Package ‘disk.frame’

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add_chunk

Description

If no chunk_id is specified, then the chunk is added at the end as the largest numbered file, "n.fst".

Usage

add_chunk(df, chunk, chunk_id = NULL, full.names = FALSE)

Arguments

df 
the disk.frame to add a chunk to
chunk 
a data.frame to be added as a chunk
chunk_id 
a numeric number indicating the id of the chunk. If NULL it will be set to the largest chunk_id + 1
full.names 
whether the chunk_id name match should be to the full file path not just the file name

Details

The function is the preferred way to add a chunk to a disk.frame. It performs checks on the types to make sure that the new chunk doesn’t have different types to the disk.frame.

Value

disk.frame

Examples

# create a disk.frame
df_path = file.path(tempdir(), "tmp_add_chunk")
diskf = disk.frame(df_path)

# add a chunk to diskf
add_chunk(diskf, cars)
add_chunk(diskf, cars)

nchunks(diskf) # 2

df2 = disk.frame(file.path(tempdir(), "tmp_add_chunk2"))

# add chunks by specifying the chunk_id number; this is especially useful if
# you wish to add multiple chunk in parallel
add_chunk(df2, data.frame(chunk=1), 1)
add_chunk(df2, data.frame(chunk=2), 3)

nchunks(df2) # 2

dir(attr(df2, "path", exact=TRUE))
# [1] "1.fst" "3.fst"

# clean up
delete(diskf)
delete(df2)

---

anti_join.disk.frame | Performs join/merge for disk.frames

**Description**

Performs join/merge for disk.frames

**Usage**

```r
## S3 method for class 'disk.frame'
anti_join(
  x,
  y,
  by = NULL,
  copy = FALSE,
  ..., 
  outdir = tempfile("tmp_disk_frame_anti_join"),
  merge_by_chunk_id = FALSE,
  overwrite = TRUE,
  .progress = FALSE
)

## S3 method for class 'disk.frame'
full_join(
  x,
  y,
  by = NULL,
  copy = FALSE,
```
\texttt{anti\_join.disk.frame}

```r
...,
  outdir = tempfile("tmp\_disk\_frame\_full\_join"),
  overwrite = TRUE,
  merge\_by\_chunk\_id,
  .progress = \texttt{FALSE}
)

## S3 method for class 'disk.frame'
inner\_join(
  x,
  y,
  by = \texttt{NULL},
  copy = \texttt{FALSE},
  ...
  outdir = tempfile("tmp\_disk\_frame\_inner\_join"),
  merge\_by\_chunk\_id = \texttt{NULL},
  overwrite = \texttt{TRUE},
  .progress = \texttt{FALSE}
)

## S3 method for class 'disk.frame'
left\_join(
  x,
  y,
  by = \texttt{NULL},
  copy = \texttt{FALSE},
  ...
  outdir = tempfile("tmp\_disk\_frame\_left\_join"),
  merge\_by\_chunk\_id = \texttt{FALSE},
  overwrite = \texttt{TRUE},
  .progress = \texttt{FALSE}
)

## S3 method for class 'disk.frame'
semi\_join(
  x,
  y,
  by = \texttt{NULL},
  copy = \texttt{FALSE},
  ...
  outdir = tempfile("tmp\_disk\_frame\_semi\_join"),
  merge\_by\_chunk\_id = \texttt{FALSE},
  overwrite = \texttt{TRUE},
  .progress = \texttt{FALSE}
)
```

\textbf{Arguments}

\begin{itemize}
  \item \texttt{x} \quad \text{a disk.frame}
\end{itemize}
anti_join.disk.frame

y

a data.frame or disk.frame. If data.frame then returns lazily; if disk.frame it performs the join eagerly and return a disk.frame

by

join by

copy

same as dplyr::anti_join

... same as dplyr’s joins

outdir

output directory for disk.frame

merge_by_chunk_id

the merge is performed by chunk id

overwrite

overwrite output directory

.progress

Show progress or not. Defaults to FALSE

Value

disk.frame or data.frame/data.table

Examples

df.df = as.disk.frame(data.frame(x = 1:3, y = 4:6), overwrite = TRUE)
df2.df = as.disk.frame(data.frame(x = 1:2, z = 10:11), overwrite = TRUE)

anti_joined.df = anti_join(df.df, df2.df)

anti_joined.df %>% collect

anti_joined.data.frame = anti_join(df.df, data.frame(x = 1:2, z = 10:11))

# clean up
delete(df.df)
delete(df2.df)
delete(anti_joined.df)
cars.df = as.disk.frame(cars)

join.df = full_join(cars.df, cars.df, merge_by_chunk_id = TRUE)

# clean up cars.df
delete(cars.df)
delete(join.df)
cars.df = as.disk.frame(cars)

join.df = inner_join(cars.df, cars.df, merge_by_chunk_id = TRUE)

# clean up cars.df
delete(cars.df)
delete(join.df)
cars.df = as.disk.frame(cars)

join.df = left_join(cars.df, cars.df)

# clean up cars.df
delete(cars.df)
delete(join.df)
cars.df = as.disk.frame(cars)

join.df = semi_join(cars.df, cars.df)

# clean up cars.df
delete(cars.df)
delete(join.df)

---

*as.data.frame.disk.frame*

Convert disk.frame to data.frame by collecting all chunks

**Description**

Convert disk.frame to data.frame by collecting all chunks

**Usage**

```r
## S3 method for class 'disk.frame'
as.data.frame(x, row.names, optional, ...)
```

**Arguments**

- `x` a disk.frame
- `row.names` NULL or a character vector giving the row names for the data frame. Missing values are not allowed.
- `optional` logical. If TRUE, setting row names and converting column names (to syntactic names: see `make.names`) is optional. Note that all of R’s base package `as.data.frame()` methods use `optional` only for column names treatment, basically with the meaning of `data.frame(*, check.names = !optional)`. See also the `make.names` argument of the matrix method.
- `...` additional arguments to be passed to or from methods.

**Examples**

```r
cars.df = as.disk.frame(cars)
as.data.frame(cars.df)

# clean up
delete(cars.df)
```
as.data.table.disk.frame

Convert disk.frame to data.table by collecting all chunks

Description
Convert disk.frame to data.table by collecting all chunks

Usage
## S3 method for class 'disk.frame'
as.data.table(x, keep.rownames = FALSE, ...)

