Package 'epidatr'

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Type Package

Title Client for Delphi's 'Epidata' API

Version 1.2.1

Description The Delphi 'Epidata' API provides real-time access to epidemiological surveillance data for influenza, 'COVID-19', and other diseases for the USA at various geographical resolutions, both from official government sources such as the Center for Disease Control (CDC) and Google Trends and private partners such as Facebook and Change 'Healthcare'. It is built and maintained by the Carnegie Mellon University Delphi research group. To cite this API: David C. Farrow, Logan C. Brooks, Aaron 'Rumack', Ryan J. 'Tibshirani', 'Roni' 'Rosenfeld' (2015). Delphi 'Epidata' API. <https://github.com/cmu-delphi/delphi-epidata>.

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`avail_endpoints` *List all available Epidata API endpoints*

Description

Fetches a data frame of all Epidata API endpoints that can be accessed using this package, with a brief description.

Usage

```
avail_endpoints()
```

Value

A `tibble::tibble` of endpoints, with two columns:

`Endpoint`	Name of the function for accessing this API endpoint.
`Description`	One-sentence description of the data available at the endpoint.

Examples

```
avail_endpoints()
```

cache_info *Describe current cache*

Description

Print out the information about the cache (as would be returned by cachem's `info()` method).

Usage

```
cache_info()
```

Value

`list` containing the info result as created by cachem

See Also

`set_cache` to start a new cache (and general caching info), `clear_cache` to delete the cache and set a new one, and `disable_cache` to disable without deleting

clear_cache *Manually reset the cache, deleting all currently saved data and starting afresh*

Description

Deletes the current cache and resets a new cache. Deletes local data! If you are using a session unique cache, the previous settings will be reused. If you pass in new `set_cache` arguments, they will take precedence over the previous settings.

Usage

```
clear_cache(..., disable = FALSE)
```

Arguments

`...` Arguments passed on to `set_cache`

`cache_dir` the directory in which the cache is stored. By default, this is `rappdirs::user_cache_dir("R version = "epidatr")`. The path can be either relative or absolute. The environmental variable is `EPIDATR_CACHE_DIR`.

`days` the maximum length of time in days to keep any particular cached call. By default this is `1`. The environmental variable is `EPIDATR_CACHE_MAX_AGE_DAYS`.

`max_size` the size of the entire cache, in MB, at which to start pruning entries. By default this is `1024`, or 1GB. The environmental variable is `EPIDATR_CACHE_MAX_SIZE_MB`.

`logfile` where cachem's log of transactions is stored, relative to the cache directory. By default, it is `"logfile.txt"`. The environmental variable is `EPIDATR_CACHE_LOGFILE`.

`confirm` whether to confirm directory creation. default is `TRUE`; should only be set in non-interactive scripts

`startup` indicates whether the function is being called on startup. Affects suppressability of the messages. Default is `FALSE`.

`disable` instead of setting a new cache, disable caching entirely; defaults to `FALSE`

Value

`NULL` no return value, all effects are stored in the package environment

See Also

`set_cache` to start a new cache (and general caching info), `disable_cache` to only disable without deleting, and `cache_info`

`covidcast_epidata` *Creates the COVIDcast Epidata autocomplete helper*

Description

Creates a helper object that can use auto-complete to help find COVIDcast sources and signals. The COVIDcast endpoint of the Epidata API contains many separate data sources and signals. It can be difficult to find the name of the signal you're looking for, so you can use `covidcast_epidata` to get help with finding sources and functions without leaving R.

The `covidcast_epidata()` function fetches a list of all signals, and returns an object containing fields for every signal:

```
epidata <- covidcast_epidata()
epidata$signals
#> # A tibble: 468 x 3
#>    source        signal                       short_description
#>    <chr>         <chr>                        <chr>
#>  1 chng        smoothed_outpatient_cli      Estimated percentage of outpatie~
#>  2 chng        smoothed_adj_outpatient_cli  Estimated percentage of outpatie~
#>  3 chng          smoothed_outpatient_covid    COVID-Confirmed Doctor Visits
#>  4 chng          smoothed_adj_outpatient_covid COVID-Confirmed Doctor Visits
#>  5 chng        smoothed_outpatient_flu      Estimated percentage of outpatie~
#>  6 chng        smoothed_adj_outpatient_flu  Estimated percentage of outpatie~
#>  7 chng         7dav_inpatient_covid        Ratio of inpatient hospitalizati~
#>  8 chng         7dav_outpatient_covid       Ratio of outpatient doctor visit~
#>  9 covid-act-now pcr_specimen_positivity_rate Proportion of PCR specimens test~
#> 10 covid-act-now pcr_specimen_total_tests    Total number of PCR specimens te~
#> # i 458 more rows
```

