

# Package ‘tidywikidatar’

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**Title** Explore 'Wikidata' Through Tidy Data Frames

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**Description** Query 'Wikidata' API <[https://www.wikidata.org/wiki/Wikidata:Main\\_Page](https://www.wikidata.org/wiki/Wikidata:Main_Page)> with ease, get tidy data frames in response, and cache data in a local 'SQLite' database.

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---

tw_check_cache	<i>Check caching status in the current session, and override it upon request</i>
----------------	--

---

**Description**

Mostly used internally in functions, exported for reference.

**Usage**

```
tw_check_cache(cache = NULL)
```

**Arguments**

cache	Defaults to NULL. If NULL, checks current cache settings. If given, returns given value, ignoring cache.
-------	--

**Value**

Either TRUE or FALSE, depending on current cache settings.

**Examples**

```
if (interactive()) {
  tw_check_cache()
}
```

---

tw_check_cached_items	<i>Check if given items are present in cache</i>
-----------------------	--

---

**Description**

Check if given items are present in cache

**Usage**

```
tw_check_cached_items(
  id,
  language = tidywikidatar::tw_get_language(),
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

id	A character vector. Each element must start with Q, and correspond to a Wiki-data identifier.
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

A character vector with IDs of items present in cache. If no item found in cache, returns NULL.

**Examples**

```
if (interactive()) {
  tw_set_cache_folder(path = tempdir())
  tw_enable_cache()
  tw_create_cache_folder(ask = FALSE)

  # add three items to local cache
  invisible(tw_get(id = "Q180099", language = "en"))
  invisible(tw_get(id = "Q228822", language = "en"))
  invisible(tw_get(id = "Q184992", language = "en"))

  # check if these other items are in cache
  items_in_cache <- tw_check_cached_items(
    id = c(
      "Q180099",
      "Q228822",
      "Q76857"
    ),
    language = "en"
  )
  # it should return only the two items from the current list of id
  # but not other item already in cache
  items_in_cache
}
```

---

`tw_check_cache_folder` *Checks if cache folder exists, if not returns an informative message*

---

**Description**

Checks if cache folder exists, if not returns an informative message

**Usage**

```
tw_check_cache_folder()
```

**Value**

If the cache folder exists, returns TRUE. Otherwise throws an error.

**Examples**

```
# If cache folder does not exist, it throws an error
tryCatch(tw_check_cache_folder(),
  error = function(e) {
    return(e)
  }
)

# Create cache folder
tw_set_cache_folder(path = fs::path(
  tempdir(),
  "tw_cache_folder"
))
tw_create_cache_folder(ask = FALSE)

tw_check_cache_folder()
```

---

tw\_check\_cache\_index *Check if cache table is indexed*

---

**Description**

Tested only with SQLite and MySQL. May work with other drivers. Used to check if given cache table is indexed (if created with any version of tidywikidatar before 0.6, they are probably not indexed and less efficient).

**Usage**

```
tw_check_cache_index(
  table_name = NULL,
  type = "item",
  show_details = FALSE,
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

table_name	Name of the table in the database. If given, it takes precedence over other parameters.
type	Defaults to "item". Type of cache file to output. Values typically used by tidywikidatar include "item", "search_item", "search_property", and "qualifier".
show_details	Logical, defaults to FALSE. If FALSE, return a logical vector of length one (TRUE if the table was indexed, FALSE if it was not). If TRUE, returns a data frame with more details about the index.
language	Defaults to language set with tw_set_language(); "en" if not set. Used to limit the data to be cached. Use "all_available" to keep all data. For available values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
response_language	Defaults to language set with tw_set_language(); "en" if not set. Relevant only when type is set to "search_item" or "search_property". See tw_search() for details.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

If show\_details is set to FALSE, return a logical vector of length one (TRUE if the table was indexed, FALSE if it was not). If show\_details is set to TRUE, returns a data frame with more details about the index.

**Examples**

```
if (interactive()) {
  tw_enable_cache()
  tw_set_cache_folder(path = fs::path(
    fs::path_home_r(),
    "R",
    "tw_data"
  ))

  tw_set_language(language = "en")

  tw_check_cache_index()
}
```

---

tw_check_qid	<i>Ensures that input appears to be a valid Wikidata id</i>
--------------	---

---

## Description

Mostly used internally by other functions.

## Usage

```
tw_check_qid(id, logical_vector = FALSE, non_id_as_NA = FALSE)
```

## Arguments

<code>id</code>	A character vector of one or more Wikidata id.
<code>logical_vector</code>	Logical, defaults to FALSE. If TRUE, returns a logical vector of the same length as input, where TRUE corresponds to seemingly meaningful Q identifiers.
<code>non_id_as_NA</code>	Logical, defaults to FALSE. If TRUE (and if <code>logical_vector</code> is set to FALSE), a vector of the same length is returned, with NA replacing items that are seemingly not meaningful Q identifiers.

## Value

A character vector with only strings appearing to be Wikidata identifiers; possibly shorter than input

## Examples

```
tw_check_qid(id = c("Q180099", "q228822", "Not an id", "00180099", NA, "Q5"))
```

```
tw_check_qid(  
  id = c("Q180099", "q228822", "Not an id", "00180099", NA, "Q5"),  
  logical_vector = TRUE  
)
```

```
tw_check_qid(  
  id = c("Q180099", "q228822", "Not an id", "00180099", NA, "Q5"),  
  non_id_as_NA = TRUE  
)
```



---

tw_check_search	<i>Checks if an input is a search; if not, it tries to return a search</i>
-----------------	--

---

### Description

Mostly used as a convenience function inside other functions to have consistent inputs.

### Usage

```
tw_check_search(
  search,
  type = "item",
  language = tidywikidatar::tw_get_language(),
  limit = 10,
  include_search = FALSE,
  wait = 0,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

### Arguments

search	A string to be searched in Wikidata
type	Defaults to "item". Either "item" or "property".
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_co">https://www.wikidata.org/wiki/Help:Wikimedia_language_co</a>
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

A data frame with three columns, id, label, and description, filtered by the above criteria.

**Examples**

```
# The following two lines should give the same result.

tw_check_search("Sylvia Pankhurst")
tw_check_search(tw_search("Sylvia Pankhurst"))
```

---

tw\_connect\_to\_cache    *Return a connection to be used for caching*

---

**Description**

Return a connection to be used for caching

**Usage**

```
tw_connect_to_cache(
  connection = NULL,
  RSQLite = NULL,
  language = tidywikidatar::tw_get_language(),
  cache = NULL
)
```

**Arguments**

connection	Defaults to NULL. If NULL, uses local SQLite database. If given, must be a connection object or a list with relevant connection settings (see example).
RSQLite	Defaults to NULL, expected either NULL or logical. If set to FALSE, details on the database connection must be given either as a named list in the connection parameter, or with tw_set_cache_db() as environment variables.
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().

**Value**

A connection object.

## Examples

```
if (interactive()) {
  cache_connection <- pool::dbPool(
    RSQLite::SQLite(), # or e.g. odbc::odbc(),
    Driver = ":memory:", # or e.g. "MariaDB",
    Host = "localhost",
    database = "example_db",
    UID = "example_user",
    PWD = "example_pwd"
  )
  tw_connect_to_cache(cache_connection)

  db_settings <- list(
    driver = "MySQL",
    host = "localhost",
    server = "localhost",
    port = 3306,
    database = "tidywikidatar",
    user = "secret_username",
    pwd = "secret_password"
  )

  tw_connect_to_cache(db_settings)
}
```

---

tw\_create\_cache\_folder

*Creates the base cache folder where tidywikidatar caches data.*

---

## Description

Creates the base cache folder where tidywikidatar caches data.

## Usage

```
tw_create_cache_folder(ask = TRUE)
```

## Arguments

ask Logical, defaults to TRUE. If FALSE, and cache folder does not exist, it just creates it without asking (useful for non-interactive sessions).

## Value

Nothing, used for its side effects.

**Examples**

```
if (interactive()) {  
    tw_create_cache_folder()  
}
```

---

tw\_disable\_cache      *Disable caching for the current session*

---

**Description**

Disable caching for the current session

**Usage**

```
tw_disable_cache()
```

**Value**

Nothing, used for its side effects.

**Examples**

```
if (interactive()) {  
    tw_disable_cache()  
}
```

---

tw\_disconnect\_from\_cache      *Ensure that connection to cache is disconnected consistently*

---

**Description**

Ensure that connection to cache is disconnected consistently

**Usage**

```
tw_disconnect_from_cache(  
    cache = NULL,  
    cache_connection = NULL,  
    disconnect_db = TRUE,  
    language = tidywikidatar::tw_get_language()  
)
```

**Arguments**

cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>

**Value**

Nothing, used for its side effects.

**Examples**

```
if (interactive()) {
  tw_get(
    id = c("Q180099"),
    language = "en"
  )
  tw_disconnect_from_cache()
}
```

---

tw\_empty\_image\_metadata

*A zero-rows tibble used internally when `tw_get_image_metadata()` would not return any value.*

---

**Description**

A zero-rows tibble used internally when `tw_get_image_metadata()` would not return any value.

**Usage**

```
tw_empty_image_metadata
```

**Format**

A data frame with 0 rows and 19 columns

---

tw_empty_item	<i>A zero-rows tibble used internally when tw_get() would not return any value.</i>
---------------	---

---

**Description**

A zero-rows tibble used internally when tw\_get() would not return any value.

**Usage**

```
tw_empty_item
```

**Format**

A data frame with 0 rows and 3 columns

---

tw_empty_qualifiers	<i>A zero-rows tibble used internally when tw_get_qualifiers() would not return any value.</i>
---------------------	--

---

**Description**

A zero-rows tibble used internally when tw\_get\_qualifiers() would not return any value.

**Usage**

```
tw_empty_qualifiers
```

**Format**

A data frame with 0 rows and 8 columns

---

tw_empty_search	<i>A zero-rows tibble used internally when tw_search() would not return any value.</i>
-----------------	--

---

**Description**

A zero-rows tibble used internally when tw\_search() would not return any value.

**Usage**

```
tw_empty_search
```

**Format**

A data frame with 0 rows and 4 columns

---

tw\_empty\_wikipedia\_page  
*A zero-rows tibble used internally when tw\_get\_wikipedia\_page\_qid() would not return any value.*

---

**Description**

A zero-rows tibble used internally when tw\_get\_wikipedia\_page\_qid() would not return any value.

**Usage**