Arguments
x a disk.frame
keep.rownames passed to as.data.table
... passed to as.data.table

Examples
library(data.table)
cars.df = as.disk.frame(cars)
as.data.table(cars.df)

# clean up
delete(cars.df)

as.disk.frame
Make a data.frame into a disk.frame

Description
Make a data.frame into a disk.frame

Usage
as.disk.frame(
  df,
  outdir = tempfile(fileext = "df"),
  nchunks = recommend_nchunks(df),
  overwrite = FALSE,
  shardby = NULL,
  compress = 50,
  ...
)
)
chunk_summarize

Arguments

- `df`: a disk.frame
- `outdir`: the output directory
- `nchunks`: number of chunks
- `overwrite`: if TRUE the outdir will be overwritten, if FALSE it will throw an error if the directory is not empty
- `shardby`: The shardkey
- `compress`: the compression level 0-100; 100 is highest
- `...`: passed to output_disk.frame

Examples

```r
# write to temporary location
cars.df = as.disk.frame(cars)

# specify a different path in the temporary folder, you are free to choose a different folder
cars_new_location.df = as.disk.frame(cars, outdir = file.path(tempdir(), "some_path.df"))

# specify a different number of chunks
# this writes to tempdir() by default
cars_chunks.df = as.disk.frame(cars, nchunks = 4, overwrite = TRUE)

# clean up
delete(cars.df)
delete(cars_new_location.df)
delete(cars_chunks.df)
```

Description

The disk.frame group by operation perform group WITHIN each chunk. This is often used for performance reasons. If the user wishes to perform group-by, they may choose to use the `hard_group_by` function which is expensive as it reorganizes the chunks by the shard key.

Usage

- `chunk_summarize(.data, ...)`
- `chunk_summarise(.data, ...)`
- `chunk_group_by(.data, ...)`
- `chunk_ungroup(.data, ...)`
Arguments

.data  a disk.frame

...  passed to dplyr::group_by

See Also

hard_group_by group_by

Description

Apply the same function to all chunks
‘cimap.disk.frame’ accepts a two argument function where the first argument is a data.frame and
the second is the chunk ID
‘lazy’ is convenience function to apply ‘.f’ to every chunk
‘delayed’ is an alias for lazy and is consistent with the naming in Dask and Dagger.jl

Usage

cmap(.x, .f, ...)

## S3 method for class 'disk.frame'
cmap(
  .x,
  .f,
  ...,
  outdir = NULL,
  keep = NULL,
  chunks = nchunks(.x),
  compress = 50,
  lazy = TRUE,
  overwrite = FALSE,
  vars_and_pkgs = future::getGlobalsAndPackages(.f, envir = parent.frame()),
  .progress = TRUE
)

cmap_dfr(.x, .f, ..., .id = NULL)

## S3 method for class 'disk.frame'
cmap_dfr(.x, .f, ..., .id = NULL, use.names = fill, fill = FALSE, idcol = NULL)

cimap(.x, .f, ...)

Apply the same function to all chunks
## S3 method for class 'disk.frame'
cimap(
  .x,
  .f,
  outdir = NULL,
  keep = NULL,
  chunks = nchunks(.x),
  compress = 50,
  lazy = TRUE,
  overwrite = FALSE,
  ...
)

cimap_dfr(.x, .f, ..., .id = NULL)

## S3 method for class 'disk.frame'
cimap_dfr(
  .x,
  .f,
  ...
  .id = NULL,
  use.names = fill,
  fill = FALSE,
  idcol = NULL
)

lazy(.x, .f, ...)

## S3 method for class 'disk.frame'
lazy(.x, .f, ...)

delayed(.x, .f, ...)

chunk_lapply(...)

map(.x, .f, ...)

## S3 method for class 'disk.frame'
map(...)

## Default S3 method:
map(.x, .f, ...)

imap_dfr(.x, .f, ..., .id = NULL)

## S3 method for class 'disk.frame'
imap_dfr(...)

## Default S3 method:
imap_dfr(.x, .f, ..., .id = NULL)

imap(.x, .f, ...)

## Default S3 method:
imap(.x, .f, ...)

## S3 method for class 'disk.frame'
map_dfr(...)

## Default S3 method:
map_dfr(.x, .f, ..., .id = NULL)

### Arguments

- `.x` a disk.frame
- `.f` a function to apply to each of the chunks
- `...` for compatibility with `purrr::map`
- `outdir` the output directory
- `keep` the columns to keep from the input
- `chunks` The number of chunks to output
- `compress` 0-100 fst compression ratio
- `lazy` if TRUE then do this lazily
- `overwrite` if TRUE removes any existing chunks in the data
- `vars_and_pkgs` variables and packages to send to a background session. This is typically automatically detected
- `.progress` A logical, for whether or not to print a progress bar for multiprocess, multisession, and multicore plans. From furrr
- `.id` not used
- `use.names` for `cmap_dfr`’s call to data.table::rbindlist. See data.table::rbindlist
- `fill` for `cmap_dfr`’s call to data.table::rbindlist. See data.table::rbindlist
- `idcol` for `cmap_dfr`’s call to data.table::rbindlist. See data.table::rbindlist

### Examples

```r
cars.df = as.disk.frame(cars)

# return the first row of each chunk lazily
#
cars2 = cmap(cars.df, function(chunk) {
  chunk[,1]
})

collect(cars2)
```
# same as above but using purrr
cars2 = cmap(cars.df, ~.x[1,])
collect(cars2)

# return the first row of each chunk eagerly as list
cmap(cars.df, ~.x[1,], lazy = FALSE)

# return the first row of each chunk eagerly as data.table/data.frame by row-binding
cmap_dfr(cars.df, ~.x[1,])

# lazy and delayed are just an aliases for cmap(..., lazy = TRUE)
collect(lazy(cars.df, ~.x[1,]))
collect(delayed(cars.df, ~.x[1,]))

# clean up cars.df
delete(cars.df)
cars.df = as.disk.frame(cars)

# .x is the chunk and .y is the ID as an integer

# lazy = TRUE support is not available at the moment
cimap(cars.df, ~.x[, id := .y], lazy = FALSE)
cimap_dfr(cars.df, ~.x[, id := .y])

# clean up cars.df
delete(cars.df)

---

**cmap2**

`'cmap2' a function to two disk.frames`

**Description**

Perform a function on both disk.frames .x and .y, each chunk of .x and .y gets run by .f(x.chunk, y.chunk)

**Usage**

```r
cmap2(.x, .y, .f, ...)
```

```r
map2(.x, .y, .f, ...)
```

```r
map_by_chunk_id(.x, .y, .f, ..., outdir)
```

**Arguments**

- **.x** a disk.frame
collect.disk.frame

.y a disk.frame
.f a function to be called on each chunk of x and y matched by chunk_id
... not used
outdir output directory

Examples

cars.df = as.disk.frame(cars)
cars2.df = cmap2(cars.df, cars.df, ~data.table::rbindlist(list(.x, .y)))
collect(cars2.df)

# clean up cars.df
delete(cars.df)
delete(cars2.df)

collect.disk.frame Bring the disk.frame into R

Description

Bring the disk.frame into RAM by loading the data and running all lazy operations as data.table/data.frame or as a list

Usage

## S3 method for class 'disk.frame'
collect(x, ..., parallel = !is.null(attr(x, "lazyfn")))
collect_list(x, simplify = FALSE, parallel = !is.null(attr(x, "lazyfn")))

