Package ‘ccmReportR’

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Title Wraps ‘CCM’ with Utility Functions
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**getAttribute**

*Get data from CCM for a specified record*

**Description**

`getAttribute()` queries CCM for details about a record. The parameter `optionsList` specifies the columns to return.

**Usage**

`getAttribute(Id, optionsList)`

**Arguments**

- **Id**
  - Character scalar. Names the record to obtain information about.

- **optionsList**
  - List object. Controls the behaviour of the query including the filter for the query, and data to return.

**Value**

If the query succeeds, a tibble containing data for the specified `Id`. Otherwise, a tibble of NA values.

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**getCaseAttribute**

*Get attributes related to a case*

**Description**

`getCaseAttribute()` specifies the object used to get related information about a case. This function wraps `getAttribute()` to allow iteration over multiple cases. See `getAttribute()`.

**Usage**

`getCaseAttribute(attribute, case)`

**Arguments**

- **attribute**
  - Character scalar. Names the CCM object to obtain related information about a case. One of the currently supported objects:
    1. `exposures`: Exposures
    2. `interventions`: Interventions
    3. `labResults`: Lab Results
    4. `outbreaks`: Outbreaks
    5. `riskFactor`: Risk Factors
getCases

6. symptoms: Symptoms

   case Character scalar or vector. Names the CCM Case Id to use when obtaining information.

Value

   a tibble of information related to a case.

See Also

   getAttribute() for information on how the CCM query is executed. getCases() for obtaining Case Id’s required for this function.

getCases Execute a SOQL query against the Case object

Description

getCases() returns a tibble of data from the CCM Case object. The Case object maps to Investigations on the client-side.

Usage

   getCases(
       confirmedOnly = FALSE,
       from = "1990-01-01",
       to = as.character(Sys.time()),
       columns = "Id",
       healthUnit = NULL
   )

Arguments

   confirmedOnly Logical scalar. Should the query limit results to confirmed cases? Returns confirmed and probable cases by default.
   from Character scalar. Identifies the start of the date range to include in the query. Defaults to the origin date of CCM.
   to Character scalar. Identifies the end of the date range to include in the query. Defaults to Sys.time() (i.e. today’s date and time).
   columns Character scalar or character vector. Names the columns to return from the Case object. Defaults to Id
   healthUnit Character vector or scalar. Names the Public Health Unit used to filter the query. getCases() filters on Permanent PHU. Defaults to NULL (i.e. no health unit filter).
Value

If the query succeeds, a tibble containing columns.

Examples

```r
## Not run:
Get all confirmed cases for Durham Region
cases <- getCases(
  confirmedOnly = TRUE,
  healthUnit = 'Durham Region Health Department'
)
Specify the data to return. This can be field names or labels
N.B. Names are case sensitive!
cases <- getCases(
  columns = c("Id", "Reported Date", "Episode Date", "CCM_Episode_Date_Type__c")
)
Limit the data to a specific time period.
cases <- getCases(
  from = "2020-10-12",
  to = "2020-10-17"
)
## End(Not run)
```

---

**getDBLabels**  
*Helper function for building SOQL queries*

**Description**

getDBLabels() retrieves the description of a specified object in CCM then searches for field names using the field label seen on the client-side.

**Usage**

```r
getDBLabels(table, colNames)
```

**Arguments**

- `table`  
  Character scalar. Names the CCM object which the function will use to search for field names.

- `colNames`  
  Character vector. Contains a combination field names and labels to search for in `table`.

**Value**

Character vector. Field names suitable for use in subsequent SOQL queries. Elements form `colNames` not found in `table` are removed from the results.
**getExposureAttribute**

*Get attributes related to an exposure*

**Description**

getExposureAttribute() specifies the object used to get related information about an exposure. This function wraps `getAttribute()` to allow iteration over multiple exposures. See `getAttribute()`.

**Usage**

```r
getExposureAttribute(attribute, exposure)
```

**Arguments**

- `attribute` character scalar. Names the CCM object used to obtain information about an exposure. One of the currently supported objects:
  1. investigations: Exposure Investigations
- `exposure` character scalar or vector. Names the CCM Exposure Id to obtain information about.

**Value**

A tibble of information related to an exposure.

**See Also**

- `getAttribute()` for information on how the CCM query is executed.
- `getExposures()` for obtaining Exposure Id’s required for this function.

**getExposures**

*Execute a SOQL query against the Exposure object*

**Description**

getExposures() returns a user-defined data from the CCM Exposure object. The Exposure object maps to Exposures on the client-side.

**Usage**

```r
getExposures(
  type = NULL,
  from = "1990-01-01",
  to = as.character(Sys.time()),
  columns = "Id",
  healthUnit = NULL
)
```
getExposures

Arguments

- **type**
  - Character vector or scalar. Names the exposure type used to filter the query. Defaults to all exposure types. One or more of:
    1. Community
    2. Congregate Living
    3. Household
    4. Institutional
    5. Travel

- **from**
  - Character scalar. Identifies the start of the date range to include in the query. Defaults to the origin date of CCM.

