Package 'fr'

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Title Frictionless Standards

Version 0.5.1

Description A ``tabular-data-resource'' (<https://specs.frictionlessdata.io/tabular-data-resource/>) is a simple format to describe a singular tabular data resource such as a CSV file. It includes support both for metadata such as author and title and a schema to describe the data, for example the types of the fields/columns in the data. Create a tabular-data-resource by providing a data.frame and specifying metadata. Write and read tabular-data-resources to and from disk.

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Encoding UTF-8

RoxygenNote 7.2.3

Imports cli, purrr, vroom, S7 (>= 0.1.1), tibble, tidyselect, yaml, dplyr, rlang

Suggests testthat (>= 3.0.0), withr, fs, knitr, rmarkdown

Config/testthat/edition 3

Config/testthat/parallel true

URL https://github.com/cole-brokamp/fr, https://cole-brokamp.github.io/fr/

BugReports https://github.com/cole-brokamp/fr/issues

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

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R topics documented:

`as_data_frame` *Coerce a* `fr_tdr` *object into a data frame*

Description

Equivalent to `as.data.frame()`; directly using `tibble::as_tibble()` also works because its input is first coerced with `as.data.frame()`

Usage

```
as_data_frame(x, ...)
```

Arguments

`x`	a `fr_tdr` object
`...`	ignored

Value

a data frame

Examples

```
as_fr_tdr(mtcars, name = "mtcars") |>
  as_data_frame()
```

`as_fr_field` *Coerce* `character`, `factor`, `numeric`, `logical`, *and* `Date` *vectors into* `fr_field` *objects*

Description

The supported classes of R objects are converted to the corresponding frictionless `type`:

R class	fr type
character()	string
factor()	string (with enum(constraints = levels(x)))
numeric(), integer()	number
logical()	boolean
Date	date

Usage

```
as_fr_field(x, ...)
```

Arguments

x	a character, factor, numeric, integer, logical, or Date vector
...	<dynamic-dots> required (name) and optional (title, description) field descriptors)

Value

a fr_field object

Examples

```
as_fr_field(1:10, "example_integer") # -> frictionless number
as_fr_field((1:10) * 0.1, "example_double") # -> frictionless number
as_fr_field(letters, "example_character") # -> frictionless string
as_fr_field(factor(letters), "example_factor") # -> frictionless string with enum constraints
as_fr_field(c(TRUE, FALSE, TRUE), "example_logical") # -> frictionless boolean
as_fr_field(as.Date(c("2023-04-23", "2004-12-31")), "example_date") # -> frictionless date
```

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as_fr_tdr *Coerce a data frame into a fr_tdr object*

Description

Coerce a data frame into a fr_tdr object

Usage

```
as_fr_tdr(x, ...)
```

Arguments

x	a data.frame
...	<dynamic-dots> required (name) and optional tabular-data-resource properties (e.g., path, version, title, homepage, description)

Details

Use the `.template` argument to provide a template `fr_tdr` object from which table-specific (i.e. "name", "version", "title", "homepage", "description") and field-specific metadata will be copied; note that all metadata provided in `...` will be ignored if this argument is provided

Value

a fr_tdr object

Examples

```
as_fr_tdr(mtcars, name = "mtcars")
S7::prop(as_fr_tdr(mtcars, name = "mtcars"), "schema")
```

---

as_list *Coerce a fr_tdr object into a list*

Description

equivalent to `as.list()`

Usage

```
as_list(x, ...)
```

Arguments

x	a fr_tdr object
...	ignored

Value

a list representing the frictionless metadata descriptor

Examples

```
as_fr_tdr(mtcars, name = "mtcars") |>
  as_list()
```

---

dplyr_methods *dplyr methods for fr_tdr objects*

Description

Some basic dplyr functions are re-implemented here for for `fr_tdr` objects. The input is converted with `as.data.frame()` before being passed to the dplyr function. The resulting tibble object is converted back into a `fr_tdr` object, matching table- and field-specific metadata where possible by using `as_fr_tdr()` and specifying the `.template` argument.

dplyr	fr
mutate()	fr_mutate()
rename()	fr_rename()
select()	fr_select()
filter()	fr_filter()
summarise()	fr_summarise()
arrange()	fr_arrange()

Usage

```
fr_mutate(x, ...)

fr_rename(x, ...)

fr_select(x, ...)

fr_filter(x, ...)

fr_summarize(x, ...)

fr_arrange(x, ...)
```

Arguments

x	a fr_tdr object
...	passed to the underlying dplyr function

Value

a fr_tdr object

Examples

```
read_fr_tdr(fs::path_package("fr", "hamilton_poverty_2020")) |>
  fr_mutate(next_year = year + 1) |>
  fr_rename(new_year = next_year) |>
  fr_select(-new_year) |>
  fr_filter(fraction_poverty > 0.1) |>
  fr_summarize(median_poverty_fraction = median(fraction_poverty)) |>
  fr_arrange(median_poverty_fraction)
```

---

is_fr_field *Test if an object is a* fr_field *object*

Description

Test if an object is a fr_field object

Usage

```
is_fr_field(x)
```

Arguments

x	an object to test

Value

TRUE if object is a fr_field object, FALSE otherwise

Examples

```
is_fr_field(letters)
is_fr_field(as_fr_field(letters, "letters"))
```

---

read_fr_tdr *read a tabular-data-resource into R*

Description

read a tabular-data-resource into R

Usage

```
read_fr_tdr(file)
```

Arguments

file	Either a path to a file, a connection, or literal data (either a single string or a raw vector). file can also be a character vector containing multiple filepaths or a list containing multiple connections. Files ending in .gz, .bz2, .xz, or .zip will be automatically uncompressed. Files starting with http://, https://, ftp://, or ftps:// will be automatically downloaded. Remote gz files can also be automatically downloaded and decompressed. Literal data is most useful for examples and tests. To be recognised as literal data, wrap the input with I().

Details

A file path (or url) representing a folder that contains a "tabular-data-resource.yaml" can be used in file.

Value

a fr_tdr object

Examples

```
read_fr_tdr(fs::path_package("fr", "hamilton_poverty_2020"))
```

---

update_field *add or update field-specific metadata in a fr_tdr object*

Description

add or update field-specific metadata in a fr_tdr object

Usage

```
update_field(x, field, ...)
```

Arguments

x	a fr_tdr object
field	character name of field in x to update
...	table schema field descriptors (e.g., title, description)

Value

an fr_tdr object containing the updated field

Examples

```
my_mtcars <-
  mtcars |>
  as_fr_tdr(name = "mtcars") |>
  update_field("mpg", title = "Miles Per Gallon")

S7::prop(my_mtcars, "schema")
```

---

write_fr_tdr *write a fr_tdr object to disk*

Description

The name property of the fr_tdr object is used to write a frictionless tabular-data-resource to disk. For example, if name = "my_data", then a folder named my_data would be created with (1) my_data.csv and (2) tabular-data-resource.yaml.

Usage

```
write_fr_tdr(x, dir)
```

Arguments

x	a fr_tdr object to write to disk
dir	path to directory where tabular-data-resource folder will be created

Value

x (invisibly)

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