

Package ‘periscope2’

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Type Package

Title Enterprise Streamlined 'shiny' Application Framework Using 'bs4Dash'

Version 0.2.3

Description A framework for building enterprise, scalable and UI-standardized 'shiny' applications. It brings enhanced features such as 'bootstrap' v4 <<https://getbootstrap.com/docs/4.0/getting-started/introduction/>>, additional and enhanced 'shiny' modules, customizable UI features, as well as an enhanced application file organization paradigm. This update allows developers to harness the ability to build powerful applications and enriches the 'shiny' developers' experience when building and maintaining applications.

URL <https://github.com/Aggregate-Genius/periscope2>,
<http://periscopeapps.org:3838>

BugReports <https://github.com/Aggregate-Genius/periscope2/issues>

License GPL-3

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add_ui_body

Add UI elements to dashboard body section

Description

Builds application body with given configurations and elements. It is called within "ui_body.R".
Check example application for detailed example

Usage

```
add_ui_body(body_elements = NULL, append = FALSE)
```

Arguments

`body_elements` List of UI elements to be displayed in application body

`append` Add elements to current body elements or remove previous body elements (default = FALSE)

Value

list of both shiny UI elements and html div tags for alert and linking app JS and CSS files

Shiny Usage

Call this function from `program/ui_body.R` to set body parameters

See Also

[bs4Dash:bs4DashBody\(\)](#)
[periscope2:add_ui_footer\(\)](#)
[periscope2:add_ui_left_sidebar\(\)](#)
[periscope2:add_ui_header\(\)](#)
[periscope2:add_ui_right_sidebar\(\)](#)
[periscope2:ui_tooltip\(\)](#)
[periscope2:get_url_parameters\(\)](#)

Examples

```
library(shiny)
library(bs4Dash)
# Inside ui_body.R
about_box <- jumbotron(title = "periscope2: Test Example",
  lead = p("periscope2 is a scalable and UI-standardized 'shiny' framework
    including a variety of developer convenience functions"),
  status = "info",
  href = "https://periscopeapps.org/")
# -- Register Elements in the ORDER SHOWN in the UI
add_ui_body(list(about_box))
```

add_ui_footer *Add UI elements to dashboard footer section*

Description

Builds application footer with given configurations and elements. It is called within "ui_footer.R". Check example application for detailed example

Usage

```
add_ui_footer(left = NULL, right = NULL, fixed = FALSE)
```

Arguments

left	Left side UI elements
right	Right side UI elements
fixed	Always show footer at page bottom regardless page scroll location (default = FALSE).

Value

list of both shiny UI elements and named footer properties

Shiny Usage

Call this function from program/ui_footer.R to set footer parameters

See Also

- [bs4Dash:bs4DashFooter\(\)](#)
- [periscope2:add_ui_left_sidebar\(\)](#)
- [periscope2:add_ui_header\(\)](#)
- [periscope2:add_ui_body\(\)](#)
- [periscope2:add_ui_right_sidebar\(\)](#)
- [periscope2:set_app_parameters\(\)](#)
- [periscope2:ui_tooltip\(\)](#)
- [periscope2:get_url_parameters\(\)](#)

Examples

```
library(shiny)
library(bs4Dash)

# Inside ui_footer.R
# Left text
left <- a(href = "https://periscopeapps.org/",
          target = "_blank",
          "periscope2")
# Right text
right <- "2022"

# -- Register Elements in the ORDER SHOWN in the UI
add_ui_footer(left, right)
```

add_ui_header

Add UI elements to dashboard header section

Description

Builds application header with given configurations and elements. It is called within "ui_header.R". These elements will be displayed in the header beside application title and application busy indicator.

Usage

```
add_ui_header(
  ui_elements = NULL,
  ui_position = "right",
  title = NULL,
  title_position = "center",
  left_menu = NULL,
  right_menu = NULL,
  border = TRUE,
  compact = FALSE,
  right_sidebar_icon = shiny::icon("bars"),
  fixed = FALSE,
  left_sidebar_icon = shiny::icon("th"),
  skin = "light",
  status = "white"
)
```

Arguments

ui_elements It can be any UI element but mostly used for navbarMenu. NULL by default. Check ?bs4Dash::navbarMenu()

ui_position	Location of UI elements in the header. Must be either of 'center', 'left' or 'right' Default value is 'right'.
title	Sets application title. If it is not NULL, it will override "title" value that is set in ?periscope2::set_app_parameters() (default = NULL)
title_position	Location of the title in the header. Must be either of 'center', 'left' or 'right' Default value is 'Center'. If there are no UI elements, this param will be ignored.
left_menu	Left menu. bs4DropdownMenu object (or similar dropdown menu). Check ?bs4Dash::bs4DropdownMenu()
right_menu	Right menu. bs4DropdownMenu object (or similar dropdown menu). Check ?bs4Dash::bs4DropdownMenu()
border	Whether to separate the navbar and body by a border. TRUE by default
compact	Whether items should be compacted. FALSE by default
right_sidebar_icon	Right sidebar toggle icon
fixed	Whether to fix the navbar to the top. FALSE by default
left_sidebar_icon	Left sidebar toggle icon
skin	Sidebar skin. "dark" or "light"
status	Sidebar status. Check ?bs4Dash::bs4DashNavbar() for list of valid values

Details

Application header consists of three elements::

busy indicator An automatic wait indicator that are shown when the shiny server session is busy

application title Display application title

heade menu Optional header menu to switch between application different tabs

Header elements can be arranged via ui_position and title_position parameters.

Header elements look and feel can also be configured in "`www\css\custom.css`" file under "**Application Header**" section.

