Epiverse-TRACE showcase

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MRCG
Pillar 1: data science tools for field epidemiology

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MRC Unit The Gambia

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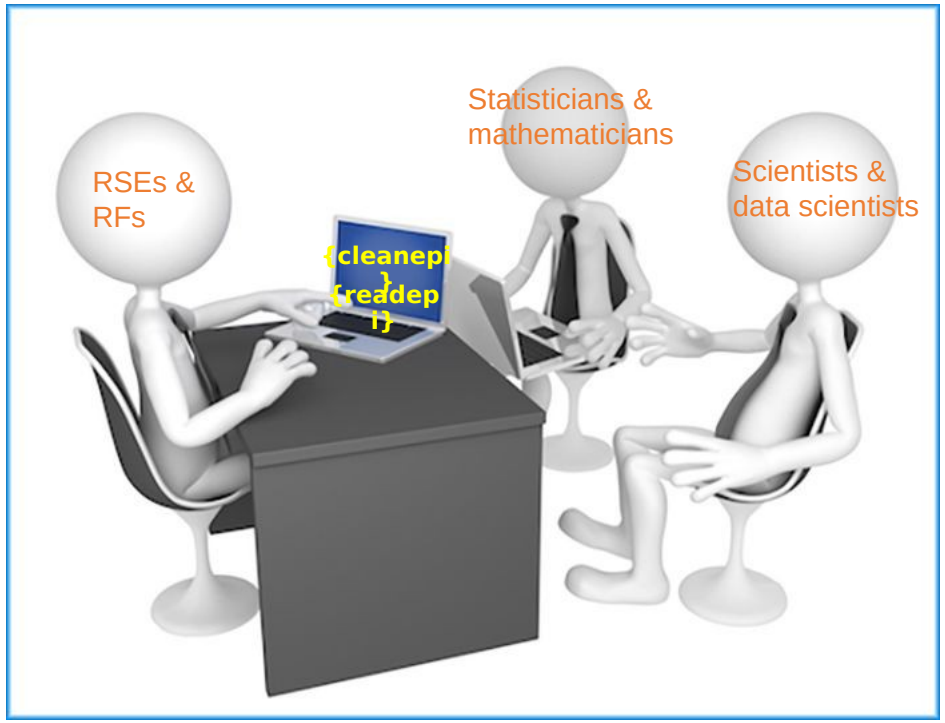
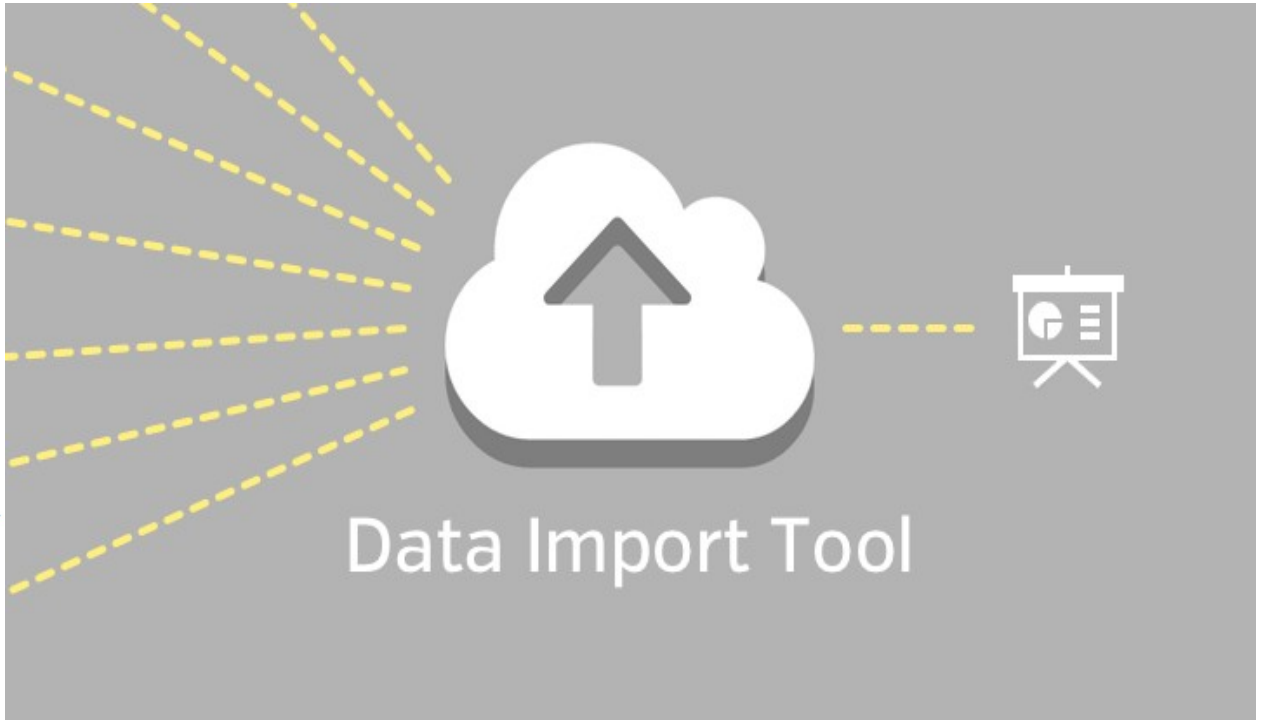


