

Package ‘ineptr2’

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Title Wrapper for Statistics Portugal API

Version 0.3.1

Description An R6-based client to facilitate interaction with the Statistics Portugal (Instituto Nacional de Estatistica - INE) API
(https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_api&INST=322751522&xlang=en).

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URL <https://c-matos.github.io/ineptr2/>,
<https://github.com/c-matos/ineptr2>

BugReports <https://github.com/c-matos/ineptr2/issues>

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Description

An R6 class providing access to the Statistics Portugal (INE) API. Holds configuration state (language, caching preferences) and provides methods for retrieving data, metadata, and indicator catalog.

See [INEClient-fields](#) for configurable fields (language, caching, timeouts, etc.).

Data

`get_data(indicator, row_limit, ...)` Retrieve tidy data for an indicator, with automatic chunking and optional caching.

`download_data(indicator, row_limit, ...)` Download data to the file cache without loading into memory.

`load_raw_data(indicator)` Load previously downloaded raw JSON data from the file cache.

`preview_chunks(indicator, row_limit, ...)` Preview how many API chunks a download would require.

Metadata

`get_metadata(indicator)` Get cleaned metadata for an indicator.

`info(indicator)` Print a summary of an indicator's key properties.

`get_dim_info(indicator)` Get dimension descriptions.

`get_dim_values(indicator, dims)` Get possible values for all dimensions.

`is_valid(indicator)` Check if an indicator exists.

`is_updated(indicator, last_updated, metadata)` Check if an indicator has been updated since last download.

Catalog

`get_catalog()` Download and parse the full indicator catalog (~10 min).

`download_catalog()` Download the catalog to the file cache.

Cache

`list_cached()` List indicators present in the file cache.

`clear_cache(indicator)` Clear cached files.

Active bindings

`lang` Language code ("PT" or "EN").
`use_cache` Whether caching is enabled.
`cache_dir` Cache directory path, or NULL for default.
`row_limit` Default maximum output rows per API request.
`max_retries` Maximum retry attempts for chunk downloads.
`progress_interval` Print progress every N chunks during downloads.
`timeout` Timeout in seconds for API requests.

Methods**Public methods:**

- `INEClient$new()`
- `INEClient$get_data()`
- `INEClient$download_data()`
- `INEClient$load_raw_data()`
- `INEClient$get_metadata()`
- `INEClient$get_catalog()`
- `INEClient$download_catalog()`
- `INEClient$info()`
- `INEClient$get_dim_info()`
- `INEClient$get_dim_values()`
- `INEClient$preview_chunks()`
- `INEClient$is_valid()`
- `INEClient$is_updated()`
- `INEClient$list_cached()`
- `INEClient$clear_cache()`
- `INEClient$print()`
- `INEClient$clone()`

Method `new()`: Create a new INE API client.

Usage:

```
INEClient$new(  
  lang = "PT",  
  use_cache = FALSE,  
  cache_dir = NULL,  
  row_limit = 1000000L,  
  max_retries = 3L,  
  progress_interval = 10L,  
  timeout = 300  
)
```

Arguments:

`lang` Language code: "PT" (default) or "EN".

`use_cache` Logical. Whether to cache API responses. Default FALSE.

`cache_dir` Character or NULL. Cache directory path. If NULL (default), uses `tools::R_user_dir("ineptr2", "cache")`.

`row_limit` Integer. Default maximum output rows per API request. Default 1000000L.

`max_retries` Integer. Maximum retry attempts for failed chunk downloads. Default 3L.

`progress_interval` Integer. Print a progress message every N chunks during downloads. Default 10L.

`timeout` Numeric. Timeout in seconds for API requests (metadata and data endpoints). Default 300 (5 minutes). The catalog endpoint uses a separate, longer timeout.

Returns: A new INEClient object.

Method `get_data()`: Retrieve tidy data for an indicator.