Check example application for detailed example

Value

list of both shiny UI elements and named header properties

Shiny Usage

Call this function from program/ui_header.R to set header parameters

See Also

[bs4Dash:bs4DashNavbar\(\)](#)

[periscope2:set_app_parameters\(\)](#)

[periscope2:add_ui_footer\(\)](#)

```
periscope2:add_ui_left_sidebar()
periscope2:add_ui_body()
periscope2:add_ui_right_sidebar()
periscope2:ui_tooltip()
periscope2:get_url_parameters()
```

Examples

```
library(shiny)
library(bs4Dash)

# Inside ui_header.R
# Custom left UI menu
left_menu <- tagList(dropdownMenu(badgeStatus = "info",
                                  type          = "notifications",
                                  notificationItem(inputId = "triggerAction2",
                                                    text    = "Error!",
                                                    status  = "danger")),
                    dropdownMenu(badgeStatus = "info",
                                  type          = "tasks",
                                  taskItem(inputId = "triggerAction3",
                                           text    = "My progress",
                                           color   = "orange",
                                           value   = 10)))

# Custom right UI menu
right_menu <- dropdownMenu(badgeStatus = "danger",
                           type        = "messages",
                           messageItem(inputId = "triggerAction1",
                                        message = "message 1",
                                        from    = "Divad Nojnarg",
                                        time    = "today",
                                        color   = "lime"))

# -- Register Header Elements in the ORDER SHOWN in the UI
add_ui_header(left_menu = left_menu, right_menu = right_menu)
```

add_ui_left_sidebar *Add UI elements to dashboard left sidebar section*

Description

This function adds left sidebar configurations and UI elements. It is called within "ui_left_sidebar.R". Check example application for detailed example

Usage

```

add_ui_left_sidebar(
  sidebar_elements = NULL,
  sidebar_menu = NULL,
  collapsed = FALSE,
  custom_area = NULL,
  elevation = 4,
  expand_on_hover = TRUE,
  fixed = TRUE,
  minified = FALSE,
  status = "primary",
  skin = "light"
)

```

Arguments

sidebar_elements	List of regular shiny UI elements (inputText, textArea, etc..)
sidebar_menu	?bs4Dash::bs4SidebarMenu() object to created a menu inside left sidebar
collapsed	If TRUE, the sidebar will be collapsed on app start up
custom_area	List of regular shiny UI elements but for sidebar bottom space area only. Only works if sidebar is fixed
elevation	A number between 0 and 5, which applies a shadow to the sidebar to add a shadow effect.
expand_on_hover	When minified is TRUE, if this property is TRUE, the sidebar opens when hovering but re-collapses as soon as the focus is lost (default = TRUE)
fixed	Whether to see all menus at once without scrolling up and down.(default = TRUE)
minified	Whether to slightly close the sidebar but still show item icons (default = FALSE)
status	Determines which color menu items (if exist) will have Check ?bs4Dash::dashboardSidebar() for list of valid values
skin	Sidebar skin. "dark" or "light" (default = "light")

Value

list of both shiny UI elements and named left sidebar properties

Shiny Usage

Call this function from program/ui_left_sidebar.R to set left sidebar parameters

See Also

[bs4Dash:bs4DashSidebar\(\)](#)

[periscope2:add_ui_footer\(\)](#)


```

periscope2:add_ui_header()
periscope2:add_ui_body()
periscope2:add_ui_right_sidebar()
periscope2:ui_tooltip()
periscope2:get_url_parameters()

```

Examples

```

library(shiny)
library(bs4Dash)
# Inside ui_left_sidebar.R
# sidebar menu items
sidebar_elements <- textInput("text_id", "Test", "Test Data")
sidebar_menu      <- sidebarMenu(sidebarHeader("Main Menu"),
                                menuItem("menu item 1",
                                          tabName = "item_1 page"),
                                menuItem("menu item 2",
                                          tabName = "item_2 page"))
add_ui_left_sidebar(sidebar_elements = sidebar_elements,
                    sidebar_menu     = sidebar_menu)

```

add_ui_right_sidebar *Add UI elements to dashboard right sidebar section*

Description

Builds application right sidebar with given configurations and elements. It is called within "ui_right_sidebar.R". Check example application for detailed example

Usage

```

add_ui_right_sidebar(
  sidebar_elements = NULL,
  sidebar_menu     = NULL,
  collapsed        = TRUE,
  overlay          = TRUE,
  pinned           = FALSE,
  skin             = "light"
)

```

Arguments

sidebar_elements	List of regular shiny UI elements (inputText, textArea, etc..)
sidebar_menu	?bs4Dash:::controlbarMenu() object to created a menu inside right sidebar
collapsed	If TRUE, the sidebar will be collapsed on app startup (default = TRUE)

<code>overlay</code>	Whether the sidebar covers the content when expanded (default = TRUE)
<code>pinned</code>	If TRUE, allows right sidebar to remain open even after a click outside (default = FALSE)
<code>skin</code>	Sidebar skin. "dark" or "light" (default = "light")

Value

list of both shiny UI elements and named right sidebar properties

Shiny Usage

Call this function from `program/ui_right_sidebar.R` to set right sidebar parameters

See Also

[bs4Dash:bs4DashControlbar\(\)](#)
[periscope2:add_ui_footer\(\)](#)
[periscope2:add_ui_left_sidebar\(\)](#)
[periscope2:add_ui_header\(\)](#)
[periscope2:add_ui_body\(\)](#)
[periscope2:set_app_parameters\(\)](#)
[periscope2:ui_tooltip\(\)](#)
[periscope2:get_url_parameters\(\)](#)

Examples

```
library(shiny)
library(bs4Dash)

# Inside ui_right_sidebar.R
sidebar_elements <- list(div(checkboxInput("checkMe", "Example Check")))
sidebar_menu      <- controlbarMenu(id = "controlbarmenu",
                                   controlbarItem("Item 2", "Simple text"))
# -- Register Right Sidebar Elements in the ORDER SHOWN in the UI
add_ui_right_sidebar(sidebar_elements = sidebar_elements,
                    sidebar_menu      = sidebar_menu)
```

 announcementConfigurationsAddin

Build Announcement Module Configuration YAML File

Description

Call this as an addin to build valid yaml file that is needed for running announcements module. The generated file can be used in periscope2 app using [load_announcements](#).

