

Package ‘datamods’

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Title Modules to Import and Manipulate Data in 'Shiny'

Version 1.3.2

Description 'Shiny' modules to import data into an application or 'addin' from various sources, and to manipulate them after that.

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URL <https://github.com/dreamRs/datamods>

BugReports <https://github.com/dreamRs/datamods/issues>

Encoding UTF-8

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Imports data.table, htmltools, htmlwidgets, phosphoricons, reactable, readxl, rio, rlang, shiny (>= 1.5.0), shinyWidgets (>= 0.5.3), tibble, tools

Suggests jsonlite, knitr, MASS, rmarkdown, testthat, validate

VignetteBuilder knitr

NeedsCompilation no

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| | |
|-------------|--|
| filter-data | <i>Shiny module to interactively filter a data.frame</i> |
|-------------|--|

Description

Module generate inputs to filter data.frame according column's type. Code to reproduce the filter is returned as an expression with filtered data.

Usage

```
filter_data_ui(id, show_nrow = TRUE, max_height = NULL)
```

```
filter_data_server(
  id,
  data = reactive(NULL),
  vars = reactive(NULL),
  name = reactive("data"),
  drop_ids = TRUE,
  widget_char = c("select", "picker"),
  widget_num = c("slider", "range"),
  widget_date = c("slider", "range"),
  label_na = "NA",
  value_na = TRUE
)
```

Arguments

| | |
|------------|--|
| id | Module id. See shiny::callModule() . |
| show_nrow | Show number of filtered rows and total. |
| max_height | Maximum height for filters panel, useful if you have many variables to filter and limited space. |
| data | shiny::reactive() function returning a data.frame to filter. |
| vars | shiny::reactive() function returning a character vector of variables for which to add a filter. If a named list, names are used as labels. |
| name | shiny::reactive() function returning a character string representing data name, only used for code generated. |

| | |
|-------------|---|
| drop_ids | Drop columns containing more than 90% of unique values, or than 50 distinct values. |
| widget_char | Widget to use for character variables: <code>shinyWidgets::pickerInput()</code> or <code>shiny::selectInput()</code> (default). |
| widget_num | Widget to use for numeric variables: <code>shinyWidgets::numericRangeInput()</code> or <code>shiny::sliderInput()</code> (default). |
| widget_date | Widget to use for date/time variables: <code>shiny::dateRangeInput()</code> or <code>shiny::sliderInput()</code> (default). |
| label_na | Label for missing value widget. |
| value_na | Default value for all NA's filters. |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **filtered**: a reactive function returning the data filtered.
 - **code**: a reactive function returning the dplyr pipeline to filter data.
 - **expr**: a reactive function returning an expression to filter data.

Examples

```
library(shiny)
library(shinyWidgets)
library(datamods)
library(MASS)

# Add some NAs to mpg
mtcars_na <- mtcars
mtcars_na[] <- lapply(
  X = mtcars_na,
  FUN = function(x) {
    x[sample.int(n = length(x), size = sample(5:10, 1))] <- NA
  }
)

datetime <- data.frame(
  date = seq(Sys.Date(), by = "day", length.out = 300),
  datetime = seq(Sys.time(), by = "hour", length.out = 300),
  num = sample.int(1e5, 300)
)

one_column_numeric <- data.frame(
  var1 = rnorm(100)
)

ui <- fluidPage(
  tags$h2("Filter data.frame"),
```

```

radioButtons(
  inputId = "dataset",
  label = "Data:",
  choices = c(
    "iris",
    "mtcars",
    "mtcars_na",
    "Cars93",
    "datetime",
    "one_column_numeric"
  ),
  inline = TRUE
),

fluidRow(
  column(
    width = 3,
    filter_data_ui("filtering", max_height = "500px")
  ),
  column(
    width = 9,
    progressBar(
      id = "pbar", value = 100,
      total = 100, display_pct = TRUE
    ),
    reactable::reactableOutput(outputId = "table"),
    tags$b("Code dplyr:"),
    verbatimTextOutput(outputId = "code_dplyr"),
    tags$b("Expression:"),
    verbatimTextOutput(outputId = "code"),
    tags$b("Filtered data:"),
    verbatimTextOutput(outputId = "res_str")
  )
)
)

server <- function(input, output, session) {

  data <- reactive({
    get(input$dataset)
  })

  vars <- reactive({
    if (identical(input$dataset, "mtcars")) {
      setNames(as.list(names(mtcars)[1:5]), c(
        "Miles/(US) gallon",
        "Number of cylinders",
        "Displacement (cu.in.)",
        "Gross horsepower",
        "Rear axle ratio"
      ))
    } else {
      NULL
    }
  })
}

