Package ‘nomisr’

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Type Package

Title Access ‘Nomis’ UK Labour Market Data

Version 0.4.4

Description Access UK official statistics from the 'Nomis' database. 'Nomis' includes data from the Census, the Labour Force Survey, DWP benefit statistics and other economic and demographic data from the Office for National Statistics, based around statistical geographies. See <https://www.nomisweb.co.uk/api/v01/help> for full API documentation.

URL https://github.com/ropensci/nomisr,
     https://docs.evanodell.com/nomisr

BugReports https://github.com/ropensci/nomisr/issues

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nomisr  nomisr: Access Nomis UK Labour Market Data with R

Description


Details

The package provides functions to find what data is available, metadata, including the variables and query options for different datasets and a function for downloading data.

The full API documentation and optional registration for an API key is available at https://www.nomisweb.co.uk/api/v01/help.

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nomis_api_key  Nomis API Key

Description

Assign or reassign API key for Nomis.

Usage

nomis_api_key(check_env = FALSE)

Arguments

- check_env If TRUE, will check the environment variable NOMIS_API_KEY first before asking for user input.
Details

The Nomis API has an optional key. Using the key means that 100,000 rows can be returned per call, which can speed up larger data requests and reduce the chances of being rate limited or having requests timing out.

By default, nomisr will look for the environment variable NOMIS_API_KEY when the package is loaded. If found, the API key will be stored in the session option nomisr.API.key. If you would like to reload the API key or would like to manually enter one in, this function may be used.

You can sign up for an API key here.

nomis_codelist

Nomis codelists

Description

Nomis uses its own internal coding for query concepts. nomis_codelist returns the codes for a given concept in a tibble, given a dataset ID and a concept name. Note that some codelists, particularly geography, can be very large.

Usage

nomis_codelist(id, concept, search = NULL)

Arguments

id A string with the ID of the particular dataset. Must be specified.
concept A string with the variable concept to return options for. If left empty, returns all the variables for the dataset specified by id. Codes are not case sensitive and must be specified.
search Search for codes that contain a given string. The wildcard character * can be added to the beginning and/or end of each search string. Search strings are not case sensitive. Defaults to NULL. Note that the search function is not very powerful for some datasets.

Value

A tibble with the codes used to query specific concepts.

See Also

nomis_data_info()
nomis_get_metadata()
nomis_overview()
Examples

```r
x <- nomis_codelist("NM_1_1", "item")

# Searching for codes ending with "london"
y <- nomis_codelist("NM_1_1", "geography", search = "*london")

z <- nomis_codelist("NM_161_1", "cause_of_death")
```

---

## Description

Nomis content type metadata is included in annotation tags, in the form of contenttype/<contenttype> in the annotationtitle column in the annotations.annotation list-column returned from `nomis_data_info()`. For example, the content types returned from dataset "NM_1658_1", using `nomis_data_info("NM_1658_1")`, are "geoglevel", "2001census" and "sources".

## Usage

```r
nomis_content_type(content_type, id = NULL)
```

## Arguments

- `content_type`: A string with the content type to return metadata on.
- `id`: A string with an optional content_type id.

## Value

A tibble with metadata on a given content type.

## See Also

- `nomis_search()`
- `nomis_data_info()`
nomis_data_info

Examples

```r
a <- nomis_content_type("sources")
tibble::glimpse(a)

b <- nomis_content_type("sources", id = "census")
tibble::glimpse(b)
```

 nomis_data_info  Nomis data structures

Description

Retrieve metadata on the structure and available variables for all available data sets or the information available in a specific dataset based on its ID.

Usage

```r
nomis_data_info(id, tidy = FALSE)
```

Arguments

- `id`  
  Dataset ID. If empty, returns data on all available datasets. If the ID of a dataset, returns metadata for that particular dataset.

- `tidy`  
  If TRUE, converts tibble names to snakecase.

Value

A tibble with all available datasets and their metadata.

See Also

- `nomis_get_data()`
- `nomis_get_metadata()`
- `nomis_overview()`
- `nomis_codelist()`
nomis_get_data

Examples

# Get info on all datasets
x <- nomis_data_info()

tibble::glimpse(x)

# Get info on a particular dataset
y <- nomis_data_info("NM_1658_1")

tibble::glimpse(y)

nomis_get_data

Retrieve Nomis datasets

Description

Retrieves specific datasets from Nomis, based on their ID. To find dataset IDs, use nomis_data_info(). Datasets are retrieved in csv format and parsed with the read_csv function from the readr package into a tibble, with all columns parsed as character columns.