## S3 method for class 'summarized_disk.frame'
collect(x, ..., parallel = !is.null(attr(x, "lazyfn")))

Arguments

x a disk.frame
... not used
parallel if TRUE the collection is performed in parallel. By default if there are delayed/lazy steps then it will be parallel, otherwise it will not be in parallel. This is because parallel requires transferring data from background R session to the current R session and if there is no computation then it’s better to avoid transferring data between session, hence parallel = FALSE is a better choice
simplify Should the result be simplified to array
colnames

Value

collect return a data.frame/data.table
collect_list returns a list
collect return a data.frame/data.table

Examples

cars.df = as.disk.frame(cars)
# use collect to bring the data into RAM as a data.table/data.frame
collect(cars.df)

# clean up
delete(cars.df)
cars.df = as.disk.frame(cars)

# returns the result as a list
collect_list(cmap(cars.df, -1))

# clean up
delete(cars.df)
cars.df = as.disk.frame(cars)
# use collect to bring the data into RAM as a data.table/data.frame
collect(cars.df)

# clean up
delete(cars.df)

---

colnames Return the column names of the disk.frame

Description

The returned column names are from the source. So if you have lazy operations then the col-
names here does not reflects the results of those operations. To obtain the correct names try
names(collect(get_chunk(df, 1)))

Usage

colnames(x, ...)

## S3 method for class 'disk.frame'
names(x, ...)

## S3 method for class 'disk.frame'
colnames(x, ...)

## Default S3 method:
colnames(x, ...)

compute.disk.frame

Arguments

x a disk.frame
...

Description

Perform the computation; same as calling cmap without .f and lazy = FALSE

Usage

## S3 method for class 'disk.frame'
compute(
x,
name,
outdir = tempfile("tmp_df_", fileext = ".df"),
overwrite = TRUE,
...
)

Arguments

x a disk.frame
name Not used. Kept for compatibility with dplyr
outdir the output directory
overwrite whether to overwrite or not
...

Examples

cars.df = as.disk.frame(cars)
cars.df2 = cars.df %>% cmap(~.x)
# the computation is performed and the data is now stored elsewhere
cars.df3 = compute(cars.df2)

# clean up
delete(cars.df)
delete(cars.df3)
create_chunk_mapper

Create function that applies to each chunk if disk.frame

Description

A function to make it easier to create functions like `filter`

Usage

create_chunk_mapper(chunk_fn, warning_msg = NULL, as.data.frame = TRUE)

Arguments

- `chunk_fn` The dplyr function to create a mapper for
- `warning_msg` The warning message to display when invoking the mapper
- `as.data.frame` force the input chunk of a data.frame; needed for dplyr

Examples

```r
filter = create_chunk_mapper(dplyr::filter)

#' example: creating a function that keeps only the first and last n row
first_and_last <- function(chunk, n, ...) {
  nr = nrow(chunk)
  print(nr-n+1:nr)
  chunk[c(1:n, (nr-n+1):nr), ]
}

#' create the function for use with disk.frame
first_and_last_df = create_chunk_mapper(first_and_last)

mtcars.df = as.disk.frame(mtcars)

#' the operation is lazy
lazy_mtcars.df = mtcars.df %>%
  first_and_last_df(2)

#' bring into R
collect(lazy_mtcars.df)

#' clean up
delete(mtcars.df)
```
create_dplyr_mapper  

*Kept for backwards-compatibility to be removed in 0.3*

---

**Description**

Kept for backwards-compatibility to be removed in 0.3

**Usage**

```r
create_dplyr_mapper()
```

---

csv_to_disk.frame  

*Convert CSV file(s) to disk.frame format*

---

**Description**

Convert CSV file(s) to disk.frame format

**Usage**

```r
csv_to_disk.frame(
  infile,
  outdir = tempfile(fileext = ".df"),
  inmapfn = base::I,
  nchunks = recommend_nchunks(sum(file.size(infile))),
  in_chunk_size = NULL,
  shardby = NULL,
  overwrite = TRUE,
  header = TRUE,
  .progress = TRUE,
  backend = c("data.table", "readr", "LaF"),
  chunk_reader = c("bigreadr", "data.table", "readr", "readLines"),
  ...)
```

**Arguments**

- **infile**: The input CSV file or files
- **outdir**: The directory to output the disk.frame to
- **inmapfn**: A function to be applied to the chunk read in from CSV before the chunk is being written out. Commonly used to perform simple transformations. Defaults to the identity function (ie. no transformation)
- **nchunks**: Number of chunks to output
in_chunk_size  When reading in the file, how many lines to read in at once. This is different to nchunks which controls how many chunks are output.

shardby  The column(s) to shard the data by. For example suppose ‘shardby = c("col1","col2")’ then every row where the values ‘col1’ and ‘col2’ are the same will end up in the same chunk; this will allow merging by ‘col1’ and ‘col2’ to be more efficient.

compress  For fst backends it’s a number between 0 and 100 where 100 is the highest compression ratio.

overwrite  Whether to overwrite the existing directory.

header  Whether the files have header. Defaults to TRUE.

.progress  A logical, for whether or not to print a progress bar for multiprocess, multisession, and multicore plans. From furrr.

backend  The CSV reader backend to choose: "data.table" or "readr". disk.frame does not have its own CSV reader. It uses either data.table::fread or readr::read_delimited. It is worth noting that data.table::fread does not detect dates and all dates are imported as strings, and you are encouraged to use fasttime to convert the strings to date. You can use the ‘inmapfn’ to do that. However, if you want automatic date detection, then backend="readr" may suit your needs. However, readr is often slower than data.table, hence data.table is chosen as the default.

chunk_reader  Even if you choose a backend there can still be multiple strategies on how to approach the CSV reads. For example, data.table::fread tries to mmap the whole file which can cause the whole read process to fail. In that case we can change the chunk_reader to "readLines" which uses the readLines function to read chunk by chunk and still use data.table::fread to process the chunks. There are currently no strategies for readr backend, except the default one.

...  passed to data.table::fread, disk.frame::as.disk.frame, disk.frame::shard

See Also

Other ingesting data: zip_to_disk.frame()

Examples

tmpfile = tempfile()
write.csv(cars, tempfile)
tmpdf = tempfile(fileext = ".df")
df = csv_to_disk.frame(tmpfile, outdir = tmpdf, overwrite = TRUE)

# clean up
ts::file_delete(tmpfile)
delete(df)
## delete

**Delete a disk.frame**

### Description
Delete a disk.frame

### Usage
```r
delete(df)
```

### Arguments
- **df**
  - a disk.frame

### Examples
```r
cars.df = as.disk.frame(cars)
delete(cars.df)
```

## dfglm

**Fit generalized linear models (glm) with disk.frame**

### Description
Fits GLMs using 'speedglm' or 'biglm'. The return object will be exactly as those return by those functions. This is a convenience wrapper

### Usage
```r
dfglm(formula, data, ..., glm_backend = c("biglm", "speedglm", "biglmm"))
```

### Arguments
- **formula**
  - A model formula
- **data**
  - See Details below. Method dispatch is on this argument
- **...**
  - Additional arguments
- **glm_backend**
  - Which package to use for fitting GLMs. The default is "biglm", which has known issues with factor level if different levels are present in different chunks. The "speedglm" option is more robust, but does not implement 'predict' which makes prediction and implementation impossible.
Details

The data argument may be a function, a data frame, or a SQLiteConnection or RODBC connection object.

