

Package ‘oxcovid19’

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Type Package

Title An R API to the Oxford COVID-19 Database

Version 0.1.0

Description The OxCOVID19 Project <<https://covid19.eng.ox.ac.uk>> aims to increase our understanding of the COVID-19 pandemic and elaborate possible strategies to reduce the impact on the society through the combined power of statistical, mathematical modelling, and machine learning techniques. The OxCOVID19 Database is a large, single-centre, multimodal relational database consisting of information (using acknowledged sources) related to COVID-19 pandemic. This package provides an R-specific interface to the OxCOVID19 Database based on widely-used data handling and manipulation approaches in R.

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Depends R (>= 2.10)

Imports DBI, RPostgres, dplyr, dbplyr, sf

Suggests testthat, covr, knitr, rmarkdown, magrittr, stringr,
RColorBrewer, ggplot2, DiagrammeR

Encoding UTF-8

Language en-gb

LazyData true

URL <https://github.com/como-ph/oxcovid19>

BugReports <https://github.com/como-ph/oxcovid19/issues>

RoxygenNote 7.1.1

VignetteBuilder knitr

NeedsCompilation no

Author Ernest Guevarra [aut, cre] (<<https://orcid.org/0000-0002-4887-4415>>),
Chris Mercado [aut] (<<https://orcid.org/0000-0002-5588-9543>>),
Robert Medina [aut] (<<https://orcid.org/0000-0001-6647-5453>>)

Maintainer Ernest Guevarra <ernest@guevarra.io>

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connect_oxcovid19	<i>Initiate a connection to the OxCOVID19 PostgreSQL database</i>
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Description

Initiate a connection to the OxCOVID19 PostgreSQL database

Usage

```
connect_oxcovid19(
  dbname = "covid19",
  host = "covid19db.org",
  port = 5432,
  user = "covid19",
  password = "covid19"
)
```

Arguments

dbname	Name of database. Default is "covid19". Unless OxCOVID19 Project changes database details, this should be kept as default.
host	Name of database host. Default is "covid19db.org". Unless OxCOVID19 Project changes database details, this should be kept as default.
port	Port specifications. Default is 5432. Unless OxCOVID19 Project changes database details, this should be kept as default.
user	User specifications. Default is "covid19". Unless OxCOVID19 Project changes database details, this should be kept as default.
password	Password specifications. Default is "covid19". Unless OxCOVID19 Project changes database details, this should be kept as default.

Value

A PostgreSQL connection to OxCOVID19 database

Author(s)

Ernest Guevarra

Examples

```
connect_oxcovid19()
```

data_sources *Data sources for OxCOVID19 Database*

Description

Data sources for OxCOVID19 Database

Usage

```
data_sources
```

Format

A named list of 5 tibbles of data sources.

epidemiology Tibble of sources for epidemiology table

government_response Tibble of sources for government response table

country_statistics Tibble of sources for country statistics table

mobility Tibble of sources for mobility table

weather Tibble of sources for weather table

Source

https://covid19.eng.ox.ac.uk/data_sources.html

Examples

```
data_sources
```

data_structures *Data structures for OxCOVID19 Database*

Description

Data structures for OxCOVID19 Database

Usage

data_structures

Format

A named list of 6 tibbles of data structures.

epidemiology Tibble of description of fields for epidemiology table

government_response Tibble of description of fields for government response table

country_statistics Tibble of description for fields for country statistics table

mobility Tibble of description for fields for mobility table

weather Tibble of description for fields for weather table

administrative_division Tibble of description for fields for administrative division table

Source

https://covid19.eng.ox.ac.uk/data_schema.html

Examples

data_structures

get_layer *Get specified spatial layer from OxCOVID19 Database*

Description

Get specified spatial layer from OxCOVID19 Database

Usage

```
get_layer(con, layer = "administrative_division", ccode, adm)
```

Arguments

con	Connection to OxCOVID19 Database. This can be specified using the connect_oxcovid19 function.
layer	Name of spatial layer available in OxCOVID19 Database. Currently, only administrative_division is a spatial layer.
ccode	Three character ISO country code for required country layers
adm	Numeric value for administrative level layer required.

Value

An object of sf class of the specified spatial layer

Author(s)

Ernest Guevarra

Examples

```
con <- connect_oxcovid19()
get_layer(con = con, ccode = "CHN", adm = 1)
```

get_table

Get specified table from OxCOVID19 Database

Description

Get specified table from OxCOVID19 Database

Usage

```
get_table(con, tbl_name)
```

Arguments

con	Connection to OxCOVID19 Database. This can be specified using the connect_oxcovid19 function.
tbl_name	Name of table available in OxCOVID19 Database. Should be one of the table names given by a call to list_tables.

Value

An RPostgres_tbl object of the specified OxCOVID19 Database table

Author(s)

Ernest Guevarra

Examples

```
con <- connect_oxcovid19()
get_table(con = con, tbl_name = "epidemiology")
```

list_fields	<i>List out field names of specific tables available from OxCOVID19 Database</i>
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Description

List out field names of specific tables available from OxCOVID19 Database

Usage

```
list_fields(con = connect_oxcovid19(), tab = list_tables())
```

Arguments

con	A PqConnection class object specifying the PostgreSQL connection to OxCOVID19 Database. This is produced by connect_covid19 function
tab	A character vector specifying table name/s to extract field names from. Must be a value included when a call to list_names is issued. Default is character vector of all table names specified by list_names.

Value

A named list of field names per specified table available from OxCOVID19 Database

Author(s)

Ernest Guevarra

Examples

```
list_fields()
```

<code>list_tables</code>	<i>List out names of tables available from OxCOVID19 Database</i>
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Description

List out names of tables available from OxCOVID19 Database

Usage

```
list_tables(con = connect_oxcovid19())
```

Arguments

<code>con</code>	A PqConnection class object specifying the PostgreSQL connection to OxCOVID19 Database. This is produced by <code>connect_covid19</code> function
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Value

A vector of table names available from OxCOVID19 Database

Author(s)

Ernest Guevarra

Examples

```
list_tables()
```

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