```

```
    }
  })

  res_filter <- filter_data_server(
    id = "filtering",
    data = data,
    name = reactive(input$dataset),
    vars = vars,
    widget_num = "slider",
    widget_date = "slider",
    label_na = "Missing"
  )

  observeEvent(res_filter$filtered(), {
    updateProgressBar(
      session = session, id = "pbar",
      value = nrow(res_filter$filtered()), total = nrow(data())
    )
  })

  output$table <- reactable::renderReactable({
    reactable::reactable(res_filter$filtered())
  })

  output$code_dplyr <- renderPrint({
    res_filter$code()
  })
  output$code <- renderPrint({
    res_filter$expr()
  })

  output$res_str <- renderPrint({
    str(res_filter$filtered())
  })
}

if (interactive())
  shinyApp(ui, server)
```

get_data_packages *Get packages containing datasets*

Description

Get packages containing datasets

Usage

```
get_data_packages()
```

Value

a character vector of packages names

Examples

```
if (interactive()) {
  get_data_packages()
}
```

i18n

Internationalization

Description

Simple mechanism to translate labels in a Shiny application.

Usage

```
i18n(x, translations = i18n_translations())
i18n_translations(package = packageName(parent.frame(2)))
set_i18n(value, packages = c("datamods", "esquisse"))
```

Arguments

| | |
|--------------|---|
| x | Label to translate. |
| translations | Either a list or a data.frame with translations. |
| package | Name of the package where the function is called, use NULL outside a package. It will retrieve option "i18n.<PACKAGE>" (or "i18n" if no package) to returns appropriate labels. |
| value | Value to set for translation. Can be: <ul style="list-style-type: none"> • single character to use a supported language ("fr", "mk", "al", "pt" for esquisse and datamods packages). • a list with labels as names and translations as values. • a data.frame with 2 column: label & translation. • path to a CSV file with same structure as for data.frame above. |
| packages | Name of packages for which to set i18n, default to esquisse and datamods |

Value

i18n() returns a character, i18n_translations() returns a list or a data.frame.

Examples

```
library(datamods)

# Use with an objet
my.translations <- list(
  "Hello" = "Bonjour"
)
i18n("Hello", my.translations)

# Use with options()
options("i18n" = list(
  "Hello" = "Bonjour"
))
i18n("Hello")

# With a package
options("datamods.i18n" = "fr")
i18n("Browse...", translations = i18n_translations("datamods"))
# If you call i18n() from within a function of your package
# you don't need second argument, e.g.:
# i18n("Browse...")
```

| | |
|------------------|--|
| import-copypaste | <i>Import data with copy & paste</i> |
|------------------|--|

Description

Let the user copy data from Excel or text file then paste it into a text area to import it.

Usage

```
import_copypaste_ui(id, title = TRUE, name_field = TRUE)

import_copypaste_server(
  id,
  btn_show_data = TRUE,
  show_data_in = c("popup", "modal"),
  trigger_return = c("button", "change"),
  return_class = c("data.frame", "data.table", "tbl_df"),
  reset = reactive(NULL),
  fread_args = list()
)
```

Arguments

| | |
|--------------------|---|
| <code>id</code> | Module's ID. |
| <code>title</code> | Module's title, if TRUE use the default title, use NULL for no title or a shiny.tag for a custom one. |

| | |
|-----------------------------|---|
| <code>name_field</code> | Show or not a field to add a name to data (that is returned server-side). |
| <code>btn_show_data</code> | Display or not a button to display data in a modal window if import is successful. |
| <code>show_data_in</code> | Where to display data: in a "popup" or in a "modal" window. |
| <code>trigger_return</code> | When to update selected data: "button" (when user click on button) or "change" (each time user select a dataset in the list). |
| <code>return_class</code> | Class of returned data: <code>data.frame</code> , <code>data.table</code> or <code>tbl_df</code> (tibble). |
| <code>reset</code> | A reactive function that when triggered resets the data. |
| <code>fread_args</code> | list of additional arguments to pass to <code>data.table::fread()</code> when reading data. |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **status**: a reactive function returning the status: NULL, error or success.
 - **name**: a reactive function returning the name of the imported data as character.
 - **data**: a reactive function returning the imported data. frame.

