Package 's3fs'

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Type Package

Title 'Amazon Web Service S3' File System

Version 0.1.7

Description
Access 'Amazon Web Service Simple Storage Service' ('S3') <https://aws.amazon.com/s3/> as if it were a file system. Interface based on the R package 'fs'.

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URL https://github.com/DyfanJones/s3fs

BugReports https://github.com/DyfanJones/s3fs/issues

Encoding UTF-8

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Collate 'zzz.R' 'utils.R' 's3filesystem_class.R' 'file_system.R' 'file_system_async.R' 'reexport_fs.R'

Depends R (>= 3.6.0)

Imports curl, R6, data.table, fs, future, future.apply, lgr, paws.storage (>= 0.2.0), utils

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`s3fs-package` *s3fs: 'Amazon Web Service S3' File System*

Description

Access 'Amazon Web Service Simple Storage Service' ('S3') https://aws.amazon.com/s3/ as if it were a file system. Interface based on the R package 'fs'.

Author(s)

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See Also

Useful links:

- https://github.com/DyfanJones/s3fs
- Report bugs at https://github.com/DyfanJones/s3fs/issues

---

copy *Copy files and directories*

Description

`s3_file_copy` copies files

`s3_dir_copy` copies the directory recursively to the new location

Usage

```
s3_file_copy(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)

s3_dir_copy(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments

`path`	(character): path to a local directory of file or a uri.
`new_path`	(character): path to a local directory of file or a uri.
`max_batch`	(fs_bytes): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.
`...`	parameters to be passed to `s3_put_object`

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = "temp.txt"
file.create(temp_file)

s3_file_copy(
    temp_file,
    "s3://MyBucket/temp_file.txt"
 )

## End(Not run)
```

`copy_async` *Copy files and directories*

Description

`s3_file_copy` copies files

`s3_dir_copy` copies the directory recursively to the new location

Usage

```
s3_file_copy_async(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)

s3_dir_copy_async(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments

`path`	(character): path to a local directory of file or a uri.
`new_path`	(character): path to a local directory of file or a uri.
`max_batch`	(fs_bytes): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.
`...`	parameters to be passed to `s3_put_object`

Value

return future object of s3_file_copy(), s3_dir_copy()

See Also

future s3_file_copy() s3_dir_copy()

---

create *Create files and directories*

Description

s3_file_create create file on AWS S3, if file already exists it will be left unchanged.

s3_dir_create create empty directory of AWS S3.

Usage

```
s3_file_create(path, overwrite = FALSE, ...)

s3_bucket_create(
  path,
  region_name = NULL,
  mode = c("private", "public-read", "public-read-write", "authenticated-read"),
  versioning = FALSE,
  ...
)

s3_dir_create(path, overwrite = FALSE, ...)
```

Arguments

path	(character): A character vector of path or s3 uri.
overwrite	(logical): Overwrite files if the exist. If this is FALSE and the file exists an error will be thrown.
...	parameters to be passed to s3_put_object, s3_create_bucket
region_name	(character): region for AWS S3 bucket, defaults to s3_file_system() class region.
mode	(character): A character of the mode
versioning	(logical)

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir= "MyBucket")
s3_file_create(temp_file)

## End(Not run)
```

`delete` *Delete files and directories*

Description

`s3_file_delete` delete files in AWS S3

`s3_dir_delete` delete directories in AWS S3 recursively.

Usage

```
s3_file_delete(path, ...)

s3_dir_delete(path)
```

Arguments

`path`	(character): A character vector of paths or s3 uris.
`...`	parameters to be passed to `s3_delete_objects`

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir= "MyBucket")
s3_file_create(temp_file)

s3_file_delete(temp_file)

## End(Not run)
```

delete_async *Delete files and directories*

Description

`s3_file_delete` delete files in AWS S3

`s3_dir_delete` delete directories in AWS S3 recursively.

Usage

```
s3_file_delete_async(path, ...)

s3_dir_delete_async(path)
```

Arguments

`path`	(character): A character vector of paths or s3 uris.
`...`	parameters to be passed to `s3_delete_objects`

Value

return `future` object of `s3_file_delete()` `s3_dir_delete()`

See Also

`future` `s3_file_delete()` `s3_dir_delete()`

download *Download files and directories*

Description

`s3_file_download` downloads `AWS S3` files to local

`s3_file_download` downloads `AWS s3` directory to local

Usage

```
s3_file_download(path, new_path, overwrite = FALSE, ...)

s3_dir_download(path, new_path, overwrite = FALSE, ...)
```

Arguments

path	(character): A character vector of paths or uris
new_path	(character): A character vector of paths to the new locations.
overwrite	(logical): Overwrite files if the exist. If this is FALSE and the file exists an error will be thrown.
...	parameters to be passed to s3_get_object

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir= "MyBucket")
s3_file_create(temp_file)

s3_file_download(temp_file, "temp_file.txt")

## End(Not run)
```

---

download_async *Download files and directories*

Description

s3_file_download downloads AWS S3 files to local

s3_file_download downloads AWS s3 directory to local

Usage

```
s3_file_download_async(path, new_path, overwrite = FALSE, ...)

s3_dir_download_async(path, new_path, overwrite = FALSE, ...)
```

Arguments

path	(character): A character vector of paths or uris
new_path	(character): A character vector of paths to the new locations.
overwrite	(logical): Overwrite files if the exist. If this is FALSE and the file exists an error will be thrown.
...	parameters to be passed to s3_get_object

Value

return future object of s3_file_download() s3_dir_download()