```
tw_empty_wikipedia_page
```

**Format**

A data frame with 0 rows and 6 columns

---

tw\_empty\_wikipedia\_page\_links  
*A zero-rows tibble used internally when tw\_get\_wikipedia\_page\_links() would not return any value.*

---

**Description**

A zero-rows tibble used internally when tw\_get\_wikipedia\_page\_links() would not return any value.

**Usage**

```
tw_empty_wikipedia_page_links
```

**Format**

A data frame with 0 rows and 8 columns

---

`tw_empty_wikipedia_page_sections`  
*A zero-rows tibble used internally when `tw_get_wikipedia_page_sections()` would not return any value.*

---

**Description**

A zero-rows tibble used internally when `tw_get_wikipedia_page_sections()` would not return any value.

**Usage**

```
tw_empty_wikipedia_page_sections
```

**Format**

A data frame with 0 rows and 8 columns

---

`tw_enable_cache`      *Enable caching for the current session*

---

**Description**

Enable caching for the current session

**Usage**

```
tw_enable_cache(SQLite = TRUE)
```

**Arguments**

`SQLite`      Logical, defaults to TRUE. Set to FALSE to use custom database options. See `tw_set_cache_db()` for details.

**Value**

Nothing, used for its side effects.

**Examples**

```
if (interactive()) {  
  tw_enable_cache()  
}
```



---

tw_extract_qualifier	<i>Extract qualifiers from an object of class Wikidata created with WikidataR</i>
----------------------	---

---

**Description**

This function is mostly used internally and for testing.

**Usage**

```
tw_extract_qualifier(id, p, w = NULL)
```

**Arguments**

id	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector of length 1, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
w	An object of class Wikidata created with WikidataR, typically created with WikidataR::get_item(id = id)

**Value**

A data frame (a tibble) with eight columns: id for the input id, property, qualifier\_id, qualifier\_property, qualifier\_value, rank, qualifier\_value\_type, and set (to distinguish sets of data when a property is present more than once)

**Examples**

```
w <- WikidataR::get_item(id = "Q180099")
tw_extract_qualifier(id = "Q180099", p = "P26", w = w)
```

---

tw_extract_single	<i>Extract item data from an object of class Wikidata created with WikidataR</i>
-------------------	--

---

**Description**

This function is mostly used internally and for testing.

**Usage**

```
tw_extract_single(w, language = tidywikidatar::tw_get_language())
```

**Arguments**

w	An object of class Wikidata created with WikidataR, typically created with WikidataR::get_item(id = id)
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>

**Value**

A data frame (a tibble) with four columns, such as the one created by tw\_get.

**Examples**

```
item <- tryCatch(WikidataR::get_item(id = "Q180099"),
  error = function(e) {
    as.character(e[[1]])
  }
)

tidywikidatar::tw_extract_single(w = item)
```

---

tw_filter	<i>Filter search result and keep only items with matching property and Q identifier</i>
-----------	---

---

**Description**

Filter search result and keep only items with matching property and Q identifier

**Usage**

```
tw_filter(
  search,
  p,
  q,
  language = tidywikidatar::tw_get_language(),
  limit = 10,
  include_search = FALSE,
  wait = 0,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

search	A data frame generated by <code>tw_search()</code> , or a search query. If a data frame is given, language and limits are ignore.
p	A character vector of length 1, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
q	A character vector of length 1, a wikidata id. Must always start with the capital letter "Q", e.g. "Q5" for "human being".
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes</a> .
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

A data frame with three columns, `id`, `label`, and `description`, filtered by the above criteria.

**Examples**

```
tw_search(search = "Margaret Mead", limit = 3) %>%
  tw_filter(p = "P31", q = "Q5")
```

---

<code>tw_filter_first</code>	<i>Filter search result and keep only and keep only the first match</i>
------------------------------	---

---

**Description**

Same as `tw_filter()`, but consistently returns data frames with a single row.

**Usage**

```
tw_filter_first(
  search,
  p,
  q,
  language = tidywikidatar::tw_get_language(),
  limit = 10,
  include_search = FALSE,
  wait = 0,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

search	A data frame generated by <code>tw_search()</code> , or a search query. If a data frame is given, language and limits are ignore.
p	A character vector of length 1, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
q	A character vector of length 1, a wikidata id. Must always start with the capital letter "Q", e.g. "Q5" for "human being".
language	Language to be used for the search.
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code>
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

A data frame with one row and three columns, id, label, and description, filtered by the above criteria.

**Examples**

```
tw_search("Margaret Mead") %>%
  tw_filter_first(p = "P31", q = "Q5")
```

---

tw_filter_people	<i>Filter search result and keep only people</i>
------------------	--

---

**Description**

A wrapper of `tw_filter()` that defaults to keep only "instance of" (P31) "human being" (Q5).

**Usage**

```
tw_filter_people(
  search,
  language = tidywikidatar::tw_get_language(),
  limit = 10,
  stop_at_first = TRUE,
  wait = 0,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

search	A data frame generated by <code>tw_search()</code> , or a search query. If a data frame is given, language and limits are ignore.
language	Language to be used for the search.
limit	Maximum numbers of responses to be given.
stop_at_first	Logical, defaults to TRUE. If TRUE, returns only the first match from the search that satisfies the criteria.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

A data frame with three columns, `id`, `label`, and `description`; all rows refer to a human being.

**Examples**

```
tw_search("Ruth Benedict")

tw_search("Ruth Benedict") %>%
  tw_filter_people()
```

---

tw\_get

*Return (most) information from a Wikidata item in a tidy format*


---

**Description**

Return (most) information from a Wikidata item in a tidy format

**Usage**

```
tw_get(
  id,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q180099" for the anthropologist Margaret Mead. Can also be a data frame of one row, typically generated with <code>tw_search()</code> or a combination of <code>tw_search()</code> and <code>tw_filter_first()</code> .
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A data.frame (a tibble) with three columns (id, property, and value).

**Examples**

```
tw_get(
  id = c("Q180099", "Q228822"),
  language = "en"
)
```

---

tw_get_all_with_p	<i>Get all items that have a given property (irrespective of the value)</i>
-------------------	---

---

**Description**

This function does not cache results.

**Usage**

```
tw_get_all_with_p(
  p,
  fields = c("item", "itemLabel", "itemDescription"),
  language = tidywikidatar::tw_get_language(),
  method = "SPARQL",
  wait = 0.1,
  limit = Inf,
  return_as_tw_search = TRUE
)
```

**Arguments**

p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
fields	A character vector of Wikidata fields. Ignored if return_as_tw_search is set to TRUE (as per default). Defaults to ("item", "itemLabel", "itemDescription")
language	Defaults to language set with tw_set_language(); if not set, "en". If more than one, can be set in order of preference, e.g. c("it", "fr", "en"). Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/H">https://www.wikidata.org/wiki/H</a>
method	Defaults to "SPARQL". The only accepted alternative value is "JSON", to use instead json-based API.
wait	Defaults to 0.1. Used only in method is set to "JSON".
limit	Defaults to Inf. Set to smaller values for testing and cache locally when possible to reduce load on servers.
return_as_tw_search	Logical, defaults to TRUE. If TRUE, returns a data frame with three columns (id, label, and description) that can be piped to other tw_ functions. If FALSE, a data frame with as many columns as fields.

**Value**

A data frame with three columns is method is set to "SPARQL", or as many columns as fields if more are given and return\_as\_tw\_search is set to FALSE. A single column with Wikidata identifier if method is set to "JSON".

**Examples**

```
if (interactive()) {
  # get all Wikidata items with an ICAO airport code ("P239")
  tw_get_all_with_p(p = "P239", limit = 10)
}
```

---

tw_get_cached_item	<i>Retrieve cached item</i>
--------------------	-----------------------------

---

**Description**

Retrieve cached item

**Usage**

```
tw_get_cached_item(
  id,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q180099" for the anthropologist Margaret Mead. Can also be a data frame of one row, typically generated with tw_search() or a combination of tw_search() and tw_filter_first().
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection open.

**Value**

If data present in cache, returns a data frame with cached data.



## Examples

```
tw_set_cache_folder(path = tempdir())
tw_enable_cache()
tw_create_cache_folder(ask = FALSE)

df_from_api <- tw_get(id = "Q180099", language = "en")

df_from_cache <- tw_get_cached_item(
  id = "Q180099",
  language = "en"
)
```

---

tw\_get\_cached\_qualifiers

*Retrieve cached qualifier*

---

## Description

Retrieve cached qualifier

## Usage

```
tw_get_cached_qualifiers(
  id,
  p,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

## Arguments

- |          |  |
|----------|--|
| id       | A character vector, must start with Q, e.g. "Q180099" for the anthropologist Margaret Mead. Can also be a data frame of one row, typically generated with <code>tw_search()</code> or a combination of <code>tw_search()</code> and <code>tw_filter_first()</code> .     |
| p        | A character vector of length 1, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".   |
| language | Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a> |
| cache    | Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .  |

`cache_connection` Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

`disconnect_db` Defaults to TRUE. If FALSE, leaves the connection open.

**Value**

If data present in cache, returns a data frame with cached data.

**Examples**

```
tw_set_cache_folder(path = tempdir())
tw_enable_cache()
tw_create_cache_folder(ask = FALSE)

df_from_api <- tw_get_qualifiers(id = "Q180099", p = "P26", language = "en")

df_from_cache <- tw_get_cached_qualifiers(
  id = "Q180099",
  p = "P26",
  language = "en"
)

df_from_cache
```

---

tw\_get\_cached\_search *Retrieve cached search*

---

**Description**

Retrieve cached search

**Usage**

```
tw_get_cached_search(
  search,
  type = "item",
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  cache = NULL,
  include_search = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

search	A string to be searched in Wikidata
type	Defaults to "item". Either "item" or "property".
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes</a>
response_language	Language to be used for the returned labels and descriptions. Corresponds to the <code>uselang</code> parameter of the MediaWiki API: <a href="https://www.wikidata.org/w/api.php?action=help&amp;modules=w">https://www.wikidata.org/w/api.php?action=help&amp;modules=w</a> . Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

If data present in cache, returns a data frame with cached data.