If you use an editor that supports tab completion, such as RStudio, type `epidata$signals$` and wait for the tab completion popup. You will be able to type the name of signals and have the autocomplete feature select them from the list for you. Note that some signal names have dashes in them, so to access them we rely on the backtick operator:

```
epidata$signals$`fb-survey:smoothed_cli`
#> [1] "COVID-Like Symptoms (Unweighted 7-day average)"
#> [1] "fb-survey:smoothed_cli"
#> [1] "Estimated percentage of people with COVID-like illness "
```

These objects can be used directly to fetch data, without requiring us to use the `pub_covidcast()` function. Simply use the `$call` attribute of the object:

```
epidata$signals$`fb-survey:smoothed_cli`$call("state", "pa",
                                              epirange(20210405, 20210410))
#> # A tibble: 6 x 15
#>   geo_value signal     source geo_type time_type time_value direction issue
#>   <chr>     <chr>      <chr>  <fct>    <fct>     <date>         <dbl> <date>
#> 1 pa        smoothed_~ fb-su~ state    day       2021-04-05        NA 2021-04-10
#> 2 pa        smoothed_~ fb-su~ state    day       2021-04-06        NA 2021-04-11
#> 3 pa        smoothed_~ fb-su~ state    day       2021-04-07        NA 2021-04-12
#> 4 pa        smoothed_~ fb-su~ state    day       2021-04-08        NA 2021-04-13
#> 5 pa        smoothed_~ fb-su~ state    day       2021-04-09        NA 2021-04-14
#> 6 pa        smoothed_~ fb-su~ state    day       2021-04-10        NA 2021-04-15
#> # i 7 more variables: lag <dbl>, missing_value <dbl>, missing_stderr <dbl>,
#> #   missing_sample_size <dbl>, value <dbl>, stderr <dbl>, sample_size <dbl>
```

Usage

```
covidcast_epidata(base_url = global_base_url, timeout_seconds = 30)
```

Arguments

`base_url`	optional alternative API base url
`timeout_seconds`	the maximum amount of time to wait for a response

Value

An instance of `covidcast_epidata`

`create_epidata_call` *An abstraction that holds information needed to make an epidata request*

Description

`epidata_call` objects are generated internally by endpoint functions like `pub_covidcast`; by default, they are piped directly into the `fetch` function to fetch and format the data. For most endpoints this will return a tibble, but a few non-COVIDCAST endpoints will return a JSON-like list instead.

Usage

```
create_epidata_call(
  endpoint,
  params,
  meta = NULL,
  only_supports_classic = FALSE
)

fetch(epidata_call, fetch_args = fetch_args_list())
```

Arguments

`endpoint`	the epidata endpoint to call
`params`	the parameters to pass to the epidata endpoint
`meta`	meta data to attach to the epidata call
`only_supports_classic`	if true only classic format is supported
`epidata_call`	an instance of `epidata_call`
`fetch_args`	a `fetch_args` object

Details

`create_epidata_call` is the constructor for `epidata_call` objects, but you should not need to use it directly; instead, use an endpoint function, e.g., `pub_covidcast`, to generate an `epidata_call` for the data of interest.

There are some other functions available for debugging and advanced usage: - `request_url` (for debugging): outputs the request URL from which data would be fetched (note additional parameters below)

`fetch` usually returns the data in tibble format, but a few of the endpoints only support the JSON classic format (`pub_delphi`, `pvt_meta_norostat`, and `pub_meta`). In that case a JSON-like nested list structure is returned instead.

Value

- For `create_epidata_call`: an `epidata_call` object
- For `fetch`: a tibble or a JSON-like list

Examples

```
## Not run:
call <- pub_covidcast(
  source = "jhu-csse",
  signals = "confirmed_7dav_incidence_prop",
  time_type = "day",
  geo_type = "state",
  time_values = epirange(20200601, 20200801),
  geo_values = c("ca", "fl"),
  fetch_args = fetch_args_list(dry_run = TRUE)
)
call %>% fetch()

## End(Not run)
```

`disable_cache` *Turn off the caching for this session*

Description

Disable caching until you call `set_cache` or restart R. The files defining the cache are untouched. If you are looking to disable the caching more permanently, set `EPIDATR_USE_CACHE=FALSE` as environmental variable in your `.Renviron`.

Usage

```
disable_cache()
```

Value

`NULL` no return value, all effects are stored in the package environment

See Also

`set_cache` to start a new cache (and general caching info), `clear_cache` to delete the cache and set a new one, and `cache_info`

epirange *Specify a range of days or weeks for API requests*

Description

Specify a date range (in days or epiweeks) for an API request.