When it is a function the function must take a single argument reset. When this argument is FALSE it returns a data frame with the next chunk of data or NULL if no more data are available. When reset=TRUE it indicates that the data should be reread from the beginning by subsequent calls. The chunks need not be the same size or in the same order when the data are reread, but the same data must be provided in total. The bigglm.data.frame method gives an example of how such a function might be written, another is in the Examples below.

The model formula must not contain any data-dependent terms, as these will not be consistent when updated. Factors are permitted, but the levels of the factor must be the same across all data chunks (empty factor levels are ok). Offsets are allowed (since version 0.8).

The SQLiteConnection and RODBC methods loads only the variables needed for the model, not the whole table. The code in the SQLiteConnection method should work for other DBI connections, but I do not have any of these to check it with.

Value

An object of class bigglm

References


See Also

Other Machine Learning (ML): make_glm_streaming_fn()

Examples

cars.df = as.disk.frame(cars)
m = dfglm(dist ~ speed, data = cars.df)

# can use normal R functions
# Only works in version > R 3.6
majorv = as.integer(version$major)
minorv = as.integer(strsplit(version$minor, ".", fixed=TRUE)[[1]][1])
if(((majorv == 3) & (minorv >= 6)) | (majorv > 3)) {
  summary(m)
predict(m, get_chunk(cars.df, 1))
predict(m, collect(cars.df))
  # can use broom to tidy up the returned info
  broom::tidy(m)
}

# clean up
delete(cars.df)
**df_ram_size**

*Get the size of RAM in gigabytes*

**Description**

Get the size of RAM in gigabytes

**Usage**

```r
df_ram_size()
```

**Value**

integer of RAM in gigabyte (GB)

**Examples**

```
# returns the RAM size in gigabyte (GB)
df_ram_size()
```

---

**disk.frame**

*Create a disk.frame from a folder*

**Description**

Create a disk.frame from a folder

**Usage**

```r
disk.frame(path, backend = "fst")
```

**Arguments**

- `path`: The path to store the output file or to a directory
- `backend`: The only available backend is fst at the moment

**Examples**

```
path = file.path(tempdir(),"cars")
as.disk.frame(cars, outdir=path, overwrite = TRUE, nchunks = 2)
df = disk.frame(path)
head(df)
nchunks(df)
# clean up
delete(df)
```
Helper function to evalparse some `glue::glue` string

**Description**

Helper function to evalparse some `glue::glue` string

**Usage**

```r
evalparseglue(code, env = parent.frame())
```

**Arguments**

- `code` the code in character(string) format to evaluate
- `env` the environment in which to evaluate the code

---

Apply data.table's `foverlaps` to the `disk.frame`

**Description**

EXPERIMENTAL

**Usage**

```r
foverlaps.disk.frame(df1, df2, by.x = if (identical(shardkey(df1)$shardkey, "")) shardkey(df1)$shardkey else shardkey(df2)$shardkey, by.y = shardkey(df2)$shardkey, ...,
outdir = tempfile("df_foverlaps_tmp", fileext = ".df"), merge_by_chunk_id = FALSE, compress = 50, overwrite = TRUE)
```

**Arguments**

- `df1` A `disk.frame`
- `df2` A `disk.frame` or a `data.frame`
- `by.x` character/string vector. `by.x` used in `foverlaps`
- `by.y` character/string vector. `by.x` used in `foverlaps`
gen_datatable_synthetic

Generate synthetic dataset for testing

Description

Generate synthetic dataset for testing

Usage

gen_datatable_synthetic(N = 2e+08, K = 100)

Arguments

N  number of rows. Defaults to 200 million
K  controls the number of unique values for id. Some ids will have K distinct values while others have N/K distinct values

Examples

library(data.table)

## simple example:
x = as.disk.frame(data.table(start=c(5,31,22,16), end=c(8,50,25,18), val2 = 7:10))
y = as.disk.frame(data.table(start=c(10, 20, 30), end=c(15, 35, 45), val1 = 1:3))
byxy = c("val1", "start", "end")
xy.df = foverlaps.disk.frame(
  x, y, by.x = byxy, by.y = byxy,
  merge_by_chunk_id = TRUE, overwrite = TRUE)

# clean up
delete(x)
delete(y)
delete(xy.df)
### Description

Obtain one chunk by chunk id

### Usage

```r
get_chunk(...)```

```r
## S3 method for class 'disk.frame'
get_chunk(df, n, keep = NULL, full.names = FALSE, ...)
```

### Arguments

- `...`: passed to `fst::read_fst` or whichever read function is used in the backend
- `df`: a `disk.frame`
- `n`: the chunk id. If numeric then matches by number, if character then returns the chunk with the same name as `n`
- `keep`: the columns to keep
- `full.names`: whether `n` is the full path to the chunks or just a relative path file name. Ignored if `n` is numeric

### Examples

```r
cars.df = as.disk.frame(cars, nchunks = 2)
get_chunk(cars.df, 1)
get_chunk(cars.df, 2)
get_chunk(cars.df, 1, keep = "speed")
```

```r
# if full.names = TRUE then the full path to the chunk need to be provided
get_chunk(cars.df, file.path(attr(cars.df, "path"), "1.fst"), full.names = TRUE)
```

```r
# clean up cars.df
delete(cars.df)
```

### Description

Get the chunk IDs and files names

### Examples

```r
cars.df = as.disk.frame(cars, nchunks = 2)
generate_chunk_ids(cars.df)
generate_chunk_ids(cars.df, full.names = TRUE)
```

```r
# clean up cars.df
delete(cars.df)
```
Usage

get_chunk_ids(df, ..., full.names = FALSE, strip_extension = TRUE)

Arguments

df         a disk.frame
...        passed to list.files
full.names If TRUE returns the full path to the file, Defaults to FALSE
strip_extension If TRUE then the file extension in the chunk_id is removed. Defaults to TRUE

Examples

cars.df = as.disk.frame(cars)

# return the integer-string chunk IDs
get_chunk_ids(cars.df)

# return the file name chunk IDs
get_chunk_ids(cars.df, full.names = TRUE)

# return the file name chunk IDs with file extension
get_chunk_ids(cars.df, strip_extension = FALSE)

# clean up cars.df
delete(cars.df)

---

groups.disk.frame The shard keys of the disk.frame

Description

The shard keys of the disk.frame

Usage

## S3 method for class 'disk.frame'
groups(x)

Arguments

x         a disk.frame

Value

character
**hard_arrange**

**Perform a hard arrange**

**Description**

A hard_arrange is a sort by that also reorganizes the chunks to ensure that every unique grouping of `by` is in the same chunk. Or in other words, every row that share the same `by` value will end up in the same chunk.

**Usage**

