Package ‘bea.R’

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Title Bureau of Economic Analysis API

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Author Andrea Batch [aut, cre],
    Jeff Chen [ctb],
    Walt Kampas [ctb]

Depends R (>= 3.2.1), data.table

Imports httr, DT, shiny, jsonlite, googleVis, shinydashboard, ggplot2,
      stringr, chron, gtable, scales, htmltools, httpuv, xtable,
      stringi, magrittr, htmlwidgets, Rcpp, munsell, colorspace,
      plyr, yaml

Description Provides an R interface for the Bureau of Economic Analysis (BEA) API (see <http://www.bea.gov/API/bea_web_service_api_user_guide.htm> for more information) that serves two core purposes -
    1. To Extract/Transform/Load data [beaGet()] from the BEA API as R-friendly formats in the user’s work space [transformation done by default in beaGet()] can be modified using optional parameters; see, too, bea2List(), bea2Tab()]
    2. To enable the search of descriptive meta data [beaSearch()].
Other features of the library exist mainly as intermediate methods or are in early stages of development.
Important Note - You must have an API key to use this library.


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LazyData no

RoxygenNote 6.0.1

NeedsCompilation no

Maintainer Andrea Batch <Andrea.Julca@bea.gov>

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**bea2List**  
*Convert BEA API httr response payload to list*

**Description**

Convert BEA API httr response payload to list

**Usage**

bea2List(beaPayload, isMeta = FALSE)

**Arguments**

- beaPayload An object with httr class 'response' from call to BEA API
- isMeta Special parameter meant to interact with metadata functions (default: FALSE)

**Value**

An object of class 'list' of several dimensions. View list structure using 'str(yourList)'.

**Examples**

```r
userSpecList <- list('UserID' = 'yourKey',
'Method' = 'GetData',
'datasetname' = 'NIPA',
'Frequency' = 'A',
'TableID' = '68',
'Year' = 'X')
resp <- beaGet(userSpecList, asTable = FALSE)
BL <- bea2List(resp)
```
bea2Tab

Convert BEA API httr response or list payload to data.table

Description

Convert BEA API httr response or list payload to data.table. Also, converts LONG data frame (default API format - see bea2List results) to WIDE data (with years as columns) by default

Usage

bea2Tab(beaPayload, asWide = TRUE, iTableStyle = TRUE)

Arguments

beaPayload An object of class 'list' or httr 'response' returned from beaGet() call to BEA API
asWide Return data.table in wide format (default: TRUE)
iTableStyle If "asWide = TRUE", setting "iTableStyle = TRUE" will return data.table in same format as shown on BEA website, with dates and attributes as column headers and series as rows; otherwise, results have series codes as column headers (default: TRUE)

Value

An object of class 'data.table' containing data from beaGet(...) with custom attributes(BDT)$params.

Examples

userSpecList <- list('UserID' = 'yourKey', 'Method' = 'GetData', 'datasetname' = 'NIPA', 'Frequency' = 'A', 'TableID' = '68', 'Year' = 'X')
resp <- beaGet(userSpecList)
BDT <- bea2Tab(resp)

beaGet

Pass list of user specifications (including API key) to return data from BEA API.

Description

Pass list of user specifications (including API key) to return data from BEA API.
Usage

beaGet(beaSpec, asString = FALSE, asList = FALSE, asTable = TRUE,
        asWide = TRUE, isMeta = FALSE, iTableStyle = TRUE)

Arguments

beaSpec  A list of user specifications (required). In this example, 'GetData' specifies that
we want data values (rather than metadata), 'NIPA' specifies the dataset, 'A'
specifies that we want annual data, 'TableID' = '68' gets a specific table, and
'X' gets all years. See BEA API documentation or use metadata methods for
complete lists of parameters.

asString  Return result body as a string (default: FALSE)

asList  Return result body as a list (default: FALSE)

asTable  Return result body as a data.table (default: TRUE)

asWide  Return data.table in wide format (default: TRUE)

isMeta  Special parameter meant to interact with metadata functions (default: FALSE)

iTableStyle  If 'asWide = TRUE', setting "iTableStyle = TRUE" will return data.table in
same format as shown on BEA website, with dates and attributes as column
headers and series as rows; otherwise, results have series codes as column head-
ers (default: TRUE)

Value

By default, an object of class 'list' of several dimensions. View list structure using 'str(yourList)'.

