

Package ‘pbiparams’

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Title Safe Parameter Extraction for Power BI R Scripts

Version 0.1.0

Description Safely extracts and coerces values from a Power BI parameter table (one row, multiple columns) without string concatenation or injection of raw values into scripts.

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Encoding UTF-8

RoxygenNote 7.3.3

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

NeedsCompilation no

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safe_param	<i>Safely extract and coerce a value from a Power BI parameter table</i>
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Description

Extracts a single value from a Power BI parameter data.frame (1 row, multiple columns) and coerces it to the requested type. All coercion is done programmatically — values are never spliced as raw strings into SQL, DAX, or file paths, eliminating injection risk.

Usage

```
safe_param(
  params_or_value,
  col = NULL,
  row = 1,
  target = c("numeric", "integer", "character", "logical", "date", "datetime"),
  default = NULL,
  integer_strategy = c("round", "floor", "ceiling", "truncate"),
  make_positive = FALSE,
  min_val = -Inf,
  max_val = Inf,
  trim_ws = TRUE,
  na_values = c("", "NA", "NaN", "null", "Null", "NULL"),
  date_formats = c("%Y-%m-%d", "%m/%d/%Y", "%d-%b-%Y", "%Y/%m/%d"),
  tz = "UTC"
)
```

Arguments

params_or_value	A 'data.frame' (the Power BI parameter table) or a bare scalar value. When a scalar is supplied, 'col' and 'row' are ignored and the value is coerced directly.
col	Character. Column name to extract from the data.frame. Required when 'params_or_value' is a data.frame; ignored otherwise.
row	Integer. Row index to extract (default '1'). Power BI parameter tables always have exactly one row, so this rarely needs changing.
target	Character. Target type for coercion. One of "numeric", "integer", "character", "logical", "date", "datetime".
default	The value returned when the extracted value is 'NA' or missing. Defaults to 'NULL', which causes a typed 'NA' to be returned.
integer_strategy	Character. How to convert a non-integer numeric to integer. One of "round" (default), "floor", "ceiling", "truncate".
make_positive	Logical. If 'TRUE', the absolute value is taken before clamping. Only applies to "numeric" and "integer" targets.
min_val	Numeric. Lower bound for numeric/integer output (inclusive). Default '-Inf' (no lower bound).
max_val	Numeric. Upper bound for numeric/integer output (inclusive). Default 'Inf' (no upper bound).
trim_ws	Logical. If 'TRUE' (default), leading/trailing whitespace is stripped from character values before processing.
na_values	Character vector of strings that should be treated as 'NA'. Default: 'c("", "NA", "NaN", "null", "Null", "NULL")'.
date_formats	Character vector of 'strptime' format strings tried in order when parsing dates. Default covers ISO 8601, US, and abbreviated month formats.

tz Character. Time zone used for "datetime" targets and when converting between date and datetime types. Default "UTC".

Value

A scalar of the requested type, or a typed 'NA' / 'default' when the value is missing or cannot be coerced.

Examples

```
params <- data.frame(
  StartDate = "2024-01-01",
  TopN      = "10",
  Region    = "North",
  Debug     = "true",
  stringsAsFactors = FALSE
)

safe_param(params, "StartDate", target = "date")
safe_param(params, "TopN",      target = "integer", default = 5L, min_val = 1L)
safe_param(params, "Region",   target = "character", default = "All")
safe_param(params, "Debug",    target = "logical",   default = FALSE)

# Scalar usage (no data.frame)
safe_param("42.7", target = "integer", integer_strategy = "floor")
```

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