- **to**
  - Character scalar. Identifies the end of the date range to include in the query. Defaults to `Sys.time()` (i.e. today's date and time).

- **columns**
  - Character scalar or character vector. Names the columns to return from the exposure object. Defaults to `Id`.

- **healthUnit**
  - Character vector or scalar. Names the Public Health Unit used to filter the query. `getExposures()` filters on Exposure PHU. Defaults to NULL (i.e. no health unit filter).

Value

If the query succeeds, a tibble containing columns.

Examples

```r
## Not run:
Get all community exposures for Durham Region
exposures <- getExposures(
  type = 'Community',
  healthUnit = 'Durham Region Health Department'
)

Specify the data to return. This can be field names or labels
N.B. Names are case sensitive!
exposures <- getExposures(
  columns = c("Id", "Exposure Name", "CCM_Exposure_Setting__c")
)

Limit the data to a specific time period.
exposures <- getExposures(
  from = "2020-12-12",
  to = "2020-12-17"
)

## End(Not run)
```
getHealthUnitByName

Retrieve a Health Unit’s Id by name

Description

getHealthUnitByName() searches the PHU_Stage_Table__c object and returns the Id for the specified health unit.

Usage

getHealthUnitByName(healthUnitName)

Arguments

healthUnitName Character scalar or vector. Names the health unit to use when searching for an Id.

Value

If the query succeeds, a character scalar or vector of health unit Id’s. Otherwise, an error is returned.

getOutbreakAttribute

Get attributes related to an outbreak

Description

getOutbreakAttribute() specifies the object used to get related information about an outbreak. This function wraps getAttribute() to allow iteration over multiple outbreaks.

Usage

getOutbreakAttribute(attribute, outbreak)

Arguments

attribute Character scalar. Names the CCM object to obtain related information about a case. One of the currently supported objects:
  1. exposures
  2. investigations
  3. locations

outbreak Character scalar or vector. Names the Outbreak Id to use when obtaining information.

Value

A tibble of information related to an Outbreak.
getOutbreaks

See Also

getAttribute() for information on how the CCM query is executed. getOutbreaks() for obtaining Outbreak Ids required for this function.

getOutbreaks

Execute a SOQL query against the Outbreak object

Description

getOutbreaks() returns user-defined data from the CCM Outbreak object. The Outbreak object maps to Outbreaks on the client-side.

Usage

getOutbreaks(
  confirmedOnly = TRUE,
  openOnly = TRUE,
  healthUnit = NULL,
  from = "1990-01-01",
  to = as.character(Sys.Date()),
  columns = "Id"
)

Arguments

confirmedOnly Logical scalar. Should the query limit results to confirmed outbreaks? Returns confirmed and suspect outbreaks by default.

openOnly Logic scalar. Should the query limit results to open outbreaks? Returns open and closed outbreaks by default.

healthUnit Character vector or scalar. Names the Public Health Unit used to filter the query. getOutbreaks() filters on Primary Health Unit. Defaults to NULL (i.e. no health unit filter).

from Character scalar. Identifies the start of the date range to include in the query. Defaults to the origin date of CCM.

to Character scalar. Identifies the end of the date range to include in the query. Defaults to Sys.Date() (i.e. today’s date).

columns Character scalar or character vector. Names the columns to return from the Outbreak object. Defaults to Id.

Value

If the query succeeds, a tibble containing columns.
login

**Examples**

```r
## Not run:
Get all open outbreaks for Durham.
outbreaks <- getOutbreaks(
  confirmedOnly = FALSE,
  healthUnit = 'Durham Region Health Department'
)

Specify the data to return. This can be field names or labels
N.B. Names are case sensitive!
outbreaks <- getOutbreaks(
  columns = c("Id", "Outbreak Name", "Outbreak Number")
)

Limit the data to a specific time period.
outbreaks <- getOutbreaks(
  from = "2021-01-01",
  to = "2020-01-17"
)

## End(Not run)
```

---

**login**  
Obtain an access token to authorize requests

**Description**

This function implements the OAuth2.0 device grant flow see [https://tools.ietf.org/html/rfc6749#section-1.3.1](https://tools.ietf.org/html/rfc6749#section-1.3.1) and [https://help.salesforce.com/articleView?id=remoteaccess_oauth_device_flow.htm&type=5](https://help.salesforce.com/articleView?id=remoteaccess_oauth_device_flow.htm&type=5) for more information. The token is stored in the OS keyring.

**Usage**

```r
login()
```

**Value**

CCM access token for use in authorizing subsequent requests.

---

**makeTimestamp**  
Helper function for building ISO-8601 dates

**Description**

`makeTimestamp()` generates ISO-8601 formatted date strings in UTC. This is the format required to query datetime fields in CCM.
Usage

makeTimestamp(dateString)

Arguments

dateString  Character scalar. Names the date which the function will use to create the formatted datetime.

Value

Character scalar. An ISO-8601 formatted date in the UTC timezone suitable for use in CCM queries.
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