Examples

```
library(shiny)
library(datamods)

ui <- fluidPage(
  tags$h3("Import data with copy & paste"),
  fluidRow(
    column(
      width = 4,
      import_copypaste_ui("myid")
    ),
    column(
      width = 8,
      tags$b("Import status:"),
      verbatimTextOutput(outputId = "status"),
      tags$b("Name:"),
      verbatimTextOutput(outputId = "name"),
      tags$b("Data:"),
      verbatimTextOutput(outputId = "data")
    )
  )
)

server <- function(input, output, session) {

  imported <- import_copypaste_server("myid")

  output$status <- renderPrint({
    imported$status()
  })
}
```



```

    })
    output$name <- renderPrint({
      imported$name()
    })
    output$data <- renderPrint({
      imported$data()
    })
  }

  if (interactive())
    shinyApp(ui, server)

```

import-file

Import data from a file

Description

Let user upload a file and import data

Usage

```

import_file_ui(
  id,
  title = TRUE,
  preview_data = TRUE,
  file_extensions = c(".csv", ".txt", ".xls", ".xlsx", ".rds", ".fst", ".sas7bdat",
    ".sav")
)

import_file_server(
  id,
  btn_show_data = TRUE,
  show_data_in = c("popup", "modal"),
  trigger_return = c("button", "change"),
  return_class = c("data.frame", "data.table", "tbl_df"),
  reset = reactive(NULL),
  read_fns = list()
)

```

Arguments

| | |
|------------------------------|---|
| <code>id</code> | Module's ID. |
| <code>title</code> | Module's title, if TRUE use the default title, use NULL for no title or a shiny.tag for a custom one. |
| <code>preview_data</code> | Show or not a preview of the data under the file input. |
| <code>file_extensions</code> | File extensions accepted by <code>shiny::fileInput()</code> , can also be MIME type. |

| | |
|-----------------------------|--|
| <code>btn_show_data</code> | Display or not a button to display data in a modal window if import is successful. |
| <code>show_data_in</code> | Where to display data: in a "popup" or in a "modal" window. |
| <code>trigger_return</code> | When to update selected data: "button" (when user click on button) or "change" (each time user select a dataset in the list). |
| <code>return_class</code> | Class of returned data: <code>data.frame</code> , <code>data.table</code> or <code>tbl_df</code> (tibble). |
| <code>reset</code> | A reactive function that when triggered resets the data. |
| <code>read_fns</code> | Named list with custom function(s) to read data: <ul style="list-style-type: none"> • the name must be the extension of the files to which the function will be applied • the value must be a function that can have 4 arguments, passed by user through the interface: <ul style="list-style-type: none"> – <code>file</code>: path to the file – <code>sheet</code>: for Excel files, sheet to read – <code>skip</code>: number of row to skip – <code>encoding</code>: file encoding |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **status**: a reactive function returning the status: NULL, error or success.
 - **name**: a reactive function returning the name of the imported data as character.
 - **data**: a reactive function returning the imported data.frame.

Examples

```
library(shiny)
library(datamods)

ui <- fluidPage(
  tags$h3("Import data from a file"),
  fluidRow(
    column(
      width = 4,
      import_file_ui(
        id = "myid",
        file_extensions = c(".csv", ".txt", ".xls", ".xlsx", ".json")
      )
    ),
    column(
      width = 8,
      tags$b("Import status:"),
      verbatimTextOutput(outputId = "status"),
      tags$b("Name:"),
      verbatimTextOutput(outputId = "name"),
    )
  )
)
```

```

      tags$b("Data:"),
      verbatimTextOutput(outputId = "data")
    )
  )
)

server <- function(input, output, session) {

  imported <- import_file_server(
    id = "myid",
    # Custom functions to read data
    read_fns = list(
      xls = function(file, sheet, skip, encoding) {
        readxl::read_xls(path = file, sheet = sheet, skip = skip)
      },
      json = function(file) {
        jsonlite::read_json(file, simplifyVector = TRUE)
      }
    ),
    show_data_in = "modal"
  )

  output$status <- renderPrint({
    imported$status()
  })
  output$name <- renderPrint({
    imported$name()
  })
  output$data <- renderPrint({
    imported$data()
  })

}

if (interactive())
  shinyApp(ui, server)

```

import-globalenv

Import data from an Environment

Description

Let the user select a dataset from its own environment or from a package's environment.