**Examples**

```
tw_set_cache_folder(path = tempdir())
tw_enable_cache()
tw_create_cache_folder(ask = FALSE)

search_from_api <- tw_search("Sylvia Pankhurst")
search_from_api

df_from_cache <- tw_get_cached_search("Sylvia Pankhurst")
df_from_cache
```

---

```
tw_get_cached_wikipedia_page_links
```

*Gets links of Wikipedia pages from local cache*

---

**Description**

Mostly used internally.

**Usage**

```
tw_get_cached_wikipedia_page_links(
  title,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

<code>title</code>	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
<code>language</code>	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
<code>cache</code>	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection open.

**Value**

If data present in cache, returns a data frame with cached data.

**Examples**

```
if (interactive()) {
  tw_set_cache_folder(path = tempdir())
  tw_enable_cache()
  tw_create_cache_folder(ask = FALSE)

  df_from_api <- tw_get_wikipedia_page_qid(title = "Margaret Mead", language = "en")

  df_from_cache <- tw_get_cached_wikipedia_page_links(
    title = "Margaret Mead",
    language = "en"
  )

  df_from_cache
}
```

---

```
tw_get_cached_wikipedia_page_qid
```

*Gets id of Wikipedia pages from local cache*

---

## Description

Mostly used internally.

## Usage

```
tw_get_cached_wikipedia_page_qid(
  title,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

## Arguments

<code>title</code>	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
<code>language</code>	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
<code>cache</code>	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection open.

## Value

If data present in cache, returns a data frame with cached data.

## Examples

```
if (interactive()) {
  tw_set_cache_folder(path = tempdir())
  tw_enable_cache()
  tw_create_cache_folder(ask = FALSE)

  df_from_api <- tw_get_wikipedia_page_qid(title = "Margaret Mead", language = "en")

  df_from_cache <- tw_get_cached_wikipedia_page_qid(
    title = "Margaret Mead",
```

```

    language = "en"
  )

  df_from_cache
}

```

---

tw\_get\_cached\_wikipedia\_page\_sections

*Gets sections of Wikipedia pages from local cache*

---

### Description

Mostly used internally.

### Usage

```

tw_get_cached_wikipedia_page_sections(
  title,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)

```

### Arguments

title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection open.

### Value

If data present in cache, returns a data frame with cached data.

**Examples**

```

if (interactive()) {
  tw_set_cache_folder(path = tempdir())
  tw_enable_cache()
  tw_create_cache_folder(ask = FALSE)

  df_from_api <- tw_get_wikipedia_page_qid(title = "Margaret Mead", language = "en")

  df_from_cache <- tw_get_cached_wikipedia_page_sections(
    title = "Margaret Mead",
    language = "en"
  )

  df_from_cache
}

```

---

tw_get_cache_db	<i>Get database connection settings from the environment</i>
-----------------	--

---

**Description**

Typically set with `tw_set_cache_db()`

**Usage**

```
tw_get_cache_db()
```

**Value**

A list with all database parameters as stored in environment variables.

**Examples**

```
tw_get_cache_db()
```

---

tw_get_cache_file	<i>Gets location of cache file</i>
-------------------	------------------------------------

---

**Description**

Gets location of cache file

**Usage**

```
tw_get_cache_file(type = NULL, language = tidywikidatar::tw_get_language())
```

**Arguments**

type	Defaults to NULL. Deprecated. If given, type of cache file to output. Values typically used by tidywikidatar in versions up to 4.2 include "item", "search", and "qualifier".
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>

**Value**

A character vector of length one with location of item cache file.

**Examples**

```
tw_set_cache_folder(path = tempdir())
sqlite_cache_file_location <- tw_get_cache_file() # outputs location of cache file
```

---

```
tw_get_cache_table_name
```

*Gets name of table inside the database*

---

**Description**

Gets name of table inside the database

**Usage**

```
tw_get_cache_table_name(
  type = "item",
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language()
)
```

**Arguments**

type	Defaults to "item". Type of cache file to output. Values typically used by tidywikidatar include "item", "search_item", "search_property", and "qualifier".
language	Defaults to language set with tw_set_language(); "en" if not set. Used to limit the data to be cached. Use "all_available" to keep all data. For available values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
response_language	Defaults to language set with tw_set_language(); "en" if not set. Relevant only when type is set to "search_item" or "search_property". See tw_search() for details.



**Value**

A character vector of length one with the name of the relevant table in the cache file.

**Examples**

```
# outputs name of table used in the cache database
tw_get_cache_table_name(type = "item", language = "en")
```

---

tw_get_description	<i>Get Wikidata description in given language</i>
--------------------	---

---

**Description**

Get Wikidata description in given language

**Usage**

```
tw_get_description(
  id,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with <code>tw_get_()</code> , and is used instead of calling Wikidata or using SQLite cache. Ignored when id is of length more than one.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

`disconnect_db` Defaults to TRUE. If FALSE, leaves the connection to cache open.

`wait` In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

### Value

A character vector of the same length as the vector of `id` given, with the Wikidata description in the requested language.

### Examples

```
tw_get_description(
  id = c(
    "Q180099",
    "Q228822"
  ),
  language = "en"
)
```

---

<code>tw_get_field</code>	<i>Gets a field such a label or description from a dataframe typically generated with <code>tw_get()</code></i>
---------------------------	---

---

### Description

Gets a field such a label or description from a dataframe typically generated with `tw_get()`

### Usage

```
tw_get_field(df, field, id, language = tidywikidatar::tw_get_language())
```

### Arguments

`df` A data frame typically generated with `tw_get()`. It should include data for the `id` included in the dedicated parameter.

`field` A character vector of length one. Typically, either "label" or "description".

`id` A character vector, typically of Wikidata identifiers. The output will be of the same length and in the same order as the identifiers provided with this parameter.

`language` Defaults to language set with `tw_set_language()`; if not set, "en". Use "all\_available" to keep all languages. For available language values, see [https://www.wikidata.org/wiki/Help:Wikimedia\\_](https://www.wikidata.org/wiki/Help:Wikimedia_)

### Value

A character vector of the same length, and with data in the same order, as `id`.

**Examples**

```
tw_get("Q180099") %>%
  tw_get_field(field = "label", id = "Q180099")
```

---

tw\_get\_image

*Get image from Wikimedia Commons*


---

**Description**

Please consult the relevant documentation for reusing content outside Wikimedia: [https://commons.wikimedia.org/wiki/Commons:Reusing\\_content\\_outside\\_Wikimedia](https://commons.wikimedia.org/wiki/Commons:Reusing_content_outside_Wikimedia)

**Usage**

```
tw_get_image(
  id,
  format = "filename",
  width = NULL,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

id	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
format	A character vector, defaults to 'filename'. If set to 'commons', outputs the link to the Wikimedia Commons page. If set to "embed", outputs a link that can be used to embed.
width	A numeric value, defaults to NULL, relevant only if format is set to 'embed'. If not given, defaults to full resolution image.
language	Needed for caching, defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with tw_get_(), and is used instead of calling Wikidata or using SQLite cache. Ignored when id is of length more than one.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().

<code>overwrite_cache</code>	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection to cache open.
<code>wait</code>	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A data frame of two columns, `id` and `image`, corresponding to reference to the image in the requested format.

**Examples**

```
tw_get_image("Q180099",
  format = "filename"
)

if (interactive()) {
  tw_get_image("Q180099",
    format = "commons"
  )

  tw_get_image("Q180099",
    format = "embed",
    width = 300
  )
}
```

---

`tw_get_image_metadata` *Get metadata for images from Wikimedia Commons*

---

**Description**

Please consult the relevant documentation for reusing content outside Wikimedia: [https://commons.wikimedia.org/wiki/Commons:Reusing\\_content\\_outside\\_Wikimedia](https://commons.wikimedia.org/wiki/Commons:Reusing_content_outside_Wikimedia)

**Usage**

```
tw_get_image_metadata(
  id,
  image_filename = NULL,
  only_first = TRUE,
  language = tidywikidatar::tw_get_language(),
```

```

    id_df = NULL,
    cache = NULL,
    overwrite_cache = FALSE,
    cache_connection = NULL,
    disconnect_db = TRUE,
    wait = 1,
    attempts = 5
  )

```

### Arguments

<code>id</code>	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
<code>image_filename</code>	Defaults to NULL. If NULL, <code>image_filename</code> is obtained from the Wikidata id. If given, must be of the same length as <code>id</code> .
<code>only_first</code>	Defaults to TRUE. If TRUE, returns metadata only for the first image associated with a given Wikidata id. If FALSE, returns all images available.
<code>language</code>	Needed for caching, defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
<code>id_df</code>	Default to NULL. If given, it should be a dataframe typically generated with <code>tw_get_()</code> , and is used instead of calling Wikidata or using SQLite cache. Ignored when <code>id</code> is of length more than one.
<code>cache</code>	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>overwrite_cache</code>	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection to cache open.
<code>wait</code>	In seconds, defaults to 1. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
<code>attempts</code>	Defaults to 5. Number of times it re-attempts to reach the API before failing.

### Value

A character vector, corresponding to reference to the image in the requested format.

### Examples

```

if (interactive()) {
  tw_get_image_metadata("Q180099")
}

```

---

tw\_get\_image\_metadata\_single

*Get metadata for images from Wikimedia Commons*


---

### Description

Please consult the relevant documentation for reusing content outside Wikimedia: [https://commons.wikimedia.org/wiki/Commons:Reusing\\_content\\_outside\\_Wikimedia](https://commons.wikimedia.org/wiki/Commons:Reusing_content_outside_Wikimedia)

### Usage

```
tw_get_image_metadata_single(
    id,
    image_filename = NULL,
    only_first = TRUE,
    language = tidywikidatar::tw_get_language(),
    id_df = NULL,
    cache = NULL,
    overwrite_cache = FALSE,
    read_cache = TRUE,
    cache_connection = NULL,
    disconnect_db = TRUE,
    wait = 1,
    attempts = 5
)
```

### Arguments

id	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
image_filename	Defaults to NULL. If NULL, image_filename is obtained from the Wikidata id. If given, must be of the same length as id.
only_first	Defaults to TRUE. If TRUE, returns metadata only for the first image associated with a given Wikidata id. If FALSE, returns all images available.
language	Needed for caching, defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with tw_get_(), and is used instead of calling Wikidata or using SQLite cache. Ignored when id is of length more than one.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.

read_cache	Logical, defaults to TRUE. Mostly used internally to prevent checking if an item is in cache if it is already known that it is not in cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 1. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.