Usage

```
announcementConfigurationsAddin()
```

Details

The method can be called directly via R console or via RStudio addins menu

Value

launch gadget window

See Also

[periscope2:load_announcements\(\)](#)

Examples

```
if (interactive()) {
  periscope2::announcementConfigurationsAddin()
}
```

 appReset

appReset module server function

Description

Server-side function for the appResetButton This is a custom high-functionality button for session reload. The server function is used to provide module configurations.

Usage

```
appReset(id, reset_wait = 5000, alert_location = "bodyAlert", logger)
```

Arguments

id	Character represents the ID of the Module's UI element (the same id used in appResetButton)
reset_wait	Integer represents the period to wait before session reload in milliseconds (default = 5000)
alert_location	Character represents div ID or selector to display module related messages (default = "bodyAlert")
logger	logger to use

Value

nothing, function will display a warning message in the app then reload the whole application

Shiny Usage

This function is not called directly by consumers - it is accessed in server_local.R (or similar file) using the same id provided in appResetButton:

```
appReset(id = "appResetId", logger = ss_userAction.Log)
```

See Also

[appResetButton](#)
[downloadFile](#)
[downloadFile_ValidateTypes](#)
[downloadFile_AvailableTypes](#)
[downloadablePlot](#)
[downloadFileButton](#)
[downloadableTable](#)
[logViewerOutput](#)

Examples

```
if (interactive()) {  
  library(shiny)  
  library(periscope2)  
  shinyApp(  
    ui = fluidPage(fluidRow(column(12, appResetButton(id = "appResetId")))),  
    server = function(input, output) {  
      appReset(id = "appResetId", logger = "")  
    }  
  )  
}
```

appResetButton	<i>appResetButton module UI function</i>
----------------	--

Description

Creates a toggle button to reset application session. Upon pressing on the button, its state is flipped to cancel application reload with application and console warning messages indicating that the application will be reloaded.

Usage

```
appResetButton(id)
```

Arguments

id	character id for the object
----	-----------------------------

Details

User can either resume reloading application session or cancel reloading process which will also generate application and console messages to indicate reloading status and result.

Value

an html div with prettyToggle button

Button Features

- Initial state label is "Application Reset" with warning status
- Reloading state label is "Cancel Application Reset" with danger status

Shiny Usage

Call this function at any place in UI section.

It is paired with a call to `appReset(id, ...)` in server

See Also

[appReset](#)
[downloadFile](#)
[downloadFile_ValidateTypes](#)
[downloadFile_AvailableTypes](#)
[downloadablePlot](#)
[downloadFileButton](#)
[downloadableTable](#)
[logViewerOutput](#)

Examples

```

if (interactive()) {
  library(shiny)
  library(periscope2)
  shinyApp(
    ui = fluidPage(fluidRow(column(12, appResetButton(id = "appResetId")))),
    server = function(input, output) {
      appReset(id = "appResetId", logger = "")
    }
  )
}

```

createPSAlert

Display alert panel at specified location

Description

Create an alert panel in server code to be displayed in the specified UI selector location

Usage

```

createPSAlert(
  session = shiny::getDefaultReactiveDomain(),
  id = NULL,
  selector = NULL,
  options
)

```

Arguments

session	Shiny session object
id	Anchor id (either id or selector only should be set)
selector	Character vector represents jQuery selector to add the alert to is (i.e ".alert-Class", div.badge-danger.navbar-badge). If 'id' is specified, this parameter will be neglected
options	List of options to pass to the alert

Value

html div and inserts it in the app DOM

Shiny Usage

Call this function from program/server_local.R or any other server file to setup the needed alert

See Also

[bs4Dash:closeAlert\(\)](#)
[periscope2:set_app_parameters\(\)](#)
[periscope2:ui_tooltip\(\)](#)
[periscope2:get_url_parameters\(\)](#)

Examples

```

library(shiny)
library(bs4Dash)

# Inside server_local.R
createPSAlert(id      = "sidebarRightAlert",
              options = list(title   = "Right Side",
                              status  = "success",
                              closable = TRUE,
                              content  = "Example Basic Sidebar Alert"))

# Test se
## a div with class "badge-danger.navbar-badge" must be exist in UI to display alert
selector <- "div.badge-danger.navbar-badge"
createPSAlert(selector = selector,
              options = list(title   = "Selector Title",
                              status  = "danger",
                              closable = TRUE,
                              content  = "Selector Alert"))

```

create_application *Create a new templated framework application*

Description

Creates ready-to-use templated application files using the periscope2 framework. The application can be created either empty (default) or with a sample/documented example application.

Usage

```

create_application(
  name,
  location,
  sample_app = FALSE,
  left_sidebar = TRUE,
  right_sidebar = FALSE
)

```

Arguments

name	name for the new application and directory
location	base path for creation of name
sample_app	whether to create a sample shiny application
left_sidebar	whether the left sidebar should be enabled. It can be TRUE/FALSE
right_sidebar	parameter to set the right sidebar. It can be TRUE/FALSE

Value

no return value, creates application folder structure and files

Name

The name directory must not exist in location. If the code detects that this directory exists it will abort the creation process with a warning and will not create an application template.