Usage

```
epirange(from, to)
```

Arguments

from	The first date to request. Can be specified as a Date or as an integer or integer-like string in the format YYYYMMDD for dates or YYYYWW for epiweeks.
to	The final date to request (inclusive), specified the same way as from.

Details

Epiweeks, also known as MMWR weeks number the weeks of the year from 1 to 53, each week spanning from Sunday to Saturday. The numbering is defined by the CDC.

Value

An EpiRange object.

Examples

```
# Represents 2021-01-01 to 2021-01-07, inclusive
epirange(20210101, 20210107)

# The same, but using Date objects
epirange(as.Date("2021-01-01"), as.Date("2021-01-07"))

# Represents epiweeks 2 through 4 of 2022, inclusive
epirange(202202, 202204)
```

fetch_args_list *Set custom API request parameters*

Description

Used to specify custom options when making API requests, such as to set timeouts or change data formats. These options are used by fetch() when it makes calls to the Epidata API.

Usage

```
fetch_args_list(
  ...,
  fields = NULL,
  disable_date_parsing = FALSE,
  disable_data_frame_parsing = FALSE,
  return_empty = FALSE,
  timeout_seconds = 15 * 60,
  base_url = NULL,
  dry_run = FALSE,
  debug = FALSE,
  format_type = c("json", "classic", "csv"),
  refresh_cache = FALSE
)
```

Arguments

...	not used for values, forces later arguments to bind by name
fields	a list of epidata fields to return, or NULL to return all fields (default). e.g. c("time_value", "value") to return only the time_value and value fields or c("-direction") to return everything except the direction field
disable_date_parsing	disable automatic date parsing
disable_data_frame_parsing	disable automatic conversion to data frame; this is only supported by endpoints that only support the 'classic' format (non-tabular)
return_empty	boolean that allows returning an empty tibble if there is no data
timeout_seconds	the maximum amount of time (in seconds) to wait for a response from the API server
base_url	base URL to use; by default NULL, which means the global base URL "https://api.delphi.cmu.edu/ep
dry_run	if TRUE, skip the call to the API and instead return the epidata_call object (useful for debugging)
debug	if TRUE, return the raw response from the API
format_type	the format to request from the API, one of classic, json, csv; this is only used by fetch_debug, and by default is "json"
refresh_cache	if TRUE, ignore the cache, fetch the data from the API, and update the cache, if it is enabled

Value

A fetch_args object containing all the specified options

get_api_key *Get and set API keys*

Description

Get and set the API key used to make requests to the Epidata API. Without a key, requests may be subject to rate limits and other limitations.

Usage

```
get_api_key()

save_api_key()
```

Details

We recommend you register for an API key. While most endpoints are available without one, there are limits on API usage for anonymous users, including a rate limit. If you regularly request large amounts of data, please consider registering for an API key.

API keys are strings read from the environment variable `DELPHI_EPIDATA_KEY`. We recommend setting your key with `save_api_key()`, which will modify an applicable `.Renviron` file, which will be read in automatically when you start future R sessions (see `?Startup` for details on `.Renviron` files). Alternatively, you can modify the environment variable at the command line before/while launching R, or inside an R session with `Sys.setenv()`, but these will not persist across sessions.

Once an API key is set, it is automatically used for all requests made by functions in this package.

Value

For `get_api_key()`, returns the current API key as a string, or `""` if none is set.

References

- Delphi Epidata API Keys documentation.
- Delphi Epidata API Registration Form.

pub_covidcast *Various COVID and flu signals via the COVIDcast endpoint*

Description

API docs: `https://cmu-delphi.github.io/delphi-epidata/api/covidcast_signals.html`

The primary endpoint for fetching COVID-19 data, providing access to a wide variety of signals from a wide variety of sources. See the API documentation link above for more. Delphi's COVIDcast public dashboard is powered by this endpoint.

Usage

```
pub_covidcast(
  source,
  signals,
  geo_type,
  time_type,
  geo_values = "*",
  time_values = "*",
  ...,
  as_of = NULL,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

source	string. The data source to query (see: https://cmu-delphi.github.io/delphi-epidata/api/covidcast_signals.html).
signals	string. The signals to query from a specific source (see: https://cmu-delphi.github.io/delphi-epidata/api/covidcast_signals.html).
geo_type	string. The geographic resolution of the data (see: https://cmu-delphi.github.io/delphi-epidata/api/covidcast_geography.html).
time_type	string. The temporal resolution of the data (either "day" or "week", depending on signal).
geo_values	character. The geographies to return. Defaults to all ("*") geographies within requested geographic resolution (see: https://cmu-delphi.github.io/delphi-epidata/api/covidcast_geography.html.).
time_values	timeset. Dates to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
as_of	Date. Optionally, the as of date for the issues to fetch. If not specified, the most recent data is returned. Mutually exclusive with issues or lag.
issues	timeset. Optionally, the issue of the data to fetch. If not specified, the most recent issue is returned. Mutually exclusive with as_of or lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with as_of or issues.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

See Also

pub_covidcast_meta(), covidcast_epidata(), epirange()

Examples

