

Package ‘pak’

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Title Another Approach to Package Installation

Description The goal of 'pak' is to make package installation faster and more reliable. In particular, it performs all HTTP operations in parallel, so metadata resolution and package downloads are fast. Metadata and package files are cached on the local disk as well. 'pak' has a dependency solver, so it finds version conflicts before performing the installation. This version of 'pak' supports CRAN, 'Bioconductor' and 'GitHub' packages as well.

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Note This field has Remotes syntax, but repeat remotes in `Remotes`!

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`cache_summary`*Package cache utilities*

Description

Various utilities to inspect and clean the package cache. See the `pkgcache` package if you need for control over the package cache.

Usage

`cache_summary()``cache_list(...)``cache_delete(...)``cache_clean()`

Arguments

... For `cache_list()` and `cache_delete()`, ... may contain filters, where the argument name is the column name. E.g. `package`, `version`, etc. Call `cache_list()` without arguments to see the available column names. If you call `cache_delete()` without arguments, it will delete all cached files.

Details

`cache_summary()` returns a summary of the package cache.

`cache_list()` lists all (by default), or a subset of packages in the package cache.

`cache_delete()` deletes files from the cache.

`cache_clean()` deletes all files from the cache.

Value

`cache_summary()` returns a list with elements:

- `cachepath`: absolute path to the package cache
- `files`: number of files (packages) in the cache
- `size`: total size of package cache in bytes

`cache_list()` returns a data frame with the data about the cache.

`cache_delete()` returns nothing.

`cache_clean()` returns nothing.

Examples

```
# Summary
cache_summary()

# List packages
cache_list()
cache_list(package = "recipes")
cache_list(platform = "source")

# Delete packages
cache_delete(package = "knitr")
cache_delete(platform = "macos")

cache_clean()
```

handle_package_not_found

Install missing packages on the fly

Description

Use this function to set up a global error handler, that is called if R fails to load a package. This handler will offer you the choice of installing the missing package (and all its dependencies), and in some cases it can also remedy the error and restart the code.

Usage

```
handle_package_not_found(err)
```

Arguments

`err` The error object, of class `packageNotFoundError`.

Details

You are not supposed to call this function directly. Instead, set it up as a global error handler, possibly in your `.Rprofile` file:

```
if (interactive() && getRversion() >= "4.0.0") {
  globalCallingHandlers(
    packageNotFoundError = function(err) {
      try(pak::handle_package_not_found(err))
    }
  )
}
```

Global error handlers are only supported in R 4.0.0 and later.

Currently `handle_package_not_found()` does not do anything in non-interactive mode (including in knitr, testthat and RStudio notebooks), this might change in the future.

In some cases it is possible to remedy the original computation that tried to load the missing package, and pak will offer you to do so after a successful installation. Currently, in R 4.0.4, it is not possible to continue a failed `library()` call.

Value

Nothing.

lib_status	<i>Status of packages in a library</i>
------------	--

Description

Status of packages in a library

Usage

```
lib_status(lib = .libPaths()[1])
```

```
pkg_list(lib = .libPaths()[1])
```

Arguments

lib Path to library.

Value

Data frame the contains data about the packages installed in the library.

See Also

Other package functions: [pak_package_sources](#), [pak\(\)](#), [pkg_deps_tree\(\)](#), [pkg_deps\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#), [pkg_status\(\)](#)

local_deps	<i>Dependencies of a package tree</i>
------------	---------------------------------------

Description

Dependencies of a package tree

Usage

```
local_deps(root = ".", upgrade = TRUE, dependencies = NA)
```

```
local_deps_tree(root = ".", upgrade = TRUE, dependencies = NA)
```

```
local_dev_deps(root = ".", upgrade = TRUE, dependencies = TRUE)
```

```
local_dev_deps_tree(root = ".", upgrade = TRUE, dependencies = TRUE)
```

Arguments

root	Path to the package tree.
upgrade	Whether to use the most recent available package versions.
dependencies	Which dependencies to print. Defaults to the hard dependencies for <code>local_deps()</code> and <code>local_deps_tree()</code> and the hard dependencies plus the development dependencies for <code>local_dev_deps()</code> and <code>local_dev_deps_tree()</code> .

Value

All of these functions return the dependencies in a data frame. `local_deps_tree()` and `local_dev_deps_tree()` also print the dependency tree.

See Also

Other local package trees: [local_deps_explain\(\)](#), [local_install_deps\(\)](#), [local_install_dev_deps\(\)](#), [local_install\(\)](#), [local_package_trees](#), [pak\(\)](#)

local_deps_explain	<i>Explain dependencies of a package tree</i>
--------------------	---

Description

These functions are similar to [pkg_deps_explain\(\)](#), but work on a local package tree. `local_dev_deps_explain()` also includes development dependencies.