See Also

future s3_file_download() s3_dir_download()

---

exists *Download files and directories*

Description

s3_file_exists check if file exists in AWS S3

s3_dir_exists check if path is a directory in AWS S3

Usage

```
s3_file_exists(path)

s3_dir_exists(path = ".")
```

Arguments

path	(character) s3 path to check

Value

logical vector if file exists

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir= "MyBucket")
s3_file_create(temp_file)

s3_file_exists(temp_file)

## End(Not run)
```

file_type *Functions to test for file types*

Description

Test for file types

Usage

```
s3_is_file(path)

s3_is_dir(path)

s3_is_bucket(path, ...)

s3_is_file_empty(path)
```

Arguments

path	(character): A character vector of paths or uris
...	parameters to be passed to s3_list_objects_v2

info *Get files and directories information*

Description

s3_file_info returns file information within AWS S3 directory

s3_file_size returns file size in bytes

s3_dir_info returns file name information within AWS S3 directory

s3_dir_ls returns file name within AWS S3 directory

Usage

```
s3_file_info(path)

s3_file_size(path)

s3_dir_info(
  path = ".",
  type = c("any", "bucket", "directory", "file"),
  glob = NULL,
  regexp = NULL,
  invert = FALSE,
```

```
  recurse = FALSE,
  refresh = FALSE,
  ...
)

s3_dir_ls(
  path = ".",
  type = c("any", "bucket", "directory", "file"),
  glob = NULL,
  regexp = NULL,
  invert = FALSE,
  recurse = FALSE,
  refresh = FALSE,
  ...
)
```

Arguments

path	(character):A character vector of one or more paths. Can be path or s3 uri.
type	(character): File type(s) to return. Default ("any") returns all AWS S3 object types.
glob	(character): A wildcard pattern (e.g. `*.csv`), passed onto `grep()` to filter paths.
regexp	(character): A regular expression (e.g. `[.]csv$`), passed onto `grep()` to filter paths.
invert	(logical): If code return files which do not match.
recurse	(logical): Returns all AWS S3 objects in lower sub directories
refresh	(logical): Refresh cached in `s3_cache`.
...	parameters to be passed to `s3_list_objects_v2`

Value

`s3_file_info` A data.table with metadata for each file. Columns returned are as follows.

- bucket_name (character): AWS S3 bucket of file
- key (character): AWS S3 path key of file
- uri (character): S3 uri of file
- size (numeric): file size in bytes
- type (character): file type (file or directory)
- etag (character): An entity tag is an opague identifier
- last_modified (POSIXct): Created date of file.
- delete_marker (logical): Specifies retrieved a logical marker
- accept_ranges (character): Indicates that a range of bytes was specified.
- expiration (character): File expiration
- restore (character): If file is archived

- archive_status (character): Archive status
- missing_meta (integer): Number of metadata entries not returned in "x-amz-meta" headers
- version_id (character): version id of file
- cache_control (character): caching behaviour for the request/reply chain
- content_disposition (character): presentational information of file
- content_encoding (character): file content encodings
- content_language (character): what language the content is in
- content_type (character): file MIME type
- expires (POSIXct): date and time the file is no longer cacheable
- website_redirect_location (character): redirects request for file to another
- server_side_encryption (character): File server side encryption
- metadata (list): metadata of file
- sse_customer_algorithm (character): server-side encryption with a customer-provided encryption key
- sse_customer_key_md5 (character): server-side encryption with a customer-provided encryption key
- ssekms_key_id (character): ID of the Amazon Web Services Key Management Service
- bucket_key_enabled (logical): s3 bucket key for server-side encryption with
- storage_class (character): file storage class information
- request_charged (character): indicates successfully charged for request
- replication_status (character): return specific header if request involves a bucket that is either a source or a destination in a replication rule https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/s3.html#S3.Client.head_object
- parts_count (integer): number of count parts the file has
- object_lock_mode (character): the file lock mode
- object_lock_retain_until_date (POSIXct): date and time of when object_lock_mode expires
- object_lock_legal_hold_status (character): file legal holding

`s3_dir_info` data.table with directory metadata

- bucket_name (character): AWS S3 bucket of file
- key (character): AWS S3 path key of file
- uri (character): S3 uri of file
- size (numeric): file size in bytes
- version_id (character): version id of file
- etag (character): An entity tag is an opague identifier
- last_modified (POSIXct): Created date of file

`s3_dir_ls` character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir= "MyBucket")
s3_file_create(temp_file)

s3_file_info(temp_file)

## End(Not run)
```

---

path *Construct path for file or directory*

Description

Constructs a s3 uri path

Usage

```
s3_path(..., ext = "")
```

Arguments

...	(character): Character vectors
ext	(character): An optional extension to append to the generated path

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

s3_path("my_bucket1", "my_bucket2")

## End(Not run)
```

path_manipulate *Manipulate s3 uri paths*

Description

s3_path_dir returns the directory portion of s3 uri

s3_path_file returns the file name portion of the s3 uri path

s3_path_ext returns the last extension for a path.

s3_path_ext_remove removes the last extension and return the rest of the s3 uri.

s3_path_ext_set replace the extension with a new extension.

Usage

```
s3_path_dir(path)

s3_path_file(path)

s3_path_ext(path)

s3_path_ext_remove(path)

s3_path_ext_set(path, ext)
```

Arguments

path	(character): A character vector of paths
ext	(character): New file extension

Examples

```
## Not run:
# Require AWS S3 credentials

s3_path_dir("s3://my_bucket1/hi.txt")

s3_path_file("s3://my_bucket1/hi.txt")