To find the code options for a given dataset, use nomis_get_metadata() for specific codes, and nomis_codelist() for code values.

This can be a slow process if querying significant amounts of data. Guest users are limited to 25,000 rows per query, although nomisr identifies queries that will return more than 25,000 rows, sending individual queries and combining the results of those queries into a single tibble. In interactive sessions, nomisr will warn you if guest users are requesting more than 350,000 rows of data, and if registered users are requesting more than 1,500,000 rows.

Note the difference between the time and date parameters. The time and date parameters should not be used at the same time. If they are, the function will retrieve data based on the date parameter. If given more than one query, time will return all data available between those queries, inclusively, while date will only return data for the exact queries specified. So time = c("first","latest") will return all data, while date = c("first","latest") will return only the earliest and latest data published.

Usage

nomis_get_data(
  id, 
  time = NULL, 
  date = NULL, 
  geography = NULL, 
  sex = NULL, 
  measures = NULL, 
  additional_queries = NULL,
nomis_get_data

```r
exclude_missing = FALSE,
select = NULL,
tidy = FALSE,
tidy_style = "snake_case",
query_id = NULL,
...
)
```

**Arguments**

- **id**
  
  A string containing the ID of the dataset to retrieve, in "nm_***_*" format. The id parameter is not case sensitive.

- **time**
  
  Parameter for selecting dates and date ranges. Accepts either a single date value, or two date values and returns all data between the two date values. There are two styles of values that can be used to query time.
  
  The first is one or two of "latest" (returns the latest available data), "previous" (the date prior to "latest"), "prevyear" (the date one year prior to "latest") or "first" (the oldest available data for the dataset).
  
  The second style is to use or a specific date or multiple dates, in the style of the time variable codelist, which can be found using the `nomis_get_metadata()` function.
  
  Values for the time and date parameters should not be used at the same time. If they are, the function will retrieve data based on the the date parameter.
  
  Defaults to `NULL`.

- **date**
  
  Parameter for selecting specific dates. Accepts one or more date values. If given multiple values, only data for the given dates will be returned, but there is no limit to the number of data values. For example, `date=c("latest,latestMINUS3,latestMINUS6")` will return the latest data, data from three months prior to the latest data and six months prior to the latest data. There are two styles of values that can be used to query time.
  
  The first is one or more of "latest" (returns the latest available data), "previous" (the date prior to "latest"), "prevyear" (the date one year prior to "latest") or "first" (the oldest available data for the dataset).
  
  The second style is to use or a specific date or multiple dates, in the style of the time variable codelist, which can be found using the `nomis_get_metadata()` function.
  
  Values for the time and date parameters should not be used at the same time. If they are, the function will retrieve data based on the the date parameter.
  
  Defaults to `NULL`.

- **geography**
  
  The code of the geographic area to return data for. If `NULL`, returns data for all available geographic areas, subject to other parameters. Defaults to `NULL`. In the rare instance that a geographic variable does not exist, if not `NULL`, the function will return an error.

- **sex**
  
  The code for sexes/genders to include in the dataset. Accepts a string or number, or a vector of strings or numbers. `nomisr` automatically voids any queries for sex if it is not an available code in the requested dataset. Defaults to `NULL` and returns all available sex/gender data.
There are two different codings used for sex, depending on the dataset. For datasets using "SEX", 7 will return results for males and females, 6 only females and 5 only males. Defaults to NULL, equivalent to c(5,6,7) for datasets where sex is an option. For datasets using "C_SEX", 0 will return results for males and females, 1 only males and 2 only females. Some datasets use "GENDER" with the same values as "SEX", which works with both sex = <code> and gender = <code> as a dot parameter.

measures

The code for the statistical measure(s) to include in the data. Accepts a single string or number, or a list of strings or numbers. If NULL, returns data for all available statistical measures subject to other parameters. Defaults to NULL.

additional_queries

Any other additional queries to pass to the API. See https://www.nomisweb.co.uk/api/v01/help for instructions on query structure. Defaults to NULL. Deprecated in package versions greater than 0.2.0 and will eventually be removed in a future version.

