

Package ‘wbstats’

July 26, 2020

Type Package

Title Programmatic Access to Data and Statistics from the World Bank API

Version 1.0.1

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Description Search and download data from the World Bank Data API.

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URL <https://github.com/nset-ornl/wbstats>

BugReports <https://github.com/nset-ornl/wbstats/issues>

Depends R (>= 3.2)

Imports dplyr, httr, jsonlite, lifecycle, lubridate, readr, stringr, tibble, tidyr

Suggests ggplot2, knitr, markdown, rmarkdown

VignetteBuilder knitr

Encoding UTF-8

LazyData TRUE

RoxygenNote 7.0.1

NeedsCompilation no

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Repository CRAN

Date/Publication 2020-07-26 19:00:02 UTC

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 wb

Download Data from the World Bank API

Description

This function downloads the requested information using the World Bank API

Usage

```
wb(
  country = "all",
  indicator,
  startdate,
  enddate,
  mrv,
  return_wide = FALSE,
  gapfill,
  freq,
  cache,
  lang = c("en", "es", "fr", "ar", "zh"),
  removeNA = TRUE,
  POSIXct = FALSE,
  include_dec = FALSE,
  include_unit = FALSE,
  include_obsStatus = FALSE,
  include_lastUpdated = FALSE
)
```

Arguments

country	Character vector of country or region codes. Default value is special code of all. Other permissible values are codes in the following fields from the wb_cachelist country data frame. iso3c, iso2c, regionID, adminID, and incomeID. Additional special values include aggregates, which returns only aggregates, and countries_only, which returns all countries without aggregates.
indicator	Character vector of indicator codes. These codes correspond to the indicatorID column from the indicator data frame of wbcache or wb_cachelist , or the result of wbindicators
startdate	Numeric or character. If numeric it must be in %Y form (i.e. four digit year). For data at the subannual granularity the API supports a format as follows: for monthly data, "2016M01" and for quarterly data, "2016Q1". This also accepts a special value of "YTD", useful for more frequently updated subannual indicators.
enddate	Numeric or character. If numeric it must be in %Y form (i.e. four digit year). For data at the subannual granularity the API supports a format as follows: for monthly data, "2016M01" and for quarterly data, "2016Q1".
mrsv	Numeric. The number of Most Recent Values to return. A replacement of startdate and enddate, this number represents the number of observations you which to return starting from the most recent date of collection. Useful in conjunction with freq
return_wide	Logical. If TRUE data is returned in a wide format instead of long, with a column named for each indicatorID. To necessitate this transformation, the indicator column, that provides the human readable description is dropped. This field is available through from the indicator data frame of wbcache or wb_cachelist , or the result of wbindicators . Default is FALSE
gapfill	Logical. Works with mrsv. If TRUE fills values, if not available, by back tracking to the next available period (max number of periods back tracked will be limited by mrsv number)
freq	Character String. For fetching quarterly ("Q"), monthly("M") or yearly ("Y") values. Currently works along with mrsv. Useful for querying high frequency data.
cache	List of data frames returned from wbcache . If omitted, wb_cachelist is used
lang	Language in which to return the results. If lang is unspecified, english is the default.
removeNA	if TRUE, remove any blank or NA observations that are returned. if FALSE, no blank or NA values are removed from the return.
POSIXct	if TRUE, additional columns date_ct and granularity are added. date_ct converts the default date into a POSIXct . granularity denotes the time resolution that the date represents. Useful for subannual data and mixing subannual with annual data. If FALSE, these fields are not added.
include_dec	if TRUE, the column decimal is not removed from the return. if FALSE, this column is removed

`include_unit` if TRUE, the column unit is not removed from the return. if FALSE, this column is removed

`include_obsStatus` if TRUE, the column obsStatus is not removed from the return. if FALSE, this column is removed

`include_lastUpdated` if TRUE, the column lastUpdated is not removed from the return. if FALSE, this column is removed. If TRUE and `POSIXct = TRUE` then column will be of class `Date`

Value

Data frame with all available requested data.

