Package 'dbflobr'

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Title Read and Write Files to SQLite Databases

Version 0.1.0

Description Reads and writes files to SQLite databases <https://www.sqlite.org/index.html> as flobs (a flob is a blob that preserves the file extension).

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Imports chk, flobr, glue, DBI, RSQLite, crayon, clisymbols, rlang

Suggests testthat, covr, knitr, rmarkdown

URL https://github.com/poissonconsulting/dbflobr

BugReports https://github.com/poissonconsulting/dbflobr/issues

Encoding UTF-8

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`add_blob_column` *Add blob column*

Description

Add named empty blob column to SQLite database

Usage

```
add_blob_column(column_name, table_name, conn)
```

Arguments

`column_name`	A string of the name of the BLOB column.
`table_name`	A string of the name of the existing table.
`conn`	A SQLite connection object.

Value

Modified SQLite database.

Examples

```
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbWriteTable(conn, "Table1", data.frame(IntColumn = c(1L, 2L)))
DBI::dbReadTable(conn, "Table1")
add_blob_column("BlobColumn", "Table1", conn)
DBI::dbReadTable(conn, "Table1")
DBI::dbDisconnect(conn)
```

`delete_flob` *Delete flob*

Description

Delete a flob from a SQLite database.

Usage

```
delete_flob(column_name, table_name, key, conn)
```

Arguments

column_name	A string of the name of the BLOB column.
table_name	A string of the name of the existing table.
key	A data.frame whose columns and values are used to filter the table to a single row (this in combination with the column_name argument are used to target a single cell within the table to modify).
conn	A SQLite connection object.

Value

An invisible copy of the deleted flob.

Examples

```
flob <- flobr::flob_obj
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbWriteTable(conn, "Table1", data.frame(IntColumn = c(1L, 2L)))
key <- data.frame(IntColumn = 2L)
write_flob(flob, "BlobColumn", "Table1", key, conn, exists = FALSE)
DBI::dbReadTable(conn, "Table1")
delete_flob("BlobColumn", "Table1", key, conn)
DBI::dbReadTable(conn, "Table1")
DBI::dbDisconnect(conn)
```

---

import_all_flobs *Import all flobs.*

Description

Import flobs to SQLite database from directory. Table and column names are matched to directory names within main directory. Values in file names are matched to table primary key to determine where to write flob.

Usage

```
import_all_flobs(conn, dir = ".", sep = "_-_", exists = FALSE, replace = FALSE)
```

Arguments

conn	A SQLite connection object.
dir	A string of the path to the directory to import the files from. Files need to be within nested folders like 'table1/column1/a.csv'. This structure is created automatically if save_all_flobs() function is used.
sep	A string of the separator between values in file names.
exists	A logical scalar specifying whether the column must (TRUE) or mustn't (FALSE) already exist or whether it doesn't matter (NA). IF FALSE, a new BLOB column is created.

replace	A logical scalar indicating whether to replace existing flobs (TRUE) or not (FALSE).

Value

An invisible named list indicating directory path, file names and whether files were successfully written to database.

Examples

```
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbGetQuery(conn, "CREATE TABLE Table1 (CharColumn TEXT PRIMARY KEY NOT NULL)")
DBI::dbWriteTable(conn, "Table1", data.frame(CharColumn = c("a", "b")), append = TRUE)
flob <- flobr::flob_obj
write_flob(flob, "BlobColumn", "Table1", data.frame(CharColumn = "a"), conn)
dir <- file.path(tempdir(), "import_all")
save_all_flobs(conn = conn, dir = dir)
import_all_flobs(conn, dir, exists = TRUE, replace = TRUE)
DBI::dbDisconnect(conn)
```

---

import_flobs *Import flobs.*

Description

Import flobs to SQLite database column from directory. Values in file name are matched to table primary key to determine where to write flob.

Usage

```
import_flobs(
  column_name,
  table_name,
  conn,
  dir = ".",
  sep = "_-_",
  exists = FALSE,
  recursive = FALSE,
  replace = FALSE
)
```

Arguments

column_name	A string of the name of the BLOB column.
table_name	A string of the name of the existing table.
conn	A SQLite connection object.
dir	A string of the path to the directory to import files from.

sep	A string of the separator between values in file names.
exists	A logical scalar specifying whether the column must (TRUE) or mustn't (FALSE) already exist or whether it doesn't matter (NA). IF FALSE, a new BLOB column is created.
recursive	A logical scalar indicating whether to recurse into file directory (TRUE) or not (FALSE).
replace	A logical scalar indicating whether to replace existing flobs (TRUE) or not (FALSE).

Value

An invisible named vector indicating file name and whether the file was successfully written to database.