exclude_missing

If TRUE, excludes all missing values. Defaults to FALSE.

select

A character vector of one or more variables to include in the returned data, excluding all others. select is not case sensitive.

tidy

Logical parameter. If TRUE, converts variable names to snake_case, or another style as specified by the tidy_style parameter. Defaults to FALSE. The default variable name style from the API is SCREAMING_SNAKE_CASE.

tidy_style

The style to convert variable names to, if tidy = TRUE. Accepts one of "snake_case", "camelCase" and "period_case", or any of the case options accepted by snakecase::to_any_case(). Defaults to "snake_case".

query_id

Results can be labelled as belonging to a certain query made to the API. query_id accepts any value as a string, and will be included in every row of the tibble returned by nomis_get_data in a column labelled "QUERY_ID" in the default SCREAMING_SNAKE_CASE used by the API. Defaults to NULL.

... Use to pass any other parameters to the API. Useful for passing concepts that are not available through the default parameters. Only accepts concepts identified in nomis_get_metadata() and concept values identified in nomis_codelist(). Parameters can be quoted or unquoted. Each parameter should have a name and a value. For example, CAUSE_OF_DEATH = 10300 when querying dataset "NM_161_1". Parameters are not case sensitive. Note that R using partial matching for function variables, and so passing a parameter with the same opening characters as one of the above-named parameters can cause an error unless the value of the named parameter is specified, including as NULL. See example below:

Value

A tibble containing the selected dataset. By default, all tibble columns except for the "OBS_VALUE" column are parsed as characters.
nomis_get_data

See Also

nomis_data_info()
nomis_get_metadata()
nomis_codelist()
nomis_overview()

Examples

# Return data on Jobseekers Allowance for each country in the UK
jobseekers_country <- nomis_get_data(
  id = "NM_1_1", time = "latest",
  geography = "TYPE499",
  measures = c(20100, 20201), sex = 5
)
tibble::glimpse(jobseekers_country)

# Return data on Jobseekers Allowance for Wigan
jobseekers_wigan <- nomis_get_data(
  id = "NM_1_1", time = "latest",
  geography = "1879048226",
  measures = c(20100, 20201), sex = "5"
)
tibble::glimpse(jobseekers_wigan)

# annual population survey - regional - employment by occupation
emp_by_occupation <- nomis_get_data(
  id = "NM_168_1", time = "latest",
  geography = "2013265925", sex = "0",
  select = c("geography_code",
             "C_OCCPUK11H_0_NAME", "obs_VALUE"
  
)
)
tibble::glimpse(emp_by_occupation)

# Deaths in 2016 and 2015 by three specified causes, # identified with nomis_get_metadata()
dead <- nomis_get_data("NM_161_1",
  date = c("2016", "2015"),
  geography = "TYPE480",
  cause_of_death = c(10300, 102088, 270)
)
tibble::glimpse(death)

# All causes of death in London in 2016
london_death <- nomis_get_data("NM_161_1",
  date = c("2016"),
  geography = "2013265927", sex = 1, age = 0
)

tibble::glimpse(london_death)

## Not run:
# Results in an error because 'measure' is mistaken for 'measures'
mort_data1 <- nomis_get_data(
  id = "NM_161_1", date = "2016",
  geography = "TYPE464", sex = 0, cause_of_death = "10381",
  age = 0, measure = 6
)

# Does not error because 'measures' is specified
mort_data2 <- nomis_get_data(
  id = "NM_161_1", date = "2016",
  geography = "TYPE464", sex = 0, measures = NULL,
  cause_of_death = "10381", age = 0, measure = 6
)

## End(Not run)

desc

---

**nomis_get_metadata**

Nomis metadata concepts and types

**Description**

Retrieve all concept code options of all Nomis datasets, concept code options for a given dataset, or the all the options for a given concept variable from a particular dataset. Specifying `concept` will return all the options for a given variable in a particular dataset.

If looking for a more detailed overview of all available metadata for a given dataset, see `nomis_overview()`.