## End(Not run)
```

permission *Change file permissions*

Description

Change file permissions

Usage

```
s3_file_chmod(
  path,
  mode = c("private", "public-read", "public-read-write", "authenticated-read",
    "aws-exec-read", "bucket-owner-read", "bucket-owner-full-control")
)

s3_bucket_chmod(
  path,
  mode = c("private", "public-read", "public-read-write", "authenticated-read")
)
```

Arguments

path	(character): A character vector of path or s3 uri.
mode	(character): A character of the mode

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir = "MyBucket")
s3_file_create(temp_file)

# Reset connection to connect to a different region
s3_file_chmod(
    profile_name = "s3fs_example",
    region_name = "us-east-1",
    refresh = TRUE
 )

## End(Not run)
```

S3FileSystem *Access AWS S3 as if it were a file system.*

Description

This creates a file system "like" API based off `fs` (e.g. dir_ls, file_copy, etc.) for AWS S3 storage.

Public fields

`s3_cache` Cache AWS S3

`s3_cache_bucket` Cached s3 bucket

`s3_client` paws s3 client

`region_name` AWS region when creating new connections

`profile_name` The name of a profile to use

`multipart_threshold` Threshold to use multipart

`request_payer` Threshold to use multipart

`pid` Get the process ID of the R Session

Active bindings

`retries` number of retries

Methods

Public methods:

- `S3FileSystem$new()`
- `S3FileSystem$file_chmod()`
- `S3FileSystem$file_copy()`
- `S3FileSystem$file_create()`
- `S3FileSystem$file_delete()`
- `S3FileSystem$file_download()`
- `S3FileSystem$file_exists()`
- `S3FileSystem$file_info()`
- `S3FileSystem$file_move()`
- `S3FileSystem$file_size()`
- `S3FileSystem$file_stream_in()`
- `S3FileSystem$file_stream_out()`
- `S3FileSystem$file_temp()`
- `S3FileSystem$file_tag_delete()`
- `S3FileSystem$file_tag_info()`
- `S3FileSystem$file_tag_update()`
- `S3FileSystem$file_touch()`

- S3FileSystem$file_upload()
- S3FileSystem$file_url()
- S3FileSystem$file_version_info()
- S3FileSystem$is_file()
- S3FileSystem$is_dir()
- S3FileSystem$is_bucket()
- S3FileSystem$is_file_empty()
- S3FileSystem$bucket_chmod()
- S3FileSystem$bucket_create()
- S3FileSystem$bucket_delete()
- S3FileSystem$dir_copy()
- S3FileSystem$dir_create()
- S3FileSystem$dir_delete()
- S3FileSystem$dir_exists()
- S3FileSystem$dir_download()
- S3FileSystem$dir_info()
- S3FileSystem$dir_ls()
- S3FileSystem$dir_ls_url()
- S3FileSystem$dir_tree()
- S3FileSystem$dir_upload()
- S3FileSystem$path()
- S3FileSystem$path_dir()
- S3FileSystem$path_ext()
- S3FileSystem$path_ext_remove()
- S3FileSystem$path_ext_set()
- S3FileSystem$path_file()
- S3FileSystem$path_join()
- S3FileSystem$path_split()
- S3FileSystem$clear_cache()
- S3FileSystem$clone()

Method `new()`**:** Initialize S3FileSystem class

Usage:

```
S3FileSystem$new(
  aws_access_key_id = NULL,
  aws_secret_access_key = NULL,
  aws_session_token = NULL,
  region_name = NULL,
  profile_name = NULL,
  endpoint = NULL,
  disable_ssl = FALSE,
  multipart_threshold = fs_bytes("2GB"),
  request_payer = FALSE,
  anonymous = FALSE,
  ...
)
```

Arguments:

`aws_access_key_id` (character): AWS access key ID

`aws_secret_access_key` (character): AWS secret access key

`aws_session_token` (character): AWS temporary session token

`region_name` (character): Default region when creating new connections

`profile_name` (character): The name of a profile to use. If not given, then the default profile is used.

`endpoint` (character): The complete URL to use for the constructed client.

`disable_ssl` (logical): Whether or not to use SSL. By default, SSL is used.

`multipart_threshold` (fs_bytes): Threshold to use multipart instead of standard copy and upload methods.

`request_payer` (logical): Confirms that the requester knows that they will be charged for the request.

`anonymous` (logical): Set up anonymous credentials when connecting to AWS S3.

`...` Other parameters within paws client.

Method `file_chmod()`**:** Change file permissions

Usage:

```
S3FileSystem$file_chmod(
  path,
  mode = c("private", "public-read", "public-read-write", "authenticated-read",
    "aws-exec-read", "bucket-owner-read", "bucket-owner-full-control")
)
```

Arguments:

`path` (character): A character vector of path or s3 uri.

