Package ‘dlr’

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Title Download and Cache Files Safely

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Description The goal of dlr is to provide a friendly wrapper around the common pattern of downloading a file if that file does not already exist locally.

License Apache License (>= 2)

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Author Jonathan Bratt [aut] (ORCID: <https://orcid.org/0000-0003-2859-0076>), Jon Harmon [aut, cre] (ORCID: <https://orcid.org/0000-0003-4781-4346>), Bedford Freeman & Worth Pub Grp LLC DBA Macmillan Learning [cph, fnd]

Maintainer Jon Harmon <jonthegeek@gmail.com>

Repository CRAN

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`app_cache_dir` *Path to an App Cache Directory*

Description

App cache directories can depend on the user's operating system and an overall `R_USER_CACHE_DIR` environment variable. We also respect a per-app option (`appname.dir`), and a per-app environment variable (`APPNAME_CACHE_DIR`. This function returns the path that will be used for a given app's cache.

Usage

```
app_cache_dir(appname)
```

Arguments

`appname`	Character; the name of the application that will "own" the cache, such as the name of a package.

Value

The full path to the app's cache directory.

Examples

```
app_cache_dir("myApp")
```

`construct_cached_file_path` *Construct Cache Path*

Description

Construct the full path to the cached version of a file within a particular app's cache, using the source path of the file to make sure the cache filename is unique.

Usage

```
construct_cached_file_path(source_path, appname, extension = "")
```

Arguments

`source_path`	Character scalar; the full path to the source file.
`appname`	Character; the name of the application that will "own" the cache, such as the name of a package.
`extension`	Character scalar; an optional filename extension.

Value

The full path to the processed version of source_path in the app's cache directory.

Examples

```
construct_cached_file_path(
  source_path = "my/file.txt",
  appname = "dlr",
  extension = "rds"
)
```

---

construct_processed_filename *Construct Processed Filename*

Description

Given the path to a file, construct a unique filename using the hash of the path.

Usage

```
construct_processed_filename(source_path, extension = "")
```

Arguments

source_path	Character scalar; the full path to the source file.
extension	Character scalar; an optional filename extension.

Value

A unique filename for a processed version of the file.

Examples

```
construct_processed_filename(
  source_path = "my/file.txt",
  extension = "rds"
)
```

maybe_cache *Cache a File if Necessary*

Description

This function wraps maybe_process, specifying the app's cache directory.

Usage

```
maybe_cache(
  source_path,
  appname,
  filename = construct_processed_filename(source_path),
  process_f = readRDS,
  process_args = NULL,
  write_f = saveRDS,
  write_args = NULL,
  force_process = FALSE
)
```

Arguments

source_path	Character scalar; the path to the raw file. Paths starting with http://, http://, http://, or http:// will be downloaded to a temp file if the processed version is not already available.
appname	Character; the name of the application that will "own" the cache, such as the name of a package.
filename	Character; an optional filename for the cached version of the file. By default, a filename is constructed using construct_processed_filename
process_f	A function or one-sided formula to use to process the source file. source_path will be passed as the first argument to this function. Defaults to read_f.
process_args	An optional list of additional arguments to process_f.
write_f	A function or one-sided formula to use to save the processed file. The processed object will be passed as the first argument to this function, and target_path will be passed as the second argument. Defaults to saveRDS.
write_args	An optional list of additional arguments to write_f.
force_process	A logical scalar indicating whether we should process the source file even if the target already exists. This can be particularly useful if you wish to redownload a file.

Value

The normalized target_path.

Examples

```
if (interactive()) {
  target_path <- maybe_cache(
    "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co",
    appname = "dlr",
    process_f = read.csv
  )
  target_path

  unlink(target_path)
}
```

`maybe_process` *Process a File if Necessary*

Description

Sometimes you just need to get a processed file to a particular location, without reading the data. For example, you might need to download a lookup table used by various functions in a package, independent of a particular function call that needs the data. This function does the processing if it hasn't already been done.

Usage

```
maybe_process(
  source_path,
  target_path,
  process_f = readRDS,
  process_args = NULL,
  write_f = saveRDS,
  write_args = NULL,
  force_process = FALSE
)
```

Arguments

`source_path`	Character scalar; the path to the raw file. Paths starting with `http://`, `http://`, `http://`, or `http://` will be downloaded to a temp file if the processed version is not already available.
`target_path`	Character scalar; the path where the processed version of the file should be stored.
`process_f`	A function or one-sided formula to use to process the source file. `source_path` will be passed as the first argument to this function. Defaults to `read_f`.
`process_args`	An optional list of additional arguments to `process_f`.
`write_f`	A function or one-sided formula to use to save the processed file. The processed object will be passed as the first argument to this function, and `target_path` will be passed as the second argument. Defaults to `saveRDS`.

write_args	An optional list of additional arguments to write_f.
force_process	A logical scalar indicating whether we should process the source file even if the target already exists. This can be particularly useful if you wish to redownload a file.