Usage

```
local_deps_explain(deps, root = ".", upgrade = TRUE, dependencies = NA)
```

```
local_dev_deps_explain(deps, root = ".", upgrade = TRUE, dependencies = TRUE)
```

Arguments

deps	Package names of the dependencies to explain.
root	Path to the package tree.
upgrade	Whether to use the most recent available package versions.
dependencies	Which dependencies to print. Defaults to the hard dependencies for <code>local_deps()</code> and <code>local_deps_tree()</code> and the hard dependencies plus the development dependencies for <code>local_dev_deps()</code> and <code>local_dev_deps_tree()</code> .

See Also

Other local package trees: [local_deps\(\)](#), [local_install_deps\(\)](#), [local_install_dev_deps\(\)](#), [local_install\(\)](#), [local_package_trees](#), [pak\(\)](#)

local_install	<i>Install a package tree</i>
---------------	-------------------------------

Description

Installs a package tree (or source package file), together with its dependencies.

Usage

```
local_install(
  root = ".",
  lib = .libPaths()[1],
  upgrade = TRUE,
  ask = interactive(),
  dependencies = NA
)
```

Arguments

root	Path to the package tree.
lib	Package library to install the packages to. Note that <i>all</i> dependent packages will be installed here, even if they are already installed in another library.
upgrade	When FALSE, the default, does the minimum amount of work to give you the latest version of pkg. It will only upgrade packages if pkg or one of its explicitly requires a higher version than what you currently have. When upgrade = TRUE, will do ensure that you have the latest version of pkg and all its dependencies.

ask	Whether to ask for confirmation when installing a different version of a package that is already installed. Installations that only add new packages never require confirmation.
dependencies	Dependency types. See <code>pkgdepends::as_pkg_dependencies()</code> for possible values. Note that changing this argument from the default might result an installation failure, e.g. if you set it to FALSE, packages might not build if their dependencies are not already installed.

Details

`local_install()` is equivalent to `pkg_install("local::.")`.

Value

Data frame, with information about the installed package(s).

See Also

Other local package trees: [local_deps_explain\(\)](#), [local_deps\(\)](#), [local_install_deps\(\)](#), [local_install_dev_deps\(\)](#), [local_package_trees](#), [pak\(\)](#)

`local_install_deps` *Install the dependencies of a package tree*

Description

Installs the hard dependencies of a package tree (or source package file), without installing the package tree itself.

Usage

```
local_install_deps(
  root = ".",
  lib = .libPaths()[1],
  upgrade = TRUE,
  ask = interactive(),
  dependencies = NA
)
```

Arguments

root	Path to the package tree.
lib	Package library to install the packages to. Note that <i>all</i> dependent packages will be installed here, even if they are already installed in another library.

upgrade	When FALSE, the default, does the minimum amount of work to give you the latest version of pkg. It will only upgrade packages if pkg or one of its explicitly requires a higher version than what you currently have. When upgrade = TRUE, will do ensure that you have the latest version of pkg and all its dependencies.
ask	Whether to ask for confirmation when installing a different version of a package that is already installed. Installations that only add new packages never require confirmation.
dependencies	Dependency types. See <code>pkgdepends::as_pkg_dependencies()</code> for possible values. Note that changing this argument from the default might result an installation failure, e.g. if you set it to FALSE, packages might not build if their dependencies are not already installed.

Details

Note that development (and optional) dependencies, under Suggests in DESCRIPTION, are not installed. If you want to install them as well, use `local_install_dev_deps()`.

Value

Data frame, with information about the installed package(s).

See Also

Other local package trees: `local_deps_explain()`, `local_deps()`, `local_install_dev_deps()`, `local_install()`, `local_package_trees`, `pak()`

local_install_dev_deps

Install all dependencies of a package tree

Description

Installs all dependencies of a package tree (or source package file), without installing the package tree itself. It installs the development dependencies as well, specified in the Suggests field of DESCRIPTION.

Usage

```
local_install_dev_deps(
  root = ".",
  lib = .libPaths()[1],
  upgrade = TRUE,
  ask = interactive(),
  dependencies = TRUE
)
```

Arguments

root	Path to the package tree.
lib	Package library to install the packages to. Note that <i>all</i> dependent packages will be installed here, even if they are already installed in another library.
upgrade	When FALSE, the default, does the minimum amount of work to give you the latest version of pkg. It will only upgrade packages if pkg or one of its explicitly requires a higher version than what you currently have. When upgrade = TRUE, will do ensure that you have the latest version of pkg and all its dependencies.
ask	Whether to ask for confirmation when installing a different version of a package that is already installed. Installations that only add new packages never require confirmation.
dependencies	Dependency types. See <code>pkgdepends::as_pkg_dependencies()</code> for possible values. Note that changing this argument from the default might result an installation failure, e.g. if you set it to FALSE, packages might not build if their dependencies are not already installed.