Use only filesystem-compatible characters in the name (ideally w/o spaces)

Directory Structure

```

name
-- log (log files)
-- program (user application)
-- -- config (application configuration files)
-- -- data (user application data)
-- -- fxn (user application function)
-- -- modules (application modules files)
-- www (supporting shiny files)
-- -- css (application css files)
-- -- img (application image files)
-- -- js (application js files)

```

File Information

All user application creation and modifications will be done in the **program** directory. The names & locations of the framework-provided .R files should not be changed or the framework will fail to work as expected.

name/program/config directory :

Use this location for configuration files.

name/program/data directory :

Use this location for data files. There is a **.gitignore** file included in this directory to prevent accidental versioning of data

name/program/fxn directory :

Use this location for supporting and helper R files.

name/program/modules directory :
Use this location for application new modules files.

name/program/global.R :
Use this location for code that would have previously resided in global.R and for setting application parameters using [set_app_parameters](#). Anything placed in this file will be accessible across all user sessions as well as within the UI context.

name/program/server_global.R :
Use this location for code that would have previously resided in server.R above (i.e. outside of) the call to `shinyServer(...)`. Anything placed in this file will be accessible across all user sessions.

name/program/server_local.R :
Use this location for code that would have previously resided in server.R inside of the call to `shinyServer(...)`. Anything placed in this file will be accessible only within a single user session.

name/program/ui_body.R :
Create body UI elements in this file and register them with the framework using a call to [add_ui_body](#)

name/program/ui_footer.R :
Create footer UI elements in this file and register them with the framework using a call to [add_ui_footer](#)

name/program/ui_header.R :
Create header UI elements in this file and register them with the framework using a call to [add_ui_header](#)

name/program/ui_left_sidebar.R :
Create sidebar UI elements in this file and register them with the framework using a call to [add_ui_left_sidebar](#)

name/program/ui_right_sidebar.R :
Create right sidebar UI elements in this file and register them with the framework using a call to [add_ui_right_sidebar](#)

name/www/css/custom.css :
This is the application custom styling css file. User can update application different parts style using this file.

name/www/js/custom.js :
This is the application custom javascript file.

name/www/periscope_style.yaml :
This is the application custom styling yaml file. User can update application different parts style using this file.

Do not modify the following files:

name\global.R
name\server.R

```
name\ui.R
name\www\img\loader.gif
name\www\img\tooltip.png
```

See Also

[bs4Dash:dashboardPage\(\)](#)
[waiter:waiter_show\(\)](#)

Examples

```
# sample app named 'mytestapp' created in a temp dir
location <- tempdir()
create_application(name = 'mytestapp', location = location, sample_app = TRUE)
unlink(paste0(location, '/mytestapp'), TRUE)

# sample app named 'mytestapp' with a right sidebar using a custom icon created in a temp dir
location <- tempdir()
create_application(name = 'mytestapp', location = location, sample_app = TRUE, right_sidebar = TRUE)
unlink(paste0(location, '/mytestapp'), TRUE)

# blank app named 'myblankapp' created in a temp dir
location <- tempdir()
create_application(name = 'myblankapp', location = location)
unlink(paste0(location, '/myblankapp'), TRUE)

# blank app named 'myblankapp' without a left sidebar created in a temp dir
location <- tempdir()
create_application(name = 'myblankapp', location = location, left_sidebar = FALSE)
unlink(paste0(location, '/myblankapp'), TRUE)
```

`create_left_sidebar` *Add the left sidebar to an existing application*

Description

User can update an existing application that does not have a left side bar and add a new empty one using this function.

Usage

```
create_left_sidebar(location)
```

Arguments

`location` path of the existing periscope2 application

Details

If conversion is successful, the following message will be returned *"Add left sidebar conversion was successful. File(s) updated: ui.R, ui_left_sidebar.R"*

If the function called on an application with an existing left bar, message *"Left sidebar already available, no conversion needed"* will be returned with no conversion

If the passed location is invalid, empty, not exist or not a valid periscope2 application, nothing will be added and a related error message will be printed in console

Value

no return value, creates left sidebar related UI R file and updates related source call in ui.R

See Also

[create_right_sidebar](#)

create_right_sidebar *Add the right sidebar to an existing application*

Description

User can update an existing application that does not have a right side bar and add a new empty one using this function.

Usage

```
create_right_sidebar(location)
```

Arguments

location path of the existing periscope2 application.

Details

If conversion is successful, the following message will be returned *"Add right sidebar conversion was successful. File(s) updated: ui.R, ui_right_sidebar.R"*

If the function called on an application with an existing right bar, message *"Right sidebar already available, no conversion needed"* will be returned with no conversion

If the passed location is invalid, empty, not exist or not a valid periscope2 application, nothing will be added and a related error message will be printed in console

Value

no return value, creates right sidebar related UI R file and updates related source call in ui.R

See Also

[create_left_sidebar](#)

downloadablePlot	<i>downloadablePlot module server function</i>
------------------	--

Description

Server-side function for the downloadablePlotUI. This is a custom plot output paired with a linked downloadFile button.

Usage

```
downloadablePlot(
  id,
  logger = NULL,
  filenameroot = "download",
  aspectratio = 1,
  downloadfxns = NULL,
  visibleplot
)
```

Arguments

id	the ID of the Module's UI element
logger	logger to use
filenameroot	the base text used for user-downloaded file - can be either a character string or a reactive expression returning a character string
aspectratio	the downloaded chart image width:height ratio (ex: 1 = square, 1.3 = 4:3, 0.5 = 1:2). Where not applicable for a download type it is ignored (e.g. data, html downloads)
downloadfxns	a named list of functions providing download images or data tables as return values. The names for the list should be the same names that were used when the plot UI was created.
visibleplot	function or reactive expression providing the plot to display as a return value. This function should require no input parameters.

Details

downloadFile button will be hidden if downloadablePlot parameter downloadfxns or downloadablePlotUI parameter downloadtypes is empty

Value

Reactive expression containing the currently selected plot to be available for display and download

Notes

When there are no values to download in any of the linked downloadfxns the button will be hidden as there is nothing to download.

downloadablePlotUI *downloadablePlot module UI function*

Description

Creates a custom plot output that is paired with a linked downloadFile button. This module is compatible with ggplot2, grob and lattice produced graphics.

