

Package: fr (via r-universe)

October 31, 2024

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

Roxygen list(markdown = TRUE)

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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

Repository <https://cole-brokamp.r-universe.dev>

RemoteUrl <https://github.com/cole-brokamp/fr>

RemoteRef HEAD

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as_data_frame	<i>Coerce a fr_tdr object into a data frame</i>
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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
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Description

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

R class	fr type
character()	string
factor()	string (with <code>enum(constraints = levels(x))</code>)
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
```

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
<code>mutate()</code>	<code>fr_mutate()</code>
<code>rename()</code>	<code>fr_rename()</code>
<code>select()</code>	<code>fr_select()</code>
<code>filter()</code>	<code>fr_filter()</code>
<code>summarise()</code>	<code>fr_summarise()</code>
<code>arrange()</code>	<code>fr_arrange()</code>

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	<i>read a tabular-data-resource into R</i>
-------------	--

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	<i>add or update field-specific metadata in a fr_tdr object</i>
--------------	---

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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