**Value**

A character vector, corresponding to reference to the image in the requested format.

**Examples**

```
if (interactive()) {
  tw_get_image_metadata_single("Q180099")
}
```

---

tw\_get\_image\_same\_length

*Get image from Wikimedia Commons*

---

**Description**

Please consult the relevant documentation for reusing content outside Wikimedia: [https://commons.wikimedia.org/wiki/Commons:Reusing\\_content\\_outside\\_Wikimedia](https://commons.wikimedia.org/wiki/Commons:Reusing_content_outside_Wikimedia)

**Usage**

```
tw_get_image_same_length(
  id,
  format = "filename",
  as_tibble = FALSE,
  only_first = TRUE,
  width = NULL,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

<code>id</code>	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
<code>format</code>	A character vector, defaults to 'filename'. If set to 'commons', outputs the link to the Wikimedia Commons page. If set to "embed", outputs a link that can be used to embed.
<code>as_tibble</code>	Defaults to FALSE. If TRUE, returns a data frame instead of a character vector.
<code>only_first</code>	Defaults to TRUE. If TRUE, returns only the first image associated with a given Wikidata id. If FALSE, returns all images available.
<code>width</code>	A numeric value, defaults to NULL, relevant only if format is set to 'embed'. If not given, defaults to full resolution image.
<code>language</code>	Needed for caching, defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
<code>id_df</code>	Default to NULL. If given, it should be a dataframe typically generated with <code>tw_get_()</code> , and is used instead of calling Wikidata or using SQLite cache. Ignored when <code>id</code> is of length more than one.
<code>cache</code>	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>overwrite_cache</code>	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection to cache open.
<code>wait</code>	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector, corresponding to reference to the image in the requested format.

**Examples**

```
tw_get_image_same_length("Q180099",
  format = "filename"
)

if (interactive()) {
  tw_get_image_same_length("Q180099",
    format = "commons"
  )
}
```



```

tw_get_image_same_length("Q180099",
  format = "embed",
  width = 300
)
}

```

tw\_get\_label

*Get Wikidata label in given language***Description**

Get Wikidata label in given language

**Usage**

```

tw_get_label(
  id,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)

```

**Arguments**

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with <code>tw_get_()</code> , and is used instead of calling Wikidata or using SQLite cache. Ignored when id is of length more than one.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector of the same length as the vector of `id` given, with the Wikidata label in the requested language.

**Examples**

```
tw_get_label(
  id = c(
    "Q180099",
    "Q228822"
  ),
  language = "en"
)

# If a label is not available, a NA value is returned
if (interactive()) {
  tw_get_label(
    id = c(
      "Q64733534",
      "Q4773904",
      "Q220480"
    ),
    language = "sc"
  )
}
```

---

<code>tw_get_pl</code>	<i>Get Wikidata property of an item as a character vector of the same length as input</i>
------------------------	---

---

**Description**

This function wraps `tw_get_p()`, but always sets `only_first` and `preferred` to `TRUE` in order to give back always a character vector.

**Usage**

```
tw_get_pl(
  id,
  p,
  latest_start_time = FALSE,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
latest_start_time	Logical, defaults to FALSE. If TRUE, returns the property that has the most recent start time ("P580") as qualifier. If no such qualifier is found, then it is ignored.
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with tw_get_(), and is used instead of calling Wikidata or replying on cache.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector of the same length as the input.

**Examples**

```
tw_get_p1(id = "Q180099", "P26")
```

---

tw_get_property	<i>Get Wikidata property of one or more items as a tidy data frame</i>
-----------------	--

---

**Description**

Get Wikidata property of one or more items as a tidy data frame

**Usage**

```
tw_get_property(
  id,
  p,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with <code>tw_get_()</code> , and is used instead of calling Wikidata or using SQLite cache. Ignored when id is of length more than one.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A tibble, corresponding to the value for the given property. A tibble of zero rows if no relevant property found.

**Examples**

```
# Who were the doctoral advisors - P184 - of Margaret Mead - Q180099?
advisors <- tw_get_property(id = "Q180099", p = "P184")
```

```

advisors

# tw_get_label(advisors)

# It is also possible to get one property for many id

if (interactive()) {
  tw_get_property(
    id = c(
      "Q180099",
      "Q228822"
    ),
    p = "P31"
  )

  # Or many properties for a single id

  tw_get_property(
    id = "Q180099",
    p = c("P21", "P31")
  )
}

```

---

tw\_get\_property\_description

*Get description of a Wikidata property in a given language*

---

## Description

Get description of a Wikidata property in a given language

## Usage

```

tw_get_property_description(
  property,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)

```

## Arguments

property	A character vector of length 1, must start with P, e.g. "P31".
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>

<code>cache</code>	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>overwrite_cache</code>	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection to cache open.
<code>wait</code>	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector of length 1, with the Wikidata label in the requested language.

**Examples**

```
tw_get_property_description(property = "P31")
```

---

`tw_get_property_label` *Get label of a Wikidata property in a given language*

---

**Description**

Get label of a Wikidata property in a given language

**Usage**

```
tw_get_property_label(  
  property,  
  language = tidywikidatar::tw_get_language(),  
  cache = NULL,  
  overwrite_cache = FALSE,  
  cache_connection = NULL,  
  disconnect_db = TRUE,  
  wait = 0  
)
```

**Arguments**

property	A character vector. Each element must start with P, e.g. "P31".
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector, with the Wikidata label in the requested language.

**Examples**

```
tw_get_property_label(property = "P31")
```

---

```
tw_get_property_label_single
```

*Get label of a Wikidata property in a given language*

---

**Description**

Get label of a Wikidata property in a given language

**Usage**

```
tw_get_property_label_single(
  property,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

property	A character vector. Each element must start with P, e.g. "P31".
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqLite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqLite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector of length 1, with the Wikidata label in the requested language.

**Examples**

```
tidywikidatar:::tw_get_property_label_single(property = "P31")
```

---

```
tw_get_property_same_length
```

*Get Wikidata property of an item as a vector or list of the same length as input*

---

**Description**

Get Wikidata property of an item as a vector or list of the same length as input

**Usage**

```
tw_get_property_same_length(
  id,
  p,
  only_first = FALSE,
  preferred = FALSE,
  latest_start_time = FALSE,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
```



```

    cache = NULL,
    overwrite_cache = FALSE,
    cache_connection = NULL,
    disconnect_db = TRUE,
    wait = 0
)

tw_get_p(
  id,
  p,
  only_first = FALSE,
  preferred = FALSE,
  latest_start_time = FALSE,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)

```

### Arguments

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
only_first	Logical, defaults to FALSE. If TRUE, it just keeps the first relevant property value for each id (or NA if none is available), and returns a character vector. Warning: this likely discards valid values, so make sure this is really what you want. If FALSE, returns a list of the same length as input, with all values for each id stored in a list if more than one is found.
preferred	Logical, defaults to FALSE. If TRUE, returns properties that have rank "preferred" if available; if no "preferred" property is found, then it is ignored.
latest_start_time	Logical, defaults to FALSE. If TRUE, returns the property that has the most recent start time ("P580") as qualifier. If no such qualifier is found, then it is ignored.
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with tw_get_(), and is used instead of calling Wikidata or replying on cache.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.

cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

### Value

A list of the same length of input (or a character vector is only\_first is set to TRUE)

### Examples

```
# By default, it returns a list of the same length as input,
# no matter how many values for each id/property

if (interactive()) {
  tw_get_property_same_length(
    id = c(
      "Q180099",
      "Q228822",
      "Q76857"
    ),
    p = "P26"
  )
  # Notice that if no relevant match is found, it returns a NA
  # This is useful for piped operations

  tibble::tibble(id = c(
    "Q180099",
    "Q228822",
    "Q76857"
  )) %>%
  dplyr::mutate(spouse = tw_get_property_same_length(id, "P26"))

  # Consider unnesting for further analysis

  tibble::tibble(id = c(
    "Q180099",
    "Q228822",
    "Q76857"
  )) %>%
  dplyr::mutate(spouse = tw_get_property_same_length(id, "P26")) %>%
  tidyr::unnest(cols = spouse)

  # If you are sure that you are interested only in the first return value,
  # consider setting only_first=TRUE to get a character vector rather than a list
```

```
# Be mindful: you may well be discarding valid values.
tibble::tibble(id = c(
  "Q180099",
  "Q228822",
  "Q76857"
)) %>%
  dplyr::mutate(spouse = tw_get_property_same_length(id, "P26",
    only_first = TRUE
  ))
}
tw_get_p(id = "Q180099", "P26")
```

---

tw\_get\_property\_with\_details

*Gets all details of a property*

---

## Description

Gets all details of a property

## Usage

```
tw_get_property_with_details(id, p, wait = 0)
```

## Arguments

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

## Value

A tibble, corresponding to the details for the given property. NULL if no relevant property found.