```
## Not run:
pub_covidcast(
  source = "jhu-csse",
  signals = "confirmed_7dav_incidence_prop",
  geo_type = "state",
  time_type = "day",
  geo_values = c("ca", "fl"),
  time_values = epirange(20200601, 20200801)
)
pub_covidcast(
  source = "jhu-csse",
  signals = "confirmed_7dav_incidence_prop",
  geo_type = "state",
  time_type = "day",
  geo_values = "*",
  time_values = epirange(20200601, 20200801)
)

## End(Not run)
```

---

pub_covidcast_meta *Metadata for the COVIDcast endpoint*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/covidcast_meta.html.

Fetch a summary of metadata for all sources and signals that are available in the API, along with basic summary statistics such as the dates they are available, the geographic levels at which they are reported, and etc.

Usage

```
pub_covidcast_meta(fetch_args = fetch_args_list())
```

Arguments

fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

See Also

pub_covidcast(),covidcast_epidata()

Examples

```
## Not run:
pub_covidcast_meta()

## End(Not run)
```

`pub_covid_hosp_facility` *COVID hospitalizations by facility*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/covid_hosp_facility.html

Obtains the COVID-19 reported patient impact and hospital capacity data by facility. This dataset is provided by the US Department of Health & Human Services. The companion function `pub_covid_hosp_facility_lookup` can be used to look up facility identifiers in a variety of ways.

Usage

```
pub_covid_hosp_facility(
  hospital_pks,
  collection_weeks = "*",
  ...,
  publication_dates = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

`hospital_pks`	character. Facility identifiers.
`collection_weeks`	`timeset`. Dates (corresponding to epiweeks) to fetch. Defaults to all ("*") dates.
`...`	not used for values, forces later arguments to bind by name
`publication_dates`	`timeset`. Publication dates to fetch.
`fetch_args`	`fetch_args`. Additional arguments to pass to `fetch()`.

Details

Starting October 1, 2022, some facilities are only required to report annually.

Value

`tibble::tibble`

See Also

pub_covid_hosp_facility(), epirange()

Examples

```
## Not run:
pub_covid_hosp_facility(
  hospital_pks = "100075",
  collection_weeks = epirange(20200101, 20200501)
)

pub_covid_hosp_facility(
  hospital_pks = "050063",
  collection_weeks = epirange(20240101, 20240301)
)

## End(Not run)
```

---

pub_covid_hosp_facility_lookup

Helper for finding COVID hospitalization facilities

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/covid_hosp_facility_lookup.html

Obtains unique identifiers and other metadata for COVID hospitalization facilities of interest. This is a companion endpoint to the pub_covid_hosp_facility() endpoint.

Usage

```
pub_covid_hosp_facility_lookup(
  ...,
  state = NULL,
  ccn = NULL,
  city = NULL,
  zip = NULL,
  fips_code = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

...	not used for values, forces later arguments to bind by name
state	string. A two-letter character state abbreviation.
ccn	string. A facility CMS certification number.
city	string. A city name.

zip	string. A 5-digit zip code.
fips_code	string. A 5-digit fips county code, zero-padded.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

Only one location argument needs to be specified. Combinations of the arguments are not currently supported.

Value

tibble::tibble

See Also

pub_covid_hosp_facility()

Examples

```
## Not run:
pub_covid_hosp_facility_lookup(state = "fl")
pub_covid_hosp_facility_lookup(city = "southlake")

## End(Not run)
```

---

pub_covid_hosp_state_timeseries

COVID hospitalizations by state

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/covid_hosp.html.

Obtains the COVID-19 reported patient impact and hospital capacity data by state. This dataset is provided by the US Department of Health & Human Services.

Usage

```
pub_covid_hosp_state_timeseries(
  states,
  dates = "*",
  ...,
  as_of = NULL,
  issues = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

states	character. Two letter state abbreviations.
dates	timeset. Dates to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
as_of	Date. Optionally, the as of date for the issues to fetch. If not specified, the most recent data is returned. Mutually exclusive with issues.
issues	timeset. Optionally, the issue of the data to fetch. If not specified, the most recent issue is returned. Mutually exclusive with as_of or lag.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

Starting October 1, 2022, some facilities are only required to report annually.