Usage

```

import_globalenv_ui(
  id,
  globalenv = TRUE,
  packages = get_data_packages(),

```

```

    title = TRUE
  )

import_globalenv_server(
  id,
  btn_show_data = TRUE,
  show_data_in = c("popup", "modal"),
  trigger_return = c("button", "change"),
  return_class = c("data.frame", "data.table", "tbl_df"),
  reset = reactive(NULL)
)

```

Arguments

| | |
|-----------------------------|---|
| <code>id</code> | Module's ID. |
| <code>globalenv</code> | Search for data in Global environment. |
| <code>packages</code> | Name of packages in which to search data. |
| <code>title</code> | Module's title, if TRUE use the default title, use NULL for no title or a <code>shiny.tag</code> for a custom one. |
| <code>btn_show_data</code> | Display or not a button to display data in a modal window if import is successful. |
| <code>show_data_in</code> | Where to display data: in a "popup" or in a "modal" window. |
| <code>trigger_return</code> | When to update selected data: "button" (when user click on button) or "change" (each time user select a dataset in the list). |
| <code>return_class</code> | Class of returned data: <code>data.frame</code> , <code>data.table</code> or <code>tbl_df</code> (tibble). |
| <code>reset</code> | A reactive function that when triggered resets the data. |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **status**: a reactive function returning the status: NULL, error or success.
 - **name**: a reactive function returning the name of the imported data as character.
 - **data**: a reactive function returning the imported data.frame.

Examples

```

if (interactive()) {
  library(shiny)
  library(datamods)

  # Create some data.frames

  my_df <- data.frame(
    variable1 = sample(letters, 20, TRUE),
    variable2 = sample(1:100, 20, TRUE)
  )
}

```

```
results_analysis <- data.frame(
  id = sample(letters, 20, TRUE),
  measure = sample(1:100, 20, TRUE),
  response = sample(1:100, 20, TRUE)
)

# Application

ui <- fluidPage(
  fluidRow(
    column(
      width = 4,
      import_globalenv_ui("myid")
    ),
    column(
      width = 8,
      tags$b("Import status:"),
      verbatimTextOutput(outputId = "status"),
      tags$b("Name:"),
      verbatimTextOutput(outputId = "name"),
      tags$b("Data:"),
      verbatimTextOutput(outputId = "data")
    )
  )
)

server <- function(input, output, session) {

  imported <- import_globalenv_server("myid")

  output$status <- renderPrint({
    imported$status()
  })
  output$name <- renderPrint({
    imported$name()
  })
  output$data <- renderPrint({
    imported$data()
  })

}

shinyApp(ui, server)
}
```

import-googlesheets *Import data from Google sheet*

Description

Let user paste link to a Google sheet then import the data.

Usage

```
import_googlesheets_ui(id, title = TRUE)

import_googlesheets_server(
  id,
  btn_show_data = TRUE,
  show_data_in = c("popup", "modal"),
  trigger_return = c("button", "change"),
  return_class = c("data.frame", "data.table", "tbl_df"),
  reset = reactive(NULL)
)
```

Arguments

| | |
|-----------------------------|---|
| <code>id</code> | Module's ID. |
| <code>title</code> | Module's title, if TRUE use the default title, use NULL for no title or a <code>shiny.tag</code> for a custom one. |
| <code>btn_show_data</code> | Display or not a button to display data in a modal window if import is successful. |
| <code>show_data_in</code> | Where to display data: in a "popup" or in a "modal" window. |
| <code>trigger_return</code> | When to update selected data: "button" (when user click on button) or "change" (each time user select a dataset in the list). |
| <code>return_class</code> | Class of returned data: <code>data.frame</code> , <code>data.table</code> or <code>tbl_df</code> (tibble). |
| <code>reset</code> | A reactive function that when triggered resets the data. |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **status**: a reactive function returning the status: NULL, error or success.
 - **name**: a reactive function returning the name of the imported data as character.
 - **data**: a reactive function returning the imported data.frame.