## Examples

```
# Get "female form of label", including language
tw_get_property_with_details(id = "Q64733534", p = "P2521")
```

---

```
tw_get_property_with_details_single
    Gets all details of a property
```

---

**Description**

Gets all details of a property

**Usage**

```
tw_get_property_with_details_single(id, p)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".

**Value**

A tibble, corresponding to the details for the given property. NULL if no relevant property found.

**Examples**

```
# Get "female form of label", including language
tidywikidatar::tw_get_property_with_details_single(id = "Q64733534", p = "P2521")
```

---

```
tw_get_p_wide    Efficiently get a wide table with various properties of a given set of Wikidata identifiers
```

---

**Description**

Efficiently get a wide table with various properties of a given set of Wikidata identifiers

**Usage**

```
tw_get_p_wide(
  id,
  p,
  label = FALSE,
  property_label_as_column_name = FALSE,
  both_id_and_label = FALSE,
  only_first = FALSE,
  preferred = FALSE,
```

```

unlist = FALSE,
collapse = ";",
language = tidywikidatar::tw_get_language(),
id_df = NULL,
id_df_label = NULL,
cache = NULL,
overwrite_cache = FALSE,
cache_connection = NULL,
disconnect_db = TRUE,
wait = 0
)

```

### Arguments

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
label	Logical, defaults to FALSE. If TRUE labels of Wikidata Q identifiers are reported instead of the identifiers themselves (or labels are presented along of them, if both_id_and_label is set to TRUE)
property_label_as_column_name	Logical, defaults to FALSE. If FALSE, names of columns with properties are the "P" identifiers of the property. If TRUE, the label of the correspondent property is assigned as column name.
both_id_and_label	Logical, defaults to FALSE. Relevant only if label is set to TRUE, otherwise ignored. If TRUE, the label is added as a separate column along the original one. Column name is the same as the property column, followed by "_label".
only_first	Logical, defaults to FALSE. If TRUE, it just keeps the first relevant property value for each id (or NA if none is available), and returns a character vector. Warning: this likely discards valid values, so make sure this is really what you want. If FALSE, returns a list of the same length as input, with all values for each id stored in a list if more than one is found.
preferred	Logical, defaults to FALSE. If TRUE, returns properties that have rank "preferred" if available; if no "preferred" property is found, then it is ignored.
unlist	Logical, defaults to FALSE. Typically used sharing or exporting data as csv files. Collapses all properties in a single string. The separator is defined by the collapse parameter. Relevant only when only_first is set to FALSE.
collapse	Defaults to ";". Character used to separate results when unlist is set to TRUE.
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with tw_get_(), and is used instead of calling Wikidata or relying on cache.
id_df_label	Defaults to NULL. If given, it should be a dataframe typically generated with tw_get() with <i>all</i> items for which labels will be requested. It is used instead of calling Wikidata or relying on cache.

cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

### Value

A data frame, with a column for each given property.

### Examples

```
if (interactive()) {
  tw_get_p_wide(
    id = c("Q180099", "Q228822", "Q191095"),
    p = c("P27", "P19", "P20"),
    label = TRUE,
    only_first = TRUE
  )
}
```

---

tw_get_qualifiers	<i>Get Wikidata qualifiers for a given property of a given item</i>
-------------------	---

---

### Description

N.B. In order to provide for consistently structured output, this function outputs either id or value for each qualifier. The user should keep in mind that some of these come with additional detail (e.g. the unit, precision, or reference calendar).

### Usage

```
tw_get_qualifiers(
  id,
  p,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
```

```

    cache_connection = NULL,
    disconnect_db = TRUE,
    wait = 0
  )

```

### Arguments

id	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
p	A character vector of length 1, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

### Value

A data frame (a tibble) with eight columns: `id` for the input id, `property`, `qualifier_id`, `qualifier_property`, `qualifier_value`, `rank`, `qualifier_value_type`, and `set` (to distinguish sets of data when a property is present more than once)

### Examples

```
tw_get_qualifiers(id = "Q180099", p = "P26", language = "en")
```

---

```
tw_get_qualifiers_single
```

*Get Wikidata qualifiers for a given property of a given item*

---

### Description

N.B. In order to provide for consistently structured output, this function outputs either `id` or `value` for each qualifier. The user should keep in mind that some of these come with additional detail (e.g. the unit, precision, or reference calendar).

**Usage**

```
tw_get_qualifiers_single(
  id,
  p,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

<code>id</code>	A character vector of length 1, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart.
<code>p</code>	A character vector of length 1, a property. Must always start with the capital letter "P", e.g. "P31" for "instance of".
<code>language</code>	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
<code>cache</code>	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>overwrite_cache</code>	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
<code>cache_connection</code>	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to TRUE. If FALSE, leaves the connection to cache open.
<code>wait</code>	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A data frame (a tibble) with eight columns: `id` for the input id, `property`, `qualifier_id`, `qualifier_property`, `qualifier_value`, `rank`, `qualifier_value_type`, and `set` (to distinguish sets of data when a property is present more than once)

**Examples**

```
tidywikidatar::tw_get_qualifiers_single(id = "Q180099", p = "P26", language = "en")
```



---

tw_get_single	<i>Return (most) information from a Wikidata item in a tidy format</i>
---------------	--

---

### Description

Return (most) information from a Wikidata item in a tidy format

### Usage

```
tw_get_single(
  id,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  read_cache = TRUE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

### Arguments

id	A character vector, must start with Q, e.g. "Q180099" for the anthropologist Margaret Mead. Can also be a data frame of one row, typically generated with <code>tw_search()</code> or a combination of <code>tw_search()</code> and <code>tw_filter_first()</code> .
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
read_cache	Logical, defaults to TRUE. Mostly used internally to prevent checking if an item is in cache if it is already known that it is not in cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A data.frame (a tibble) with three columns (id, property, and value). If item not found or trouble connecting with the server, an data frame with three columns and zero rows is returned, with the warning as an attribute, which can be retrieved with `attr(output, "warning")`

**Examples**

```
tidywikidatar::tw_get_single(
  id = "Q180099",
  language = "en"
)
```

---

tw_get_wikipedia	<i>Get Wikipedia article in given language</i>
------------------	--

---

**Description**

Get Wikipedia article in given language

**Usage**

```
tw_get_wikipedia(
  id,
  full_link = TRUE,
  language = tidywikidatar::tw_get_language(),
  id_df = NULL,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

**Arguments**

id	A character vector, must start with Q, e.g. "Q254" for Wolfgang Amadeus Mozart
full_link	Logical, defaults to TRUE. If FALSE, returns only the part of the url that corresponds to the title.
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
id_df	Default to NULL. If given, it should be a dataframe typically generated with <code>tw_get_()</code> , and is used instead of calling Wikidata or using SQLite cache.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .

overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A character vector of the same length as the vector of id given, with the Wikipedia link in the requested language.

**Examples**

```
tw_get_wikipedia(id = "Q180099")
```

---

```
tw_get_wikipedia_base_api_url
```

*Facilitates the creation of MediaWiki API base URLs*

---

**Description**

Mostly used internally

**Usage**

```
tw_get_wikipedia_base_api_url(
  url = NULL,
  title = NULL,
  language = tidywikidatar::tw_get_language(),
  action = "query"
)
```

**Arguments**

url	A character vector with the full URL to one or more Wikipedia pages. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with tw_set_language(); if not set, "en". If url given, this can be left empty.

action Defaults to "query". Usually either "query" or "parse". In principle, any valid action value, see: "https://www.mediawiki.org/w/api.php"

### Value

A character vector of base urls to be used with the MediaWiki API

### Examples

```
if (interactive()) {
  tw_get_wikipedia_base_api_url(title = "Margaret Mead", language = "en")
}
```

---

tw\_get\_wikipedia\_page\_links

*Get all Wikidata Q identifiers of all Wikipedia pages that appear in one or more pages*

---

### Description

Get all Wikidata Q identifiers of all Wikipedia pages that appear in one or more pages

### Usage

```
tw_get_wikipedia_page_links(
  url = NULL,
  title = NULL,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 1,
  attempts = 5
)
```

### Arguments

url	Full URL to a Wikipedia page. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with tw_set_language(); if not set, "en". If url given, this can be left empty.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().

overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.

**Value**

A data frame (a tibble) with eight columns: source\_title\_url, source\_wikipedia\_title, source\_qid, wikipedia\_title, wikipedia\_id, qid, description, and language.

**Examples**

```
if (interactive()) {
  tw_get_wikipedia_page_links(title = "Margaret Mead", language = "en")
}
```

---

tw\_get\_wikipedia\_page\_links\_single

*Get all Wikidata Q identifiers of all Wikipedia pages that appear in a given page*

---

**Description**

Get all Wikidata Q identifiers of all Wikipedia pages that appear in a given page

**Usage**

```
tw_get_wikipedia_page_links_single(
  url = NULL,
  title = NULL,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 1,
  attempts = 5,
  wikipedia_page_qid_df = NULL
)
```

**Arguments**

url	Full URL to a Wikipedia page. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". If url given, this can be left empty.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.
wikipedia_page_qid_df	Defaults to NULL. If given, used to reduce calls to cache. A data frame

**Value**

A data frame (a tibble) with four columns: `wikipedia_title`, `wikipedia_id`, `wikidata_id`, `wikidata_description`.

**Examples**

```
if (interactive()) {
  tw_get_wikipedia_page_links_single(title = "Margaret Mead", language = "en")
}
```

---

```
tw_get_wikipedia_page_qid
```

*Gets the Wikidata Q identifier of one or more Wikipedia pages*

---

**Description**

Gets the Wikidata Q identifier of one or more Wikipedia pages

**Usage**

```
tw_get_wikipedia_page_qid(
  url = NULL,
  title = NULL,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 1,
  attempts = 5
)
```

**Arguments**

url	A character vector with the full URL to one or more Wikipedia pages. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". If url given, this can be left empty.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.

**Value**

A a data frame with six columns, including `qid` with Wikidata identifiers, and a logical `disambiguation` flag when disambiguation pages are returned.

**Examples**

```
if (interactive()) {
  tw_get_wikipedia_page_qid(title = "Margaret Mead", language = "en")
}
```

```
# check when Wikipedia returns disambiguation page
tw_get_wikipedia_page_qid(title = c("Rome", "London", "New York", "Vienna"))
}
```

---

```
tw_get_wikipedia_page_qid_single
```

*Gets the Wikidata id of a Wikipedia page*

---

## Description

Gets the Wikidata id of a Wikipedia page

## Usage

```
tw_get_wikipedia_page_qid_single(
  title = NULL,
  url = NULL,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 1,
  attempts = 5
)
```

## Arguments

title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
url	Full URL to a Wikipedia page. If given, title and language can be left empty.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". If url given, this can be left empty.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.



wait	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.

### Value

A data frame (a tibble) with eight columns: title, wikipedia\_title, wikipedia\_id, qid, description, disambiguation, and language.

### Examples

```
if (interactive()) {  
  tw_get_wikipedia_page_qid_single(title = "Margaret Mead", language = "en")  
}
```

---

tw\_get\_wikipedia\_page\_sections

*Get sections of a Wikipedia page*

---

### Description

Get sections of a Wikipedia page

### Usage

```
tw_get_wikipedia_page_sections(  
  url = NULL,  
  title = NULL,  
  language = tidywikidatar::tw_get_language(),  
  cache = NULL,  
  overwrite_cache = FALSE,  
  cache_connection = NULL,  
  disconnect_db = TRUE,  
  wait = 1,  
  attempts = 5  
)
```

### Arguments

url	Full URL to a Wikipedia page. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with tw_set_language(); if not set, "en". If url given, this can be left empty.

cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.

