

Package ‘icesVocab’

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Title ICES Vocabularies Database Web Services

Version 1.3.2

Imports icesConnect (>= 1.1.4), memoise, cachem, rlang, httr

Suggests testthat (>= 3.0.0)

Description R interface to access the Vocabularies REST API of the ICES
(International Council for the Exploration of the Sea) Vocabularies database
<<https://vocab.ices.dk/services/>>.

License GPL-3

URL <https://vocab.ices.dk/services/api/swagger/index.html>,
<https://github.com/ices-tools-prod/icesVocab>

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BugReports <https://github.com/ices-tools-prod/icesVocab/issues>

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| | |
|-------------------|---|
| icesVocab-package | <i>Vocabularies Database Web Services</i> |
|-------------------|---|

Description

R interface to access the web services of the ICES Vocabularies database of reference codes.

Details

Get full tables:

| | |
|------------------------------|--------------------------|
| <code>getCodeTypeList</code> | all code code types |
| <code>getCodeList</code> | codes of a given type |
| <code>getCodeDetail</code> | details for a given code |

Look up specific codes:

| | |
|------------------------|--------------|
| <code>findAphia</code> | species code |
|------------------------|--------------|

Author(s)

Colin Millar and Arni Magnusson.

References

ICES Vocabularies database: <http://vocab.ices.dk>.

ICES Vocabularies web services: <http://vocab.ices.dk/services/POX.aspx>.

See Also

Useful links:

- <https://vocab.ices.dk/services/api/swagger/index.html>
- <https://github.com/ices-tools-prod/icesVocab>
- Report bugs at <https://github.com/ices-tools-prod/icesVocab/issues>

`findAphia`*Find Aphia Code*

Description

Look up Aphia code for a given species.

Usage

```
findAphia(species, latin = FALSE, regex = FALSE, full = FALSE)
```

Arguments

| | |
|----------------------|--|
| <code>species</code> | the species name, either in English (default) or Latin. |
| <code>latin</code> | whether the species name is in Latin. |
| <code>regex</code> | whether to match the species name as a regular expression. |
| <code>full</code> | whether to return a data frame with all species columns. |

Details

Species name matches are case-insensitive.

Value

A vector of Aphia codes (default) or a data frame if `full` is `TRUE`.

Author(s)

Arni Magnusson.

See Also

[getCodeList](#) can be used to get all Aphia codes; see example on that help page.
[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:
findAphia("cod")
findAphia("Gadus morhua", latin = TRUE)

# Multiple matches
findAphia(c("cod", "haddock", "saithe"))

# Regular expressions
findAphia("ray", regex = TRUE, full = TRUE)
findAphia("Sebastes", latin = TRUE, regex = TRUE, full = TRUE)

## End(Not run)
```

`findCode`*Find a Key*

Description

Look up a key for a given code and code type.

Usage

```
findCode(code_type, code, regex = TRUE, full = FALSE)
```

Arguments

| | |
|------------------------|---|
| <code>code_type</code> | a search string for a code type, e.g. SpecWoRMS, or simply worms. |
| <code>code</code> | a search string for a code, e.g. a species name, cod, or ship name, Clupea. |
| <code>regex</code> | whether to match as a regular expression. |
| <code>full</code> | whether to return a data frame. |

Details

Matches are case-insensitive.

Value

A vector of keys (default) or a data frame if `full` is `TRUE`.

See Also

[getCodeList](#) can be used to get all code types; see example on that help page.

[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:
findCode("aphia", "cod")

# Multiple matches
findCode("aphia", c("cod", "haddock", "saithe"), full = TRUE)

findCodeType("ship", full = TRUE)
findCode("ship", "clupea", full = TRUE)

## End(Not run)
```

| | |
|--------------|-------------------|
| findCodeType | <i>Find a Key</i> |
|--------------|-------------------|

Description

Find a lookup key corresponding to a code type.

Usage

```
findCodeType(code, date = NULL, regex = TRUE, full = FALSE)
```

Arguments

| | |
|-------|---|
| code | a code name, e.g. Gear Type, or DATRAS to find all DATRAS related codes. |
| date | restrict output to code types modified after a given date in yyyy-mm-dd format, e.g. "2010-12-01" |
| regex | whether to match the stock name as a regular expression. |
| full | whether to return a data frame with all stock list columns. |

Value

A vector of keys (default) or a data frame if full is TRUE.

See Also

[getCodeTypeList](#) gets a list of code types.

[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:  
findCodeType("worms")  
  
findCodeType("DATRAS", full = TRUE)  
  
findCodeType("DATRAS", full = TRUE, date = "2010-01-01")  
  
## End(Not run)
```

`getCodeDetail`*Get Details*

Description

Get details for a given code.

Usage

```
getCodeDetail(code_type, code)
```

Arguments

`code_type` the code type, e.g. SpecWoRMS.

`code` the code, e.g. 101170.

Value

A data frame.

See Also

[getCodeTypeList](#) and [getCodeList](#) get code types and codes of a given type.

[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:  
# Species code 101170 - Myxine glutinosa  
getCodeDetail("SpecWoRMS", 101170)  
  
# find details of Haddock using the aphia ID  
findCode("species", "haddock", full = TRUE)  
  
getCodeDetail("SpecWoRMS", 126437)  
  
# get info for had-34  
getCodeDetail("ICES_StockCode", "had-34")  
  
## End(Not run)
```

`getCodeList`*Get Codes*

Description

Get codes of a given code type.

Usage

```
getCodeList(code_type, code = NULL, date = NULL)
```

Arguments

| | |
|------------------------|---|
| <code>code_type</code> | the code type, e.g. SpecWoRMS. |
| <code>code</code> | optional code to restrict output to. |
| <code>date</code> | restrict output to codes modified after a given date in yyyy-mm-dd format, e.g. "2010-12-01". |

Value

A data frame.