See Also

Other local package trees: [local_deps_explain\(\)](#), [local_deps\(\)](#), [local_install_deps\(\)](#), [local_install\(\)](#), [local_package_trees](#), [pak\(\)](#)

local_package_trees *Local package trees*

Description

pak can install packages from local package trees. This is convenient for package development. See the following functions:

- [local_install\(\)](#) installs a package from a package tree and all of its (hard) dependencies (i.e. Includes, Depends, LinkingTo).
- [local_install_deps\(\)](#) installs all hard dependencies of a package.
- [local_install_dev_deps\(\)](#) installs all hard and soft dependencies of a package. This function is intended for active package development.

Details

Note that the last two functions do not install the package in the specified package tree itself, only its dependencies. This is convenient if the package itself is loaded via some other means, e.g. `devtools::load_all()`, for development.

See Also

Other local package trees: [local_deps_explain\(\)](#), [local_deps\(\)](#), [local_install_deps\(\)](#), [local_install_dev_deps\(\)](#), [local_install\(\)](#), [pak\(\)](#)

`local_system_requirements`*Query system requirements*

Description

Returns a character vector of commands to run that will install system requirements for the queried operating system.

`local_system_requirements()` queries system requirements for a dev package (and its dependencies) given its root path.

`pkg_system_requirements()` queries system requirements for existing packages (and their dependencies).

Usage

```
local_system_requirements(  
  os = NULL,  
  os_release = NULL,  
  root = ".",  
  execute = FALSE,  
  sudo = execute,  
  echo = FALSE  
)
```

```
pkg_system_requirements(  
  package,  
  os = NULL,  
  os_release = NULL,  
  execute = FALSE,  
  sudo = execute,  
  echo = FALSE  
)
```

Arguments

- | | |
|-----------------------------|---|
| <code>os, os_release</code> | The operating system and operating system release version, e.g. "ubuntu", "debian", "centos", "redhat". See https://github.com/rstudio/r-system-requirements#operating-systems for all full list of supported operating systems. If NULL, the default, these will be looked up using <code>distro::distro()</code> . |
| <code>root</code> | Path to the package tree. |
| <code>execute, sudo</code> | If <code>execute</code> is TRUE, pak will execute the system commands (if any). If <code>sudo</code> is TRUE, pak will prepend the commands with <code>sudo</code> . |
| <code>echo</code> | If <code>echo</code> is TRUE and <code>execute</code> is TRUE, echo the command output. |
| <code>package</code> | Package names to lookup system requirements for. |

Value

A character vector of commands needed to install the system requirements for the package.

Examples

```
local_system_requirements("ubuntu", "20.04")

pkg_system_requirements("pak", "ubuntu", "20.04")
pkg_system_requirements("pak", "redhat", "7")
pkg_system_requirements("config", "ubuntu", "20.04") # no sys reqs
pkg_system_requirements("curl", "ubuntu", "20.04")
pkg_system_requirements("git2r", "ubuntu", "20.04")
pkg_system_requirements(c("config", "git2r", "curl"), "ubuntu", "20.04")
# queried packages must exist
pkg_system_requirements("iDontExist", "ubuntu", "20.04")
pkg_system_requirements(c("curl", "iDontExist"), "ubuntu", "20.04")
```

lockfile_create	<i>Create a lock file</i>
-----------------	---------------------------

Description

The lock file can be used later, possibly in a new R session, to carry out the installation of the dependencies, with `lockfile_install()`.

Usage

```
lockfile_create(  
  pkg = "deps:.",  
  lockfile = "pkg.lock",  
  lib = NULL,  
  upgrade = FALSE,  
  dependencies = NA  
)
```

Arguments

pkg	Package names or remote package specifications to install. See pak package sources for details.
lockfile	Path to the lock file.
lib	Package library to install the packages to. Note that <i>all</i> dependent packages will be installed here, even if they are already installed in another library.

upgrade	When FALSE, the default, does the minimum amount of work to give you the latest version of pkg. It will only upgrade packages if pkg or one of its explicitly requires a higher version than what you currently have. When upgrade = TRUE, will do ensure that you have the latest version of pkg and all its dependencies.
dependencies	Dependency types. See <code>pkgdepends::as_pkg_dependencies()</code> for possible values. Note that changing this argument from the default might result an installation failure, e.g. if you set it to FALSE, packages might not build if their dependencies are not already installed.

Details

Note, since the URLs of CRAN and most CRAN-like repositories change over time, in practice you cannot use the lock file *much* later. For example, binary packages of older package version might be deleted from the repository, breaking the URLs in the lock file.

Currently the intended use case of lock files is on CI systems, to facilitate caching. The (hash of the) lock file provides a good key for caching systems.

See Also

Other lock files: `lockfile_install()`

lockfile_install	<i>Install packages based on a lock file</i>
------------------	--

Description

Install a lock file that was created with `lockfile_create()`.