Value

The normalized target_path.

Examples

```
if (interactive()) {
  temp_filename <- tempfile()
  maybe_process(
    "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co",
    target_path = temp_filename,
    process_f = read.csv
  )

  unlink(temp_filename)
}
```

---

read_or_cache *Read or Cache a File*

Description

This function wraps read_or_process, specifying an app's cache directory as the target directory.

Usage

```
read_or_cache(
  source_path,
  appname,
  filename = construct_processed_filename(source_path),
  process_f = readRDS,
  process_args = NULL,
  read_f = readRDS,
  read_args = NULL,
  write_f = saveRDS,
  write_args = NULL,
  force_process = FALSE
)
```

Arguments

source_path	Character scalar; the path to the raw file. Paths starting with http://, http://, http://, or http:// will be downloaded to a temp file if the processed version is not already available.
appname	Character; the name of the application that will "own" the cache, such as the name of a package.
filename	Character; an optional filename for the cached version of the file. By default, a filename is constructed using construct_processed_filename
process_f	A function or one-sided formula to use to process the source file. source_path will be passed as the first argument to this function. Defaults to read_f.
process_args	An optional list of additional arguments to process_f.
read_f	A function or one-sided formula to use to read the processed file. target_path will be passed as the first argument to this function. Defaults to readRDS.
read_args	An optional list of additional arguments to read_f.
write_f	A function or one-sided formula to use to save the processed file. The processed object will be passed as the first argument to this function, and target_path will be passed as the second argument. Defaults to saveRDS.
write_args	An optional list of additional arguments to write_f.
force_process	A logical scalar indicating whether we should process the source file even if the target already exists. This can be particularly useful if you wish to redownload a file.

Value

The processed object.

Examples

```
if (interactive()) {
  austin_smoke_free <- read_or_cache(
    "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co",
    appname = "dlr",
    process_f = read.csv
  )
  head(austin_smoke_free)
}

if (interactive()) {
  # Calling the function a second time gives the result instantly.
  austin_smoke_free <- read_or_cache(
    "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co",
    appname = "dlr",
    process_f = read.csv
  )
  head(austin_smoke_free)
}
```

```
if (interactive()) {
  # Remove the generated file.
  unlink(
    construct_cached_file_path(
      "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co"
    )
  )
}
```

---

read_or_process *Read or Process a File*

Description

Often, a file must be processed before being usable in R. It can be useful to save the processed contents of that file in a standard format, such as RDS, so that the file does not need to be processed the next time it is loaded.

Usage

```
read_or_process(
  source_path,
  target_path,
  process_f = readRDS,
  process_args = NULL,
  read_f = readRDS,
  read_args = NULL,
  write_f = saveRDS,
  write_args = NULL,
  force_process = FALSE
)
```

Arguments

source_path	Character scalar; the path to the raw file. Paths starting with `http://`, `http://`, `http://`, or `http://` will be downloaded to a temp file if the processed version is not already available.
target_path	Character scalar; the path where the processed version of the file should be stored.
process_f	A function or one-sided formula to use to process the source file. `source_path` will be passed as the first argument to this function. Defaults to `read_f`.
process_args	An optional list of additional arguments to `process_f`.
read_f	A function or one-sided formula to use to read the processed file. `target_path` will be passed as the first argument to this function. Defaults to `readRDS`.
read_args	An optional list of additional arguments to `read_f`.

write_f	A function or one-sided formula to use to save the processed file. The processed object will be passed as the first argument to this function, and target_path will be passed as the second argument. Defaults to saveRDS.
write_args	An optional list of additional arguments to write_f.
force_process	A logical scalar indicating whether we should process the source file even if the target already exists. This can be particularly useful if you wish to redownload a file.

Value

The processed object.

Examples

```
if (interactive()) {
  temp_filename <- tempfile()
  austin_smoke_free <- read_or_process(
    "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co",
    target_path = temp_filename,
    process_f = read.csv
  )
  head(austin_smoke_free)
}

# Calling the function a second time gives the result instantly.
if (interactive()) {
  austin_smoke_free <- read_or_process(
    "https://query.data.world/s/owqxojjiphaypjmlxldsp566lck7co",
    target_path = temp_filename,
    process_f = read.csv
  )
  head(austin_smoke_free)
}

if (interactive()) {
  # Remove the generated file.
  unlink(temp_filename)
}
```

---

set_app_cache_dir *Set a Cache Directory for an App*

Description

Override the default paths used by app_cache_dir.

Usage

```
set_app_cache_dir(appname, cache_dir = NULL)
```

Arguments

appname	Character; the name of the application that will "own" the cache, such as the name of a package.
cache_dir	Character scalar; a path to a cache directory.

Value

A normalized path to a cache directory. The directory is created if the user has write access and the directory does not exist. An option is also set so future calls to app_cache_dir will respect the change.

Examples

```
# Executing this function creates a cache directory.
set_app_cache_dir(appname = "dlr", cache_dir = "/my/cache/path")
```

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