export("changed", file = "jobresult.RData")})  # save a, n
  jobresult = new.env()  # import to this env instead of global
  load("jobresult.RData", envir = jobresult)
  print(jobresult$n)
}
```

---

job *Run Code as an RStudio Job*

Description

See examples for an introduction. See the job website for more examples. See details for some warnings. Note that `job::empty()`is identical to `job::job()` but all arguments default to `NULL`.

Usage

```
job(
  ...,
  import = "all",
  packages = .packages(),
  opts = options(),
  title = NULL
)

empty(..., import = NULL, packages = NULL, opts = NULL, title = NULL)
```

Arguments

`...`	A named or unnamed code block enclosed in curly brackets, `{}`. Named code blocks will assign the that name in `globalenv()`. Unnamed code blocks will assign job variables directly to `globalenv()` upon completion. Control what gets returned using `export` within the code block.
`import`	Which objects to import into the job. • `"all"`: Import all objects. • `"auto"` (default): Detect which objects are used in the code and import those. • `c(foo, bar, ...)`: A vector of unquoted variables to import into the job. • `c("foo", "bar", ...)`: A vector of quoted variables to import into the job. • `NULL`: import nothing.
`packages`	Character vector of packages to load in the job. Defaults to all loaded packages in the calling environment. `NULL` loads only default packages. You can combine `packages = NULL` with writing `library(my_package)` in the code block.

opts	List of options to overwrite in the job. Defaults to options(), i.e., copy all options to the job. NULL uses defaults.
title	The job title. You can write e.g., "Cross-Validation: {code}" to include a code snippet in the title. If title = NULL (default), the name of the code chunk is used. If ... is unnamed, the code is shown.

Details

This is a wrapper around rstudioapi::jobRunScript. To control what gets returned, see export. By default, all objects that *changed* during the job are returned, i.e., job::export("changed").

- **Returning large objects:** jobRunScript is very slow at importing and exporting large objects. For exporting back into globalenv(), it may be faster to saveRDS() results within the job and readRDS() them in your environment.

Value

Invisibly returns the job id on which you can call other rstudioapi::job* functions, e.g., rstudioapi::rstudioapi::jobR

Functions

- empty(): job::job() but with NULL defaults, i.e., an "empty" job.

Author(s)

Jonas Kristoffer Lindeløv, <jonas@lindeloev.dk>

See Also

export, jobRunScript

Examples

```
if (rstudioapi::isAvailable()) {
  # Unnamed code chunks returns to globalenv()
  global_var = 5
  job::job({
    x = rnorm(global_var)
    print("This text goes to the job console")
    m = mean(x)
  })

  # later:
  print(x)
  print(m)


  # Named code chunks assign job environment to that name
  job::job(my_result = {
    y = rnorm(global_var)
    sigma = sd(y)
```

```
  }, title = "Title with code: {code}")

  # later:
  print(my_result$y)
  print(my_result$sigma)


  # Delete everything in the job environment to return nothing.
  # Useful if text output + file output is primary
  job::job({
    some_cars = mtcars[mtcars$cyl > 4, ]
    print(mean(some_cars$mpg))
    print(summary(some_cars))
    # saveRDS(some_cars, "job_result.rds")

    job::export("none")  # return nothing
  })


  # Control imports from calling environment (variables, packages, options)
  my_df = data.frame(names = c("alice", "bob"))
  ignore_var = 15
  job::job(result2 = {
    if (exists("ignore_var") == FALSE)
      print("ignore_var is not set here")

    names = rep(my_df$names, global_var)
  }, import = c(global_var, my_df), packages = NULL, opts = list(mc.cores = 3))

  # later
  print(result2$names)
}
```

`print.jobcode` *Nice print .jobcode*

Description

Nice print .jobcode

Usage

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

Arguments

`x`	Text to print
`...`	Currently unused

Value

No return value, called for side effects.

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