Usage:

```
INEClient$get_data(indicator, row_limit = NULL, ...)
```

Arguments:

`indicator` INE indicator ID as a 7-digit string. Example: "0010003".

`row_limit` Integer or NULL. Maximum output rows per API request before splitting into multiple calls. If NULL (default), uses the client's `row_limit` field. See **Details**.

... Dimension filters. Each argument should be named `dimN` (where N is the dimension number) with a character vector of values. Omitted dimensions include all values.

Details:

Row limit and chunking:

The INE API limits each request to **1 000 000 output rows**, counted as the product of unique values across all dimensions. When the estimated row count exceeds `row_limit`, the request is automatically split into smaller chunks by iterating over one or more dimensions. If requests are timing out, try lowering `row_limit` (or increasing the client's `timeout` field) to produce more, smaller chunks.

Caching:

When `use_cache` is enabled, processed data is stored as an RDS file. Subsequent calls with the same or narrower dimension filters return the cached result without hitting the API. Changing filters to include values outside the cached set triggers a fresh download.

Returns: A data frame with the indicator data.

Method `download_data()`: Download data for an indicator to the file cache without loading it into memory. Caching is temporarily enabled for the duration of the call regardless of the client's `use_cache` setting.

Usage:

```
INEClient$download_data(indicator, row_limit = NULL, ...)
```

Arguments:

`indicator` INE indicator ID as a 7-digit string. Example: "0010003".

`row_limit` Integer or NULL. Maximum output rows per API request before splitting into multiple calls. If NULL (default), uses the client's `row_limit` field.

... Dimension filters in the form `dimN = value`.

Returns: Invisibly, a list with indicator, cache_dir, total_chunks, and complete, or invisible(NULL) on partial download failure (resume by calling again).

Method load_raw_data(): Load previously downloaded raw data from the file cache as a list of parsed JSON responses. Use download_data() first to populate the cache.

Usage:

```
INEClient$load_raw_data(indicator)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

Returns: A list with responses (parsed JSON) and urls.

Method get_metadata(): Get cleaned metadata for an indicator.

Usage:

```
INEClient$get_metadata(indicator)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

Returns: API response body as a list.

Method get_catalog(): Get the full INE indicator catalog. This operation is very time-consuming (~10 minutes) as it downloads the entire catalog from the INE API. Consider using download_catalog() to cache the result for subsequent calls.

Usage:

```
INEClient$get_catalog()
```

Returns: A data frame with one row per indicator.

Method download_catalog(): Download the INE indicator catalog to the file cache without loading it into memory. This operation is time-consuming (~10 minutes) as it downloads the entire catalog from the INE API. Subsequent calls return the cached file immediately. Caching is temporarily enabled for the duration of the call regardless of the client's use_cache setting.

Usage:

```
INEClient$download_catalog()
```

Returns: Invisibly, the cache file path.

Method info(): Print a summary of an indicator's key properties: code, name, periodicity and time range, last update date, and a per-dimension breakdown of unique values. Labels are displayed in the client's current language.

Usage:

```
INEClient$info(indicator)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

Returns: Invisibly, a list with code, name, periodicity, first_period, last_period, last_updated, and dimensions (a data frame with dim_num, name, and n_values columns).

Method get_dim_info(): Get dimension descriptions for an indicator.

Usage:

```
INEClient$get_dim_info(indicator)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

Returns: A data frame with dim_num, abrv, and versao columns.

Method `get_dim_values()`: Get possible values for all dimensions of an indicator.

Usage:

```
INEClient$get_dim_values(indicator, dims = NULL)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

dims Integer vector of dimension numbers to include, or NULL (default) for all dimensions.

Returns: A tidy data frame with dimension values.

Method `preview_chunks()`: Preview how many API chunks a download would require, without fetching any data. Useful for estimating download time before committing to a large request.

Usage:

```
INEClient$preview_chunks(indicator, row_limit = NULL, ...)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

row_limit Integer or NULL. Maximum output rows per API request before splitting into multiple calls. If NULL (default), uses the client's row_limit field.