Value

tibble::tibble

Examples

```
## Not run:
pub_covid_hosp_state_timeseries(
  states = "fl",
  dates = epirange(20200101, 20200501)
)

## End(Not run)
```

---

pub_delphi *Delphi's ILINet outpatient doctor visits forecasts*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/delphi.html

Usage

```
pub_delphi(system, epiweek, fetch_args = fetch_args_list())
```

Arguments

system	character. System name to fetch.
epiweek	timeset. Epiweek to fetch. Does not support multiple dates. Make separate calls to fetch data for multiple epiweeks.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

list

Examples

```
## Not run:
pub_delphi(system = "ec", epiweek = 201501)

## End(Not run)
```

---

pub_dengue_nowcast *Delphi's PAHO dengue nowcasts (North and South America)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/dengue_nowcast.html

Usage

```
pub_dengue_nowcast(locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pub_dengue_nowcast(
  locations = "pr",
  epiweeks = epirange(201401, 202301)
)

## End(Not run)
```

pub_ecdc_ili *ECDC ILI incidence (Europe)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/ecdc_ili.html.

Obtain information on influenza-like-illness from the European Centre for Disease Prevention and Control.

Usage

```
pub_ecdc_ili(
  regions,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

regions	character. Regions to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
issues	timeset. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with issues.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

The list of location argument can be found in https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/ecdc_regions.txt.

Value

tibble::tibble

Examples

```
## Not run:
pub_ecdc_ili(regions = "austria", epiweeks = epirange(201901, 202001))

## End(Not run)
```

pub_flusurv *CDC FluSurv flu hospitalizations*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/flusurv.html.

Obtain information on influenza hospitalization rates from the Center of Disease Control.

See also https://gis.cdc.gov/GRASP/Fluview/FluHospRates.html.

Usage

```
pub_flusurv(
  locations,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

locations	character. Character vector indicating location.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
issues	timeset. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with issues.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

The list of location argument can be found in https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/flusurv_locations.txt.

Value

tibble::tibble

Examples

```
## Not run:
pub_flusurv(locations = "CA", epiweeks = epirange(201701, 201801))

## End(Not run)
```

pub_fluview *CDC FluView ILINet outpatient doctor visits*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/fluview.html. For

Obtains information on outpatient inluenza-like-illness (ILI) from U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet).

more information on ILINet, see https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html.

Usage

```
pub_fluview(
  regions,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  auth = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

regions	character. Locations to fetch. Can be any string IDs in national, HHS region, census division, most states and territories, and so on. Full list link below.
epiweeks	timeset. Epiweeks to fetch in the form epirange(startweek, endweek), where startweek and endweek are of the form YYYYWW (string or numeric). Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
issues	timeset. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with issues.
auth	string. Optionally, restricted access key (not the same as API key).
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

The full list of location inputs can be accessed at https://github.com/cmu-delphi/delphi-epidata/blob/main/src/acquisition/fluview/fluview_locations.py.

Value

tibble::tibble

Examples

```
## Not run:
pub_fluview(regions = "nat", epiweeks = epirange(201201, 202005))

## End(Not run)
```

`pub_fluview_clinical` *CDC FluView flu tests from clinical labs*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/fluview_clinical.html

Usage

```
pub_fluview_clinical(
  regions,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

`regions`	character. Regions to fetch.
`epiweeks`	`timeset`. Epiweeks to fetch in the form epirange(startweek,endweek), where startweek and endweek are of the form YYYYWW (string or numeric). Defaults to all ("*") dates.
`...`	not used for values, forces later arguments to bind by name
`issues`	`timeset`. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with `lag`.
`lag`	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with `issues`.
`fetch_args`	`fetch_args`. Additional arguments to pass to `fetch()`.

Value

`tibble::tibble`

Examples

```
## Not run:
pub_fluview_clinical(regions = "nat", epiweeks = epirange(201601, 201701))

## End(Not run)
```

pub_fluview_meta *Metadata for the FluView endpoint*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/fluview_meta.html

Usage

```
pub_fluview_meta(fetch_args = fetch_args_list())
```

Arguments

fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

See Also

pub_fluview()

Examples

```
## Not run:
pub_fluview_meta()

## End(Not run)
```

pub_gft *Google Flu Trends flu search volume*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/gft.html

Obtains estimates of inluenza activity based on volume of certain search queries from Google.