Usage

```
lockfile_install(lockfile = "pkg.lock", lib = .libPaths()[1], update = TRUE)
```

Arguments

lockfile	Path to the lock file.
lib	Library to carry out the installation on.
update	Whether to online install the packages that either not installed in lib, or a different version is installed for them.

See Also

Other lock files: `lockfile_create()`

meta_summary	<i>Metadata cache utilities</i>
--------------	---------------------------------

Description

Various utilities to inspect, update and clean the metadata cache. See the `pkgcache` package if you need for control over the metadata cache.

Usage

```
meta_summary()
```

```
meta_list(pkg = NULL)
```

```
meta_update()
```

```
meta_clean(force = FALSE)
```

Arguments

<code>pkg</code>	Package names, if specified then only entries for <code>pkg</code> are returned.
<code>force</code>	If <code>FALSE</code> , then pak will ask for confirmation.

Details

`meta_summary()` returns a summary of the metadata cache.

`meta_list()` lists all (or some) packages in the metadata database.

`meta_update()` updates the metadata database. You don't normally need to call this function manually, because all pak functions (e.g. `pkg_install()`, `pkg_download()`, etc.) call it automatically, to make sure that they use the latest available metadata.

`meta_clean()` deletes the whole metadata DB.

Value

`meta_summary()` returns a list with entries:

- `cachepath`: absolute path of the metadata cache.
- `current_db`: the file that contains the current metadata database. It is currently an RDS file, but this might change in the future.
- `raw_files`: the files that are the downloaded `PACKAGES*` files.
- `db_files`: all metadata database files.
- `size`: total size of the metadata cache.

`meta_list()` returns a data frame of all available packages in the configured repositories.

`meta_update()` returns nothing.

`meta_clean()` returns nothing

Examples

```
# Metadata cache summary
meta_cummary()

# The current metadata DB
meta_list()
# Selected packages only
meta_list(pkg = c("shiny", "htmlwidgets"))

# Update the metadata DB
meta_update()

# Delete the metadata DB
meta_clean()
```

`pak`

Install the required packages

Description

Install the specified packages, or the ones required by the package or project in the current working directory.

Usage

```
pak(pkg = NULL, ...)
```

Arguments

<code>pkg</code>	Package names or remote package specifications to install. See pak package sources for details. If <code>NULL</code> , will install all development dependencies for the current package.
<code>...</code>	Extra arguments are passed to pkg_install() or local_install_dev_deps() .

Details

This is a convenience function:

- If you want to install some packages, it is easier to type than [pkg_install\(\)](#).
- If you want to install all the packages that are needed for the development of a package or project, then it is easier to type than [local_install_dev_deps\(\)](#).
- You don't need to remember two functions to install packages, just one.

See Also

Other package functions: [lib_status\(\)](#), [pak_package_sources](#), [pkg_deps_tree\(\)](#), [pkg_deps\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#), [pkg_status\(\)](#)

Other local package trees: [local_deps_explain\(\)](#), [local_deps\(\)](#), [local_install_deps\(\)](#), [local_install_dev_deps\(\)](#), [local_install\(\)](#), [local_package_trees](#)

pak_cleanup

Clean up pak caches

Description

Clean up pak caches

Usage

```
pak_cleanup(  
  package_cache = TRUE,  
  metadata_cache = TRUE,  
  pak_lib = TRUE,  
  force = FALSE  
)
```

Arguments

`package_cache` Whether to clean up the cache of package files.

`metadata_cache` Whether to clean up the cache of package meta data.

`pak_lib` This argument is now deprecated and does nothing.

`force` Do not ask for confirmation. Note that to use this function in non-interactive mode, you have to specify `force = FALSE`.

See Also

Other pak housekeeping: [pak_sitrep\(\)](#)

pak_install_extra *Install all optional dependencies of pak*

Description

These packages are not required for any pak functionality. They are recommended for some functions that return values that are best used with these packages. E.g. many functions return data frames, which are printed nicer if the pillar package is available.

Usage

```
pak_install_extra(upgrade = FALSE)
```

Arguments

upgrade Whether to install or upgrade to the latest versions of the optional packages.

Details

Currently only one package is optional: pillar.

pak_package_sources *Package sources*

Description

Package sources

Standard packages

pak can install packages from various package sources. By default, a package name without the specification of its source, refers to a CRAN or Bioconductor package. pak calls these *standard* packages. For example:

```
## CRAN package
pkg_install("glue")
## BioC package
pkg_install("limma")
```

When considering a standard package, the calling version of R is used to determine the available source and binary packages on CRAN and the Bioconductor repositories.