Examples

```
library(shiny)
library(datamods)

ui <- fluidPage(
  tags$h3("Import data from Googlesheets"),
  fluidRow(
    column(
      width = 4,
      import_googlesheets_ui("myid")
    ),
    column(
      width = 8,
```

```

      tags$b("Import status:"),
      verbatimTextOutput(outputId = "status"),
      tags$b("Name:"),
      verbatimTextOutput(outputId = "name"),
      tags$b("Data:"),
      verbatimTextOutput(outputId = "data")
    )
  )
)

server <- function(input, output, session) {

  imported <- import_googleworksheets_server("myid")

  output$status <- renderPrint({
    imported$status()
  })
  output$name <- renderPrint({
    imported$name()
  })
  output$data <- renderPrint({
    imported$data()
  })

}

if (interactive())
  shinyApp(ui, server)

```

import-modal

Import from all sources

Description

Wrap all import modules into one, can be displayed inline or in a modal window..

Usage

```

import_ui(id, from = c("env", "file", "copypaste", "googlesheets", "url"))

import_server(
  id,
  validation_opts = NULL,
  allowed_status = c("OK", "Failed", "Error"),
  return_class = c("data.frame", "data.table", "tbl_df")
)

import_modal(id, from, title = "Import data", size = "l")

```

Arguments

| | |
|------------------------------|---|
| <code>id</code> | Module's id |
| <code>from</code> | The <code>import_ui</code> & server to use, i.e. the method. There are 5 options to choose from. ("env", "file", "copypaste", "googlesheets", "url") |
| <code>validation_opts</code> | list of arguments passed to <code>[validation_server()]</code> . |
| <code>allowed_status</code> | Vector of statuses allowed to confirm dataset imported, if you want that all validation rules are successful before importing data use <code>allowed_status = "OK"</code> . |
| <code>return_class</code> | Class of returned data: <code>data.frame</code> , <code>data.table</code> or <code>tbl_df</code> (tibble). |
| <code>title</code> | Modal window title. |
| <code>size</code> | Modal window size, default to "l" (large). |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **status**: a reactive function returning the status: NULL, error or success.
 - **name**: a reactive function returning the name of the imported data as character.
 - **data**: a reactive function returning the imported data.frame.

Examples

```
library(shiny)
library(datamods)

ui <- fluidPage(
  # Try with different Bootstrap version
  # theme = bslib::bs_theme(version = 4),
  fluidRow(
    column(
      width = 4,
      checkboxGroupInput(
        inputId = "from",
        label = "From",
        choices = c("env", "file", "copypaste", "googlesheets", "url"),
        selected = c("file", "copypaste")
      ),
      actionButton("launch_modal", "Launch modal window")
    ),
    column(
      width = 8,
      tags$b("Imported data:"),
      verbatimTextOutput(outputId = "name"),
      verbatimTextOutput(outputId = "data")
    )
  )
)
```



```

server <- function(input, output, session) {

  observeEvent(input$launch_modal, {
    req(input$from)
    import_modal(
      id = "myid",
      from = input$from,
      title = "Import data to be used in application"
    )
  })

  imported <- import_server("myid", return_class = "tbl_df")

  output$name <- renderPrint({
    req(imported$name())
    imported$name()
  })

  output$data <- renderPrint({
    req(imported$data())
    imported$data()
  })
}

if (interactive())
  shinyApp(ui, server)

```

import-url

Import data from a URL

Description

Let user paste link to a JSON then import the data.

Usage

```

import_url_ui(id, title = TRUE)

import_url_server(
  id,
  btn_show_data = TRUE,
  show_data_in = c("popup", "modal"),
  trigger_return = c("button", "change"),
  return_class = c("data.frame", "data.table", "tbl_df"),
  reset = reactive(NULL)
)

```

Arguments

| | |
|-----------------------------|---|
| <code>id</code> | Module's ID. |
| <code>title</code> | Module's title, if TRUE use the default title, use NULL for no title or a <code>shiny.tag</code> for a custom one. |
| <code>btn_show_data</code> | Display or not a button to display data in a modal window if import is successful. |
| <code>show_data_in</code> | Where to display data: in a "popup" or in a "modal" window. |
| <code>trigger_return</code> | When to update selected data: "button" (when user click on button) or "change" (each time user select a dataset in the list). |
| <code>return_class</code> | Class of returned data: <code>data.frame</code> , <code>data.table</code> or <code>tbl_df</code> (tibble). |
| <code>reset</code> | A reactive function that when triggered resets the data. |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with three slots:
 - **status**: a reactive function returning the status: NULL, error or success.
 - **name**: a reactive function returning the name of the imported data as character.
 - **data**: a reactive function returning the imported data.frame.

