

Package ‘structenforcement’

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Title Struct-Like Data Type Checking and Enforcement

Version 0.3.1

Description Enforcement of field types in lists. A drop-in tool to allow for dynamic input data that might be questionably parsed or cast to be coerced into the specific desired format in a reasonably performant manner.

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Encoding UTF-8

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Suggests lubridate, testthat (>= 3.0.0)

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Imports rlang

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bind_as_struct	<i>Bind as Struct</i>
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Description

Given a set of lists/dataframes, attempt to join them as a dataframe with field types matching the specified template. The default approach uses all fields present in the input lists, while the strict mode ensures that the template fields and only the template fields are present.

Usage

```
bind_as_struct(template, ..., .list = NULL, strict = FALSE)
```

Arguments

template	A named list to use as a template.
...	The lists to join
.list	A pre-built list of frames to join, as an alternative to Use exactly one of ... or .list.
strict	Use all and only the fields in the template. Default: FALSE

Value

A dataframe containing the combined inputs.

Examples

```
bind_as_struct(list("a" = character(0)), list("a" = 1), list("a" = "a"))
```

type_check	<i>List Type Checking</i>
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Description

Given two named objects, go through both and make the types of the second match the types of the first.

Usage

```
type_check(
  template,
  target,
  with_cast = FALSE,
  log_items = c("casts", "missing", "excess", "debug")[c(1, 3)]
)
```

Arguments

- | | |
|-----------|---|
| template | • A named list to use as a template. |
| target | • A named list to use as the output. |
| with_cast | • If true, edits the target instead of just checking types. |
| log_items | • Which debug info to print. Takes a character vector. By default, logs casts and excess fields (target fields not in template). We expect some missing for the moment. |

Value

The target object, with its types appropriately cast.

Examples

```
type_check(
  list("a" = character(0), "b" = integer(0)),
  data.frame("a" = c(1,2), "b" = c(3,4)),
  TRUE, NULL
)
```

type_check_each	<i>Vectorised List Type Checking</i>
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Description

Apply `type_check` to each element in a list of targets against a single template. The template lookup table is built once and reused across every target, amortising the hash-table construction.

Usage

```
type_check_each(
  template,
  targets,
  with_cast = FALSE,
  log_items = c("casts", "missing", "excess", "debug")[c(1, 3)]
)
```

Arguments

- | | |
|-----------|---|
| template | A named list to use as a template. |
| targets | A list of named lists/dataframes to check against the template. |
| with_cast | If true, edits each target instead of just checking types. |
| log_items | Which debug info to print. Mirrors <code>type_check</code> . |

Value

A list of the targets, with their types appropriately cast. Names of targets are preserved.

Examples

```
type_check_each(  
  list("a" = character(0), "b" = integer(0)),  
  list(list("a" = 1, "b" = 2.5), list("a" = "x", "b" = 3L)),  
  TRUE, NULL  
)
```

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