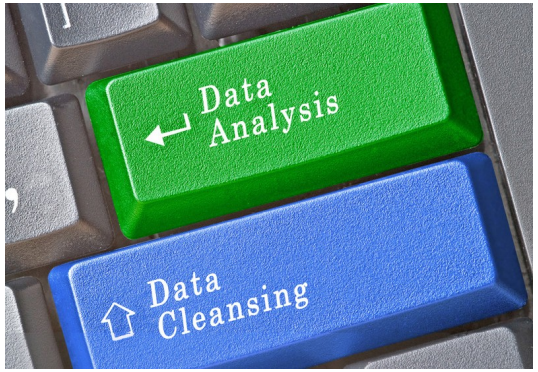
The challenges:

- Dealing with different HIS

SQLite
Fingertips | Public health data
Microsoft SQL Server
PostgreSQL
MySQL



Pillar 1:



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{readepi} 0.0.1

Stage of development:

Maturing

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Importing data from health information systems (HIS) including:

RDBMS *REDCap* *DHIS2* *Fingertips*

MySQL PostgreSQL Microsoft SQL Server

Fingertips | Public health data

https://epiverse-trace.github.io/readepi

epiverse-trace/readepi

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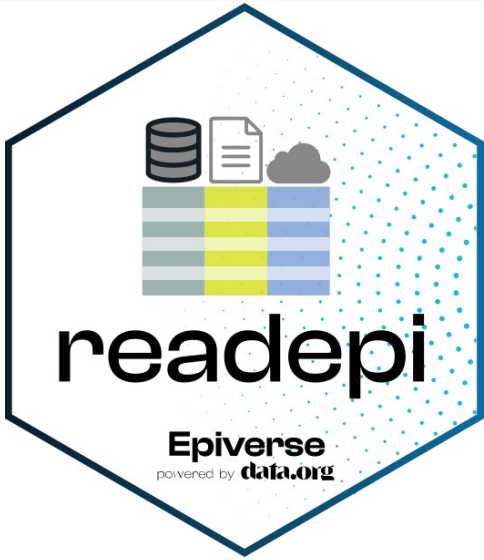
Wants to use {readepi}: 3 requirements

- Access to the HIS of interest
- User credentials to be saved in a file
- For MS servers, need installation of appropriate MS drivers on **Unix and OSX-based systems**

Return object type: **list**



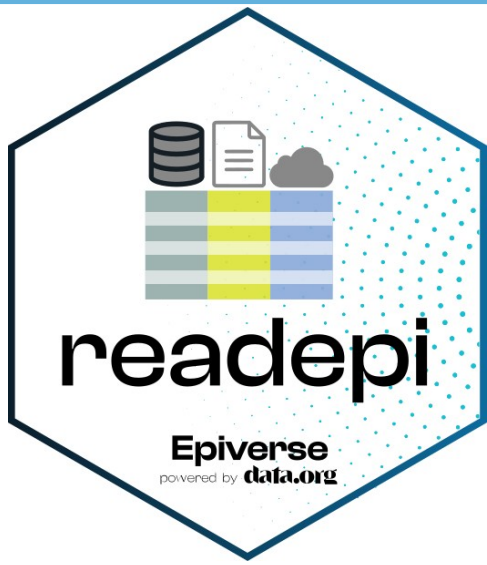
{readepi}: main arguments

- data_source: the URL of the target HIS
- records: a vector of subject IDs
- fields: a vector of column names
- id_position: the column position of the variable that unique identifies the subjects
- id_col_name: the name of the column that unique identifies the subjects
- … specific arguments to the HIS of interest

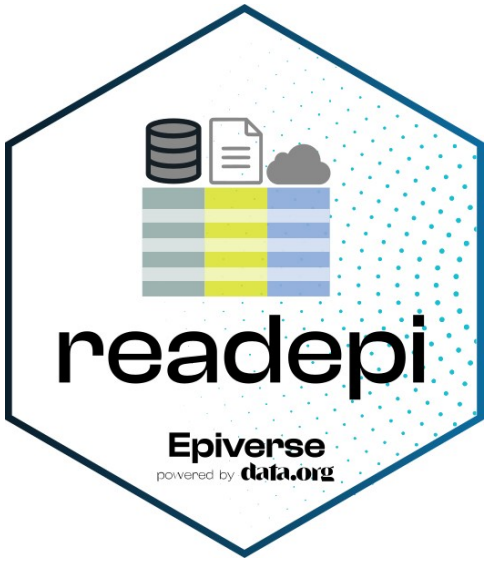
DISPLAY THE STRUCTUTRE OF THE TEMPLATE CREDENTIAL FILE