The full specification of standard packages is simply

```
[standard::]<package>
```

If you know the exact source of the package, you can also write

```
cran::<package>
bioc::<package>
```

GitHub packages

pak can install packages from GitHub repositories. Any package that is specified in the user/repo notation is taken to be a GitHub package. For example:

```
## Package from GitHub
pkg_install("r-lib/glue")
```

The full specification of GitHub packages is

```
[<package>=][github: :]<username>/<repo>[/<subdir>]
  [<committish> | #<pull> | @[*]release]
```

- <package> is the name of the package. If this is missing, the name of the package must match the name of the repository.
- <username>: GitHub user or organization name.
- <repo>: repository name.
- <subdir>: If the R package is in a subdirectory within the repository.
- <committish>: A branch name, git tag or SHA hash, to specify the branch, tag or commit to download or install.
- <pull>: Pull request number, to install the branch that corresponds to a pull request.
- The @*release string can be used to install the latest release.

Local package trees

pak can install packages from package trees. You can either use the `local_install()` function for this, or specify the local:: package source. E.g. these are equivalent:

```
local_install("/path/to/my/package")
pkg_install("local::/path/to/my/package")
```

The local:: form is handy if you want to mix it with other package specifications, e.g. to install a local package, and another standard package:

```
pkg_install(c("local://path/to/my/package", "testthat"))
```

The Remotes field

You can mark any regular dependency defined in the Depends, Imports, Suggests or Enhances fields as being installed from a remote location by adding the remote location to Remotes in your DESCRIPTION file. This will cause pak to download and install them from the specified location, instead of CRAN.

The remote dependencies specified in Remotes is a comma separated list of package sources:

```
Remotes: <pkg-source-1>, <pkg-source-2>, [ ... ]
```

Note that you will still need add the package to one of the regular dependency fields, i.e. Imports, Suggests, etc. Here is a concrete example that specifies the r-lib/glue package:

```
Imports: glue
Remotes: r-lib/glue,
         r-lib/httr@v0.4,
         klutometis/roxygen#142,
         r-lib/testthat@c67018fa4970
```

The CRAN and Bioconductor repositories do not support the Remotes field, so you need to remove this field, before submitting your package to either of them.

The package dependency solver

pak contains a package dependency solver, that makes sure that the package source and version requirements of all packages are satisfied, before starting an installation. For CRAN and BioC packages this is usually automatic, because these repositories are generally in a consistent state. If packages depend on other other package sources, however, this is not the case.

Here is an example of a conflict detected:

```
> pak::pkg_install(c("r-lib/pkgcache@conflict", "r-lib/cli@message"))
Error: Cannot install packages:
  * Cannot install `r-lib/pkgcache@conflict`.
    - Cannot install dependency r-lib/cli@main
  * Cannot install `r-lib/cli@main`.
  - Conflicts r-lib/cli@message
```

r-lib/pkgcache@conflict depends on the main branch of r-lib/cli, whereas, we explicitly requested the message branch. Since it cannot install both versions into a single library, pak quits.

When pak considers a package for installation, and the package is given with its name only, (e.g. as a dependency of another package), then the package may have *any* package source. This is necessary, because one R package library may contain only at most one version of a package with a given name.

pak's behavior is best explained via an example. Assume that you are installing a local package (see below), e.g. local::., and the local package depends on pkgA and user/pkgB, the latter being a package from GitHub (see below), and that pkgA also depends on pkgB. Now pak must install pkgB *and* user/pkgB. In this case pak interprets pkgB as a package from any package source, instead of a standard package, so installing user/pkgB satisfies both requirements.

Note that that cran::pkgB and user/pkgB requirements result a conflict that pak cannot resolve. This is because the first one *must* be a CRAN package, and the second one *must* be a GitHub package, and two different packages with the same cannot be installed into an R package library.

See Also

Other package functions: [lib_status\(\)](#), [pak\(\)](#), [pkg_deps_tree\(\)](#), [pkg_deps\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#), [pkg_status\(\)](#)

pak_setup	<i>Set up private pak library (deprecated)</i>
-----------	--

Description

This function is deprecated and does nothing. Recent versions of pak do not need a pak_setup() call.

Usage

```
pak_setup(mode = c("auto", "download", "copy"), quiet = FALSE)
```

Arguments

mode	Where to get the packages from. "download" will try to download them from CRAN. "copy" will try to copy them from your current "regular" package library. "auto" will try to copy first, and if that fails, then it tries to download.
quiet	Whether to omit messages.

Value

The path to the private library, invisibly.

pak_sitrep	<i>pak SITUation REPort</i>
------------	-----------------------------

Description

It prints

- pak version,
- the current library path,
- location of the private library,
- whether the pak private library exists,
- whether the pak private library is functional.

Usage

```
pak_sitrep()
```

See Also

Other pak housekeeping: [pak_cleanup\(\)](#)

pak_update	<i>Update pak itself</i>
------------	--------------------------

Description

Use this function to update the released or development version of pak.