**Value**

A data frame (a tibble), with the same columns as tw\_empty\_wikipedia\_page\_sections.

**Examples**

```
if (interactive()) {
  tw_get_wikipedia_page_sections(title = "Margaret Mead", language = "en")
}
```

---

tw\_get\_wikipedia\_page\_sections\_single

*Get all Wikidata Q identifiers of all Wikipedia pages that appear in a given page*

---

**Description**

Get all Wikidata Q identifiers of all Wikipedia pages that appear in a given page

**Usage**

```
tw_get_wikipedia_page_sections_single(
  url = NULL,
  title = NULL,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 1,
```

```

  attempts = 5,
  wikipedia_page_qid_df = NULL
)

```

### Arguments

<code>url</code>	Full URL to a Wikipedia page. If given, <code>title</code> and <code>language</code> can be left empty.
<code>title</code>	Title of a Wikipedia page or final parts of its url. If given, <code>url</code> can be left empty, but <code>language</code> must be provided.
<code>language</code>	Two-letter language code used to define the Wikipedia version to use. Defaults to <code>language</code> set with <code>tw_set_language()</code> ; if not set, "en". If <code>url</code> given, this can be left empty.
<code>cache</code>	Defaults to <code>NULL</code> . If given, it should be given either <code>TRUE</code> or <code>FALSE</code> . Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
<code>overwrite_cache</code>	Logical, defaults to <code>FALSE</code> . If <code>TRUE</code> , it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
<code>cache_connection</code>	Defaults to <code>NULL</code> . If <code>NULL</code> , and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
<code>disconnect_db</code>	Defaults to <code>TRUE</code> . If <code>FALSE</code> , leaves the connection to cache open.
<code>wait</code>	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
<code>attempts</code>	Defaults to 5. Number of times it re-attempts to reach the API before failing.
<code>wikipedia_page_qid_df</code>	Defaults to <code>NULL</code> . If given, used to reduce calls to cache. A data frame

### Value

A data frame (a tibble) with four columns: `wikipedia_title`, `wikipedia_id`, `wikidata_id`, `wikidata_description`.

### Examples

```

if (interactive()) {
  tw_get_wikipedia_page_sections_single(title = "Margaret Mead", language = "en")
}

```

---

```
tw_get_wikipedia_page_section_links
```

*Get links from a specific section of a Wikipedia page*

---

### Description

Get links from a specific section of a Wikipedia page

### Usage

```
tw_get_wikipedia_page_section_links(  
    url = NULL,  
    title = NULL,  
    section_title = NULL,  
    section_index = NULL,  
    language = tidywikidatar::tw_get_language(),  
    cache = NULL,  
    overwrite_cache = FALSE,  
    cache_connection = NULL,  
    disconnect_db = TRUE,  
    wait = 1,  
    attempts = 5,  
    wikipedia_page_qid_df = NULL  
)
```

### Arguments

url	Full URL to a Wikipedia page. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
section_title	Defaults to NULL. If given, it should correspond to the human-readable title of a section of the relevant Wikipedia page. See also <code>tw_get_wikipedia_page_sections()</code>
section_index	Defaults to NULL. If given, it should correspond to the ordinal of a section of the relevant Wikipedia page. See also <code>tw_get_wikipedia_page_sections()</code>
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". If url given, this can be left empty.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 1 due to time-outs with frequent queries. Time to wait between queries to the APIs. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
attempts	Defaults to 5. Number of times it re-attempts to reach the API before failing.
wikipedia_page_qid_df	Defaults to NULL. If given, used to reduce calls to cache. A data frame

**Value**

A data frame (a tibble).

**Examples**

```
if (interactive()) {
  tw_get_wikipedia_page_section_links(title = "Margaret Mead", language = "en", section_index = 1)
}
```

---

tw\_get\_wikipedia\_sections\_api\_url

*Facilitates the creation of MediaWiki API base URLs to retrieve sections of a page*

---

**Description**

Mostly used internally

**Usage**

```
tw_get_wikipedia_sections_api_url(
  url = NULL,
  title = NULL,
  language = tidywikidatar::tw_get_language()
)
```

**Arguments**

url	A character vector with the full URL to one or more Wikipedia pages. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with tw_set_language(); if not set, "en". If url given, this can be left empty.

**Value**

A character vector of base urls to be used with the MediaWiki API

**Examples**

```
tw_get_wikipedia_sections_api_url(title = "Margaret Mead", language = "en")
```

---

```
tw_get_wikipedia_section_links_api_url
```

*Facilitates the creation of MediaWiki API base URLs to retrieve sections of a page*

---

**Description**

Mostly used internally

**Usage**

```
tw_get_wikipedia_section_links_api_url(  
  url = NULL,  
  title = NULL,  
  section_index,  
  language = tidywikidatar::tw_get_language()  
)
```

**Arguments**

url	A character vector with the full URL to one or more Wikipedia pages. If given, title and language can be left empty.
title	Title of a Wikipedia page or final parts of its url. If given, url can be left empty, but language must be provided.
section_index	Required. It should correspond to the ordinal of a section of the relevant Wikipedia page. See also <code>tw_get_wikipedia_page_sections()</code> .
language	Two-letter language code used to define the Wikipedia version to use. Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". If url given, this can be left empty.

**Value**

A character vector of base urls to be used with the MediaWiki API

**Examples**

```
tw_get_wikipedia_section_links_api_url(title = "Margaret Mead", section_index = 1, language = "en")
```

---

tw\_index\_cache\_item    *Add index to caching table for search queries for increased speed*

---

### Description

Tested only with SQLite and MySQL. May work with other drivers.

### Usage

```
tw_index_cache_item(
  table_name = NULL,
  check_first = TRUE,
  type = "item",
  show_details = FALSE,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

### Arguments

table_name	Name of the table in the database. If given, it takes precedence over other parameters.
check_first	Logical, defaults to TRUE. If TRUE, then before executing anything on the database it checks if the given table has already been indexed. If it has, it does nothing and returns only an informative message.
type	Defaults to "item". Type of cache file to output. Values typically used by tidywikidatar include "item", "search_item", "search_property", and "qualifier".
show_details	Logical, defaults to FALSE. If FALSE, return the function adds the index to the database, but does not return anything. If TRUE, returns a data frame with more details about the index.
language	Defaults to language set with tw_set_language(); "en" if not set. Used to limit the data to be cached. Use "all_available" to keep all data. For available values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

### Details

To ensure smooth functioning, the search column in the cache table is transformed into a column of type varchar and length 255.

### Value

If show\_details is set to FALSE, nothing, used only for its side effects (add index to caching table). If TRUE, a data frame, same as the output of tw\_check\_cache\_index(show\_details = TRUE).

### Examples

```
if (interactive()) {
  tw_enable_cache()
  tw_set_cache_folder(path = fs::path(
    fs::path_home_r(),
    "R",
    "tw_data"
  ))

  tw_index_cache_search()
}
```

---

tw\_index\_cache\_search *Add index to caching table for search queries for increased speed*

---

### Description

Tested only with SQLite and MySQL. May work with other drivers.

### Usage

```
tw_index_cache_search(
  table_name = NULL,
  check_first = TRUE,
  type = "item",
  show_details = FALSE,
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```



**Arguments**

table_name	Name of the table in the database. If given, it takes precedence over other parameters.
check_first	Logical, defaults to TRUE. If TRUE, then before executing anything on the database it checks if the given table has already been indexed. If it has, it does nothing and returns only an informative message.
type	Defaults to "item". Type of cache file to output. Values typically used by tidywikidatar include "item", "search_item", "search_property", and "qualifier".
show_details	Logical, defaults to FALSE. If FALSE, return the function adds the index to the database, but does not return anything. If TRUE, returns a data frame with more details about the index.
language	Defaults to language set with tw_set_language(); "en" if not set. Used to limit the data to be cached. Use "all_available" to keep all data. For available values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
response_language	Defaults to language set with tw_set_language(); "en" if not set. Relevant only when type is set to "search_item" or "search_property". See tw_search() for details.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Details**

To ensure smooth functioning, the search column in the cache table is transformed into a column of type varchar and length 255.

**Value**

If show\_details is set to FALSE, nothing, used only for its side effects (add index to caching table). If TRUE, a data frame, same as the output of tw\_check\_cache\_index(show\_details = TRUE).

**Examples**

```
if (interactive()) {
  tw_enable_cache()
  tw_set_cache_folder(path = fs::path(
    fs::path_home_r(),
    "R",
    "tw_data"
  ))
}
```

```
tw_index_cache_search()
}
```

---

tw_label	<i>Gets labels for all columns with names such as "id" and "property".</i>
----------	--

---

### Description

Gets labels for all columns with names such as "id" and "property".

### Usage

```
tw_label(
  df,
  value = TRUE,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE,
  wait = 0
)
```

### Arguments

df	A data frame, typically generated with other tidywikidatar functions such as tw_get_property()
value	Logical, defaults to TRUE. If TRUE, it tries to get labels for all supposed id in the column called value. May break if the columns include some value which starts with Q and some digits, but is not a wikidata id.
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A data frame, with the same shape as the input data frame, but with labels instead of identifiers.

**Examples**

```
tw_get_qualifiers(id = "Q180099", p = "P26", language = "en") %>%
  head(2) %>%
  tw_label()
```

---

tw_qid_airports	<i>The Wikidata Q identifier of European airports found in Eurostat's avia_par_ dataset</i>
-----------------	---

---

**Description**

The Wikidata Q identifier of European airports found in Eurostat's avia\_par\_ dataset

**Usage**

```
tw_qid_airports
```

**Format**

A data frame with 429 rows and 1 column:

**id** Q identifiers

**Source**

[https://www.wikidata.org/wiki/Wikidata:Main\\_Page](https://www.wikidata.org/wiki/Wikidata:Main_Page)

---

tw_qid_meps	<i>The Wikidata Q identifier of all members of the European Parliament since its establishment</i>
-------------	--

---

**Description**

A dataset with all the Wikidata items that have "Q27169" (member of the European Parliament) for the property "P39" (position held).