`mode` (character): A character of the mode

Returns: character vector of s3 uri paths

Method `file_copy()`**:** copy files

Usage:

```
S3FileSystem$file_copy(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments:

`path` (character): path to a local directory of file or a uri.

`new_path` (character): path to a local directory of file or a uri.

`max_batch` (fs_bytes): Maximum batch size being uploaded with each multipart.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object`

Returns: character vector of s3 uri paths

Method `file_create()`**:** Create file on AWS S3, if file already exists it will be left unchanged.

Usage:

```
S3FileSystem$file_create(path, overwrite = FALSE, ...)
```

Arguments:

`path` (character): A character vector of path or s3 uri.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object`

Returns: character vector of s3 uri paths

Method `file_delete()`**:** Delete files in AWS S3

Usage:

```
S3FileSystem$file_delete(path, ...)
```

Arguments:

`path` (character): A character vector of paths or s3 uris.

`...` parameters to be passed to `s3_delete_objects`

Returns: character vector of s3 uri paths

Method `file_download()`**:** Downloads AWS S3 files to local

Usage:

```
S3FileSystem$file_download(path, new_path, overwrite = FALSE, ...)
```

Arguments:

`path` (character): A character vector of paths or uris

`new_path` (character): A character vector of paths to the new locations.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_get_object`

Returns: character vector of s3 uri paths

Method `file_exists()`**:** Check if file exists in AWS S3

Usage:

```
S3FileSystem$file_exists(path)
```

Arguments:

`path` (character) s3 path to check

Returns: logical vector if file exists

Method `file_info()`**:** Returns file information within AWS S3 directory

Usage:

```
S3FileSystem$file_info(path)
```

Arguments:

`path` (character): A character vector of paths or uris.

Returns: A data.table with metadata for each file. Columns returned are as follows.

- bucket_name (character): AWS S3 bucket of file
- key (character): AWS S3 path key of file
- uri (character): S3 uri of file
- size (numeric): file size in bytes
- type (character): file type (file or directory)
- etag (character): An entity tag is an opague identifier
- last_modified (POSIXct): Created date of file.
- delete_marker (logical): Specifies retrieved a logical marker
- accept_ranges (character): Indicates that a range of bytes was specified.
- expiration (character): File expiration
- restore (character): If file is archived
- archive_status (character): Archive status
- missing_meta (integer): Number of metadata entries not returned in "x-amz-meta" headers
- version_id (character): version id of file
- cache_control (character): caching behaviour for the request/reply chain
- content_disposition (character): presentational information of file
- content_encoding (character): file content encodings
- content_language (character): what language the content is in
- content_type (character): file MIME type
- expires (POSIXct): date and time the file is no longer cacheable
- website_redirect_location (character): redirects request for file to another
- server_side_encryption (character): File server side encryption
- metadata (list): metadata of file
- sse_customer_algorithm (character): server-side encryption with a customer-provided encryption key
- sse_customer_key_md5 (character): server-side encryption with a customer-provided encryption key
- ssekms_key_id (character): ID of the Amazon Web Services Key Management Service
- bucket_key_enabled (logical): s3 bucket key for server-side encryption with
- storage_class (character): file storage class information
- request_charged (character): indicates successfully charged for request
- replication_status (character): return specific header if request involves a bucket that is either a source or a destination in a replication rule https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/s3.html#S3.Client.head_object
- parts_count (integer): number of count parts the file has
- object_lock_mode (character): the file lock mode
- object_lock_retain_until_date (POSIXct): date and time of when object_lock_mode expires
- object_lock_legal_hold_status (character): file legal holding

Method `file_move()`**:** Move files to another location on AWS S3

Usage:

```
S3FileSystem$file_move(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments:

`path` (character): A character vector of s3 uri

`new_path` (character): A character vector of s3 uri.

`max_batch` (fs_bytes): Maximum batch size being uploaded with each multipart.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_copy_object`

Returns: character vector of s3 uri paths

Method `file_size()`**:** Return file size in bytes

Usage:

```
S3FileSystem$file_size(path)
```

Arguments:

`path` (character): A character vector of s3 uri

Method `file_stream_in()`**:** Streams in AWS S3 file as a raw vector

Usage:

```
S3FileSystem$file_stream_in(path, ...)
```

Arguments:

`path` (character): A character vector of paths or s3 uri

`...` parameters to be passed to `s3_get_object`

Returns: list of raw vectors containing the contents of the file

Method `file_stream_out()`**:** Streams out raw vector to AWS S3 file

Usage:

```
S3FileSystem$file_stream_out(
  obj,
  path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments:

`obj` (raw|character): A raw vector, rawConnection, url to be streamed up to AWS S3.

`path` (character): A character vector of paths or s3 uri

`max_batch` (fs_bytes): Maximum batch size being uploaded with each multipart.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object`

Returns: character vector of s3 uri paths

Method `file_temp()`**:** return the name which can be used as a temporary file

Usage:

```
S3FileSystem$file_temp(pattern = "file", tmp_dir = "", ext = "")
```

Arguments:

`pattern` (character): A character vector with the non-random portion of the name.

`tmp_dir` (character): The directory the file will be created in.

`ext` (character): A character vector of one or more paths.

Returns: character vector of s3 uri paths

Method `file_tag_delete()`**:** Delete file tags

Usage:

```
S3FileSystem$file_tag_delete(path)
```

Arguments:

`path` (character): A character vector of paths or s3 uri

`...` parameters to be passed to `s3_put_object`

Returns: character vector of s3 uri paths

Method `file_tag_info()`**:** Get file tags

Usage:

```
S3FileSystem$file_tag_info(path)
```

Arguments:

`path` (character): A character vector of paths or s3 uri

Returns: data.table of file version metadata

- bucket_name (character): AWS S3 bucket of file
- key (character): AWS S3 path key of file
- uri (character): S3 uri of file
- size (numeric): file size in bytes
- version_id (character): version id of file
- tag_key (character): name of tag
- tag_value (character): tag value

Method `file_tag_update()`**:** Update file tags

Usage:

```
S3FileSystem$file_tag_update(path, tags, overwrite = FALSE)
```

Arguments:

`path` (character): A character vector of paths or s3 uri

`tags` (list): Tags to be applied

`overwrite` (logical): To overwrite tagging or to modify inplace. Default will modify inplace.

Returns: character vector of s3 uri paths

Method `file_touch()`**:** Similar to `fs::file_touch` this does not create the file if it does not exist. Use `s3fs$file_create()` to do this if needed.

Usage:

```
S3FileSystem$file_touch(path, ...)
```

Arguments:

`path` (character): A character vector of paths or s3 uri

`...` parameters to be passed to `s3_copy_object`

Returns: character vector of s3 uri paths

Method `file_upload()`**:** Uploads files to AWS S3

Usage:

```
S3FileSystem$file_upload(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments:

`path` (character): A character vector of local file paths to upload to AWS S3

`new_path` (character): A character vector of AWS S3 paths or uri's of the new locations.

