

Package ‘MDMAPR’

February 26, 2021

Type Package

Title Molecular Detection Mapping and Analysis Platform

Version 0.1.0

Author Alka Benawra <alkabenawra@rogers.com>

Maintainer Alka Benawra <alkabenawra@rogers.com>

Description Runs a Shiny web application that merges raw 'qPCR' fluorescence data with related metadata to visualize species presence/absence detection patterns and assess data quality. The application calculates threshold values from raw fluorescence data using a method based on the second derivative method, Luu-The et al (2005) <doi:10.2144/05382RR05>, and utilizes the 'chipPCR' package by Rödiger, Burdukiewicz, & Schierack (2015) <doi:10.1093/bioinformatics/btv205> to calculate Cq values. The application has the ability to connect to a custom developed MySQL database to populate the applications interface. The application allows users to interact with visualizations such as a dynamic map, amplification curves and standard curves, that allow for zooming and/or filtering. It also enables the generation of customized exportable reports based on filtered mapping data.

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 7.1.1

URL <https://github.com/AlkaBenawra/MDMAPR>

BugReports <https://github.com/AlkaBenawra/MDMAPR/issues>

Imports RMySQL, shinydashboard, DBI, DT, leaflet, leaflet.extras, shinyjs, ggplot2, dplyr, readxl, plotly, reactable, writextl, xfun, berryFunctions, shinyWidgets, shiny, htmltools, methods, utils, stats

NeedsCompilation no

Repository CRAN

Date/Publication 2021-02-26 10:00:06 UTC

R topics documented:

| | |
|-----------------------|----------|
| dbInstance | 2 |
| dbVariables | 3 |
| launchApp | 4 |
| Index | 5 |

| | |
|------------|---|
| dbInstance | <i>Indicates whether MDMAPR is connected to a database instance or not.</i> |
|------------|---|

Description

Function to indicate if MDMAPR will be run with a database instance. If MDMAPR is to be run with a database connection, update dbInstance to "Yes" and if not, update dbInstance to "No". If the application is run with a database connection update the dbVariables function with the correct database connection details before launching app.

Usage

```
dbInstance(x)
```

Arguments

| | |
|---|--|
| x | defines if there is a database connection or not. Must be either updated to "Yes" or "No". |
|---|--|

Details

dbInstance

Value

No return value.

Examples

```
dbInstance("Yes")
dbInstance("No")
```

| | |
|-------------|---|
| dbVariables | <i>Information needed to connect to a local or remote MDMAPR MySQL database instance.</i> |
|-------------|---|

Description

Function stores username, password, database name, and host name for database instance to connect to. Please ensure dbInstance() is set to "Yes" if you are running the application with a database connection.

Usage

```
dbVariables(user, password, dbname, host)
```

Arguments

| | |
|----------|--|
| user | defines username for database connection. |
| password | defines password for database connection. |
| dbname | defines name of database connection. |
| host | defines host name for database connection. |

Details

dbVariables

Value

No return value.

Examples

```
dbVariables(user = "root",  
password = "Test23!",  
dbname = 'MDMap_2.0',  
host = "127.0.0.1")
```

`launchApp`*Launch the MDMAPR app.*

Description

This function runs the MDMAPR Shiny web application. Please update the `dbInstance` function first to specify if you are running the application with or without a database connection. If you are running the application with a database, then after updating the `dbInstance` function, run the `dbVariables` function to input the variables needed to establish a connection to your MDMAPR MySQL database instance. Then run `launchApp()` to launch app.

Usage

```
launchApp()
```

Value

shiny application object

Index

dbInstance, [2](#)
dbVariables, [3](#)
launchApp, [4](#)