Usage

```
downloadablePlotUI(
  id,
  downloadtypes = c("png"),
  download_hovertext = NULL,
  width = "100%",
  height = "400px",
  btn_halign = "right",
  btn_valign = "bottom",
  btn_overlap = TRUE,
  clickOpts = NULL,
  hoverOpts = NULL,
  brushOpts = NULL
)
```

Arguments

id	character id for the object
downloadtypes	vector of values for download types
download_hovertext	download button tooltip hover text
width	plot width (any valid css size value)
height	plot height (any valid css size value)
btn_halign	horizontal position of the download button ("left", "center", "right")
btn_valign	vertical position of the download button ("top", "bottom")
btn_overlap	whether the button should appear on top of the bottom of the plot area to save on vertical space (<i>there is often a blank area where a button can be overlaid instead of utilizing an entire horizontal row for the button below the plot area</i>)
clickOpts	NULL or an object created by the clickOpts function
hoverOpts	NULL or an object created by the hoverOpts function
brushOpts	NULL or an object created by the brushOpts function

Details

downloadFile button will be hidden if downloadablePlot parameter downloadfxns or downloadablePlotUI parameter downloadtypes is empty

Value

list of downloadFileButton UI and plot object

Example

```
downloadablePlotUI("myplotID", c("png", "csv"), "Download Plot or Data", "300px")
```

Notes

When there is nothing to download in any of the linked downloadfxns the button will be hidden as there is nothing to download.

This module is NOT compatible with the built-in (base) graphics (*such as basic plot, etc.*) because they cannot be saved into an object and are directly output by the system at the time of creation.

Shiny Usage

Call this function at the place in ui.R where the plot should be placed.

Paired with a call to `downloadablePlot(id, ...)` in server.R

See Also

[downloadablePlot](#)
[downloadFileButton](#)
[clickOpts](#)
[hoverOpts](#)
[brushOpts](#)
[appResetButton](#)
[appReset](#)
[downloadFile](#)
[downloadFile_ValidateTypes](#)
[downloadFile_AvailableTypes](#)
[downloadableTable](#)
[logViewerOutput](#)

Examples

```
if (interactive()) {  
  library(shiny)  
  library(ggplot2)  
  library(periscope2)  
  shinyApp(ui = fluidPage(fluidRow(column(width = 12,  
    downloadablePlotUI("object_id1",  
      downloadtypes = c("png", "csv"),  
      download_hovertext = "Download plot and data",  
      height = "500px",  
      btn_halign = "left")))),  
    server = function(input, output, session) {}))
```

```

server = function(input, output) {
  download_plot <- function() {
    ggplot(data = mtcars, aes(x = wt, y = mpg)) +
      geom_point(aes(color = cyl)) +
      theme(legend.justification = c(1, 1),
            legend.position      = c(1, 1),
            legend.title         = element_blank()) +
      ggtitle("GGPlot Example ") +
      xlab("wt") +
      ylab("mpg")
  }
  downloadablePlot(id          = "object_id1",
                  logger       = "",
                  filenameroot = "mydownload1",
                  downloadfxns = list(png = download_plot, csv = reactiveVal(mtcars)),
                  aspectratio  = 1.33,
                  visibleplot  = download_plot)
}
}

```

downloadableTable

downloadableTable module server function

Description

Server-side function for the downloadableTableUI. This is a custom high-functionality table paired with a linked downloadFile button.

Usage

```

downloadableTable(
  id,
  logger = NULL,
  filenameroot = "download",
  downloaddatafxns = NULL,
  tabledata,
  selection = NULL,
  table_options = list()
)

```

Arguments

id	the ID of the Module's UI element
logger	logger to use
filenameroot	the text used for user-downloaded file - can be either a character string, a reactive expression or a function returning a character string

downloaddatafxns	a named list of functions providing the data as return values. The names for the list should be the same names that were used when the table UI was created.
tabledata	function or reactive expression providing the table display data as a return value. This function should require no input parameters.
selection	function or reactive expression providing the row_ids of the rows that should be selected
table_options	optional table formatting parameters check ?DT::datatable for options full list. Also see example below to see how to pass options

Details

downloadFile button will be hidden if downloadableTable parameter downloaddatafxn or downloadableTableUI parameter downloadtypes is empty

Generated table can highly customized using function ?DT::datatable same arguments except for options and selection parameters.

For options user can pass the same ?DT::datatable options using the same names and values one by one separated by comma.

For selection parameter it can be either a function or reactive expression providing the row_ids of the rows that should be selected.

Also, user can apply the same provided ?DT::formatCurrency columns formats on passed dataset using format functions names as keys and their options as a list.

Value

Reactive expression containing the currently selected rows in the display table

Notes

- When there are no rows to download in any of the linked downloaddatafxns the button will be hidden as there is nothing to download.
- selection parameter has different usage than DT::datatable selection option. See parameters usage section.
- DT::datatable options editable, width and height are not supported

Shiny Usage

This function is not called directly by consumers - it is accessed in server.R using the same id provided in downloadableTableUI:

```
downloadableTable(id, logger, filenameroot, downloaddatafxns, tabledata, rownames, caption, selection)
```

Note: calling module server returns the reactive expression containing the currently selected rows in the display table.

See Also

[downloadableTableUI](#)
[downloadFileButton](#)
[logViewerOutput](#)
[downloadFile](#)
[downloadFile_ValidateTypes](#)
[downloadFile_AvailableTypes](#)
[downloadablePlot](#)

Examples

```

if (interactive()) {
  library(shiny)
  library(periscope2)
  shinyApp(ui = fluidPage(fluidRow(column(width = 12,
    downloadableTableUI("object_id1",
                          downloadtypes = c("csv", "tsv"),
                          hovertext     = "Download the data here!",
                          contentHeight = "300px",
                          singleSelect  = FALSE))),
    server = function(input, output) {
      mydataRowIds <- function(){
        rownames(head(mtcars))[c(2, 5)]
      }
      selectedrows <- downloadableTable(
        id           = "object_id1",
        logger       = "",
        filenameroot = "mydownload1",
        downloaddatafxns = list(csv = reactiveVal(mtcars), tsv = reactiveVal(mtcars)),
        tabledata     = reactiveVal(mtcars),
        selection     = mydataRowIds,
        table_options = list(rownames = TRUE,
                             caption  = "This is a great table!"))
      observeEvent(selectedrows(), {
        print(selectedrows())
      })
    })
}

```

downloadableTableUI *downloadableTable module UI function*

Description

Creates a custom high-functionality table paired with a linked downloadFile button. The table has search and highlight functionality, infinite scrolling, sorting by columns and returns a reactive dataset of selected items.