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for lang are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

The `POSIXct` parameter requires the use of `lubridate` ($\geq 1.5.0$). All dates are rounded down to the floor. For example a value for the year 2016 would have a `POSIXct` date of `2016-01-01`. If this package is not available and the `POSIXct` parameter is set to TRUE, the parameter is ignored and a warning is produced.

The `include_dec`, `include_unit`, and `include_obsStatus` are defaulted to FALSE because as of writing, all returns have a value of \emptyset , NA, and NA, respectively. These columns might be used in the future by the API, therefore the option to include the column is available.

The `include_lastUpdated` is defaulted to FALSE as well to limit the

If there is no data available that matches the request parameters, an empty data frame is returned along with a warning. This design is for easy aggregation of multiple calls.

Examples

```
# GDP at market prices (current US$) for all available countries and regions
wb(indicator = "NY.GDP.MKTP.CD", startdate = 2000, enddate = 2016)

# GDP and Population in long format for the most recent 20 observations
wb(indicator = c("SP.POP.TOTL", "NY.GDP.MKTP.CD"), mrv = 20)

# GDP and Population in wide format for the most recent 20 observations
wb(indicator = c("SP.POP.TOTL", "NY.GDP.MKTP.CD"), mrv = 20, return_wide = TRUE)
```

```

# query using regionID or incomeID
# High Income Countries and Sub-Saharan Africa (all income levels)
wb(country = c("HIC", "SSF"), indicator = "NY.GDP.MKTP.CD", startdate = 1985, enddate = 1985)

# if you do not know when the latest time an indicator is available mrv can help
wb(country = c("IN"), indicator = 'EG.ELC.ACCS.ZS', mrv = 1)

# increase the mrv value to increase the number of maximum number of returns
wb(country = c("IN"), indicator = 'EG.ELC.ACCS.ZS', mrv = 35)

# GDP at market prices (current US$) for only available countries
wb(country = "countries_only", indicator = "NY.GDP.MKTP.CD", startdate = 2000, enddate = 2016)

# GDP at market prices (current US$) for only available aggregate regions
wb(country = "aggregates", indicator = "NY.GDP.MKTP.CD", startdate = 2000, enddate = 2016)

# if you want to "fill-in" the values in between actual observations use gapfill = TRUE
# this highlights a very important difference.
# all other parameters are the same as above, except gapfill = TRUE
# and the results are very different
wb(country = c("IN"), indicator = 'EG.ELC.ACCS.ZS', mrv = 35, gapfill = TRUE)

# if you want the most recent values within a certain time frame
wb(country = c("US"), indicator = 'SI.DST.04TH.20', startdate = 1970, enddate = 2000, mrv = 2)

# without the freq parameter the default temporal granularity search is yearly
# should return the 12 most recent years of data
wb(country = c("CHN", "IND"), indicator = "DPANUSSPF", mrv = 12)

# if another frequency is available for that indicator it can be accessed using the freq parameter
# should return the 12 most recent months of data
wb(country = c("CHN", "IND"), indicator = "DPANUSSPF", mrv = 12, freq = "M")

```

wbcache	<i>Download an updated list of country, indicator, and source information</i>
---------	---

Description

Download an updated list of information regarding countries, indicators, sources, data catalog, indicator topics, lending types, and income levels from the World Bank API

Usage

```
wbcache(lang = c("en", "es", "fr", "ar", "zh"))
```

Arguments

lang	Language in which to return the results. If lang is unspecified, english is the default.
------	--

Value

A list containing the following items:

- `countries`: A data frame. The result of calling `wbcountries`
- `indicators`: A data frame. The result of calling `wbindicators`
- `sources`: A data frame. The result of calling `wbsources`
- `datacatalog`: A data frame. The result of calling `wbdatacatalog`
- `topics`: A data frame. The result of calling `wbtopics`
- `income`: A data frame. The result of calling `wbincome`
- `lending`: A data frame. The result of calling `wblending`

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see `wbdatacatalog`. The options for `lang` are:

- `en`: English
- `es`: Spanish
- `fr`: French
- `ar`: Arabic
- `zh`: Mandarin

List item `datacatalog` will always return in english, as the API does not support any other languages for that information.