```r
hard_arrange(df, ..., add = FALSE, .drop = FALSE)
```

```r
## S3 method for class 'data.frame'
hard_arrange(df, ...)
```

```r
## S3 method for class 'disk.frame'
hard_arrange(
  df,
  ...
)
```

```r
output = tempfile("tmp_disk_frame_hard_arrange"),
  nchunks = disk.frame::nchunks(df),
  overwrite = TRUE
)
```

**Arguments**

- **df**
  a disk.frame

- **...**
  grouping variables

- **add**
  same as `dplyr::arrange`

- **.drop**
  same as `dplyr::arrange`

- **outdir**
  the output directory

- **nchunks**
  The number of chunks in the output. Defaults = `nchunks.disk.frame(df)`

- **overwrite**
  overwrite the output directory

**Examples**

```r
iris.df = as.disk.frame(iris, nchunks = 2)

# arrange iris.df by specifies and ensure rows with the same specifies are in the same chunk
iris_hard.df = hard_arrange(iris.df, Species)

get_chunk(iris_hard.df, 1)
get_chunk(iris_hard.df, 2)

# clean up cars.df
```
delete(iris.df)
delete(iris_hard.df)

hard_group_by 
**Perform a hard group**

**Description**

A hard_group_by is a group by that also reorganizes the chunks to ensure that every unique grouping of ‘by’ is in the same chunk. Or in other words, every row that share the same ‘by’ value will end up in the same chunk.

**Usage**

```r
hard_group_by(df, ..., add = FALSE, .drop = FALSE)
```

```r
# S3 method for class 'data.frame'
hard_group_by(df, ..., add = FALSE, .drop = FALSE)
```

```r
# S3 method for class 'disk.frame'
hard_group_by(
  df,
  ..., 
  outdir = tempfile("tmp_disk_frame_hard_group_by"),
  nchunks = disk.frame::nchunks(df),
  overwrite = TRUE,
  shardby_function = "hash",
  sort_splits = NULL,
  desc_vars = NULL,
  sort_split_sample_size = 100
)
```

**Arguments**

- `df` a disk.frame
- `...` grouping variables
- `add` same as `dplyr::group_by`
- `drop` same as `dplyr::group_by`
- `outdir` the output directory
- `nchunks` The number of chunks in the output. Defaults = `nchunks.disk.frame(df)`
- `overwrite` overwrite the output directory
- `shardby_function` splitting of chunks: "hash" for hash function or "sort" for semi-sorted chunks
- `sort_splits` for the "sort" shardby function, a dataframe with the split values.
- `desc_vars` for the "sort" shardby function, the variables to sort descending.
sort_split_sample_size
for the "sort" shardby function, if sort_splits is null, the number of rows to sample per chunk for random splits.

Examples
iris.df = as.disk.frame(iris, nchunks = 2)

# group_by iris.df by specifies and ensure rows with the same specifies are in the same chunk
iris_hard.df = hard_group_by(iris.df, Species)

get_chunk(iris_hard.df, 1)
get_chunk(iris_hard.df, 2)

# clean up cars.df
delete(iris.df)
delete(iris_hard.df)

head.disk.frame

Description
Head and tail of the disk.frame

Usage
## S3 method for class 'disk.frame'
head(x, n = 6L, ...)

## S3 method for class 'disk.frame'
tail(x, n = 6L, ...)

Arguments
x
a disk.frame

n
number of rows to include

... passed to base::head or base::tail

Examples
cars.df = as.disk.frame(cars)
head(cars.df)
tail(cars.df)

# clean up
delete(cars.df)
is_disk.frame

Checks if a folder is a disk.frame

Description

Checks if a folder is a disk.frame

Usage

is_disk.frame(df)

Arguments

df  a disk.frame or directory to check

Examples

cars.df = as.disk.frame(cars)

is_disk.frame(cars) # FALSE
is_disk.frame(cars.df) # TRUE

# clean up cars.df
delete(cars.df)

make_glm_streaming_fn

A streaming function for speedglm

Description

Define a function that can be used to feed data into speedglm and biglm

Usage

make_glm_streaming_fn(data, verbose = FALSE)

Arguments

   data  a disk.frame
   verbose  Whether to print the status of data loading. Default to FALSE

Value

   return a function, fn, that can be used as the data argument in biglm::bigglm or speedglm::shglm
merge.disk.frame

Merge function for disk.frames

Description

Merge function for disk.frames

Usage

## S3 method for class 'disk.frame'
merge(
  x,
  y,
  by = ,
  outdir = tempfile(fileext = ".df"),
  ...,
  merge_by_chunk_id = FALSE,
  overwrite = FALSE
)

Arguments

x a disk.frame
y a disk.frame or data.frame
by the merge by keys
outdir The output directory for the disk.frame
... passed to merge and cmap.disk.frame

See Also

Other Machine Learning (ML): dfglm()

Examples

cars.df = as.disk.frame(cars)
streamacq = make_glm_streaming_fn(cars.df, verbose = FALSE)

majorv = as.integer(version$major)
minorv = as.integer(strsplit(version$minor, ".", fixed=TRUE)[1][1])
if(((majorv == 3) & (minorv >= 6)) | (majorv > 3)) {
  m = biglm::bigglm(dist ~ speed, data = streamacq)
  summary(m)
  predict(m, get_chunk(cars.df, 1))
  predict(m, collect(cars.df, 1))
} else {
  m = speedglm::shglm(dist ~ speed, data = streamacq)
}

merge.disk.frame Merge function for disk.frames
merge_by_chunk_id
if TRUE then only chunks in df1 and df2 with the same chunk id will get merged
overwrite
overwrite the outdir or not

Examples

b = as.disk.frame(data.frame(a = 51:150, b = 1:100))
d = as.disk.frame(data.frame(a = 151:250, b = 1:100))
bd.df = merge(b, d, by = "b", merge_by_chunk_id = TRUE)

# clean up cars.df
delete(b)
delete(d)
delete(bd.df)

move_to
Move or copy a disk.frame to another location

Description
Move or copy a disk.frame to another location

Usage
move_to(df, outdir, ..., copy = FALSE)
copy_df_to(df, outdir, ...)

Arguments
df
The disk.frame
outdir
The new location
...
NOT USED
copy
Merely copy and not move

Value
a disk.frame

Examples

cars.df = as.disk.frame(cars)
cars_copy.df = copy_df_to(cars.df, outdir = tempfile(fileext=".df"))
cars2.df = move_to(cars.df, outdir = tempfile(fileext=".df"))

# clean up
delete(cars_copy.df)
delete(cars2.df)
nchunks

Returns the number of chunks in a disk.frame

Description

Returns the number of chunks in a disk.frame

Usage

nchunks(df, ...)
nchunk(df, ...)

## S3 method for class 'disk.frame'
nchunk(df, ...)

## S3 method for class 'disk.frame'
nchunks(df, skip.ready.check = FALSE, ...)

Arguments

df a disk.frame
...
not used
skip.ready.check
 NOT implemented

Examples

cars.df = as.disk.frame(cars)

# return the number of chunks
nchunks(cars.df)
nchunk(cars.df)

# clean up cars.df
delete(cars.df)

nrow

Number of rows or columns

Description

Number of rows or columns
 Usage
 nrow(df, ...)

 ## S3 method for class 'disk.frame'
 nrow(df, ...)

 ncol(df)

 ## S3 method for class 'disk.frame'
 ncol(df)

 Arguments
 df a disk.frame
 ...
 passed to base::nrow

 Examples
 cars.df = as.disk.frame(cars)

 # return total number of column and rows
 ncol(cars.df)
 nrow(cars.df)

 # clean up cars.df
 delete(cars.df)

 overwrite_check Check if the outdir exists or not

 Description
 If the overwrite is TRUE then the folder will be deleted, otherwise the folder will be created.

 Usage
 overwrite_check(outdir, overwrite)

 Arguments
 outdir the output directory
 overwrite TRUE or FALSE if ‘outdir‘ exists and overwrite = FALSE then throw an error
Examples