Usage

```
pak_update(force = FALSE, stream = c("auto", "stable", "rc", "devel"))
```

Arguments

force Whether to force an update, even if no newer version is available.

stream Whether to update to the

- "stable",
- "rc" (release candidate) or
- "devel" (development) version.
- "auto" updates to the same stream as the current one.

Often there is no release candidate version, then "rc" also installs the stable version.

Value

Nothing.

pkg_deps	<i>Look up the dependencies of a package</i>
----------	--

Description

Look up the dependencies of a package

Usage

```
pkg_deps(pkg, upgrade = TRUE, dependencies = NA)
```

Arguments

pkg Package name or remote package specification to resolve.

upgrade Whether to use the most recent available package versions.

dependencies Dependency types. See `pkgdepends::as_pkg_dependencies()` for possible values.

Value

A data frame.

See Also

Other package functions: [lib_status\(\)](#), [pak_package_sources](#), [pak\(\)](#), [pkg_deps_tree\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#), [pkg_status\(\)](#)

Examples

```
pkg_deps("curl")
pkg_deps("r-lib/fs")
```

pkg_deps_explain	<i>Explain how a package depends on other packages</i>
------------------	--

Description

Extract dependency chains from pkg to deps.

Usage

```
pkg_deps_explain(pkg, deps, upgrade = TRUE, dependencies = NA)
```

Arguments

pkg	Package name or remote package specification.
deps	Package names of the dependencies to explain.
upgrade	Whether to use the most recent available package versions.
dependencies	Dependency types. See pkgdepends::as_pkg_dependencies() for possible values.

Details

This function is similar to [pkg_deps_tree\(\)](#), but its output is easier to read if you are only interested in certain packages (deps).

Value

A named list with a print method. First entries are the function arguments: pkg, deps, dependencies, the last one is paths and it contains the results in a named list, the names are the package names in deps.

Examples

```
## Not run:  
# How does the GH version of usethis depend on cli and ps?  
pkg_deps_explain("r-lib/usethis", c("cli", "ps"))  
  
## End(Not run)
```

pkg_deps_tree	<i>Draw the dependency tree of a package</i>
---------------	--

Description

Draw the dependency tree of a package

Usage

```
pkg_deps_tree(pkg, upgrade = TRUE, dependencies = NA)
```

Arguments

pkg	Package name or remote package specification to resolve.
upgrade	Whether to use the most recent available package versions.
dependencies	Dependency types. See pkgdepends::as_pkg_dependencies() for possible values.

Value

The same data frame as [pkg_deps\(\)](#), invisibly.

See Also

Other package functions: [lib_status\(\)](#), [pak_package_sources](#), [pak\(\)](#), [pkg_deps\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#), [pkg_status\(\)](#)

Examples

```
pkg_deps_tree("dplyr")  
pkg_deps_tree("r-lib/usethis")
```

pkg_download	<i>Download a package and potentially its dependencies as well</i>
--------------	--

Description

Download a package and potentially its dependencies as well

Usage

```
pkg_download(  
  pkg,  
  dest_dir = ".",  
  dependencies = FALSE,  
  platforms = NULL,  
  r_versions = NULL  
)
```

Arguments

pkg	Package names or remote package specifications to download.
dest_dir	Destination directory for the packages. If it does not exist, then it will be created.
dependencies	Dependency types, to download the (recursive) dependencies of pkg as well. See pkgdepends::as_pkg_dependencies() for possible values.
platforms	Types of binary or source packages to download. The default is the value of pkgdepends::default_platforms() .
r_versions	R version(s) to download packages for. (This does not matter for source packages, but it does for binaries.) It defaults to the current R version.

Value

Data frame with information about the downloaded packages, invisibly.

See Also

Other package functions: [lib_status\(\)](#), [pak_package_sources](#), [pak\(\)](#), [pkg_deps_tree\(\)](#), [pkg_deps\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#), [pkg_status\(\)](#)

Examples

```
pkg_download("forcats")  
pkg_download("r-lib/pak", platforms = "source")
```

pkg_history	<i>Query the history of a package</i>
-------------	---------------------------------------

Description

Query the history of a package

Usage

```
pkg_history(pkg)
```

Arguments

pkg Package name.

Value

A data frame, with one row per package version.

pkg_install	<i>Install a package</i>
-------------	--------------------------

Description

Install a package and its dependencies into a single package library.

Usage

```
pkg_install(  
  pkg,  
  lib = .libPaths()[[1L]],  
  upgrade = FALSE,  
  ask = interactive(),  
  dependencies = NA  
)
```

Arguments

pkg Package names or remote package specifications to install. See [pak package sources](#) for details.

lib Package library to install the packages to. Note that *all* dependent packages will be installed here, even if they are already installed in another library.

upgrade	When FALSE, the default, does the minimum amount of work to give you the latest version of pkg. It will only upgrade packages if pkg or one of its explicitly requires a higher version than what you currently have. When upgrade = TRUE, will do ensure that you have the latest version of pkg and all its dependencies.
ask	Whether to ask for confirmation when installing a different version of a package that is already installed. Installations that only add new packages never require confirmation.
dependencies	Dependency types. See <code>pkgdepends::as_pkg_dependencies()</code> for possible values. Note that changing this argument from the default might result an installation failure, e.g. if you set it to FALSE, packages might not build if their dependencies are not already installed.