Saving this return and using it has the `cache` parameter in `wb` and `wbsearch` replaces the default cached version `wb_cachelist` that comes with the package itself

<code>wbcountries</code>	<i>Download updated country and region information from World Bank API</i>
--------------------------	--

Description

Download updated information on available countries and regions from the World Bank API

Usage

```
wbcountries(lang = c("en", "es", "fr", "ar", "zh"))
```

Arguments

<code>lang</code>	Language in which to return the results. If <code>lang</code> is unspecified, english is the default.
-------------------	---

Value

A data frame of available countries and regions with related information

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for lang are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

wbdatacatalog

Download an updated list of the World Bank data catalog

Description

Download an updated list of the World Bank data catalog from the World Bank API

Usage

```
wbdatacatalog()
```

Value

A data frame of the World Bank data catalog with related information

Note

This function does not support any languages other than english due to the lack of support from the World Bank API

`wbincome`*Download updated income type information from World Bank API*

Description

Download updated information on available income types from the World Bank API

Usage

```
wbincome(lang = c("en", "es", "fr", "ar", "zh"))
```

Arguments

`lang` Language in which to return the results. If `lang` is unspecified, english is the default.

Value

A data frame of available income types with related information

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for `lang` are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

`wbindicators`*Download updated indicator information from World Bank API*

Description

Download updated information on available indicators from the World Bank API

Usage

```
wbindicators(lang = c("en", "es", "fr", "ar", "zh"))
```


Arguments

lang Language in which to return the results. If lang is unspecified, english is the default.

Value

A data frame of available indicators with related information

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for lang are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

wblending

Download updated lending type information from World Bank API

Description

Download updated information on available lending types from the World Bank API

Usage

```
wblending(lang = c("en", "es", "fr", "ar", "zh"))
```

Arguments

lang Language in which to return the results. If lang is unspecified, english is the default.

Value

A data frame of available lending types with related information

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for lang are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

 wbsearch

Search indicator information available through the World Bank API

Description

This function allows finds indicators that match a search term and returns a data frame of matching results

Usage

```
wbsearch(
  pattern = "poverty",
  fields = c("indicator", "indicatorDesc"),
  extra = FALSE,
  cache
)
```

Arguments

pattern	Character string or regular expression to be matched
fields	Character vector of column names through which to search
extra	if FALSE, only the indicator ID and short name are returned, if TRUE, all columns of the cache parameter's indicator data frame are returned
cache	List of data frames returned from wbcache . If omitted, wb_cachelist_dep is used

Value

Data frame with indicators that match the search pattern.

Examples

```
wbsearch(pattern = "education")

wbsearch(pattern = "Food and Agriculture Organization", fields = "sourceOrg")

# with regular expression operators
# 'poverty' OR 'unemployment' OR 'employment'
wbsearch(pattern = "poverty|unemployment|employment")
```

wbsources

Download updated data source information from World Bank API

Description

Download updated information on available data sources from the World Bank API

Usage

```
wbsources(lang = c("en", "es", "fr", "ar", "zh"))
```

Arguments

lang Language in which to return the results. If lang is unspecified, english is the default.

Value

A data frame of available data sources with related information

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for lang are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

wbstats	<i>wbstats: An R package for searching and downloading data from the World Bank API.</i>
---------	--

Description

The wbstats package provides structured access to data available from the World Bank API including; support for multiple languages, access to annual, quarterly, and monthly data.

wbtopics	<i>Download updated indicator topic information from World Bank API</i>
----------	---

Description

Download updated information on available indicator topics from the World Bank API

Usage

```
wbtopics(lang = c("en", "es", "fr", "ar", "zh"))
```

Arguments

lang	Language in which to return the results. If lang is unspecified, english is the default.
------	--

Value

A data frame of available indicator topics with related information

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wbdatacatalog](#). The options for lang are:

