Package ‘GWSDAT’

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**Title**  GroundWater Spatiotemporal Data Analysis Tool (GWSDAT)

**Version**  3.1.1

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**Description**  Shiny application for the analysis of groundwater monitoring data, designed to work with simple time-series data for solute concentration and ground water elevation, but can also plot non-aqueous phase liquid (NAPL) thickness if required. Also provides the import of a site basemap in GIS shapefile format.

**License**  GPL-3

**Depends**  R (>= 3.5.0)

**Imports**  deldir, digest, geometry, Kendall, lattice, lubridate, MASS, Matrix, officer (>= 0.3.8), raster, readxl, rhandsontable, sf, shiny, shinyCSSloaders, shinydashboard, shinyjs, sm, sp, splancs, zoo

**Suggests**  DBI, RSQLite

**Encoding**  UTF-8

**RoxygenNote**  7.1.1

**NeedsCompilation**  no

**Repository**  CRAN

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createOptions  
Create a list with default start options.

Description

createOptions creates a list with start options that can be modified and passed as argument to launchApp.

Usage

createOptions(site_name = NULL)

Arguments

site_name  
An arbitrary string containing the name of the monitoring site.

Value

A list containing essential model parameters and start options.

Examples

```r
opt <- createOptions("New Site 1")
opt$PSplineVars$nseg <- 10  # modify model parameter for p-splines.
opt$WellDataFilename <- 'path_to_concentration_file.csv'
opt$WellCoordsFilename <- 'path_to_well_coordinate_file.csv'
if(interactive()) {
launchApp(opt)
}
```

launchApp  
Launches the GWSDAT Shiny application.

Description

The shiny application can run in multi or single data mode. If no parameter is specified with launchApp, the application starts in multi data mode, which includes a data manager and several data import facilities. If the parameter `session_file` was specified, the application launches in single data mode, which is limited to the analysis of the data specified by `session_file`.

Usage

```r
launchApp(GWSDAT_Options, session_file)
```
launchApp

Arguments

GWSDAT_Options  A list of start options created with \texttt{createOptions}.
session_file  Path to \texttt{.rds} file containing a GWSDAT analysis session.

Value

None

Examples

\begin{verbatim}
if(interactive()) {
  launchApp(session_file = "path_to_GWSDAT_session.rds")  # launch in single data mode.
  launchApp()  # launch in multi data mode
}
\end{verbatim}
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