```r
tf = tempfile()
overwrite_check(tf, overwrite = FALSE)
overwrite_check(tf, overwrite = TRUE)

# clean up
fs::dir_delete(tf)
```

print.disk.frame  
*Print disk.frame*

Description

A new print method for disk.frame

Usage

```r
## S3 method for class 'disk.frame'
print(x, ...)
```

Arguments

- `x`  
disk.frame
- `...`  
not used

pull.disk.frame  
*Pull a column from table similar to 'dplyr::pull'.*

Description

Pull a column from table similar to 'dplyr::pull'.

Usage

```r
## S3 method for class 'disk.frame'
pull(.data, var = -1)
```

Arguments

- `.data`  
The disk.frame
- `var`  
can be an positive or negative integer or a character/string. See dplyr::pull documentation
Description

rbindlist disk.frames together

Usage

rbindlist.disk.frame(
  df_list,
  outdir = tempfile(fileext = "df"),
  by_chunk_id = TRUE,
  parallel = TRUE,
  compress = 50,
  overwrite = TRUE,
  .progress = TRUE
)

Arguments

df_list  A list of disk.frames
outdir   Output directory of the row-bound disk.frames
by_chunk_id  If TRUE then only the chunks with the same chunk IDs will be bound
parallel  if TRUE then bind multiple disk.frame simultaneously. Defaults to TRUE
compress  0-100, 100 being the highest compression rate.
overwrite  overwrite the output directory
.progress  A logical, for whether or not to print a progress bar for multiprocess, multise-

Examples

cars.df = as.disk.frame(cars)

# row-bind two disk.frames
cars2.df = rbindlist.disk.frame(list(cars.df, cars.df))

# clean up cars.df
delete(cars.df)
delete(cars2.df)
**Description**

Increase or decrease the number of chunks in the disk.frame

**Usage**

```r
rechunk(
  df,
  nchunks,
  outdir = attr(df, "path", exact = TRUE),
  shardby = NULL,
  overwrite = TRUE,
  shardby_function = "hash",
  sort_splits = NULL,
  desc_vars = NULL
)
```

**Arguments**

- **df**: the disk.frame to rechunk
- **nchunks**: number of chunks
- **outdir**: the output directory
- **shardby**: the shardkeys
- **overwrite**: overwrite the output directory
- **shardby_function**: splitting of chunks: "hash" for hash function or "sort" for semi-sorted chunks
- **sort_splits**: for the "sort" shardby function, a dataframe with the split values.
- **desc_vars**: for the "sort" shardby function, the variables to sort descending.

**Examples**

```r
# create a disk.frame with 2 chunks in tempdir()
cars.df = as.disk.frame(cars, nchunks = 2)

# re-chunking cars.df to 3 chunks, done "in-place" to the same folder as cars.df
rechunk(cars.df, 3)

new_path = tempfile(fileext = ".df")
# re-chunking cars.df to 4 chunks, shard by speed, and done "out-of-place" to a new directory
cars2.df = rechunk(cars.df, 4, outdir=new_path, shardby = "speed")

# clean up cars.df
delete(cars.df)
delete(cars2.df)
```
recommend_nchucks  

*Recommend number of chunks based on input size*

**Description**

Computes the recommended number of chunks to break a data.frame into. It can accept file sizes in bytes (as integer) or a data.frame.

**Usage**

```r
recommend_nchucks(
  df,
  type = "csv",
  minchunks = data.table::getDTthreads(),
  conservatism = 8,
  ram_size = df_ram_size()
)
```

**Arguments**

- **df**: a disk.frame or the file size in bytes of a CSV file holding the data
- **type**: only = "csv" is supported. It indicates the file type corresponding to the file size `df`
- **minchunks**: the minimum number of chunks. Defaults to the number of CPU cores (without hyper-threading)
- **conservatism**: a multiplier to the recommended number of chunks. The more chunks the smaller the chunk size and more likely that each chunk can fit into RAM
- **ram_size**: The amount of RAM available which is usually computed. Except on RStudio with R3.6+

**Examples**

```r
# recommend nchunks based on data.frame
recommend_nchucks(cars)

# recommend nchunks based on file size ONLY CSV is implemented at the moment
recommend_nchunks(1024^3)
```

---

remove_chunk  

*Removes a chunk from the disk.frame*

**Description**

Removes a chunk from the disk.frame
Usage

\[
\text{remove\_chunk}(\text{df}, \text{chunk\_id}, \text{full\_names} = \text{FALSE})
\]

Arguments

- **df**: a disk.frame
- **chunk\_id**: the chunk ID of the chunk to remove. If it's a number then return number.fst
- **full\_names**: TRUE or FALSE. Defaults to FALSE. If true then chunk\_id is the full path to the chunk otherwise it's the relative path

Examples

# TODO add these to tests
cars\_df = \text{as\_disk\_frame}(\text{cars, nchunks = 4})

# removes 3rd chunk
\text{remove\_chunk}(\text{cars\_df, 3})
\text{nchunks(cars\_df)} # 3

# removes 4th chunk
\text{remove\_chunk}(\text{cars\_df, "4\_fst"})
\text{nchunks(cars\_df)} # 3

# removes 2nd chunk
\text{remove\_chunk}(\text{cars\_df, file\_path(attr(cars\_df, "path", exact=TRUE), "2\_fst"), full\_names = TRUE})
\text{nchunks(cars\_df)} # 1

# clean up cars\_df
\text{delete(cars\_df)}

---

**sample\_frac.disk.frame**

*Sample n rows from a disk.frame*

---

**Description**

Sample n rows from a disk.frame

**Usage**