Usage

```
downloadableTableUI(
  id,
  downloadtypes = NULL,
  hovertext = NULL,
  contentHeight = "200px",
  singleSelect = FALSE
)
```

Arguments

<code>id</code>	character id for the object
<code>downloadtypes</code>	vector of values for data download types
<code>hovertext</code>	download button tooltip hover text
<code>contentHeight</code>	viewable height of the table (any valid css size value)
<code>singleSelect</code>	whether the table should only allow a single row to be selected at a time (FALSE by default allows multi-select).

Details

downloadFile button will be hidden if downloadableTable parameter `downloaddatafxn` or `downloadableTableUI` parameter `downloadtypes` is empty

Value

list of `downloadFileButton` UI and `DT` datatable

Table Features

- Consistent styling of the table
- `downloadFile` module button functionality built-in to the table (it will be shown only if `downloadtypes` is defined)
- Ability to show different data from the download data
- Table is automatically fit to the window size with infinite y-scrolling
- Table search functionality including highlighting built-in
- Multi-select built in, including reactive feedback on which table items are selected

Example

```
downloadableTableUI("mytableID", c("csv", "tsv"), "Click Here", "300px")
```

Notes

When there are no rows to download in any of the linked `downloaddatafxns` the button will be hidden as there is nothing to download.

Shiny Usage

Call this function at the place in ui.R where the table should be placed.

Paired with a call to `downloadableTable(id, ...)` in server.R

See Also

[downloadableTable](#)

[downloadFileButton](#)

[logViewerOutput](#)

[downloadFile](#)

[downloadFile_ValidateTypes](#)

[downloadFile_AvailableTypes](#)

[downloadablePlot](#)

Examples

```
if (interactive()) {
  library(shiny)
  library(periscope2)
  shinyApp(ui = fluidPage(fluidRow(column(width = 12,
    downloadableTableUI("object_id1",
      downloadtypes = c("csv", "tsv"),
      hovertext     = "Download the data here!",
      contentHeight = "300px",
      singleSelect  = FALSE))),
    server = function(input, output) {
      mydataRowIds <- function(){
        rownames(head(mtcars))[c(2, 5)]
      }
      selectedrows <- downloadableTable(
        id           = "object_id1",
        logger       = "",
        filenameroot = "mydownload1",
        downloaddatafxns = list(csv = reactiveVal(mtcars), tsv = reactiveVal(mtcars)),
        tabledata     = reactiveVal(mtcars),
        selection     = mydataRowIds,
        table_options = list(rownames = TRUE,
          caption = "This is a great table!"))
      observeEvent(selectedrows(), {
        print(selectedrows())
      })
    })
}
```

downloadFile	<i>downloadFile module server function</i>
--------------	--

Description

Server-side function for the downloadFileButton. This is a custom high-functionality button for file downloads supporting single or multiple download types. The server function is used to provide the data for download.

Usage

```
downloadFile(  
  id,  
  logger = NULL,  
  filenameroot = "download",  
  datafxns = NULL,  
  aspectratio = 1  
)
```

Arguments

id	ID of the Module's UI element
logger	logger to use
filenameroot	the base text used for user-downloaded file - can be either a character string or a reactive expression that returns a character string
datafxns	a named list of functions providing the data as return values. The names for the list should be the same names that were used when the button UI was created.
aspectratio	the downloaded chart image width:height ratio (ex: 1 = square, 1.3 = 4:3, 0.5 = 1:2). Where not applicable for a download type it is ignored (e.g. data downloads).

Value

no return value, called for downloading selected file type

Shiny Usage

This function is not called directly by consumers - it is accessed in server.R using the same id provided in downloadFileButton:

```
downloadFile(id, logger, filenameroot, datafxns)
```

See Also

[downloadFileButton](#)
[downloadFile_ValidateTypes](#)
[downloadFile_AvailableTypes](#)
[logViewerOutput](#)
[downloadablePlot](#)
[downloadableTableUI](#)
[downloadableTable](#)

Examples

```
if (interactive()) {  
  library(shiny)  
  library(periscope2)  
  shinyApp(ui = fluidPage(fluidRow(column(width = 6,  
    # single download type  
    downloadFileButton("object_id1",  
                        downloadtypes = c("csv"),  
                        hovertext     = "Button 1 Tooltip"),  
    column(width = 6,  
    # multiple download types  
    downloadFileButton("object_id2",  
                        downloadtypes = c("csv", "tsv"),  
                        hovertext     = "Button 2 Tooltip")))),  
  server = function(input, output) {  
    # single download type  
    downloadFile(id      = "object_id1",  
                 logger  = "",  
                 filenameroot = "mydownload1",  
                 datafxns = list(csv = reactiveVal(iris)),  
                 aspectratio = 1)  
    # multiple download types  
    downloadFile(id      = "object_id2",  
                 logger  = "",  
                 filenameroot = "mydownload2",  
                 datafxns = list(csv = reactiveVal(mtcars),  
                                   tsv = reactiveVal(mtcars)))  
  })  
}
```

Description

Creates a custom high-functionality button for file downloads with two states - single download type or multiple-download types. The button image and pop-up menu (if needed) are set accordingly. A tooltip can also be set for the button.

Usage

```
downloadFileButton(id, downloadtypes = c("csv"), hovertext = NULL)
```

Arguments

id	character id for the object
downloadtypes	vector of values for data download types
hovertext	tooltip hover text

Value

html span with tooltip and either shiny downloadButton in case of single download or shiny action-Button otherwise

Button Features

- Consistent styling of the button, including a hover tooltip
- Single or multiple types of downloads
- Ability to download different data for each type of download

Example

```
downloadFileUI("mybuttonID1", c("csv", "tsv"), "Click Here") downloadFileUI("mybuttonID2",  
"csv", "Click to download")
```

Shiny Usage

Call this function at the place in ui.R where the button should be placed.