Examples

```
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbGetQuery(conn, "CREATE TABLE Table1 (CharColumn TEXT PRIMARY KEY NOT NULL)")
DBI::dbWriteTable(conn, "Table1", data.frame(CharColumn = c("a", "b")), append = TRUE)
key <- data.frame(CharColumn = "a", stringsAsFactors = FALSE)[0,,drop = FALSE]
dir <- tempdir()
write.csv(key, file.path(dir, "a.csv"))
import_flobs("BlobColumn", "Table1", conn, dir)
DBI::dbDisconnect(conn)
```

---

read_flob *Read flob*

Description

Read a flob from a SQLite database.

Usage

```
read_flob(column_name, table_name, key, conn)
```

Arguments

column_name	A string of the name of the BLOB column.
table_name	A string of the name of the existing table.
key	A data.frame whose columns and values are used to filter the table to a single row (this in combination with the column_name argument are used to target a single cell within the table to modify).
conn	A SQLite connection object.

Value

A flob.

Examples

```
flob <- flobr::flob_obj
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbWriteTable(conn, "Table1", data.frame(IntColumn = c(1L, 2L)))
key <- data.frame(IntColumn = 2L)
write_flob(flob, "BlobColumn", "Table1", key, conn, exists = FALSE)
read_flob("BlobColumn", "Table1", key, conn)
DBI::dbDisconnect(conn)
```

---

save_all_flobs *Save all flobs.*

Description

Rename flobs from a SQLite database and save to directory.

Usage

```
save_all_flobs(table_name = NULL, conn, dir = ".", sep = "_-_")
```

Arguments

table_name	A vector of character strings indicating names of tables to save flobs from. By default all tables are included.
conn	A SQLite connection object.
dir	A character string of the path to the directory to save files to.
sep	A string of the separator used to construct file names from values.

Value

An invisible named list of named vectors of the file names and new file names saved.

Examples

```
flob <- flobr::flob_obj
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbGetQuery(conn, "CREATE TABLE Table1 (IntColumn INTEGER PRIMARY KEY NOT NULL)")
DBI::dbWriteTable(conn, "Table1", data.frame(IntColumn = c(1L, 2L)), append = TRUE)
key <- data.frame(IntColumn = 2L)
write_flob(flob, "BlobColumn", "Table1", key, conn, exists = FALSE)
dir <- tempdir()
save_all_flobs(conn = conn, dir = dir)
DBI::dbDisconnect(conn)
```

save_flobs *Save flobs.*

Description

Rename flobs from a SQLite database BLOB column and save to directory.

Usage

```
save_flobs(column_name, table_name, conn, dir = ".", sep = "_-_")
```

Arguments

column_name	A string of the name of the BLOB column.
table_name	A string of the name of the existing table.
conn	A SQLite connection object.
dir	A string of the path to the directory to save the files in.
sep	A string of the separator used to construct file names from values.

Value

An invisible named vector of the file names and new file names saved.

Examples

```
flob <- flobr::flob_obj
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbGetQuery(conn, "CREATE TABLE Table1 (IntColumn INTEGER PRIMARY KEY NOT NULL)")
DBI::dbWriteTable(conn, "Table1", data.frame(IntColumn = c(1L, 2L)), append = TRUE)
key <- data.frame(IntColumn = 2L)
write_flob(flob, "BlobColumn", "Table1", key, conn, exists = FALSE)
dir <- tempdir()
save_flobs("BlobColumn", "Table1", conn, dir)
DBI::dbDisconnect(conn)
```

write_flob *Write flob*

Description

Write a flob to a SQLite database.

Usage

```
write_flob(flob, column_name, table_name, key, conn, exists = NA)
```

Arguments

flob	A flob.
column_name	A string of the name of the BLOB column.
table_name	A string of the name of the existing table.
key	A data.frame whose columns and values are used to filter the table to a single row (this in combination with the column_name argument are used to target a single cell within the table to modify).
conn	A SQLite connection object.
exists	A logical scalar specifying whether the column must (TRUE) or mustn't (FALSE) already exist or whether it doesn't matter (NA). IF FALSE, a new BLOB column is created.

Value

An invisible copy of flob.

Examples

```
flob <- flobr::flob_obj
conn <- DBI::dbConnect(RSQLite::SQLite(), ":memory:")
DBI::dbWriteTable(conn, "Table1", data.frame(IntColumn = c(1L, 2L)))
DBI::dbReadTable(conn, "Table1")
key <- data.frame(IntColumn = 2L)
write_flob(flob, "BlobColumn", "Table1", key, conn, exists = FALSE)
DBI::dbReadTable(conn, "Table1")
DBI::dbDisconnect(conn)
```

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