- en: English
- es: Spanish
- fr: French
- ar: Arabic
- zh: Mandarin

wb_cache	<i>Download an updated list of country, indicator, and source information</i>
----------	---

Description

Download an updated list of information regarding countries, indicators, sources, regions, indicator topics, lending types, income levels, and supported languages from the World Bank API

Usage

```
wb_cache(lang)
```

Arguments

lang	Language in which to return the results. If lang is unspecified, english is the default. For supported languages see wb_languages() . Possible values of lang are in the iso2 column. A note of warning, not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA.
------	--

Value

A list containing the following items:

- countries: The result of calling [wb_countries\(\)](#)
- indicators: The result of calling [wb_indicators\(\)](#)
- sources: The result of calling [wb_sources\(\)](#)
- topics: The result of calling [wb_topics\(\)](#)
- regions: The result of calling [wb_regions\(\)](#)
- income_levels: The result of calling [wb_income_levels\(\)](#)
- lending_types: The result of calling [wb_lending_types\(\)](#)
- languages: The result of calling [wb_languages\(\)](#)

Note

Not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA. For an enumeration of supported languages by data source please see [wb_languages\(\)](#)

Saving this return and using it has the cache parameter in [wb_data\(\)](#) and [wb_search\(\)](#) replaces the default cached version [wb_cachelist](#) that comes with the package itself

Examples

```
# the default is english. To specify another language use argument lang

# spanish
es_cache <- wb_cache(lang = "es")

# korean
ko_cache <- wb_cache(lang = "ko")

# possible values of lang are in the iso2 column in the languages data frame
example_iso2 <- wb_languages()$iso2[1]
wb_cache(lang = example_iso2)
```

wb_cachelist

Cached information from the World Bank API

Description

This data is a cached result of the [wb_cache](#) function. By default functions [wb_data](#) and [wb_search](#) use this data for the cache parameter.

Usage

```
wb_cachelist
```

Format

An object of class list of length 8.

wb_cachelist_dep

Cached information from the World Bank API

Description

This data is a cached result of the [wbcache](#) function. By default functions [wb](#) and [wbsearch](#) use this data for the cache parameter.

Usage

```
wb_cachelist_dep
```

Format

A list containing 7 data frames:

- `countries`: A data frame. The result of calling `wbcountries`
- `indicators`: A data frame. The result of calling `wbindicators`
- `sources`: A data frame. The result of calling `wbsources`
- `datacatalog`: A data frame. The result of calling `wbdatacatalog`
- `topics`: A data frame. The result of calling `wbtopics`
- `income`: A data frame. The result of calling `wbincome`
- `lending`: A data frame. The result of calling `wblending`

 wb_data

Download Data from the World Bank API

Description

This function downloads the requested information using the World Bank API

Usage

```
wb_data(
  indicator,
  country = "countries_only",
  start_date,
  end_date,
  return_wide = TRUE,
  mrv,
  mrnev,
  cache,
  freq,
  gapfill = FALSE,
  date_as_class_date = FALSE,
  lang
)
```

Arguments

- | | |
|------------------------|---|
| <code>indicator</code> | Character vector of indicator codes. These codes correspond to the <code>indicator_id</code> column from the <code>indicators</code> tibble of <code>wb_cache()</code> , <code>wb_cachelist</code> , or the result of running <code>wb_indicators()</code> directly |
| <code>country</code> | Character vector of country, region, or special value codes for the locations you want to return data for. Permissible values can be found in the <code>countries</code> tibble in <code>wb_cachelist</code> or by running <code>wb_countries()</code> directly. Specifically, values listed in the following fields <code>iso3c</code> , <code>iso2c</code> , <code>country</code> , <code>region</code> , <code>admin_region</code> , <code>income_level</code> and all of the <code>region_*</code> , <code>admin_region_*</code> , <code>income_level_*</code> , columns. As well as the following special values |