Value

(Invisibly) A data frame with information about the installed package(s).

See Also

Other package functions: `lib_status()`, `pak_package_sources`, `pak()`, `pkg_deps_tree()`, `pkg_deps()`, `pkg_download()`, `pkg_remove()`, `pkg_status()`

Examples

```
## Not run:
pkg_install("dplyr")

# Upgrade dplyr and all its dependencies
pkg_install("dplyr", upgrade = TRUE)

# Install the development version of dplyr
pkg_install("tidyverse/dplyr")

# Switch back to the CRAN version. This will be fast because
# pak will have cached the prior install.
pkg_install("dplyr")

## End(Not run)
```

pkg_name_check

Check if an R package name is available

Description

Additionally, look up the candidate name in a number of dictionaries, to make sure that it does not have a negative meaning.

Usage

```
pkg_name_check(name, dictionaries = NULL)
```

Arguments

name Package name candidate.

dictionaries Character vector, the dictionaries to query. Available dictionaries: * wikipedia * wiktionary, * acromine (<http://www.nactem.ac.uk/software/acromine/>), * sentiment (<https://github.com/fnielsen/afinn>), * urban (Urban Dictionary). If NULL (by default), the Urban Dictionary is omitted, as it is often offensive.

Details**Valid package name check:**

Check the validity of name as a package name. See 'Writing R Extensions' for the allowed package names. Also checked against a list of names that are known to cause problems.

CRAN checks:

Check name against the names of all past and current packages on CRAN, including base and recommended packages.

Bioconductor checks:

Check name against all past and current Bioconductor packages.

Profanity check:

Check name with <https://www.purgomalum.com/service/containsprofanity> to make sure it is not a profanity.

Dictionaries:

See the dictionaries argument.

Value

pkg_name_check object with a custom print method.

pkg_remove	<i>Remove installed packages</i>
------------	----------------------------------

Description

Remove installed packages

Usage

```
pkg_remove(pkg, lib = .libPaths()[[1L]])
```

Arguments

pkg A character vector of packages to remove.
lib library to remove packages from

See Also

Other package functions: [lib_status\(\)](#), [pak_package_sources](#), [pak\(\)](#), [pkg_deps_tree\(\)](#), [pkg_deps\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_status\(\)](#)

pkg_search	<i>Search CRAN packages</i>
------------	-----------------------------

Description

Search the indexed database of current CRAN packages. It uses the `pkgsearch` package. See that package for more details and also [pkgsearch::pkg_search\(\)](#) for pagination, more advanced searching, etc.

Usage

```
pkg_search(query, ...)
```

Arguments

query Search query string.
... Additional arguments passed to [pkgsearch::pkg_search\(\)](#)

Value

A data frame, that is also a `pak_search_result` object with a custom print method. To see the underlying table, you can use `[]` to drop the extra classes. See examples below.

Examples

```
# Simple search  
pkg_search("survival")  
  
# See the underlying data frame  
psro <- pkg_search("ropensci")  
psro[]
```

pkg_status	<i>Display installed locations of a package</i>
------------	---

Description

Display installed locations of a package

Usage

```
pkg_status(pkg, lib = .libPaths())
```

Arguments

pkg	Name of one or more installed packages to display status for.
lib	One or more library paths to lookup packages status in.

Value

Data frame with data about installations of pkg. Columns include: library, package, title, version.

See Also

Other package functions: [lib_status\(\)](#), [pak_package_sources](#), [pak\(\)](#), [pkg_deps_tree\(\)](#), [pkg_deps\(\)](#), [pkg_download\(\)](#), [pkg_install\(\)](#), [pkg_remove\(\)](#)

Examples

```
## Not run:  
pkg_status("MASS")  
  
## End(Not run)
```

repo_add	<i>Add a new CRAN-like repository</i>
----------	---------------------------------------

Description

Add a new repository to the list of repositories that pak uses to look for packages.

Usage

```
repo_add(..., .list = NULL)  
  
repo_resolve(spec)
```

Arguments

...	Repository specifications, possibly named character vectors. See details below.
.list	List or character vector of repository specifications. This argument is easier to use programmatically than ... See details below.
spec	Repository specification, a possibly named character scalar.

Details

repo_add() adds new repositories. It resolves the specified repositories using repo_resolve() and then modifies the repos global option.

repo_add() only has an effect in the current R session. If you want to keep your configuration between R sessions, then set the repos option to the desired value in your user or project .Rprofile file.