Usage

```
pub_gft(locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

locations	character. Locations to fetch.
epiweeks	timeset Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

Google has discontinued Flu Trends and this is now a static endpoint. Possibile input for locations can be found in https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/regions.txt, https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/states.txt, and https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/cities.txt.

Value

tibble::tibble

Examples

```
## Not run:
pub_gft(locations = "hhs1", epiweeks = epirange(201201, 202001))

## End(Not run)
```

---

pub_kcdc_ili *KCDC ILI incidence (Korea)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/kcdc_ili.html

Usage

```
pub_kcdc_ili(
  regions,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

regions	character. Regions to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
issues	timeset. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with issues.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pub_kcdc_ili(regions = "ROK", epiweeks = 200436)

## End(Not run)
```

---

pub_meta *Metadata for the Delphi Epidata API*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/meta.html

Usage

```
pub_meta(fetch_args = fetch_args_list())
```

Arguments

fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

list

pub_nidss_dengue *NIDSS dengue cases (Taiwan)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/nidss_dengue.html

Obtains counts of confirmed dengue cases in Taiwan from Taiwan National Infectious Disease Statistical System.

Usage

```
pub_nidss_dengue(locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

Possible location inputs can be found in https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/nidss_regions.txt and https://github.com/cmu-delphi/delphi-epidata/blob/main/labels/nidss_locations.txt.

Value

tibble::tibble

Examples

```
## Not run:
pub_nidss_dengue(locations = "taipei", epiweeks = epirange(201201, 201301))

## End(Not run)
```

pub_nidss_flu *NIDSS flu doctor visits (Taiwan)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/nidss_flu.html

Obtains information on outpatient inluenza-like-illness from Taiwan National Infectious Disease Statistical System.

Usage

```
pub_nidss_flu(
  regions,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

regions	character. Regions to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
issues	timeset. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with issues.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pub_nidss_flu(regions = "taipei", epiweeks = epirange(201501, 201601))

## End(Not run)
```

pub_nowcast *Delphi's ILI Nearby nowcasts*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/nowcast.html.

Obtains information on outpatient inluenza-like-illness (ILI) from Delphi's

Usage

```
pub_nowcast(locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Details

The full list of location inputs can be accessed at https://github.com/cmu-delphi/delphi-epidata/blob/main/src/acquisition/fluview/fluview_locations.py.

Value

tibble::tibble

Examples

```
## Not run:
pub_nowcast(locations = "ca", epiweeks = epirange(201201, 201301))

## End(Not run)
```

pub_paho_dengue *PAHO dengue data (North and South America)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/paho_dengue.html

Usage

```
pub_paho_dengue(
  regions,
  epiweeks = "*",
  ...,
  issues = NULL,
  lag = NULL,
  fetch_args = fetch_args_list()
)
```

Arguments

regions	character. Regions to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
...	not used for values, forces later arguments to bind by name
issues	timeset. Optionally, the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with lag.
lag	integer. Optionally, the lag of the issues to fetch. If not set, the most recent issue is returned. Mutually exclusive with issues.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pub_paho_dengue(regions = "ca", epiweeks = epirange(201401, 201501))

## End(Not run)
```

---

pub_wiki *Wikipedia webpage counts by article*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/wiki.html Number of page visits for selected English, Influenza-related wikipedia articles.

- Source: Wikimedia
- Temporal Resolution: Hourly, daily, and weekly from 2007-12-09 (2007w50)
- Spatial Resolution: N/A
- Other resolution: By article (54)
- Open access

Usage

```
pub_wiki(
  articles,
  ...,
  time_type = c("day", "week"),
  time_values = "*",
  hours = NULL,
  language = "en",
  fetch_args = fetch_args_list()
)
```

Arguments

articles	character. Articles to fetch.
...	not used for values, forces later arguments to bind by name
time_type	string. The temporal resolution of the data (either "day" or "week", depending on signal).
time_values	timeset. Dates or epiweeks to fetch. Defaults to all ("*") dates.
hours	integer. Optionally, the hours to fetch.
language	string. Language to fetch.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pub_wiki(
  articles = "avian_influenza",
  time_type = "week",
  time_values = epirange(201501, 201601)
)

## End(Not run)
```

---

pvt_cdc *CDC total and by topic webpage visits*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/cdc.html

Usage

```
pvt_cdc(auth, locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

auth	string. Restricted access key (not the same as API key).
locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch(). See fetch_args_list() for details.

Value

tibble::tibble

Examples

```
## Not run:
pvt_cdc(
  auth = Sys.getenv("SECRET_API_AUTH_CDC"),
  locations = "fl,ca",
  epirange(201501, 201601)
)

## End(Not run)
```

---

pvt_dengue_sensors *PAHO dengue digital surveillance sensors (North and South America)*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/dengue_sensors.html

Usage

```
pvt_dengue_sensors(
  auth,
  names,
  locations,
  epiweeks = "*",
  fetch_args = fetch_args_list()
)
```

Arguments

auth	string. Restricted access key (not the same as API key).
names	character. Names to fetch.
locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pvt_dengue_sensors(
  auth = Sys.getenv("SECRET_API_AUTH_SENSORS"),
  names = "ght",
  locations = "ag",
  epiweeks = epirange(201501, 202001)
)