... Dimension filters in the form dimN = value.

Returns: Invisibly, a list with chunks and estimated_rows.

Method `is_valid()`: Check if an indicator exists and is callable via the INE API.

Usage:

```
INEClient$is_valid(indicator)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

Returns: TRUE if indicator exists, FALSE otherwise.

Method `is_updated()`: Check if an indicator has been updated since last download.

Usage:

```
INEClient$is_updated(indicator, last_updated = NULL, metadata = NULL)
```

Arguments:

indicator INE indicator ID as a 7-digit string. Example: "0010003".

last_updated A Date object or a character string in "YYYY-MM-DD" format. If provided, takes precedence over cached metadata. If NULL (default), the function looks for cached metadata or the metadata argument.

metadata A metadata list object as returned by `get_metadata()`. If provided and last_updated is NULL, extracts DataUltimaAtualizacao.

Returns: TRUE if updated, FALSE if not.

Method `list_cached()`: List indicators present in the file cache.

Usage:

```
INEClient$list_cached()
```

Returns: A data frame with one row per cached indicator and columns `indicator`, `has_metadata`, `has_data`, `chunks_downloaded`, `chunks_total`, and `download_complete`. Returns a zero-row data frame if no cache exists.

Method `clear_cache()`: Clear cached files.

Usage:

```
INEClient$clear_cache(indicator = NULL)
```

Arguments:

`indicator` Optional INE indicator ID. If NULL (default), clears all cached files.

Returns: Invisibly returns TRUE if files were removed, FALSE otherwise.

Method `print()`: Print a summary of the client configuration.

Usage:

```
INEClient$print(...)
```

Arguments:

... Ignored.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
INEClient$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[INEClient-fields](#) for field descriptions.

Examples

```
# -- Setup --
ine <- INEClient$new()
ine <- INEClient$new(lang = "EN", use_cache = TRUE)
print(ine)

# -- Metadata --
meta <- ine$get_metadata("0010003")
ine$info("0010003")
dims <- ine$get_dim_info("0010003")
vals <- ine$get_dim_values("0010003")

# -- Data --
```

```
df <- ine$get_data("0010003")
df <- ine$get_data("0010003", dim1 = "S7A2024", dim2 = c("11", "17"))
ine$preview_chunks("0008273")

# -- Validation --
ine$is_valid("0010003")
ine$is_updated("0010003", last_updated = "2024-01-01")

# -- Cache --
ine$list_cached()
ine$clear_cache()
```

INEClient-fields *INEClient configuration fields*

Description

Configuration fields for the [INEClient](#) class. All fields are implemented as active bindings with validation. Set them with `ine$field <- value` and read them with `ine$field`.

Arguments

<code>lang</code>	Character. Language code: "PT" (default) or "EN". Affects API responses, cache file paths, and display labels.
<code>use_cache</code>	Logical. Whether to cache API responses locally. Default FALSE.
<code>cache_dir</code>	Character or NULL. Cache directory path. If NULL (default), uses <code>tools::R_user_dir("ineptr2", "cache")</code> .
<code>row_limit</code>	Integer. Maximum output rows per API request before splitting into chunks. Must be between 1 and 1 000 000 (the API ceiling). Default 1000000L.
<code>max_retries</code>	Integer. Maximum retry attempts for failed chunk downloads. Default 3L.
<code>progress_interval</code>	Integer. Print a progress message every N chunks during downloads. Default 10L.
<code>timeout</code>	Numeric. Timeout in seconds for API requests (metadata and data endpoints). Default 300 (5 minutes). The catalog endpoint uses a separate, longer timeout.

See Also

[INEClient](#) for methods.

Examples

```
ine <- INEClient$new()
ine$lang
ine$lang <- "EN"

ine$use_cache <- TRUE
ine$cache_dir <- tempdir()
ine$row_limit <- 50000L
```

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