Examples

```
library(shiny)
library(datamods)

ui <- fluidPage(
  tags$h3("Import data from URL"),
  fluidRow(
    column(
      width = 4,
      import_url_ui("myid")
    ),
    column(
      width = 8,
      tags$b("Import status:"),
      verbatimTextOutput(outputId = "status"),
      tags$b("Name:"),
      verbatimTextOutput(outputId = "name"),
      tags$b("Data:"),
      verbatimTextOutput(outputId = "data")
    )
  )
)

server <- function(input, output, session) {
  imported <- import_url_server("myid")
}
```

```
    output$status <- renderPrint({
      imported$status()
    })
    output$name <- renderPrint({
      imported$name()
    })
    output$data <- renderPrint({
      imported$data()
    })
  }

  if (interactive())
    shinyApp(ui, server)
```

list_pkg_data

List dataset contained in a package

Description

List dataset contained in a package

Usage

```
list_pkg_data(pkg)
```

Arguments

pkg Name of the package, must be installed.

Value

a character vector or NULL.

Examples

```
list_pkg_data("ggplot2")
```

| | |
|-----------|------------------------------------|
| show_data | <i>Display a table in a window</i> |
|-----------|------------------------------------|

Description

Display a table in a window

Usage

```
show_data(  
  data,  
  title = NULL,  
  options = NULL,  
  show_classes = TRUE,  
  type = c("popup", "modal"),  
  width = "80%"  
)
```

Arguments

| | |
|--------------|---|
| data | a data object (either a matrix or a data.frame). |
| title | Title to be displayed in window. |
| options | Arguments passed to reactable::reactable() . |
| show_classes | Show variables classes under variables names in table header. |
| type | Display table in a pop-up or in modal window. |
| width | Width of the window, only used if type = "popup". |

Value

No value.

Examples

```
library(shiny)  
library(datamods)  
  
ui <- fluidPage(  
  actionButton(  
    inputId = "show1",  
    label = "Show data in popup",  
    icon = icon("eye")  
  ),  
  actionButton(  
    inputId = "show2",  
    label = "Show data in modal",  
    icon = icon("eye")  
  )  
)
```

```

    ),
    actionButton(
      inputId = "show3",
      label = "Show data without classes",
      icon = icon("eye")
    )
  )
)

server <- function(input, output, session) {
  observeEvent(input$show1, {
    show_data(mtcars, title = "My data")
  })
  observeEvent(input$show2, {
    show_data(mtcars, title = "My data", type = "modal")
  })
  observeEvent(input$show3, {
    show_data(
      data = mtcars,
      title = "My data",
      show_classes = FALSE,
      options = list(searchable = TRUE, highlight = TRUE)
    )
  })
}

if (interactive())
  shinyApp(ui, server)

```

update-variables

Select, rename and convert variables

Description

Select, rename and convert variables

Usage

```
update_variables_ui(id, title = TRUE)
```

```
update_variables_server(id, data, height = NULL)
```

Arguments

| | |
|--------|---|
| id | Module's ID |
| title | Module's title, if TRUE use the default title, use NULL for no title or a shiny.tag for a custom one. |
| data | a data.frame or a reactive function returning a data.frame. |
| height | Height for the table. |

Value

A reactive function returning the updated data.

Examples

```

library(shiny)
library(datamods)

testdata <- data.frame(
  date_as_char = as.character(Sys.Date() + 0:9),
  date_as_num = as.numeric(Sys.Date() + 0:9),
  datetime_as_char = as.character(Sys.time() + 0:9 * 3600*24),
  datetime_as_num = as.numeric(Sys.time() + 0:9 * 3600*24),
  num_as_char = as.character(1:10),
  char = month.name[1:10],
  char_na = c("A", "A", "B", NA, "B", "A", NA, "B", "A", "B"),
  stringsAsFactors = FALSE
)

ui <- fluidPage(
  tags$h3("Select, rename and convert variables"),
  fluidRow(
    column(
      width = 6,
      # radioButton()
      update_variables_ui("vars")
    ),
    column(
      width = 6,
      tags$b("original data:"),
      verbatimTextOutput("original"),
      verbatimTextOutput("original_str"),
      tags$b("Modified data:"),
      verbatimTextOutput("modified"),
      verbatimTextOutput("modified_str")
    )
  )
)

server <- function(input, output, session) {

  updated_data <- update_variables_server(
    id = "vars",
    data = reactive(testdata)
  )

  output$original <- renderPrint({
    testdata
  })
  output$original_str <- renderPrint({
    str(testdata)
  })
}

```

```

    })

    output$modified <- renderPrint({
      updated_data()
    })
    output$modified_str <- renderPrint({
      str(updated_data())
    })
  }

  if (interactive())
    shinyApp(ui, server)

```

validation_ui

Validation module

Description

Check that a dataset respect some validation expectations.