## End(Not run)
```

---

pvt_ght *Google Health Trends health topics search volume*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/ght.html

Estimate of influenza activity based on volume of certain search queries. ...

Usage

```
pvt_ght(auth, locations, epiweeks = "*", query, fetch_args = fetch_args_list())
```

Arguments

auth	string. Restricted access key (not the same as API key).
locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
query	string. The query to be fetched.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pvt_ght(
  auth = Sys.getenv("SECRET_API_AUTH_GHT"),
  locations = "ma",
  epiweeks = epirange(199301, 202304),
  query = "how to get over the flu"
)

## End(Not run)
```

`pvt_meta_norostat` *Metadata for the NoroSTAT endpoint*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/meta_norostat.html

Usage

```
pvt_meta_norostat(auth, fetch_args = fetch_args_list())
```

Arguments

`auth`	string. Restricted access key (not the same as API key).
`fetch_args`	`fetch_args`. Additional arguments to pass to `fetch()`.

Value

`list`

See Also

`pvt_norostat()`

Examples

```
## Not run:
pvt_meta_norostat(auth = Sys.getenv("SECRET_API_AUTH_NOROSTAT"))

## End(Not run)
```

pvt_norostat *CDC NoroSTAT norovirus outbreaks*

Description

This is point data only, and does not include minima or maxima.

API docs: https://cmu-delphi.github.io/delphi-epidata/api/norostat.html

This is the documentation of the API for accessing the NoroSTAT endpoint of the Delphi's epidemiological data.

Usage

```
pvt_norostat(auth, locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

auth	string. Your authentication key.
locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pvt_norostat(
  auth = Sys.getenv("SECRET_API_AUTH_NOROSTAT"),
  locations = "Minnesota, Ohio, Oregon, Tennessee, and Wisconsin",
  epiweeks = 201233
)

## End(Not run)
```

pvt_quidel *Quidel COVID-19 and influenza testing data*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/quidel.html

Data provided by Quidel Corp., which contains flu lab test results.

Usage

```
pvt_quidel(auth, locations, epiweeks = "*", fetch_args = fetch_args_list())
```

Arguments

auth	string. Restricted access key (not the same as API key).
locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pvt_quidel(
  auth = Sys.getenv("SECRET_API_AUTH_QUIDEL"),
  epiweeks = epirange(201201, 202001),
  locations = "hhs1"
)

## End(Not run)
```

pvt_sensors *Influenza and dengue digital surveillance sensors*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/sensors.html

This is the documentation of the API for accessing the Digital Surveillance Sensors endpoint of the Delphi's epidemiological. Note: this repository was built to support modeling and forecasting efforts surrounding seasonal influenza (and dengue). In the current COVID-19 pandemic, syndromic surveillance data, like ILI data (influenza-like illness) through FluView, will likely prove very useful. However, we urge caution to users examining the digital surveillance sensors, like ILI Nearby, Google Flu Trends, etc., during the COVID-19 pandemic, because these were designed to track ILI as driven by seasonal influenza, and were NOT designed to track ILI during the COVID-19 pandemic.

Usage

```
pvt_sensors(
  auth,
  names,
  locations,
  epiweeks = "*",
  fetch_args = fetch_args_list()
)
```

Arguments

auth	string. Restricted access key (not the same as API key).
names	character. Sensor names to fetch.
locations	character. Locations to fetch.
epiweeks	timeset. Epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pvt_sensors(
  auth = Sys.getenv("SECRET_API_AUTH_SENSORS"),
  names = "sar3",
  locations = "nat",
  epiweeks = epirange(201501, 202001)
)

## End(Not run)
```

pvt_twitter *HealthTweets total and influenza-related tweets*

Description

API docs: https://cmu-delphi.github.io/delphi-epidata/api/twitter.html

This is the API documentation for accessing the Twitter Stream endpoint of Delphi's epidemiological data. Sourced from Healthtweets

Usage

```
pvt_twitter(
  auth,
  locations,
  ...,
  time_type = c("day", "week"),
  time_values = "*",
  fetch_args = fetch_args_list()
)
```

Arguments

auth	string. Restricted access key (not the same as API key).
locations	character. Locations to fetch.
...	not used for values, forces later arguments to bind by name
time_type	string. The temporal resolution of the data (either "day" or "week", depending on signal).
time_values	timeset. Dates or epiweeks to fetch. Defaults to all ("*") dates.
fetch_args	fetch_args. Additional arguments to pass to fetch().