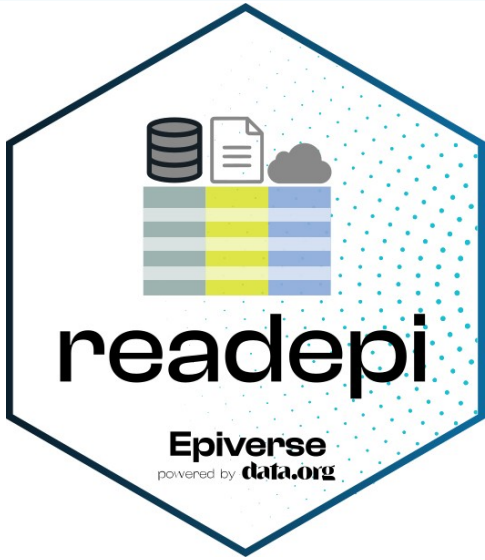
show_example_file()

user_name	password	host_name	project_id	comment	dbms	port
admin	district	https://play.dhis2.org/dev	DHIS2_DEMO	this is a test DHIS2 server	DHIS2	NA
rfamro		mysql-rfam-public.ebi.ac.uk	Rfam	this is a test MySQL server	MySQL	4497
kmane	9A81268476645C4E5F03428B8AC3AA7B	https://bbmc.ouhsc.edu/redcap/api/	SD_DATA	testing access to REDCap project	REDCap	NA

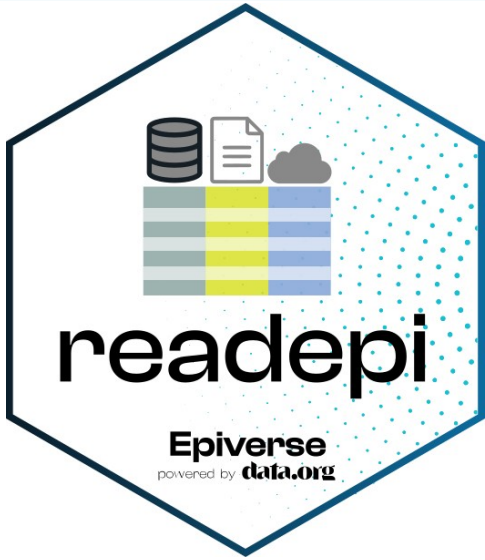


```
# DEFINE THE PATH TO THE CREDENTIAL FILE

credentials_file <- system.file("extdata", "test.ini", package = "readepi")


# READING FILE FROM A PROJECT IN A REDCap DATABASE

data <- readepi(data_source       = "https://bbmc.ouhsc.edu/redcap/api/",
                credentials_file  = credentials_file)


project_data       <- data$data     # accessing the actual data
project_metadeta     <- data$metadata # accessing the metadata
                                      associated with project
```

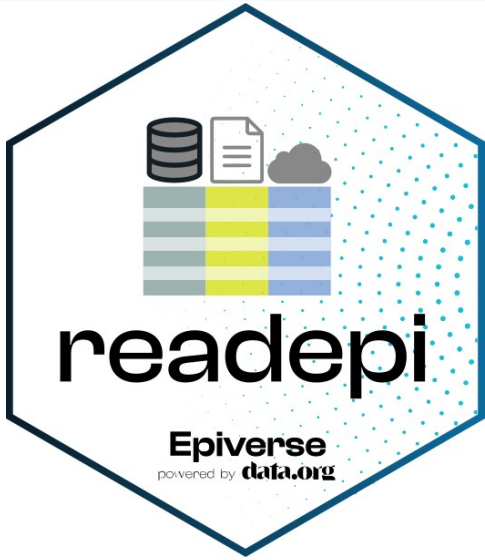





```
# VIEWING THE LIST OF ALL TABLES IN A MySQL DATABASE
show_tables(data_source      = "mysql-rfam-public.ebi.ac.uk",
            credentials_file = credentials_file,
            driver_name      = "") # note that this example      MySQL server
does not require a driver


# VISUAIZE FIRST 5 ROWS OF THE TABLE ‘author'
visualise_table(data_source      = "mysql-rfam-public.ebi.ac.uk",
                credentials_file  = credentials_file,
                from              = "author", # this is the table name
                driver_name       = "")
```




```
# READING ALL FILEDS AND RECORDS FROM A MySQL SERVER
data <- readepi(data_source    = "mysql-rfam-public.ebi.ac.uk",
                credentials_file = credentials_file,
                from             = "author", # could also be an SQL query
                driver_name      = "")

# READING  FROM DHIS2
 data <- readepi(data_source       = "https://play.dhis2.org/dev",
                    credentials_file   = credentials_file,
                  dataset           = "pBOMPrpg1QX",
                  organisation_unit  = "DiszpKrYNg8",
                  data_element_group = NULL,
                  start_date         = "2014",
                  end_date           = "2023")
```




```
# READING FROM THE FINGERTIPS REPOSITORY

data <- readepi(indicator_id       = 90362,
                area_type_id       = 202,
                parent_area_type_id = 6) # optional


# OPEN THE VIGNETTE WITHIN RSTUDIO
vignette("readepi")


# OPEN THE VIGNETTE IN YOUR WEB BROWSER
browseVignettes("readepi")
```