Examples

userSpecList <- list('UserID' = 'yourAPIKey',
                     'Method' = 'GetData',
                     'datasetname' = 'NIPA',
                     'Frequency' = 'A',
                     'TableID' = '68',
                     'Year' = 'X')

BDT <- beaGet(userSpecList, asTable = TRUE)

beaParams  Gives list of parameters possible for a given dataset

Description

Gives list of parameters possible for a given dataset

Usage

beaParams(beaKey, setName)
**beaParamVals**

**Arguments**

beaKey       Your API key  
setName      Name of BEA dataset (e.g., 'NIPA')

**Value**

A metadata object of class 'list' of several dimensions. View list structure using 'str(yourList)'.

**Examples**

beaParams('yourAPIkey', 'RegionalData')

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| beaParamVals | Gives list of values possible for a given dataset's parameters |

**Description**

Gives list of values possible for a given dataset's parameters

**Usage**

beaParamVals(beaKey, setName, paramName)

**Arguments**

beaKey       Your API key  
setName      Name of BEA dataset (e.g., NIPA)  
paramName    Name of BEA dataset parameter (e.g., TableID)

**Value**

A metadata object of class 'list' of several dimensions. View list structure using 'str(yourList)'.

**Examples**

beaParamVals('yourAPIkey', 'RegionalData', 'keycode')
beaSearch  

*Search a selection of indexed BEA data table names, series labels, and series codes.*

**Description**

Searches indexed dataset table name, label, and series codes. **CAUTION:** Currently only works with NATIONAL datasets (NIPA, NIUnderlyingDetail, FixedAssets), temporarily excluding FixedAssets, and REGIONAL datasets (RegionalProduct, RegionalIncome)

**Usage**

```
beaSearch(searchTerm, beaKey = NULL, asHtml = FALSE)
```

**Arguments**

- `searchTerm`  
  A word or phrase of class `character` to be found in BEA datasets

- `beaKey`  
  Character string representation of user API key. Necessary for first time use and updates; recommended for anything beyond one-off searches from the console.

- `asHtml`  
  Option to return results as DT markup, viewable in browser. Allows search **WITHIN YOUR ALREADY-FILTERED RESULTS ONLY.** Requires package 'DT' to be installed.

**Value**

An object of class 'data.table' with information about all indexed sets in which the search term was found.

**Examples**

```
beaSearch('gross domestic product', asHtml = TRUE)
```

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beaSets  

*Returns a list of all datasets*

**Description**

Returns a list of all datasets

**Usage**

```
beaSets(beaKey)
```

**Arguments**

- `beaKey`  
  Your API key
Value
A metadata object of class 'list' of several dimensions. View list structure using 'str(yourList)'.

Examples
beaSets('yourAPIkey')

Description
Download BEA metadata into library/data folder if needed

Usage
beaUpdateMetadata(datasetList, beaKey)

Arguments

datasetList: list of BEA datasets to update local metadata file for (e.g., list('NIPA', 'FixedAssets'))

beaKey: Your API key

Value
Nothing. This updates local .RData files to be used in beaSearch.

Examples
beaUpdateMetadata(list('RegionalData', 'NIPA'), beaKey = 'yourAPIkey')

Description
Visualize BEA API response payload

Usage
beaViz(beaPayload = NULL, beaKey = NULL)
Arguments

beaPayload  An htt r response from call to BEA API
beaKey      Your 36-digit BEA API key

Examples

userSpecList <- list('UserID' = 'yourKey',
                     'Method' = 'GetData',
                     'datasetname' = 'NIPA',
                     'Frequency' = 'A',
                     'TableID' = '68',
                     'Year' = 'X')
resp <- beaGet(userSpecList)
BDF <- beaViz(resp)
userSpecList <- list('UserID' = 'yourKey',
                     'Method' = 'GetData',
                     'datasetname' = 'NIPA',
                     'Frequency' = 'A',
                     'TableID' = '68',
                     'Year' = 'X')
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