Value

tibble::tibble

Examples

```
## Not run:
pvt_twitter(
  auth = Sys.getenv("SECRET_API_AUTH_TWITTER"),
  locations = "CA",
  time_type = "week",
  time_values = epirange(201501, 202001)
)

## End(Not run)
```

set_cache *Create or renew a cache for this session*

Description

By default, epidatr re-requests data from the API on every call of `fetch`. In case you find yourself repeatedly calling the same data, you can enable the cache using either this function for a given session, or environmental variables for a persistent cache. The typical recommended workflow for using the cache is to set the environmental variables `EPIDATR_USE_CACHE=TRUE` and `EPIDATR_CACHE_DIRECTORY="/your/directory/here"`in your `.Renviron`, for example by calling `usethis::edit_r_environ()`. See the parameters below for some more configurables if you're so inclined.

`set_cache` (re)defines the cache to use in a particular R session. This does not clear existing data at any previous location, but instead creates a handle to the new cache using cachem that seamlessly handles caching for you. Say your cache is normally stored in some default directory, but for the current session you want to save your results in `~/my/temporary/savedirectory`, then you would call `set_cache(dir = "~/my/temporary/savedirectory")`. Or if you know the data from 2 days ago is wrong, you could call `set_cache(days = 1)` to clear older data whenever the cache is referenced. In both cases, these changes would only last for a single session (though the deleted data would be gone permanently!).

An important feature of the caching in this package is that only calls which specify either `issues` before a certain date, or `as_of` before a certain date will actually cache. For example the call

```
pub_covidcast(
  source = "jhu-csse",
  signals = "confirmed_7dav_incidence_prop",
  geo_type = "state",
  time_type = "day",
  geo_values = "ca,fl",
  time_values = epirange(20200601, 20230801)
)
```

won't cache, since it is possible for the cache to be invalidated by new releases with no warning. On the other hand, the call

```
pub_covidcast(
  source = "jhu-csse",
  signals = "confirmed_7dav_incidence_prop",
  geo_type = "state",
  time_type = "day",
  geo_values = "ca,fl",
  time_values = epirange(20200601, 20230801),
  as_of = "2023-08-01"
)
```

will cache, since normal new versions of data can't invalidate it (since they would be `as_of` a later date). It is still possible that Delphi may patch such data, but the frequency is on the order of months rather than days. We are working on creating a public channel to communicate such updates. While specifying `issues` will usually cache, a call with `issues="*"` won't cache, since its subject to cache invalidation by normal versioning.

On the backend, the cache uses cachem, with filenames generated using an md5 encoding of the call url. Each file corresponds to a unique epidata-API call.

Usage

```
set_cache(
  cache_dir = NULL,
  days = NULL,
  max_size = NULL,
  logfile = NULL,
  confirm = TRUE,
  startup = FALSE
)
```

Arguments

`cache_dir`	the directory in which the cache is stored. By default, this is `rappdirs::user_cache_dir("R", version = "epidatr")`. The path can be either relative or absolute. The environmental variable is `EPIDATR_CACHE_DIR`.
`days`	the maximum length of time in days to keep any particular cached call. By default this is `1`. The environmental variable is `EPIDATR_CACHE_MAX_AGE_DAYS`.
`max_size`	the size of the entire cache, in MB, at which to start pruning entries. By default this is `1024`, or 1GB. The environmental variable is `EPIDATR_CACHE_MAX_SIZE_MB`.
`logfile`	where cachem's log of transactions is stored, relative to the cache directory. By default, it is `"logfile.txt"`. The environmental variable is `EPIDATR_CACHE_LOGFILE`.
`confirm`	whether to confirm directory creation. default is `TRUE`; should only be set in non-interactive scripts
`startup`	indicates whether the function is being called on startup. Affects suppressability of the messages. Default is `FALSE`.

Value

`NULL` no return value, all effects are stored in the package environment

See Also

`clear_cache` to delete the old cache while making a new one, `disable_cache` to disable without deleting, and `cache_info`

Examples

```
set_cache(
  cache_dir = tempdir(),
  days = 14,
  max_size = 512,
  logfile = "logs.txt"
)
```

`timeset` *Timeset formats for specifying dates*

Description

Many API calls accept timesets to specify the time ranges of data being requested. Timesets can be specified with `epirange()`, as `Date` objects, or with wildcards.

Details

Timesets are not special R types; the term simply describes any value that is accepted by epidatr to specify the time value of an epidata query:

- Dates: `Date` instances.
- Date strings or integers: Strings or integers in the format YYYYMMDD.
- Epiweeks: Strings or integers in the format YYYYWW, where WW is the epiweek number.
- EpiRanges: A range returned by `epirange()`, or a list of multiple ranges.
- Wildcard: The string `"*"`, which requests all available time values.

Refer to the specific endpoint documentation for guidance on using dates vs weeks. Most endpoints support only one or the other. Some (less commonly used) endpoints may not accept the `"*"` wildcard, but this can be simulated with a large `epirange()`.

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