Usage

```
validation_ui(id, display = c("dropdown", "inline"), max_height = NULL, ...)
```

```

validation_server(
  id,
  data,
  n_row = NULL,
  n_col = NULL,
  n_row_label = "Valid number of rows",
  n_col_label = "Valid number of columns",
  btn_label = "Dataset validation:",
  rules = NULL,
  bs_version = 3
)

```

Arguments

| | |
|--------------|---|
| id | Module's ID. |
| display | Display validation results in a dropdown menu by clicking on a button or display results directly in interface. |
| max_height | Maximum height for validation results element, useful if you have many rules. |
| ... | Arguments passed to <code>actionButton</code> or <code>uiOutput</code> depending on display mode, you cannot use <code>inputId/outputId</code> , <code>label</code> or <code>icon</code> (button only). |
| data | a reactive function returning a <code>data.frame</code> . |
| n_row, n_col | A one-sided formula to check number of rows and columns respectively, see below for examples. |

| | |
|--------------------------|---|
| n_row_label, n_col_label | Text to be displayed with the result of the check for number of rows/columns. |
| btn_label | Label for the dropdown button, will be followed by validation result. |
| rules | An object of class validator created with <code>validate::validator</code> . |
| bs_version | Bootstrap version used, it may affect rendering, especially status badges. |

Value

- UI: HTML tags that can be included in shiny's UI
- Server: a list with two slots:
 - **status**: a reactive function returning the best status available between "OK", "Failed" or "Error".
 - **details**: a reactive function returning a list with validation details.

Examples

```
library(datamods)
library(shiny)

if (requireNamespace("validate")) {
  library(validate)

  # Define some rules to be applied to data
  myrules <- validator(
    is.character(Manufacturer) | is.factor(Manufacturer),
    is.numeric(Price),
    Price > 12, # we should use 0 for testing positivity, but that's for the example
    !is.na(Luggage.room),
    in_range(Cylinders, min = 4, max = 8),
    Man.trans.avail %in% c("Yes", "No")
  )
  # Add some labels
  label(myrules) <- c(
    "Variable Manufacturer must be character",
    "Variable Price must be numeric",
    "Variable Price must be strictly positive",
    "Luggage.room must not contain any missing values",
    "Cylinders must be between 4 and 8",
    "Man.trans.avail must be 'Yes' or 'No'"
  )
  # you can also add a description()

  ui <- fluidPage(
    tags$h2("Validation"),
    fluidRow(
      column(
        width = 4,
        radioButtons(
          inputId = "dataset",
          label = "Choose dataset:",

```



```

      choices = c("mtcars", "MASS::Cars93")
    ),
    tags$p("Dropdown example:"),
    validation_ui("validation1"),

    tags$br(),

    tags$p("Inline example:"),
    validation_ui("validation2", display = "inline")
  ),
  column(
    width = 8,
    tags$b("Status:"),
    verbatimTextOutput("status"),
    tags$b("Details:"),
    verbatimTextOutput("details")
  )
)
)
)

server <- function(input, output, session) {

  dataset <- reactive({
    if (input$dataset == "mtcars") {
      mtcars
    } else {
      MASS::Cars93
    }
  })

  results <- validation_server(
    id = "validation1",
    data = dataset,
    n_row = ~ . > 20, # more than 20 rows
    n_col = ~ . >= 3, # at least 3 columns
    rules = myrules
  )

  validation_server(
    id = "validation2",
    data = dataset,
    n_row = ~ . > 20, # more than 20 rows
    n_col = ~ . >= 3, # at least 3 columns
    rules = myrules
  )

  output$status <- renderPrint(results$status())
  output$details <- renderPrint(results$details())

}

if (interactive())
  shinyApp(ui, server)

```

}

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