	<ul style="list-style-type: none"> • "countries_only" (Default) • "regions_only" • "admin_regions_only" • "income_levels_only" • "aggregates_only" • "all"
start_date	Numeric or character. If numeric it must be in %Y form (i.e. four digit year). For data at the subannual granularity the API supports a format as follows: for monthly data, "2016M01" and for quarterly data, "2016Q1". This also accepts a special value of "YTD", useful for more frequently updated subannual indicators.
end_date	Numeric or character. If numeric it must be in %Y form (i.e. four digit year). For data at the subannual granularity the API supports a format as follows: for monthly data, "2016M01" and for quarterly data, "2016Q1".
return_wide	Logical. If TRUE data is returned in a wide format instead of long, with a column named for each indicator_id or if the indicator argument is a named vector, the <code>names()</code> given to the indicator will be the column names. To necessitate this transformation, the indicator column that provides the human readable description is dropped, but provided as a column label. Default is TRUE
mrsv	Numeric. The number of Most Recent Values to return. A replacement of start_date and end_date, this number represents the number of observations you wish to return starting from the most recent date of collection. This may include missing values. Useful in conjunction with freq
mrnev	Numeric. The number of Most Recent Non Empty Values to return. A replacement of start_date and end_date, similar in behavior as mrsv but excludes locations with missing values. Useful in conjunction with freq
cache	List of tibbles returned from <code>wb_cache()</code> . If omitted, <code>wb_cachelist</code> is used
freq	Character String. For fetching quarterly ("Q"), monthly("M") or yearly ("Y") values. Useful for querying high frequency data.
gapfill	Logical. If TRUE fills in missing values by carrying forward the last available value until the next available period (max number of periods back tracked will be limited by mrsv number). Default is FALSE
date_as_class_date	Logical. If TRUE the date field is returned as class <code>Date</code> , useful when working with non-annual data or data at mixed resolutions. Default is FALSE available value until the next available period (max number of periods back tracked will be limited by mrsv number). Default is FALSE
lang	Language in which to return the results. If lang is unspecified, english is the default. For supported languages see <code>wb_languages()</code> . Possible values of lang are in the iso2 column. A note of warning, not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA.

Details

obs_status column:

Indicates the observation status for location, indicator and date combination. For example "F" in the response indicates that the observation status for that data point is "forecast".

Value

a [tibble](#) of all available requested data.

Examples

```
# gdp for all countries for all available dates
df_gdp <- wb_data("NY.GDP.MKTP.CD")

# Brazilian gdp for all available dates
df_brazil <- wb_data("NY.GDP.MKTP.CD", country = "br")

# Brazilian gdp for 2006
df_brazil_1 <- wb_data("NY.GDP.MKTP.CD", country = "brazil",
  start_date = 2006)

# Brazilian gdp for 2006-2010
df_brazil_2 <- wb_data("NY.GDP.MKTP.CD", country = "BRA",
  start_date = 2006, end_date = 2010)

# Population, GDP, Unemployment Rate, Birth Rate (per 1000 people)
my_indicators <- c("SP.POP.TOTL",
  "NY.GDP.MKTP.CD",
  "SL.UEM.TOTL.ZS",
  "SP.DYN.CBRT.IN")

df <- wb_data(my_indicators)

# you pass multiple country ids of different types
# Albania (iso2c), Georgia (iso3c), and Mongolia
my_countries <- c("AL", "Geo", "mongolia")
df <- wb_data(my_indicators, country = my_countries,
  start_date = 2005, end_date = 2007)

# same data as above, but in long format
df_long <- wb_data(my_indicators, country = my_countries,
  start_date = 2005, end_date = 2007,
  return_wide = FALSE)

# regional population totals
# regions correspond to the region column in wb_cachelist$countries
df_region <- wb_data("SP.POP.TOTL", country = "regions_only",
  start_date = 2010, end_date = 2014)
```

```
# a specific region
df_world <- wb_data("SP.POP.TOTL", country = "world",
                  start_date = 2010, end_date = 2014)

# if the indicator is part of a named vector the name will be the column name
my_indicators <- c("pop" = "SP.POP.TOTL",
                  "gdp" = "NY.GDP.MKTP.CD",
                  "unemployment_rate" = "SL.UEM.TOTL.ZS",
                  "birth_rate" = "SP.DYN.CBRT.IN")

df_names <- wb_data(my_indicators, country = "world",
                  start_date = 2010, end_date = 2014)

# custom names are ignored if returning in long format
df_names_long <- wb_data(my_indicators, country = "world",
                       start_date = 2010, end_date = 2014,
                       return_wide = FALSE)

# same as above but in Bulgarian
# note that not all indicators have translations for all languages
df_names_long_bg <- wb_data(my_indicators, country = "world",
                          start_date = 2010, end_date = 2014,
                          return_wide = FALSE, lang = "bg")
```