```r
## S3 method for class 'disk.frame'
sample\_frac(tbl, size = 1, replace = FALSE, weight = NULL, .env = NULL, ...)
```
Arguments

- **tbl**: tbl of data.
- **size**: For `sample_n()`, the number of rows to select. For `sample_frac()`, the fraction of rows to select. If tbl is grouped, size applies to each group.
- **replace**: Sample with or without replacement?
- **weight**: Sampling weights. This must evaluate to a vector of non-negative numbers the same length as the input. Weights are automatically standardised to sum to 1. This argument is automatically quoted and later evaluated in the context of the data frame. It supports unquoting. See vignette("programming") for an introduction to these concepts.
- **.env**: This variable is deprecated and no longer has any effect. To evaluate weight in a particular context, you can now unquote a quosure.
- **...**: ignored

Examples

```r
cars.df = as.disk.frame(cars)
collect(sample_frac(cars.df, 0.5))
# clean up cars.df
delete(cars.df)
```

### Description

Please see the dplyr document for their usage. Please note 'chunk_arrange' performs the actions within each chunk

### Usage

```r
## S3 method for class 'disk.frame'
select(.data, ...)
## S3 method for class 'disk.frame'
rename(.data, ...)
## S3 method for class 'disk.frame'
filter(.data, ...)
filter_all.disk.frame(.data, ...)
filter_if.disk.frame(.data, ...)
```
filter_disk.frame(.data, ...)

## S3 method for class 'disk.frame'
mutate(.data, ...)

## S3 method for class 'disk.frame'
transmute(.data, ...)

## S3 method for class 'disk.frame'
arrange(.data, ...)
chunk_arrange(.data, ...)
tally_disk.frame(.data, ...)
count_disk.frame(.data, ...)
add_count_disk.frame(.data, ...)
add_tally_disk.frame(.data, ...)

## S3 method for class 'disk.frame'
do(.data, ...)
chunk_group_by_all_disk.frame(.data, ...)
chunk_group_by_at_disk.frame(.data, ...)
chunk_group_by_if_disk.frame(.data, ...)
mutate_all_disk.frame(.data, ...)
mutate_at_disk.frame(.data, ...)
mutate_if_disk.frame(.data, ...)
rename_all_disk.frame(.data, ...)
rename_at_disk.frame(.data, ...)
rename_if_disk.frame(.data, ...)
select_all_disk.frame(.data, ...)
select_at_disk.frame(.data, ...)
select_if_disk.frame(.data, ...)
chunk_summarise_all(.data, ...)
chunk_summarise_at(.data, ...)
chunk_summarize_all(.data, ...)
chunk_summarize_at(.data, ...)
chunk_summarize_if(.data, ...)

## S3 method for class 'disk.frame'
distinct(...)
chunk_distinct(.data, ...)

## S3 method for class 'disk.frame'
glimpse(.data, ...)

Arguments

- `.data` a disk.frame
- `...` Same as the dplyr functions

Examples

library(dplyr)
cars.df = as.disk.frame(cars)
mult = 2

# use all any of the supported dplyr
cars2 = cars.df %>%
  select(speed) %>%
  mutate(speed2 = speed * mult) %>%
  filter(speed < 50) %>%
  rename(speed1 = speed) %>%
  collect

# clean up cars.df
delete(cars.df)

---

**setup_disk.frame**

Set up disk.frame environment

**Description**

Set up disk.frame environment
Usage

setup_disk.frame(
  workers = data.table::getDTthreads(),
  future_backend = future::multisession,
  ..., 
  gui = FALSE
)

Arguments

workers the number of workers (background R processes in the
future_backend which future backend to use for parallelization
... passed to ‘future::plan’
gui Whether to use a Graphical User Interface (GUI) for selecting the options. Defaults to FALSE

Examples

if (interactive()) {
  # setup disk.frame to use multiple workers these may use more than two
  # cores, and is therefore not allowed on CRAN. Hence it's set to run only in
  # interactive session
  setup_disk.frame()

  # use a Shiny GUI to adjust settings
  # only run in interactive()
  setup_disk.frame(gui = TRUE)
}

# set the number workers to 2
setup_disk.frame(2)

# if you do not wish to use multiple workers you can set it to sequential
setup_disk.frame(future_backend=future::sequential)

shard Shard a data.frame/data.table or disk.frame into chunk and saves it into a disk.frame

Description

Shard a data.frame/data.table or disk.frame into chunk and saves it into a disk.frame
‘distribute‘ is an alias for ‘shard‘
Usage

shard(
  df,
  shardby,
  outdir = tempfile(fileext = ".df"),
  ...,  
  nchunks = recommend_nchunks(df),
  overwrite = FALSE,
  shardby_function = "hash",
  sort_splits = NULL,
  desc_vars = NULL
)

distribute(...)

Arguments

df A data.frame/data.table or disk.frame. If disk.frame, then rechunk(df, ...) is run
shardby The column(s) to shard the data by.
outdir The output directory of the disk.frame
... not used
nchunks The number of chunks
overwrite If TRUE then the chunks are overwritten
shardby_function splitting of chunks: "hash" for hash function or "sort" for semi-sorted chunks
sort_splits If shardby_function is "sort", the split values for sharding
desc_vars for the "sort" shardby function, the variables to sort descending.

Examples

# shard the cars data.frame by speed so that rows with the same speed are in the same chunk
iris.df = shard(iris, "Species")

# clean up cars.df
delete(iris.df)

shardkey

Returns the shardkey (not implemented yet)

Description

Returns the shardkey (not implemented yet)
**shardkey_equal**

**Usage**

```
shardkey(df)
```

**Arguments**

- `df`: A disk.frame

**Description**

Compare two disk.frame shardkeys

**shardkey_equal(sk1, sk2)**

**Arguments**

- `sk1`: shardkey1
- `sk2`: shardkey2

**show_ceremony**

**Description**

Show the code to setup disk.frame

**Usage**

```
show_ceremony()
ceremony_text()
show_boilerplate()
insert_ceremony()
```
srckeep  

*Keep only the variables from the input listed in selections*

**Description**

Keep only the variables from the input listed in selections

**Usage**

```r
collect(srckeep(cars.df, "speed"))
```

**Arguments**

- `df`: a disk.frame
- `selections`: The list of variables to keep from the input source
- `...`: not yet used
- `chunks`: The chunks to load

**Examples**

```r
cars.df = as.disk.frame(cars)