It is paired with a call to downloadFile(id, ...) in server.R

See Also

[downloadFile](#)
[downloadFile_ValidateTypes](#)
[downloadFile_AvailableTypes](#)
[logViewerOutput](#)
[downloadablePlot](#)
[downloadableTableUI](#)
[downloadableTable](#)

Examples

```
if (interactive()) {
  library(shiny)
  library(periscope2)
  shinyApp(ui = fluidPage(fluidRow(column(width = 6,
    # single download type
    downloadFileButton("object_id1",
      downloadtypes = c("csv"),
      hovertext     = "Button 1 Tooltip"),
    column(width = 6,
    # multiple download types
    downloadFileButton("object_id2",
      downloadtypes = c("csv", "tsv"),
      hovertext     = "Button 2 Tooltip")))),
  server = function(input, output) {
    # single download type
    downloadFile(id       = "object_id1",
                 logger   = "",
                 filenameroot = "mydownload1",
                 datafxns  = list(csv = reactiveVal(iris)),
                 aspectratio = 1)
    # multiple download types
    downloadFile(id       = "object_id2",
                 logger   = "",
                 filenameroot = "mydownload2",
                 datafxns  = list(csv = reactiveVal(mtcars),
                                   tsv = reactiveVal(mtcars)))
  })
}
```

downloadFile_AvailableTypes

downloadFile module list of allowed file types

Description

Returns a list of all supported types

Usage

```
downloadFile_AvailableTypes()
```

Value

a vector of all supported types

See Also

[downloadFileButton](#)
[downloadFile](#)

downloadFile_ValidateTypes

Check passed file types against downloadFile module allowed file types list

Description

It is a downloadFile module helper to return periscope2 defined file types list and warns user if an invalid type is included

Usage

```
downloadFile_ValidateTypes(types)
```

Arguments

types list of types to test

Value

the list input given in types

See Also

[downloadFileButton](#)
[downloadFile](#)
[logViewerOutput](#)
[downloadablePlot](#)
[downloadableTableUI](#)
[downloadableTable](#)

Examples

```
#inside console
## Check valid types
result <- periscope2::downloadFile_AvailableTypes()
identical(result, c("csv", "xlsx", "tsv", "txt", "png", "jpeg", "tiff", "bmp"))

## check invalid type
testthat::expect_warning(downloadFile_ValidateTypes(types = "csv_invalid"),
                          "file download list contains an invalid type <csv_invalid>")
```

get_url_parameters *Parse application passed URL parameters*

Description

This function returns any url parameters passed to the application as a named list. Keep in mind url parameters are always user-session scoped

Usage

```
get_url_parameters(session)
```

Arguments

session shiny session object

Value

named list of url parameters and values. List may be empty if no URL parameters were passed when the application instance was launched

Shiny Usage

Call this function from program/server_local.R or any other server file

See Also

[periscope2:set_app_parameters\(\)](#)
[periscope2:add_ui_footer\(\)](#)
[periscope2:add_ui_left_sidebar\(\)](#)
[periscope2:add_ui_header\(\)](#)
[periscope2:add_ui_body\(\)](#)
[periscope2:add_ui_right_sidebar\(\)](#)
[periscope2:ui_tooltip\(\)](#)

Examples

```
library(shiny)
library(periscope2)

# Display application info
observeEvent(input$app_info, {
  url_params <- get_url_parameters(session)
  show_alert(html           = TRUE,
             showCloseButton = FALSE,
             animation      = "slide-from-top",
             closeOnClickOutside = TRUE,
```

```

        text          = url_params[["passed_paramter"]],
        title         = "alert title")
    })

```

load_announcements *load_announcements*

Description

Reads and parses application announcements configurations in config/announce.yaml, then display announcements in application header.

Usage

```

load_announcements(
  announcements_file_path = NULL,
  announcement_location_id = "announceAlert"
)

```

Arguments

announcements_file_path
 The path to announcements configuration file.
 Use [announcementConfigurationsAddin](#) to generate that file.

announcement_location_id
 Announcement target location div id (default = "announceAlert")

Details

If announce.yaml does not exist or contains invalid configurations. Nothing will be displayed. Closing announcements is caller application responsibility

Value

number of seconds an announcement should be staying in caller application

See Also

[periscope2:announcementConfigurationsAddin\(\)](#)

Examples

```
load_announcements(system.file("fw_tmpl/announce.yaml", package = "periscope2"))
```

logging-entrypoints *Entry points for logging actions*

Description

Generate a log record and pass it to the logging system.

Usage

```
logdebug(msg, ..., logger = "")
```

```
loginfo(msg, ..., logger = "")
```

```
logwarn(msg, ..., logger = "")
```

```
logerror(msg, ..., logger = "")
```

Arguments

msg	the textual message to be output, or the format for the ... arguments
...	if present, msg is interpreted as a format and the ... values are passed to it to form the actual message.
logger	the name of the logger to which we pass the record

Details

A log record gets timestamped and will be independently formatted by each of the handlers handling it.

Leading and trailing whitespace is stripped from the final message.

Value

no return value, prints log contents into R console and app log file

logViewerOutput *Display app logs*

Description

Creates a shiny table with table containing logged user actions. Table contents are auto updated whenever a user action is logged. The id must match the same id configured in **server.R** file upon calling fw_server_setup method

Usage

```
logViewerOutput(id = "logViewer")
```

Arguments

`id` character id for the object(default = "logViewer")

Value

shiny tableOutput instance

Table columns

- action - the action that id logged in any place in app
- time - action time

Example

```
logViewerOutput('logViewer')
```

Shiny Usage

Add the log viewer box to your box list

It is paired with a call to `fw_server_setup` method in **server.R** file

See Also

[downloadFile](#)

[downloadFile_ValidateTypes](#)

[downloadFile_AvailableTypes](#)

[downloadablePlot](#)

[downloadFileButton](#)

[downloadableTableUI](#)

[downloadableTable](#)

Examples

```
# Inside ui_body add the log viewer box to your box list
```

```
logViewerOutput('logViewerId')
```

Description

Periscope2 is the next-generation package following the paradigm of the 'periscope' package to support a UI-standardized and rail-guarded enterprise quality application environment. This package also includes a variety of convenience functions for 'shiny' applications in a more modernized way. Base reusable functionality as well as UI paradigms are included to ensure a consistent user experience regardless of application or developer.