`max_batch` (fs_bytes): Maximum batch size being uploaded with each multipart.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object` and `s3_create_multipart_upload`

Returns: character vector of s3 uri paths

Method `file_url()`**:** Generate presigned url for S3 object

Usage:

```
S3FileSystem$file_url(path, expiration = 3600L, ...)
```

Arguments:

`path` (character): A character vector of paths or uris

`expiration` (numeric): The number of seconds the presigned url is valid for. By default it expires in an hour (3600 seconds)

`...` parameters passed to `s3_get_object`

Returns: return character of urls

Method `file_version_info()`**:** Get file versions

Usage:

```
S3FileSystem$file_version_info(path, ...)
```

Arguments:

`path` (character): A character vector of paths or uris

`...` parameters to be passed to `s3_list_object_versions`

Returns: return data.table with file version info, columns below:

- bucket_name (character): AWS S3 bucket of file
- key (character): AWS S3 path key of file
- uri (character): S3 uri of file
- size (numeric): file size in bytes
- version_id (character): version id of file
- owner (character): file owner
- etag (character): An entity tag is an opague identifier
- last_modified (POSIXct): Created date of file.

Method `is_file()`**:** Test for file types

Usage:

```
S3FileSystem$is_file(path)
```

Arguments:

`path` (character): A character vector of paths or uris

Returns: logical vector if object is a file

Method `is_dir()`**:** Test for file types

Usage:

```
S3FileSystem$is_dir(path)
```

Arguments:

`path` (character): A character vector of paths or uris

Returns: logical vector if object is a directory

Method `is_bucket()`**:** Test for file types

Usage:

```
S3FileSystem$is_bucket(path, ...)
```

Arguments:

`path` (character): A character vector of paths or uris

`...` parameters to be passed to `s3_list_objects_v2`

Returns: logical vector if object is a `AWS S3` bucket

Method `is_file_empty()`**:** Test for file types

Usage:

```
S3FileSystem$is_file_empty(path)
```

Arguments:

`path` (character): A character vector of paths or uris

Returns: logical vector if file is empty

Method `bucket_chmod()`**:** Change bucket permissions

Usage:

```
S3FileSystem$bucket_chmod(
  path,
  mode = c("private", "public-read", "public-read-write", "authenticated-read")
)
```

Arguments:

`path` (character): A character vector of path or s3 uri.

`mode` (character): A character of the mode

Returns: character vector of s3 uri paths

Method `bucket_create()`**:** Create bucket

Usage:

```
S3FileSystem$bucket_create(
  path,
  region_name = NULL,
  mode = c("private", "public-read", "public-read-write", "authenticated-read"),
  versioning = FALSE,
  ...
)
```

Arguments:

`path` (character): A character vector of path or s3 uri.

`region_name` (character): aws region

`mode` (character): A character of the mode

`versioning` (logical): Whether to set the bucket to versioning or not.

`...` parameters to be passed to `s3_create_bucket`

Returns: character vector of s3 uri paths

Method `bucket_delete()`**:** Delete bucket

Usage:

```
S3FileSystem$bucket_delete(path)
```

Arguments:

`path` (character): A character vector of path or s3 uri.

Method `dir_copy()`**:** Copies the directory recursively to the new location.

Usage:

```
S3FileSystem$dir_copy(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments:

`path` (character): path to a local directory of file or a uri.

`new_path` (character): path to a local directory of file or a uri.

`max_batch` (fs_bytes): Maximum batch size being uploaded with each multipart.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object` and `s3_create_multipart_upload`

Returns: character vector of s3 uri paths

Method `dir_create()`**:** Create empty directory

Usage:

```
S3FileSystem$dir_create(path, overwrite = FALSE, ...)
```

Arguments:

`path` (character): A vector of directory or uri to be created in AWS S3

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object`

Returns: character vector of s3 uri paths

Method `dir_delete()`**:** Delete contents and directory in AWS S3

Usage:

```
S3FileSystem$dir_delete(path)
```

Arguments:

`path` (character): A vector of paths or uris to directories to be deleted.

Returns: character vector of s3 uri paths

Method `dir_exists()`**:** Check if path exists in AWS S3

Usage:

```
S3FileSystem$dir_exists(path = ".")
```

Arguments:

`path` (character) aws s3 path to be checked

Returns: character vector of s3 uri paths

Method `dir_download()`**:** Downloads AWS S3 files to local

Usage:

```
S3FileSystem$dir_download(path, new_path, overwrite = FALSE, ...)
```

Arguments:

`path` (character): A character vector of paths or uris

`new_path` (character): A character vector of paths to the new locations. Please ensure directories end with a `/`.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_get_object`

Returns: character vector of s3 uri paths

Method `dir_info()`**:** Returns file information within AWS S3 directory

Usage:

```
S3FileSystem$dir_info(
  path = ".",
  type = c("any", "bucket", "directory", "file"),
  glob = NULL,
  regexp = NULL,
  invert = FALSE,
  recurse = FALSE,
  refresh = FALSE,
  ...
)
```

Arguments:

`path` (character):A character vector of one or more paths. Can be path or s3 uri.

`type` (character): File type(s) to return. Default ("any") returns all AWS S3 object types.

`glob` (character): A wildcard pattern (e.g. `*.csv`), passed onto `grep()` to filter paths.

`regexp` (character): A regular expression (e.g. `[.]csv$`), passed onto `grep()` to filter paths.

`invert` (logical): If code return files which do not match.

`recurse` (logical): Returns all AWS S3 objects in lower sub directories

`refresh` (logical): Refresh cached in `s3_cache`.

`...` parameters to be passed to `s3_list_objects_v2`

Returns: data.table with directory metadata

- bucket_name (character): AWS S3 bucket of file
- key (character): AWS S3 path key of file
- uri (character): S3 uri of file
- size (numeric): file size in bytes
- version_id (character): version id of file
- etag (character): An entity tag is an opague identifier
- last_modified (POSIXct): Created date of file

Method `dir_ls()`**:** Returns file name within AWS S3 directory

Usage:

```
S3FileSystem$dir_ls(
  path = ".",
  type = c("any", "bucket", "directory", "file"),
  glob = NULL,
  regexp = NULL,
  invert = FALSE,
  recurse = FALSE,
  refresh = FALSE,
  ...
)
```

Arguments:

`path` (character):A character vector of one or more paths. Can be path or s3 uri.

`type` (character): File type(s) to return. Default ("any") returns all AWS S3 object types.

`glob` (character): A wildcard pattern (e.g. `*.csv`), passed onto `grep()` to filter paths.

`regexp` (character): A regular expression (e.g. `[.]csv$`), passed onto `grep()` to filter paths.

`invert` (logical): If code return files which do not match.

`recurse` (logical): Returns all AWS S3 objects in lower sub directories

`refresh` (logical): Refresh cached in `s3_cache`.

`...` parameters to be passed to `s3_list_objects_v2`

Returns: character vector of s3 uri paths

Method `dir_ls_url()`**:** Generate presigned url to list S3 directories

Usage:

```
S3FileSystem$dir_ls_url(path, expiration = 3600L, recurse = FALSE, ...)
```

Arguments:

`path` (character): A character vector of paths or uris

`expiration` (numeric): The number of seconds the presigned url is valid for. By default it expires in an hour (3600 seconds)

`recurse` (logical): Returns all AWS S3 objects in lower sub directories

`...` parameters passed to `s3_list_objects_v2`

Returns: return character of urls

Method `dir_tree()`**:** Print contents of directories in a tree-like format

Usage:

```
S3FileSystem$dir_tree(path, recurse = TRUE, ...)
```

Arguments:

`path` (character): path A path to print the tree from

`recurse` (logical): Returns all AWS S3 objects in lower sub directories

`...` Additional arguments passed to s3_dir_ls.

Returns: character vector of s3 uri paths

Method `dir_upload()`**:** Uploads local directory to AWS S3

Usage:

```
S3FileSystem$dir_upload(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments:

`path` (character): A character vector of local file paths to upload to AWS S3

`new_path` (character): A character vector of AWS S3 paths or uri's of the new locations.

`max_batch` (fs_bytes): Maximum batch size being uploaded with each multipart.

`overwrite` (logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

`...` parameters to be passed to `s3_put_object` and `s3_create_multipart_upload`

Returns: character vector of s3 uri paths

Method `path()`**:** Constructs a s3 uri path

Usage:

```
S3FileSystem$path(..., ext = "")
```

Arguments:

`...` (character): Character vectors

`ext` (character): An optional extension to append to the generated path

Returns: character vector of s3 uri paths

Method `path_dir()`**:** Returns the directory portion of s3 uri

Usage:

```
S3FileSystem$path_dir(path)
```

Arguments:

`path` (character): A character vector of paths

Returns: character vector of s3 uri paths

Method `path_ext()`**:** Returns the last extension for a path.

Usage:

```
S3FileSystem$path_ext(path)
```

Arguments:

`path` (character): A character vector of paths

Returns: character s3 uri file extension

Method `path_ext_remove()`**:** Removes the last extension and return the rest of the s3 uri.

Usage:

```
S3FileSystem$path_ext_remove(path)
```

Arguments:

`path` (character): A character vector of paths

Returns: character vector of s3 uri paths

Method `path_ext_set()`**:** Replace the extension with a new extension.

Usage:

```
S3FileSystem$path_ext_set(path, ext)
```

Arguments:

`path` (character): A character vector of paths

`ext` (character): New file extension

Returns: character vector of s3 uri paths

Method `path_file()`**:** Returns the file name portion of the s3 uri path

Usage:

```
S3FileSystem$path_file(path)
```

Arguments:

`path` (character): A character vector of paths

Returns: character vector of file names

Method `path_join()`**:** Construct an s3 uri path from path vector

Usage:

```
S3FileSystem$path_join(parts)
```

Arguments:

`parts` (character): A character vector of one or more paths

Returns: character vector of s3 uri paths

Method `path_split()`**:** Split s3 uri path to core components bucket, key and version id

Usage:

```
S3FileSystem$path_split(path)
```

Arguments:

`path` (character): A character vector of one or more paths or s3 uri

Returns: list character vectors splitting the s3 uri path in "Bucket", "Key" and "VersionId"

Method `clear_cache()`**:** Clear S3 Cache

Usage:

```
S3FileSystem$clear_cache(path = NULL)
```

Arguments:

`path` (character): s3 path to be cl

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
S3FileSystem$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

Note

This method will only update the modification time of the AWS S3 object.

s3_bucket_delete *Delete bucket*

Description

Delete AWS S3 bucket including all objects in the bucket itself.