See Also

[getCodeTypeList](#) and [getCodeDetail](#) get code types and code details.

[findCodeType](#) and [findAphia](#) provide support for searching the code type and code lists.

[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:  
# Aphia Species codes  
findCodeType("aphia", full = TRUE)  
codes <- getCodeList("SpecWoRMS")  
head(codes)  
  
findCode("ship", "clupea", full = TRUE)  
  
getCodeList("ICES_Area")  
getCodeList("ICES_Area", code = "27.4.a")  
  
## End(Not run)
```

| | |
|-----------------|------------------|
| getCodeTypeList | <i>Get Types</i> |
|-----------------|------------------|

Description

Get all code types. Mainly useful as a reminder of what code types are available.

Usage

```
getCodeTypeList(code_type = NULL, date = NULL)
```

Arguments

| | |
|-----------|---|
| code_type | optional parameter to restrict output to a specific code type. |
| date | restrict output to code types modified after a given date in yyyy-mm-dd format, e.g. "2010-12-01" |

Value

A data frame.

See Also

[getCodeList](#) and [getCodeDetail](#) get codes of a given type and code details.

[findCodeType](#) searches for a code types based on a search string.

[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:
# Find code type for World Register of Marine Species (WoRMS)
types <- getCodeTypeList()
types[grep("worms", tolower(types$Description)),]

# The code type "SpecWoRMS" can be used when calling getCodeTypeList()
getCodeTypeList(code_type = "SpecWoRMS")
# or using the guid
getCodeTypeList(code_type = "f107b677-97ff-4cd9-b4ab-637bb6706066")

findCodeType("worms", full = TRUE)

## End(Not run)
```

`getCodeTypeRelation` *Get Details*

Description

Get details for a given code.

Usage

```
getCodeTypeRelation(code_type, linked_code_type, rename = TRUE)
```

Arguments

| | |
|-------------------------------|---|
| <code>code_type</code> | an ICES Vocabulary code type. |
| <code>linked_code_type</code> | another ICES Vocabulary code type. |
| <code>rename</code> | logical, if TRUE (default) the columns of the output is renamed to the code type and linked code type |

Value

A data frame.

See Also

[getCodeTypeList](#) and [getCodeList](#) get code types and codes of a given type.
[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:  
x <- getCodeTypeRelation("Pargroup", "PARAM")  
  
# get all stocks in subarea 4a  
# note you would need to cross check with icesSD for  
# currently active stocks  
lookup <- getCodeTypeRelation("ICES_Area", "ICES_StockCode")  
lookup[lookup$ICES_Area == "27.4.a", ]  
  
# get relation between stock code and area, unformatted output  
lookup_raw <- getCodeTypeRelation("ICES_StockCode", "ICES_Area", rename = FALSE)  
head(lookup_raw)  
  
## End(Not run)
```

`linkCodes`*Get Links Between Two Code Types*

Description

Find parent or child linkages between the codes of two code types.

Usage

```
linkCodes(code_type, linked_code_type, codes = NULL, ...)
```

Arguments

`code_type` an ICES Vocabulary code type.
`linked_code_type` another ICES Vocabulary code type.
`codes` a vector of codes to restrict the output to.
... for back compatibility.

Value

A data frame.

Author(s)

Colin Millar.

See Also

[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:  
x <- linkCodes("Pargroup", "PARAM")  
# note it is much faster to use:  
# getCodeTypeRelation("Pargroup", "PARAM")  
# when getting a full lookup table.  
  
# get all areas for cod.27.1-2  
linkCodes("ICES_StockCode", "ICES_Area", codes = c("cod.27.1-2"))  
  
# get areas for cod.27.21, cod.27.24-32 and cod.27.46a7d20  
linkCodes("ICES_StockCode", "ICES_Area", codes = c("cod.27.21", "cod.27.24-32", "cod.27.46a7d20"))  
  
## End(Not run)
```

| | |
|-----------|------------------------------------|
| vocab_api | <i>Build a SAG web service url</i> |
|-----------|------------------------------------|

Description

utility to build a url with optional query arguments

Usage

```
vocab_api(service, ...)
```

Arguments

| | |
|---------|---|
| service | the name of the service |
| ... | name arguments will be added as queries |

Value

a complete url as a character string

Examples

```
vocab_api("hi", bye = 21)  
vocab_api("CodeType")
```

| | |
|-----------|------------------|
| vocab_get | <i>Get a url</i> |
|-----------|------------------|

Description

Get a url, optionally using an ICES authentication token

Usage

```
vocab_get(  
  url,  
  retry = TRUE,  
  quiet = !getOption("icesVocab.messages"),  
  verbose = FALSE,  
  content = TRUE  
)  
  
vocab_get_cached(  
  url,  
  retry = TRUE,
```

```
quiet = !getOption("icesVocab.messages"),
verbose = FALSE,
content = TRUE
)
```

Arguments

| | |
|---------|---|
| url | the url to get. |
| retry | should the get request be retried if first attempt fails? default TRUE. |
| quiet | should all messages be suppressed, default FALSE. |
| verbose | should verbose output form the http request be returned? default FALSE. |
| content | should content be returned, or the full http response? default TRUE, i.e. content is returned by default. |

Value

content or an http response.

Functions

- `vocab_get_cached()`: cached version of `vocab_get`

See Also

[vocab_api](#) builds a SAG web service url.
[icesVocab-package](#) gives an overview of the package.

Examples

```
## Not run:
vocab_get(vocab_api("StockList", year = 2022))

## End(Not run)
```

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