

Package ‘REDCapR’

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Title Interaction between R and REDCap

Description Encapsulates functions to streamline calls from R

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URL <http://ouhsc.edu/bbmc/>

Depends R(>= 2.14.0),stats

Imports methods,RCurl

Suggests devtools,ggplot2,knitr,plyr,scales,testit,testthat,xtable

License GPL

LazyData TRUE

BuildVignettes TRUE

VignetteBuilder knitr

Collate 'REDCapR-package.R' 'redcap_read.R' 'redcap_write.R'

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Description

REDCapR

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| redcap_read | <i>Read records from a REDCap project.</i> |
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Description

This function uses REDCap's [API](#) to select and return data.

Usage

```
redcap_read(redcap_uri, token, records = NULL,
            records_collapsed = NULL, fields = NULL,
            fields_collapsed = NULL, verbose = TRUE,
            cert_location = NULL)
```

Arguments

| | |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| redcap_uri | The URI of the REDCap project. Required. |
| token | The user-specific string that serves as the password for a project. Required. |
| records | An array, where each element corresponds to the ID of a desired record. Optional. |
| records_collapsed | A single string, where the desired ID values are separated by commas. Optional. |
| fields | An array, where each element corresponds a desired project field. Optional. |
| fields_collapsed | A single string, where the desired field names are separated by commas. Optional. |
| verbose | A boolean value indicating if messages should be printed to the R console during the operation. Optional. |
| cert_location | If present, this string should point to the location of the cert files required for SSL verification. If the value is missing or NULL, the server's identity will be verified using a recent CA bundle from the cURL website . See the details below. Optional. |

Details

I like how [PyCap](#) creates a 'project' object with methods that read and write from REDCap. However this isn't a style that R clients typically use. I like the logic that it's associated with a particular REDCap project that shouldn't change between calls. As a compromise, I think I'll wrap the uri, token, and cert location into a single S4 object that's passed to these methods. It will make these calls take less space.

The 'REDCapR' package includes a recent version of the [Bundle of CA Root Certificates](#) from the official [cURL site](#). This version is used by default, unless the 'cert_location' parameter is given another location.

Value

Currently, a list is returned with the following elements,

1. data: an R data.frame of the desired records and columns.

2. raw_csv: the text of comma separated values returned by REDCap through RCur1.
3. records_collapsed: the desired records IDs, collapsed into a single string, separated by commas.
4. fields_collapsed: the desired field names, collapsed into a single string, separated by commas.
5. elapsed_seconds: the duration of the function.
6. status_message: a boolean value indicating if the operation was apparently successful.

Author(s)

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References

The official documentation can be found on the ‘API Examples’ page on the REDCap wiki (<https://iwg.devguard.com/trac/redcap/wiki/ApiExamples>). A user account is required.

The official [cURL site](#) discusses the process of using SSL to verify the server being connected to.

Examples

```
library(REDCapR) #Load the package into the current R session.
uri <- "https://miechvprojects.ouhsc.edu/redcap/api/"
token <- "9446D2E3FAA71ABB815A2336E4692AF3"

#Return all records and all variables.
ds_all_rows_all_fields <- redcap_read(redcap_uri=uri, token=token)$data

#Return only records with IDs of 1 and 3
desired_records_v1 <- c(1, 3)
ds_some_rows_v1 <- redcap_read(
  redcap_uri=uri,
  token=token,
  records=desired_records_v1
)$data

#Return only the fields recordid, first_name, and age
desired_fields_v1 <- c("recordid", "first_name", "age")
ds_some_fields_v1 <- redcap_read(
  redcap_uri=uri,
  token=token,
  fields=desired_fields_v1
)$data
```

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