wb_end_point_info

World Bank Information End Points

Description

These functions are simple wrappers around the various useful API end points that are helpful for finding available data and filtering the data you are interested in when using [wb_data\(\)](#)

Usage

wb_countries(lang)

wb_topics(lang)

wb_sources(lang)

wb_regions(lang)

wb_income_levels(lang)

```
wb_lending_types(lang)
```

```
wb_languages()
```

Arguments

`lang` Language in which to return the results. If `lang` is unspecified, english is the default. For supported languages see [wb_languages\(\)](#). Possible values of `lang` are in the `iso2` column. A note of warning, not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA.

Value

A tibble of information about the end point

See Also

[wb_cache\(\)](#)

wb_indicators

Download Available Indicators from the World Bank

Description

This function returns a [tibble](#) of indicator IDs and related information that are available for download from the World Bank API

Usage

```
wb_indicators(lang, include_archive = FALSE)
```

Arguments

`lang` Language in which to return the results. If `lang` is unspecified, english is the default. For supported languages see [wb_languages\(\)](#). Possible values of `lang` are in the `iso2` column. A note of warning, not all data returns have support for languages other than english. If the specific return does not support your requested language by default it will return NA.

`include_archive`

logical. If TRUE indicators that have been archived by the World Bank will be included in the return. Data for these additional indicators are not available through the standard API and querying them using [wb_data\(\)](#) will not return data. Default is FALSE.

Examples

```
# can get a new list of available indicators by downloading new cache
fresh_cache <- wb_cache()
fresh_indicators <- fresh_cache$indicators

# or by running the wb_indicators() function directly
fresh_indicators <- wb_indicators()

# fresh indicators but in spanish
# a note of warning, please see the lang parameter description
fresco_indicators <- wb_indicators("es")

# include archived indicators
# see include_archive parameter description
indicators_with_achrive <- wb_indicators(include_archive = TRUE)
```

wb_search

*Search indicator information available through the World Bank API***Description**

This function allows finds indicators that match a search term and returns a data frame of matching results

Usage

```
wb_search(
  pattern,
  fields = c("indicator_id", "indicator", "indicator_desc"),
  extra = FALSE,
  cache,
  ignore.case = TRUE,
  ...
)
```

Arguments

pattern	Character string or regular expression to be matched
fields	Character vector of column names through which to search
extra	if FALSE, only the indicator ID and short name are returned, if TRUE, all columns of the cache parameter's indicators data frame are returned. Default is FALSE
cache	List of data frames returned from <code>wb_cache()</code> . If omitted, <code>wb_cachelist</code> is used
ignore.case	if FALSE, the pattern matching is case sensitive and if TRUE, case is ignored during matching. Default is TRUE
...	Any additional <code>grep()</code> arguments you which to pass

Value

a [tibble](#) with indicators that match the search pattern.

Examples

```
wb_search(pattern = "education")

wb_search(pattern = "Food and Agriculture Organization", fields = "source_org")

# with regular expression operators
# 'poverty' OR 'unemployment' OR 'employment'
wb_search(pattern = "poverty|unemployment|employment")

# pass any other grep argument along as well
# everything without 'education'
wb_search(pattern = "education", invert = TRUE)

# contains "gdp" AND "trade"
wb_search("^(?=. *gdp)(?=.* *trade).*", perl = TRUE)

# contains "gdp" and NOT "trade"
wb_search("^(?=. *gdp)(?!.* *trade).*", perl = TRUE)
```

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