Usage

```
s3_bucket_delete(path)
```

Arguments

path	(character): A character vector of path or s3 uri.

s3_dir_ls_url *Generate presigned url to list S3 directories*

Description

Generate presigned url to list S3 directories

Usage

```
s3_dir_ls_url(path, expiration = 3600L, recurse = FALSE, ...)
```

Arguments

path	(character): A character vector of paths or uris
expiration	(numeric): The number of seconds the presigned url is valid for. By default it expires in an hour (3600 seconds)
recurse	(logical): Returns all AWS S3 objects in lower sub directories
...	parameters passed to s3_list_objects_v2

Value

return character of urls

s3_dir_tree *Print contents of directories in a tree-like format*

Description

Print contents of directories in a tree-like format

Usage

```
s3_dir_tree(path, recurse = TRUE, ...)
```

Arguments

path	(character): path A path to print the tree from
recurse	(logical): Returns all AWS S3 objects in lower sub directories
...	Additional arguments passed to s3_dir_ls.

Value

character vector of s3 uri paths

s3_file_move *Move or rename S3 files*

Description

Move files to another location on AWS S3

Usage

```
s3_file_move(path, new_path, max_batch = 100 * MB, overwrite = FALSE, ...)
```

Arguments

path	(character): A character vector of s3 uri
new_path	(character): A character vector of s3 uri.
max_batch	(numeric): Maximum batch size being uploaded with each multipart.
overwrite	(logical): Overwrite files if the exist. If this is FALSE and the file exists an error will be thrown.
...	parameters to be passed to s3_copy_object

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

temp_file = s3_file_temp(tmp_dir= "MyBucket")
s3_file_create(temp_file)

s3_file_move(temp_file, "s3://MyBucket/new_file.txt")

## End(Not run)
```

`s3_file_move_async` *Move or rename S3 files*

Description

Move files to another location on AWS S3

Usage

```
s3_file_move_async(
  path,
  new_path,
  max_batch = 100 * MB,
  overwrite = FALSE,
  ...
)
```

Arguments

`path`	(character): A character vector of s3 uri
`new_path`	(character): A character vector of s3 uri.
`max_batch`	(numeric): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.
`...`	parameters to be passed to `s3_copy_object`

Value

return `future` object of `s3_file_move()`

See Also

`future` `s3_file_move()`

`s3_file_system` *Access AWS S3 as if it were a file system.*

Description

This creates a file system "like" API based off `fs` (e.g. dir_ls, file_copy, etc.) for AWS S3 storage. To set up `AWS` credentials please look at https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-files.html

Usage

```
s3_file_system(
  aws_access_key_id = NULL,
  aws_secret_access_key = NULL,
  aws_session_token = NULL,
  region_name = NULL,
  profile_name = NULL,
  endpoint = NULL,
  disable_ssl = FALSE,
  multipart_threshold = fs_bytes("2GB"),
  request_payer = FALSE,
  anonymous = FALSE,
  retries = 5,
  refresh = FALSE,
  ...
)
```

Arguments

`aws_access_key_id`	(character): AWS access key ID
`aws_secret_access_key`	(character): AWS secret access key
`aws_session_token`	(character): AWS temporary session token
`region_name`	(character): Default region when creating new connections
`profile_name`	(character): The name of a profile to use. If not given, then the default profile is used.
`endpoint`	(character): The complete URL to use for the constructed client.
`disable_ssl`	(logical): Whether or not to use SSL. By default, SSL is used.
`multipart_threshold`	(fs_bytes): Threshold to use multipart instead of standard copy and upload methods.
`request_payer`	(logical): Confirms that the requester knows that they will be charged for the request.

anonymous	(logical): Set up anonymous credentials when connecting to AWS S3.
retries	(numeric): max number of retry attempts
refresh	(logical): Refresh cached S3FileSystem class
...	Other parameters within paws client.

Value

S3FileSystem class invisible

Examples

```
## Not run:
# Require AWS S3 credentials

# Set up connection using profile
s3_file_system(profile_name = "s3fs_example")

# Reset connection to connect to a different region
s3_file_system(
    profile_name = "s3fs_example",
    region_name = "us-east-1",
    refresh = TRUE
 )

## End(Not run)
```

---

s3_file_temp *Create name for temporary files*

Description

return the name which can be used as a temporary file

Usage

```
s3_file_temp(pattern = "file", tmp_dir = "", ext = "")
```

Arguments

pattern	(character): A character vector with the non-random portion of the name.
tmp_dir	(character): The directory the file will be created in. By default the cached s3 bucket will be applied otherwise "" will be used.
ext	(character): A character vector of one or more paths.

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

s3_file_temp(tmp_dir = "MyBucket")

## End(Not run)
```

`s3_file_url` *Generate presigned url for S3 object*

Description

Generate presigned url for S3 object

Usage

```
s3_file_url(path, expiration = 3600L, ...)
```

Arguments

`path`	(character): A character vector of paths or uris
`expiration`	(numeric): The number of seconds the presigned url is valid for. By default it expires in an hour (3600 seconds)
`...`	parameters to be passed to `params` parameter of `s3_generate_presigned_url`

