Package ‘dialvalidator’

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Title Phone Number Validation Using Google's 'libphonenumber' Metadata

Version 0.1.0

Description Parses, validates, formats, and classifies phone numbers using Google's 'libphonenumber' metadata. Covers 240+ territories with support for mobile, landline, toll-free, and other number types. Unlike 'dialr', this package requires no Java runtime — metadata is parsed ahead of time from the upstream 'PhoneNumberMetadata.xml' and shipped as a bundled R object. Functions accept character vectors and return simple R types (logical, character, data.frame).

License Apache License (>= 2)

URL https://pcstrategyandopsco.github.io/dialvalidator/, https://github.com/pcstrategyandopsco/dialvalidator

BugReports https://github.com/pcstrategyandopsco/dialvalidator/issues

Encoding UTF-8

RoxygenNote 7.3.3

Imports cli, rlang, stringr

Suggests xml2, testthat (>= 3.0.0), knitr, rmarkdown

Depends R (>= 3.5.0)

Config/testthat/edition 3

VignetteBuilder knitr

NeedsCompilation no

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`dv_metadata` *Get the full metadata object*

Description

Returns the parsed libphonenumber metadata used internally by all validation functions. Useful for inspection and debugging.

Usage

```
dv_metadata()
```

Value

A list with elements `cc_to_regions`, `territories`, `example_numbers`, `version`, and `built`.

Examples

```
meta <- dv_metadata()
meta$version
length(meta$territories)
```

`dv_territory` *Get metadata for a specific territory*

Description

Get metadata for a specific territory

Usage

```
dv_territory(region)
```

Arguments

`region`	ISO 3166-1 alpha-2 region code (e.g., `"NZ"`, `"US"`).

Value

A list containing the territory's country code, national prefix, phone type patterns, formatting rules, and example numbers. Returns `NULL` if the region is not found.

Examples

```
nz <- dv_territory("NZ")
nz$country_code
nz$mobile$example
```

---

dv_update_metadata *Update metadata from upstream*

Description

Downloads the latest `PhoneNumberMetadata.xml` from Google's libphonenumber repository, parses it, and saves the result to the user's cache directory. The updated metadata is used for the remainder of the session.

Usage

```
dv_update_metadata(
  url = paste0("https://raw.githubusercontent.com/google/libphonenumber/master/",
     "resources/PhoneNumberMetadata.xml")
)
```

Arguments

`url`	URL to the raw PhoneNumberMetadata.xml file. Defaults to the master branch on GitHub.

Details

Requires the **xml2** package.

Value

Invisibly returns the path to the cached metadata file.

Examples

```
dv_update_metadata()
```

metadata *Access Phone Number Metadata*

Description

Functions to access and update the bundled libphonenumber metadata.

phone_country *Detect Country of a Phone Number*

Description

Returns the ISO 3166-1 alpha-2 region code for each phone number.

Usage

```
phone_country(number, default_region = NULL)
```

Arguments

number	Character vector of phone numbers.
default_region	ISO 3166-1 alpha-2 region code for numbers in national format. See phone_parse() for details.

Value

Character vector of region codes (e.g., "NZ", "US"). Returns NA for numbers that cannot be parsed.

Examples

```
phone_country("+64211234567")
phone_country(c("+12125551234", "+442071234567"))
```

phone_format *Format Phone Numbers*

Description

Formats phone numbers according to standard conventions.

Usage

```
phone_format(
  number,
  format = c("E164", "NATIONAL", "INTERNATIONAL"),
  default_region = NULL
)
```

Arguments

`number`	Character vector of phone numbers.
`format`	One of `"E164"` (default), `"NATIONAL"`, or `"INTERNATIONAL"`. `E164 +64211234567` — compact international format with no spaces. `NATIONAL 021 123 4567` — local dialling format with national prefix. `INTERNATIONAL +64 21 123 4567` — international format with spaces.
`default_region`	ISO 3166-1 alpha-2 region code for numbers in national format. See `phone_parse()` for details.

Value

Character vector of formatted numbers. Returns `NA` for numbers that cannot be parsed.

Examples

```
phone_format("+64211234567")
phone_format("+64211234567", "NATIONAL")
phone_format("+64211234567", "INTERNATIONAL")
```

phone_info *Get All Phone Number Information*

Description

Parses, validates, formats, and classifies phone numbers in a single call. Returns a data frame with one row per input number.

Usage

```
phone_info(number, default_region = NULL)
```

Arguments

number	Character vector of phone numbers.
default_region	ISO 3166-1 alpha-2 region code for numbers in national format. See phone_parse() for details.

Value

A data frame with columns:

raw Original input.

e164 E.164 formatted number.

national National format.

international International format.

region ISO 3166-1 alpha-2 region code.

country_code Country calling code.

type Number type (mobile, fixed_line, etc.).

valid Logical validation result.

Examples

```
phone_info("+64211234567")
phone_info(c("+64211234567", "+12125551234"))
```

---

phone_parse *Parse a Phone Number*

Description

Parses a phone number string into its components: country code, national number, and region. Numbers can be provided in international format (with leading +) or national format (with default_region).

Usage

```
phone_parse(number, default_region = NULL)
```

Arguments

number	Character vector of phone numbers.
default_region	ISO 3166-1 alpha-2 region code (e.g., "NZ", "US") used when numbers are in national format (no leading +). If NULL, numbers without a + prefix will fail to parse.

Value

A list of parsed phone number lists, each with elements:

`raw` The original input string.

`country_code` Country calling code (e.g., `"64"` for NZ).

`national_number` The national significant number (digits only).

`region` ISO 3166-1 alpha-2 region code.

`valid` Logical indicating if the number is valid.

Returns a list with `valid = FALSE` for numbers that cannot be parsed.

Examples

```
phone_parse("+64211234567")
phone_parse("021 123 4567", default_region = "NZ")
phone_parse(c("+12125551234", "+442071234567"))
```

---

phone_type *Detect Phone Number Type*

Description

Classifies phone numbers as mobile, fixed-line, toll-free, etc. by matching against libphonenumber's per-territory type patterns.

Usage

```
phone_type(number, default_region = NULL)
```

Arguments

`number`	Character vector of phone numbers.
`default_region`	ISO 3166-1 alpha-2 region code for numbers in national format. See `phone_parse()` for details.

Value

Character vector of phone number types. Possible values: `"mobile"`, `"fixed_line"`, `"fixed_line_or_mobile"`, `"toll_free"`, `"premium_rate"`, `"shared_cost"`, `"personal_number"`, `"voip"`, `"pager"`, `"uan"`, `"voicemail"`, `"unknown"`. Returns `NA` for numbers that cannot be parsed.

Examples

```
phone_type("+64211234567")
phone_type(c("+6493001234", "+64800123456"))
```

phone_valid *Validate Phone Numbers*

Description

Checks whether phone numbers are valid according to libphonenumber's metadata. A number is valid if it parses successfully, has a valid length, and matches the general number pattern for its region.

Usage

```
phone_valid(number, default_region = NULL)
```

Arguments

number	Character vector of phone numbers.
default_region	ISO 3166-1 alpha-2 region code for numbers in national format. See phone_parse() for details.

Value

Logical vector. TRUE for valid numbers, FALSE otherwise. NA inputs return FALSE.

Examples

```
phone_valid("+64211234567")
phone_valid(c("+64211234567", "+6421", "not a number"))
phone_valid("021 123 4567", default_region = "NZ")
```

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