**Usage**

```
tw_qid_meps
```

**Format**

A data frame with 4581 rows and 1 column:

**id** Q identifiers

**Source**

[https://www.wikidata.org/wiki/Wikidata:Main\\_Page](https://www.wikidata.org/wiki/Wikidata:Main_Page)

---

tw\_query

*Perform simple Wikidata queries*

---

**Description**

This function aims to facilitate only the most basic type of queries: return which items have the following property pairs. For more details on Wikidata queries, consult: [https://www.wikidata.org/wiki/Wikidata:SPARQL\\_queries](https://www.wikidata.org/wiki/Wikidata:SPARQL_queries). For complex queries, use `WikidataQueryServiceR::query_wikidata()`.

**Usage**

```
tw_query(
  query,
  fields = c("item", "itemLabel", "itemDescription"),
  language = tidywikidatar::tw_get_language(),
  return_as_tw_search = TRUE
)
```

**Arguments**

query	A list of named vectors, or a data frame (see example and readme).
fields	A character vector of Wikidata fields. Ignored if <code>return_as_tw_search</code> is set to TRUE (as per default). Defaults to <code>c("item", "itemLabel", "itemDescription")</code>
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". If more than one, can be set in order of preference, e.g. <code>c("it", "fr", "en")</code> . Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:List_of_languages">https://www.wikidata.org/wiki/Help:List_of_languages</a>
return_as_tw_search	Logical, defaults to TRUE. If TRUE, returns a data frame with three columns (id, label, and description) that can be piped to other <code>tw_</code> functions. If FALSE, a data frame with as many columns as fields.

**Details**

Consider `tw_get_all_with_p()` if you want to get all items with a given property, irrespective of the value.

**Value**

A data frame

**Examples**

```

if (interactive()) {
  query <- list(
    c(p = "P106", q = "Q1397808"),
    c(p = "P21", q = "Q6581072")
  )
  tw_query(query)
}

```

---

tw_reset_item_cache	<i>Reset qualifiers cache</i>
---------------------	-------------------------------

---

**Description**

Removes the table where qualifiers are cached

**Usage**

```

tw_reset_item_cache(
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE,
  ask = TRUE
)

```

**Arguments**

language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
ask	Logical, defaults to TRUE. If FALSE, and cache folder does not exist, it just creates it without asking (useful for non-interactive sessions).

**Value**

Nothing, used for its side effects.

**Examples**

```
if (interactive()) {
    tw_reset_item_cache()
}
```

---

```
tw_reset_qualifiers_cache
    Reset qualifiers cache
```

---

**Description**

Removes the table where qualifiers are cached

**Usage**

```
tw_reset_qualifiers_cache(
    language = tidywikidatar::tw_get_language(),
    cache = NULL,
    cache_connection = NULL,
    disconnect_db = TRUE,
    ask = TRUE
)
```

**Arguments**

language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
ask	Logical, defaults to TRUE. If FALSE, and cache folder does not exist, it just creates it without asking (useful for non-interactive sessions).

**Value**

Nothing, used for its side effects.

**Examples**

```
if (interactive()) {
    tw_reset_qualifiers_cache()
}
```

---

tw\_reset\_wikipedia\_page\_cache  
*Reset Wikipedia page cache*

---

### Description

Removes the table where data typically gathered with `tw_get_wikipedia_page_qid()` from cache

### Usage

```
tw_reset_wikipedia_page_cache(  
    language = tidywikidatar::tw_get_language(),  
    cache = NULL,  
    cache_connection = NULL,  
    disconnect_db = TRUE,  
    ask = TRUE  
)
```

### Arguments

language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
ask	Logical, defaults to TRUE. If FALSE, and cache folder does not exist, it just creates it without asking (useful for non-interactive sessions).

### Value

Nothing, used for its side effects.

### Examples

```
if (interactive()) {  
  tw_reset_wikipedia_page_cache()  
}
```

---

tw\_reset\_wikipedia\_page\_links\_cache

*Reset Wikipedia page link cache*


---

## Description

Removes from cache the table where data typically gathered with `tw_get_wikipedia_page_links()` are stored

## Usage

```
tw_reset_wikipedia_page_links_cache(
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  cache_connection = NULL,
  disconnect_db = TRUE,
  ask = TRUE
)
```

## Arguments

language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database by default. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
ask	Logical, defaults to TRUE. If FALSE, and cache folder does not exist, it just creates it without asking (useful for non-interactive sessions).

## Value

Nothing, used for its side effects.

## Examples

```
if (interactive()) {
  tw_reset_wikipedia_page_links_cache()
}
```



---

```
tw_reset_wikipedia_page_sections_cache
    Reset Wikipedia page link cache
```

---

## Description

Removes from cache the table where data typically gathered with `tw_get_wikipedia_page_sections()` are stored

## Usage

```
tw_reset_wikipedia_page_sections_cache(
    language = tidywikidatar::tw_get_language(),
    cache = NULL,
    cache_connection = NULL,
    disconnect_db = TRUE,
    ask = TRUE
)
```

## Arguments

language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database by default. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
ask	Logical, defaults to TRUE. If FALSE, and cache folder does not exist, it just creates it without asking (useful for non-interactive sessions).

## Value

Nothing, used for its side effects.

## Examples

```
if (interactive()) {
  tw_reset_wikipedia_page_sections_cache()
}
```

---

tw_search	<i>Search for Wikidata items or properties and return Wikidata id, label, and description.</i>
-----------	--

---

### Description

By defaults, this search returns items. Set type to property or use `tw_search_property()` for properties.

### Usage

```
tw_search(
  search,
  type = "item",
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  limit = 10,
  include_search = FALSE,
  wait = 0,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

### Arguments

search	A string to be searched in Wikidata
type	Defaults to "item". Either "item" or "property".
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes</a>
response_language	Language to be used for the returned labels and descriptions. Corresponds to the <code>uselang</code> parameter of the MediaWiki API: <a href="https://www.wikidata.org/w/api.php?action=help&amp;modules=w">https://www.wikidata.org/w/api.php?action=help&amp;modules=w</a> . Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .

overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

A data frame (a tibble) with three columns (id, label, and description), and as many rows as there are results (by default, limited to 10). Four columns when include\_search is set to TRUE.

**Examples**

```
tw_search(search = c("Margaret Mead", "Ruth Benedict"))
```

---

tw_search_item	<i>Search for Wikidata properties in Wikidata and return Wikidata id, label, and description.</i>
----------------	---

---

**Description**

This search returns only items, use tw\_search\_property() for properties.

**Usage**

```
tw_search_item(
  search,
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  limit = 10,
  include_search = FALSE,
  wait = 0,
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

search	A string to be searched in Wikidata
language	Language to be used for the search. Can be set once per session with tw_set_language(). If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_co">https://www.wikidata.org/wiki/Help:Wikimedia_language_co</a>

response_language	Language to be used for the returned labels and descriptions. Corresponds to the <code>uselang</code> parameter of the MediaWiki API: <a href="https://www.wikidata.org/w/api.php?action=help&amp;modules=w">https://www.wikidata.org/w/api.php?action=help&amp;modules=w</a> . Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

### Value

A data frame (a tibble) with three columns (`id`, `label`, and `description`), and as many rows as there are results (by default, limited to 10).

### Examples

```
tw_search_item(search = "Sylvia Pankhurst")
```

---

tw_search_property	<i>Search for Wikidata properties in Wikidata and return Wikidata id, label, and description.</i>
--------------------	---

---

### Description

This search returns only properties, use `tw_search_items()` for properties.

### Usage

```
tw_search_property(
  search,
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  limit = 10,
  include_search = FALSE,
```

```

wait = 0,
cache = NULL,
overwrite_cache = FALSE,
cache_connection = NULL,
disconnect_db = TRUE
)

```

### Arguments

search	A string to be searched in Wikidata
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes</a>
response_language	Language to be used for the returned labels and descriptions. Corresponds to the <code>uselang</code> parameter of the MediaWiki API: <a href="https://www.wikidata.org/w/api.php?action=help&amp;modules=tw">https://www.wikidata.org/w/api.php?action=help&amp;modules=tw</a> . Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

### Value

A data frame (a tibble) with three columns (id, label, and description), and as many rows as there are results (by default, limited to 10).

### Examples

```
tw_search_property(search = "gender")
```

---

tw_search_single	<i>Search for Wikidata items or properties and return Wikidata id, label, and description.</i>
------------------	--

---

### Description

This search returns only items, use `tw_search_property()` for properties.

### Usage

```
tw_search_single(
    search,
    type = "item",
    language = tidywikidatar::tw_get_language(),
    response_language = tidywikidatar::tw_get_language(),
    limit = 10,
    include_search = FALSE,
    cache = NULL,
    overwrite_cache = FALSE,
    cache_connection = NULL,
    disconnect_db = TRUE,
    wait = 0
)
```

### Arguments

search	A string to be searched in Wikidata
type	Defaults to "item". Either "item" or "property".
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes</a>
response_language	Language to be used for the returned labels and descriptions. Corresponds to the <code>uselang</code> parameter of the MediaWiki API: <a href="https://www.wikidata.org/w/api.php?action=help&amp;modules=w">https://www.wikidata.org/w/api.php?action=help&amp;modules=w</a> . Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
limit	Maximum numbers of responses to be given.
include_search	Logical, defaults to FALSE. If TRUE, the search is returned as an additional column.
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.
wait	In seconds, defaults to 0. Time to wait between queries to Wikidata. If data are cached locally, wait time is not applied. If you are running many queries systematically you may want to add some waiting time between queries.

**Value**

A data frame (a tibble) with three columns (id, label, and description), and as many rows as there are results (by default, limited to 10). Four columns when include\_search is set to TRUE.

**Examples**

```
tidywikidatar:::tw_search_single(search = "Sylvia Pankhurst")
```

---

tw_set_cache_db	<i>Set database connection settings for the session</i>
-----------------	---

---

**Description**

Set database connection settings for the session

**Usage**

```
tw_set_cache_db(
  db_settings = NULL,
  driver = NULL,
  host = NULL,
  server = NULL,
  port = NULL,
  database = NULL,
  user = NULL,
  pwd = NULL
)
```

**Arguments**

db_settings	A list of database connection settings (see example)
driver	A database driver. Common database drivers include MySQL, PostgreSQL, and MariaDB. See <code>unique(odbc::odbcListDrivers()[[1]])</code> for a list of locally available drivers.
host	Host address, e.g. "localhost". Different drivers use server or host parameter, only one of them is likely needed.
server	Server address, e.g. "localhost". Different drivers use server or host parameter, only one of them is likely needed.
port	Port to use to connect to the database.
database	Database name.
user	Database user name.
pwd	Password for the database user.