Value

return character of urls

`s3_file_version_info` *Query file version metadata*

Description

Get file versions

Usage

```
s3_file_version_info(path, ...)
```

Arguments

`path`	(character): A character vector of paths or uris
`...`	parameters to be passed to `s3_list_object_versions`

s3_path_join *Construct AWS S3 path*

Description

Construct an s3 uri path from path vector

Usage

```
s3_path_join(path)
```

Arguments

path	(character): A character vector of one or more paths

Value

character vector of s3 uri paths

Examples

```
## Not run:
# Require AWS S3 credentials

s3_path_dir(c("s3://my_bucket1/hi.txt", "s3://my_bucket/bye.txt"))

## End(Not run)
```

s3_path_split *Split s3 path and uri*

Description

Split s3 uri path to core components bucket, key and version id

Usage

```
s3_path_split(path)
```

Arguments

path	(character): A character vector of one or more paths or s3 uri

Value

list character vectors splitting the s3 uri path in "Bucket", "Key" and "VersionId"

Examples

```
## Not run:
# Require AWS S3 credentials

s3_path_dir("s3://my_bucket1/hi.txt")

## End(Not run)
```

---

stream *Streams data from R to AWS S3.*

Description

`s3_file_stream_in` streams in AWS S3 file as a raw vector

`s3_file_stream_out` streams raw vector out to AWS S3 file

Usage

```
s3_file_stream_in(path, ...)

s3_file_stream_out(
  obj,
  path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments

`path`	(character): A character vector of paths or s3 uri
`...`	parameters to be passed to `s3_get_object` and `s3_put_object`
`obj`	(raw|character): A raw vector, rawConnection, url to be streamed up to AWS S3.
`max_batch`	(fs_bytes): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

Value

list of raw vectors containing the contents of the file

Examples

```
## Not run:
# Require AWS S3 credentials

obj = list(charToRaw("contents1"), charToRaw("contents2"))

dir = s3_file_temp(tmp_dir = "MyBucket")
path = s3_path(dir, letters[1:2], ext = "txt")

s3_file_stream_out(obj, path)
s3_file_stream_in(path)

## End(Not run)
```

`stream_async` *Streams data from R to AWS S3.*

Description

`s3_file_stream_in` streams in AWS S3 file as a raw vector

`s3_file_stream_out` streams raw vector out to AWS S3 file

Usage

```
s3_file_stream_in_async(path, ...)

s3_file_stream_out_async(
  obj,
  path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)
```

Arguments

`path`	(character): A character vector of paths or s3 uri
`...`	parameters to be passed to `s3_get_object` and `s3_put_object`
`obj`	(raw|character): A raw vector, rawConnection, url to be streamed up to AWS S3.
`max_batch`	(fs_bytes): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.

Value

return `future` object of `s3_file_stream_in()` `s3_file_stream_out()`

See Also

future s3_file_move() s3_file_stream_in() s3_file_stream_out()

---

tag *Modifying file tags*

Description

s3_file_tag_delete delete file tags

s3_file_tag_info get file tags

s3_file_tag_info

Usage

```
s3_file_tag_delete(path)

s3_file_tag_info(path)

s3_file_tag_update(path, tags, overwrite = FALSE)
```

Arguments

path	(character): A character vector of paths or s3 uri
tags	(list): Tags to be applied
overwrite	(logical): To overwrite tagging or to modify inplace. Default will modify inplace.

---

touch *Change file modification time*

Description

Similar to fs::file_touch this does not create the file if it does not exist. Use s3_file_create to do this if needed.

Usage

```
s3_file_touch(path, ...)
```

Arguments

path	(character): A character vector of paths or s3 uri
...	parameters to be passed to s3_copy_object

Value

character vector of s3 uri paths

Note

This method will only update the modification time of the AWS S3 object.

Examples

```
## Not run:
# Require AWS S3 credentials

dir = s3_file_temp(tmp_dir = "MyBucket")
path = s3_path(dir, letters[1:2], ext = "txt")

s3_file_touch(path)

## End(Not run)
```

---

upload *Upload file and directory*

Description

`s3_file_upload` upload files to AWS S3

`s3_dir_upload` upload directory to AWS S3

Usage

```
s3_file_upload(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)

s3_dir_upload(path, new_path, max_batch, overwrite = FALSE, ...)
```

Arguments

`path`	(character): A character vector of local file paths to upload to AWS S3
`new_path`	(character): A character vector of AWS S3 paths or uri's of the new locations.
`max_batch`	(fs_bytes): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.
`...`	parameters to be passed to `s3_put_object` and `s3_create_multipart_upload`

Value

character vector of s3 uri paths

`upload_async` *Upload file and directory*

Description

`s3_file_upload` upload files to AWS S3

`s3_dir_upload` upload directory to AWS S3

Usage

```
s3_file_upload_async(
  path,
  new_path,
  max_batch = fs_bytes("100MB"),
  overwrite = FALSE,
  ...
)

s3_dir_upload_async(path, new_path, max_batch, overwrite = FALSE, ...)
```

Arguments

`path`	(character): A character vector of local file paths to upload to AWS S3
`new_path`	(character): A character vector of AWS S3 paths or uri's of the new locations.
`max_batch`	(fs_bytes): Maximum batch size being uploaded with each multipart.
`overwrite`	(logical): Overwrite files if the exist. If this is `FALSE` and the file exists an error will be thrown.
`...`	parameters to be passed to `s3_put_object` and `s3_create_multipart_upload`

Value

return `future` object of `s3_file_upload()` `s3_dir_upload()`

See Also

`future` `s3_file_move()` `s3_file_upload()` `s3_dir_upload()`

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