Details

'periscope2' differs from the 'periscope' package as follows:

- Upgraded dependency on bootstrap v4 instead of bootstrap v3
- New user modules (i.e. announcements)
- More functionality and finer control over existing modules such as [alert](#) and [reset](#)
- More control over customizing different application parts (header, footer, left sidebar, right sidebar and body)
- Enhanced file structure to organize application UI, shiny modules, app configuration, .. etc

A gallery of 'periscope' and 'periscope2' example apps is hosted at <http://periscopeapps.org>

Function Overview

Create a new framework application instance:

[create_application](#)

Set application parameters in program/global.R:

[set_app_parameters](#)

Get any url parameters passed to the application:

[get_url_parameters](#)

Update an existing application with a needed sidebar:

[create_left_sidebar](#)

[create_right_sidebar](#)

Register user-created UI objects to the requisite application locations:

[add_ui_body](#)

[add_ui_footer](#)

[add_ui_header](#)

[add_ui_left_sidebar](#)

[add_ui_right_sidebar](#)

Included shiny modules with a customized UI:

[downloadFileButton](#)
[downloadableTableUI](#)
[downloadablePlotUI](#)
[appResetButton](#)
[logViewerOutput](#)

High-functionality standardized tooltips:

[ui_tooltip](#)

More Information

```
browseVignettes(package = 'periscope2')
```

set_app_parameters *Set Application Parameters*

Description

This function sets global parameters customizing the shiny application.

Usage

```
set_app_parameters(  
  title = NULL,  
  app_info = NULL,  
  log_level = "DEBUG",  
  app_version = "1.0.0",  
  loading_indicator = NULL,  
  announcements_file = NULL  
)
```

Arguments

- | | |
|----------|---|
| title | [Deprecated] Use add_ui_header to configure application title text |
| app_info | Application detailed information. It can be character string, HTML value or NULL <ul style="list-style-type: none"> • A character string will be used to set a link target. This means the user will be able to click on the application title and be redirected in a new window to whatever value is given in the string. Any valid URL, File, or other script functionality that would normally be accepted in an tag is allowed. • An HTML value will be used to as the HTML content for a modal pop-up window that will appear on-top of the application when the user clicks on the application title. • Supplying NULL will disable the title link functionality. |

log_level	Designating the log level to use for the user log as 'DEBUG', 'INFO', 'WARN' or 'ERROR' (default = 'DEBUG')
app_version	Character string designating the application version (default = '1.0.0')
loading_indicator	It uses waiter (see https://waiter.john-coene.com/#/). Pass a list like <code>list(html = spin_1(), color = "#333e48")</code> to configure <code>waiterShowOnLoad</code> (refer to the package help for all styles).
announcements_file	[Deprecated] . Use load_announcements to configure announcement.

Value

no return value, called for setting new application global properties

Shiny Usage

Call this function from `program/global.R` to set the application parameters.

See Also

[periscope2:announcementConfigurationsAddin\(\)](#)

[periscope2:load_announcements\(\)](#)

[waiter:waiter_show\(\)](#)

[periscope2:add_ui_footer\(\)](#)

[periscope2:add_ui_left_sidebar\(\)](#)

[periscope2:add_ui_header\(\)](#)

[periscope2:add_ui_body\(\)](#)

[periscope2:add_ui_right_sidebar\(\)](#)

[periscope2:ui_tooltip\(\)](#)

[periscope2:get_url_parameters\(\)](#)

Examples

```
library(shiny)
library(waiter)
library(periscope2)

# Inside program/global.R
set_app_parameters(app_info      = HTML("Example info"),
                  log_level     = "DEBUG",
                  app_version    = "1.0.0",
                  loading_indicator = list(html = tagList(spin_1(), "Loading ...")))
```

`themeConfigurationsAddin`*Build application theme configuration YAML file*

Description

Call this as an addin to build valid yaml file that is needed for creating application `periscope_style.yaml` file. The generated file can be used in `periscope2` app by putting it inside generated app `www` folder.

Usage

```
themeConfigurationsAddin()
```

Details

The method can be called directly via R console or via RStudio addins menu

Value

launch gadget window

See Also

[periscope2:create_application\(\)](#)

Examples

```
if (interactive()) {  
  periscope2::themeConfigurationsAddin()  
}
```

`ui_tooltip`*Add tooltip icon and text to UI elements labels*

Description

This function inserts a standardized tooltip image, label (optional), and hover text into the application UI

Usage

```
ui_tooltip(id, label = "", text = "", placement = "top")
```

Arguments

id	The id for the tooltip object
label	Text label to appear to the left of the tooltip image
text	Tooltip text shown when the user hovers over the image
placement	Where to display tooltip label. Available places are "top", "bottom", "left", "right" (default is "top")

Value

html span with the label, tooltip image and tooltip text

Shiny Usage

Call this function from program/ui_body.R to set tooltip parameters

See Also

[periscope2:add_ui_footer\(\)](#)
[periscope2:add_ui_left_sidebar\(\)](#)
[periscope2:add_ui_header\(\)](#)
[periscope2:add_ui_body\(\)](#)
[periscope2:add_ui_right_sidebar\(\)](#)
[periscope2:set_app_parameters\(\)](#)
[periscope2:ui_tooltip\(\)](#)
[periscope2:get_url_parameters\(\)](#)

Examples

```
library(shiny)
library(periscope2)

# Inside ui_body.R or similar UI file
ui_tooltip(id = "top_tip",
           label = "Top Tooltips",
           text = "Top tooltip")
```

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