**Usage**

```r
nomis_get_metadata(
  id,
  concept = NULL,
  type = NULL,
  search = NULL,
  additional_queries = NULL,
  ...,
  tidy = FALSE
)
```
nomis_get_metadata

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>The ID of the particular dataset. Returns no data if not specified.</td>
</tr>
<tr>
<td>concept</td>
<td>A string with the variable concept to return options for. If left empty, returns all the variables for the dataset specified by id. Codes are not case sensitive. Defaults to NULL.</td>
</tr>
<tr>
<td>type</td>
<td>A string with options for a particular code value, to return types of variables available for a given code. Defaults to NULL. If concept == NULL, type will be ignored.</td>
</tr>
<tr>
<td>search</td>
<td>A string or character vector of strings to search for in the metadata. Defaults to NULL. As in nomis_search(), the wildcard character * can be added to the beginning and/or end of each search string.</td>
</tr>
<tr>
<td>additional_queries</td>
<td>Any other additional queries to pass to the API. See <a href="https://www.nomisweb.co.uk/api/v01/help">https://www.nomisweb.co.uk/api/v01/help</a> for instructions on query structure. Defaults to NULL. Deprecated in package versions greater than 0.2.0 and will eventually be removed.</td>
</tr>
<tr>
<td>tidy</td>
<td>If TRUE, converts tibble names to snakecase.</td>
</tr>
</tbody>
</table>

Value

A tibble with metadata options for queries using nomis_get_data().

See Also

nomis_data_info()
nomis_get_data()
nomis_overview()

Examples

```r
a <- nomis_get_metadata("NM_1_1")
print(a)

b <- nomis_get_metadata("NM_1_1", "geography")
tibble::glimpse(b)
# returns all types of geography

c <- nomis_get_metadata("NM_1_1", "geography", "TYPE")
tibble::glimpse(c)
# returns geography types available within Wigan

d <- nomis_get_metadata("NM_1_1", "geography", "1879048226")
```
```r
tibble::glimpse(d)

e <- nomis_get_metadata("NM_1_1", "item", geography = 1879048226, sex = 5)
print(e)

f <- nomis_get_metadata("NM_1_1", "item", search = "*married*")
tibble::glimpse(f)
```

### nomis_overview

**Nomis dataset overview**

**Description**

Returns an overview of available metadata for a given dataset.

**Usage**

```r
nomis_overview(id, select = NULL)
```

**Arguments**

- `id` - The ID of the particular dataset. Returns no data if not specified.
- `select` - A string or character vector of one or more overview parts to select, excluding all others. `select` is not case sensitive. The options for `select` are described below, and are taken from the Nomis API help page.

**Value**

A tibble with two columns, one a character vector with the name of the metadata category, and the other a list column of values for each category.

**Overview part options**

- **DatasetInfo** General dataset information such as name, description, sub-description, mnemonic, restricted access and status
- **Coverage** Shows the geographic coverage of the main geography dimension in this dataset (e.g. United Kingdom, England and Wales etc.)
- **Keywords** The keywords allocated to the dataset
- **Units** The units of measure supported by the dataset
- **ContentTypes** The classifications allocated to this dataset
- **DateMetadata** Information about the first release, last update and next update
- **Contact** Details for the point of contact for this dataset
The `nomis_search` function is designed to search for datasets on given topics. In the case of multiple search parameters, it returns metadata on all datasets matching one or more of the parameters. The wildcard character `*` can be added to the beginning and/or end of each search string.
nomis_search

Usage

nomis_search(
  name = NULL,
  description = NULL,
  keywords = NULL,
  content_type = NULL,
  units = NULL,
  tidy = FALSE
)

Arguments

name  A string or character vector of strings to search for in available dataset names. Defaults to NULL.
description  A string or character vector of strings to search for in available dataset descriptions. Note that description looks for complete matches, so wildcards should be used at the start and end of each string. Defaults to NULL.
keywords  A string or character vector of strings to search for in available dataset keywords. Defaults to NULL.
content_type  A string or character vector of strings to search for in available dataset content types. content_type can include an optional ID for that content type. Defaults to NULL.
units  A string or character vector of strings to search for in available dataset units. Defaults to NULL.
tidy  If TRUE, converts tibble names to snakecase.

Value

A tibble with details on all datasets matching the search query.

See Also

nomis_content_type()

Examples

x <- nomis_search(name = "*seekers*")

y <- nomis_search(keywords = "Claimants")

# Return metadata of all datasets with content_type "sources".
a <- nomis_search(content_type = "sources")

# Return metadata of all datasets with content_type "sources" and # source ID "acses"
b <- nomis_search(content_type = "sources-acses")
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