Value

repo_resolve() returns a named character scalar, the URL of the repository.

Repository specifications

The format of a repository specification is a named or unnamed character scalar. If the name is missing, pak adds a name automatically. The repository named CRAN is the main CRAN repository, but otherwise names are informational.

Currently supported repository specifications:

- URL pointing to the root of the CRAN-like repository. Example:
<https://cloud.r-project.org>
- RSPM@<date>, RSPM (RStudio Package Manager) snapshot, at the specified date.
- RSPM@<package>-<version> RSPM snapshot, for the day after the release of <version> of <package>.
- RSPM@R-<version> RSPM snapshot, for the day after R <version> was released.
- MRAN@<date>, MRAN (Microsoft R Application Network) snapshot, at the specified date.
- MRAN@<package>-<version> MRAN snapshot, for the day after the release of <version> of <package>.
- MRAN@R-<version> MRAN snapshot, for the day after R <version> was released.

Notes:

- See more about RSPM at <https://packagemanager.rstudio.com/client/#/>.
- See more about MRAN snapshots at <https://mran.microsoft.com/timemachine>.
- All dates (or times) can be specified in the ISO 8601 format.
- If RSPM does not have a snapshot available for a date, the next available date is used.
- Dates that are before the first, or after the last RSPM snapshot will trigger an error.
- Dates before the first, or after the last MRAN snapshot will trigger an error.
- Unknown R or package versions will trigger an error.

See Also

Other repository functions: [repo_get\(\)](#), [repo_status\(\)](#)

Examples

```
repo_add(RSPMdp1yr100 = "RSPM@dp1yr-1.0.0")
repo_get()
```

```
repo_resolve("MRAN@2020-01-21")
repo_resolve("RSPM@2020-01-21")
repo_resolve("MRAN@dp1yr-1.0.0")
repo_resolve("RSPM@dp1yr-1.0.0")
repo_resolve("MRAN@R-4.0.0")
repo_resolve("RSPM@R-4.0.0")
```

repo_get

Query the currently configured CRAN-like repositories

Description

pak uses the repos option, see [options\(\)](#). It also automatically adds a CRAN mirror if none is set up, and the correct version of the Bioconductor repositories. See the `cran_mirror` and `bioc` arguments.

Usage

```
repo_get(r_version = getRversion(), bioc = TRUE, cran_mirror = NULL)
```

Arguments

<code>r_version</code>	R version to use to determine the correct Bioconductor version, if <code>bioc = TRUE</code> .
<code>bioc</code>	Whether to automatically add the Bioconductor repositories to the result.
<code>cran_mirror</code>	CRAN mirror to use. Leave it at <code>NULL</code> to use the mirror in <code>getOption("repos")</code> or an automatically selected one.

Details

`repo_get()` returns the table of the currently configured repositories.

See Also

Other repository functions: [repo_add\(\)](#), [repo_status\(\)](#)

Examples

```
repo_get()
```

repo_status	<i>Show the status of CRAN-like repositories</i>
-------------	--

Description

It checks the status of the configured or supplied repositories.

Usage

```
repo_status(
  platforms = NULL,
  r_version = getRversion(),
  bioc = TRUE,
  cran_mirror = NULL
)

repo_ping(
  platforms = NULL,
  r_version = getRversion(),
  bioc = TRUE,
  cran_mirror = NULL
)
```

Arguments

platforms	Platforms to use, default is the current platform, plus source packages.
r_version	R version(s) to use, the default is the current R version, via getRversion() .
bioc	Whether to add the Bioconductor repositories. If you already configured them via <code>options(repos)</code> , then you can set this to FALSE.
cran_mirror	The CRAN mirror to use.

Details

`repo_ping()` is similar to `repo_status()` but also prints a short summary of the data, and it returns its result invisibly.

Value

A data frame that has a row for every repository, on every queried platform and R version. It has these columns:

- name: the name of the repository. This comes from the names of the configured repositories in `options("repos")`, or added by `pkgcache`. It is typically CRAN for CRAN, and the current Bioconductor repositories are BioCsoft, BioCann, BioCexp, BioCworkflows.
- url: base URL of the repository.
- bioc_version: Bioconductor version, or NA for non-Bioconductor repositories.

- platform: platform, possible values are source, macos and windows currently.
- path: the path to the packages within the base URL, for a given platform and R version.
- r_version: R version, one of the specified R versions.
- ok: Logical flag, whether the repository contains a metadata file for the given platform and R version.
- ping: HTTP response time of the repository in seconds. If the ok column is FALSE, then this columns in NA.
- error: the error object if the HTTP query failed for this repository, platform and R version.

See Also

Other repository functions: [repo_add\(\)](#), [repo_get\(\)](#)

Examples

```
repo_status()
repo_status(
  platforms = c("windows", "macos"),
  r_version = c("4.0", "4.1")
)
repo_ping()
```

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