# when loading cars's chunks into RAM, load only the column speed
collect(srckeep(cars.df, "speed"))

# clean up cars.df
delete(cars.df)
```

**summarise.grouped_disk.frame**

*A function to parse the summarize function*

**Description**

The disk.frame group by operation perform group WITHIN each chunk. This is often used for performance reasons. If the user wishes to perform group-by, they may choose to use the 'hard_group_by' function which is expensive as it reorganizes the chunks by the shard key.
Usage

## S3 method for class 'grouped_disk.frame'
summarise(.data, ...)

## S3 method for class 'grouped_disk.frame'
summarize(.data, ...)

## S3 method for class 'disk.frame'
group_by(.data, ..., add = FALSE, .drop = dplyr::group_by_drop_default(.data))

## S3 method for class 'disk.frame'
summarize(.data, ...)

## S3 method for class 'disk.frame'
summarise(.data, ...)

Arguments

.data a disk.frame
...

add from dplyr

.drop from dplyr

See Also

hard_group_by

Description

Returns the names of the columns. Needed for RStudio to complete variable names

Usage

## S3 method for class 'disk.frame'
tbl_vars(x)

Arguments

x a disk.frame
var_df.chunk_agg.disk.frame

One Stage function

Description

One Stage function
mean chunk_agg
mean collected_agg

Usage

var_df.chunk_agg.disk.frame(x, na.rm = FALSE)

var_df.collected_agg.disk.frame(listx)

sd_df.chunk_agg.disk.frame(x, na.rm = FALSE)

sd_df.collected_agg.disk.frame(listx)

mean_df.chunk_agg.disk.frame(x, na.rm = FALSE, ...)

mean_df.collected_agg.disk.frame(listx)

sum_df.chunk_agg.disk.frame(x, ...)

sum_df.collected_agg.disk.frame(listx, ...)

min_df.chunk_agg.disk.frame(x, ...)

min_df.collected_agg.disk.frame(listx, ...)

max_df.chunk_agg.disk.frame(x, ...)

max_df.collected_agg.disk.frame(listx, ...)

median_df.chunk_agg.disk.frame(x, ...)

median_df.collected_agg.disk.frame(listx, ...)

n_df.chunk_agg.disk.frame(...)

n_df.collected_agg.disk.frame(listx, ...)

length_df.chunk_agg.disk.frame(x, ...)

write_disk.frame

length_df.collected_agg.disk.frame(listx, ...)
any_df.chunk_agg.disk.frame(x, ...)
any_df.collected_agg.disk.frame(listx, ...)
all_df.chunk_agg.disk.frame(x, ...)
all_df.collected_agg.disk.frame(listx, ...)
n_distinct_df.chunk_agg.disk.frame(x, na.rm = FALSE, ...)
n_distinct_df.collected_agg.disk.frame(listx, ...)
quantile_df.chunk_agg.disk.frame(x, ...)
quantile_df.collected_agg.disk.frame(listx, ...)
IQR_df.chunk_agg.disk.frame(x, na.rm = FALSE, ...)
IQR_df.collected_agg.disk.frame(listx, ...)

Arguments

x              the input
na.rm          Remove NAs. TRUE of FALSE
listx          a list
...            additional options

write_disk.frame  Write disk.frame to disk

Description

Write a data.frame/disk.frame to a disk.frame location. If df is a data.frame then using the as.disk.frame function is recommended for most cases

Usage

write_disk.frame(
  df,
  outdir = tempfile(fileext = ".df"),
  nchunks = ifelse("disk.frame" %in% class(df), nchunks.disk.frame(df),
                  recommend_nchunks(df)),
  overwrite = FALSE,
  shardby = NULL,
zip_to_disk.frame

compress = 50,
shardby_function = "hash",
sort_splits = NULL,
desc_vars = NULL,
...)

output_disk.frame(...)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
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<tr>
<td>df</td>
<td>a disk.frame</td>
</tr>
<tr>
<td>outdir</td>
<td>output directory for the disk.frame</td>
</tr>
<tr>
<td>nchunks</td>
<td>number of chunks</td>
</tr>
<tr>
<td>overwrite</td>
<td>overwrite output directory</td>
</tr>
<tr>
<td>shardby</td>
<td>the columns to shard by</td>
</tr>
<tr>
<td>compress</td>
<td>compression ratio for fst files</td>
</tr>
<tr>
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<td>splitting of chunks: &quot;hash&quot; for hash function or &quot;sort&quot; for semi-sorted chunks</td>
</tr>
<tr>
<td>sort_splits</td>
<td>for the &quot;sort&quot; shardby function, a dataframe with the split values.</td>
</tr>
<tr>
<td>desc_vars</td>
<td>for the &quot;sort&quot; shardby function, the variables to sort descending.</td>
</tr>
<tr>
<td>...</td>
<td>passed to cmap.disk.frame</td>
</tr>
</tbody>
</table>

Examples

cars.df = as.disk.frame(cars)

# write out a lazy disk.frame to disk
cars2.df = write_disk.frame(cmap(cars.df, ~.x[1,]), overwrite = TRUE)
collect(cars2.df)

# clean up cars.df
delete(cars.df)
delete(cars2.df)

Description

'zip_to_disk.frame' is used to read and convert every CSV file within the zip file to disk.frame format
zip_to_disk.frame

Usage

    zip_to_disk.frame(
        zipfile,  
        outdir,  
        ...,  
        validation.check = FALSE,  
        overwrite = TRUE
    )

Arguments

    zipfile    The zipfile
    outdir     The output directory for disk.frame
    ...        passed to fread
    validation.check
        should the function perform a check at the end to check for validity of output. It can detect issues with conversion
    overwrite  overwrite output directory

Value

    a list of disk.frame

See Also

    Other ingesting data: csv_to_disk.frame()

Examples

    # create a zip file containing a csv
csvfile = tempfile(fileext = ".csv")
write.csv(cars, csvfile)
zipfile = tempfile(fileext = ".zip")
zip(zipfile, csvfile)

    # read every file and convert it to a disk.frame
zip.df = zip_to_disk.frame(zipfile, tempfile(fileext = ".df"))

    # there is only one csv file so it return a list of one disk.frame
zip.df[[1]]

    # clean up
unlink(csvfile)
unlink(zipfile)
delete(zip.df[[1]])
Description
[ interface for disk.frame using fst backend

Usage
## S3 method for class 'disk.frame'

```r
df[
  ..., 
  keep = NULL, 
  rbind = TRUE, 
  use.names = TRUE, 
  fill = FALSE, 
  idcol = NULL 
]
```

Arguments
- **df** a disk.frame
- **...** same as data.table
- **keep** the columns to srckeep
- **rbind** Whether to rbind the chunks. Defaults to TRUE
- **use.names** Same as in data.table::rbindlist
- **fill** Same as in data.table::rbindlist
- **idcol** Same as in data.table::rbindlist

Examples
```r
cars.df = as.disk.frame(cars)
speed_limit = 50

cars.df[speed < speed_limit ,.N, cut(dist, pretty(dist))]

# clean up
delete(cars.df)
```
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