**Value**

A list with all given parameters (invisibly).

**Examples**

```
if (interactive()) {  
  
  # Settings can be provided either as a list  
  db_settings <- list(  
    driver = "MySQL",  
    host = "localhost",  
    server = "localhost",  
    port = 3306,  
    database = "tidywikidatar",  
    user = "secret_username",  
    pwd = "secret_password"  
  )  
  
  tw_set_cache_db(db_settings)  
  
  # or as parameters  
  
  tw_set_cache_db(  
    driver = "MySQL",  
    host = "localhost",  
    server = "localhost",  
    port = 3306,  
    database = "tidywikidatar",  
    user = "secret_username",  
    pwd = "secret_password"  
  )  
  
  # or ignoring fields that can be left to default values, such as "localhost" and port 3306  
  
  tw_set_cache_db(  
    driver = "MySQL",  
    database = "tidywikidatar",  
    user = "secret_username",  
    pwd = "secret_password"  
  )  
}
```



**Description**

Consider using a folder out of your current project directory, e.g. `tw_set_cache_folder("~/R/tw_data/")`: you will be able to use the same cache in different projects, and prevent cached files from being sync-ed if you use services such as Nextcloud or Dropbox.

**Usage**

```
tw_set_cache_folder(path = NULL)
```

```
tw_get_cache_folder(path = NULL)
```

**Arguments**

`path` A path to a location used for caching data. If the folder does not exist, it will be created.

**Value**

The path to the caching folder, if previously set; the same path as given to the function; or the default, `tw_data` is none is given.

**Examples**

```
if (interactive()) {
  tw_set_cache_folder(fs::path(fs::path_home_r(), "R", "tw_data"))
}

tw_get_cache_folder()
```

---

<code>tw_set_language</code>	<i>Set language to be used by all functions</i>
------------------------------	---

---

**Description**

Defaults to "en".

**Usage**

```
tw_set_language(language = NULL)
```

```
tw_get_language(language = NULL)
```

**Arguments**

`language` A character vector of length one, with a string of two letters such as "en". For a full list of available values, see: [https://www.wikidata.org/wiki/Help:Wikimedia\\_language\\_codes/lists/all](https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all)

**Value**

A two letter code for the language, if previously set; the same language as given to the function; or the default, en is none is given.

**Examples**

```
if (interactive()) {
  tw_set_language(language = "en")
}
```

```
tw_get_language()
```

---

```
tw_write_item_to_cache
```

*Writes item to cache*

---

**Description**

Writes item to cache. Typically used internally, but exported to enable custom caching solutions.

**Usage**

```
tw_write_item_to_cache(
  item_df,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

item_df	A data frame with three columns typically generated with tw_get().
language	Defaults to language set with tw_set_language(); if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with tw_enable_cache() or tw_disable_cache().
overwrite_cache	Logical, defaults to FALSE. If TRUE, it first deletes all rows associated with the item(s) included in item_df. Useful if the original Wikidata object has been updated.

`cache_connection` Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

`disconnect_db` Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

Nothing, used for its side effects.

**Examples**

```
tw_set_cache_folder(path = fs::path(tempdir()), paste(sample(letters, 24), collapse = ""))
tw_create_cache_folder(ask = FALSE)
tw_disable_cache()

df_from_api <- tw_get(id = "Q180099", language = "en")

df_from_cache <- tw_get_cached_item(
  id = "Q180099",
  language = "en"
)

is.null(df_from_cache) # expect TRUE, as nothing has yet been stored in cache

tw_write_item_to_cache(
  item_df = df_from_api,
  language = "en",
  cache = TRUE
)

df_from_cache <- tw_get_cached_item(
  id = "Q180099",
  language = "en",
  cache = TRUE
)

is.null(df_from_cache) # expect a data frame, same as df_from_api
```

---

```
tw_write_qid_of_wikipedia_page_to_cache
```

*Write Wikidata identifier (qid) of Wikipedia page to cache*

---

**Description**

Mostly used internally by tidywikidatar, use with caution to keep caching consistent.

**Usage**

```
tw_write_qid_of_wikipedia_page_to_cache(
  df,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

df	A data frame typically generated with <code>tw_get_wikipedia_page_qid()</code> .
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

Silently returns the same data frame provided as input. Mostly used internally for its side effects.

**Examples**

```
if (interactive()) {
  df <- tw_get_wikipedia_page_qid(
    title = "Margaret Mead",
    language = "en",
    cache = FALSE
  )

  tw_write_qid_of_wikipedia_page_to_cache(
    df = df,
    language = "en"
  )
}
```

---

tw\_write\_qualifiers\_to\_cache  
*Write qualifiers to cache*

---

## Description

Mostly to be used internally by tidywikidatar, use with caution to keep caching consistent.

## Usage

```
tw_write_qualifiers_to_cache(  
  qualifiers_df,  
  language = tidywikidatar::tw_get_language(),  
  cache = NULL,  
  overwrite_cache = FALSE,  
  cache_connection = NULL,  
  disconnect_db = TRUE  
)
```

## Arguments

**qualifiers\_df** A data frame typically generated with `tw_get_qualifiers()`.

**language** Defaults to language set with `tw_set_language()`; if not set, "en". Use "all\_available" to keep all languages. For available language values, see <https://www.wikidata.org/wiki/Help:Wikimedia>

**cache** Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with `tw_enable_cache()` or `tw_disable_cache()`.

**overwrite\_cache** Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.

**cache\_connection** Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

**disconnect\_db** Defaults to TRUE. If FALSE, leaves the connection to cache open.

## Value

Silently returns the same data frame provided as input. Mostly used internally for its side effects.

## Examples

```
q_df <- tw_get_qualifiers(  
  id = "Q180099",  
  p = "P26",  
  language = "en",
```

```

    cache = FALSE
  )

tw_write_qualifiers_to_cache(
  qualifiers_df = q_df,
  language = "en",
  cache = TRUE
)

```

---

tw\_write\_search\_to\_cache

*Writes search to cache*

---

### Description

Writes search to cache. Typically used internally, but exported to enable custom caching solutions.

### Usage

```

tw_write_search_to_cache(
  search_df,
  type = "item",
  language = tidywikidatar::tw_get_language(),
  response_language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)

```

### Arguments

search_df	A data frame with four columns typically generated with <code>tw_search(include_search = TRUE)</code> .
type	Defaults to "item". Either "item" or "property".
language	Language to be used for the search. Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes</a>
response_language	Language to be used for the returned labels and descriptions. Corresponds to the <code>uselang</code> parameter of the MediaWiki API: <a href="https://www.wikidata.org/w/api.php?action=help&amp;modules=w">https://www.wikidata.org/w/api.php?action=help&amp;modules=w</a> . Can be set once per session with <code>tw_set_language()</code> . If not set, defaults to "en". For a full list, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all">https://www.wikidata.org/wiki/Help:Wikimedia_language_codes/lists/all</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Defaults to FALSE. If TRUE, overwrites cache.

cache\_connection Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).

disconnect\_db Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

Nothing, used for its side effects.

**Examples**

```
tw_set_cache_folder(path = fs::path(tempdir(), paste(sample(letters, 24), collapse = "")))
tw_create_cache_folder(ask = FALSE)
tw_disable_cache()

search_from_api <- tw_search(search = "Sylvia Pankhurst", include_search = TRUE)

search_from_cache <- tw_get_cached_search("Sylvia Pankhurst")

nrow(search_from_cache) == 0 # expect TRUE, as nothing has yet been stored in cache

tw_write_search_to_cache(search_df = search_from_api)

search_from_cache <- tw_get_cached_search("Sylvia Pankhurst")

search_from_cache
```

---

```
tw_write_wikipedia_page_links_to_cache
  Write Wikipedia page links to cache
```

---

**Description**

Mostly used internally by tidywikidatar, use with caution to keep caching consistent.

**Usage**

```
tw_write_wikipedia_page_links_to_cache(
  df,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

df	A data frame typically generated with <code>tw_get_wikipedia_page_links()</code> .
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia_">https://www.wikidata.org/wiki/Help:Wikimedia_</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, tidywikidatar will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

Silently returns the same data frame provided as input. Mostly used internally for its side effects.

**Examples**

```
if (interactive()) {
  df <- tw_get_wikipedia_page_links(
    title = "Margaret Mead",
    language = "en",
    cache = FALSE
  )

  tw_write_wikipedia_page_links_to_cache(
    df = df,
    language = "en"
  )
}
```

---

tw\_write\_wikipedia\_page\_sections\_to\_cache

*Write Wikipedia page links to cache*

---

**Description**

Mostly used internally by tidywikidatar, use with caution to keep caching consistent.



**Usage**

```
tw_write_wikipedia_page_sections_to_cache(
  df,
  language = tidywikidatar::tw_get_language(),
  cache = NULL,
  overwrite_cache = FALSE,
  cache_connection = NULL,
  disconnect_db = TRUE
)
```

**Arguments**

df	A data frame typically generated with <code>tw_get_wikipedia_page_sections()</code> .
language	Defaults to language set with <code>tw_set_language()</code> ; if not set, "en". Use "all_available" to keep all languages. For available language values, see <a href="https://www.wikidata.org/wiki/Help:Wikimedia">https://www.wikidata.org/wiki/Help:Wikimedia</a>
cache	Defaults to NULL. If given, it should be given either TRUE or FALSE. Typically set with <code>tw_enable_cache()</code> or <code>tw_disable_cache()</code> .
overwrite_cache	Logical, defaults to FALSE. If TRUE, it overwrites the table in the local sqlite database. Useful if the original Wikidata object has been updated.
cache_connection	Defaults to NULL. If NULL, and caching is enabled, <code>tidywikidatar</code> will use a local sqlite database. A custom connection to other databases can be given (see vignette caching for details).
disconnect_db	Defaults to TRUE. If FALSE, leaves the connection to cache open.

**Value**

Silently returns the same data frame provided as input. Mostly used internally for its side effects.

**Examples**

```
if (interactive()) {
  df <- tw_get_wikipedia_page_sections(
    title = "Margaret Mead",
    language = "en",
    cache = FALSE
  )

  tw_write_wikipedia_page_sections_to_cache(
    df = df,
    language = "en"
  )
}
```

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