

Package ‘phuse’

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Type Package

Title Web Application Framework for 'PhUSE' Scripts

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Description Make it easy to review, download and execute scripts stored in Github 'phuse-scripts' repository <<https://github.com/phuse-org/phuse-scripts>>. Some examples included show the web application framework using the script metadata. The 'PhUSE' is Pharmaceutical Users Software Exchange <<http://www.phuse.eu>>.

Depends R (>= 3.0.1)

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LazyData true

RoxygenNote 6.1.1

Suggests testthat

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build_inputs	<i>Build Inputs from Script Metadata for Phuse Web Framework</i>
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Description

Build R shiny code for Phuse Web Apps

Usage

```
build_inputs(fn = NULL)
```

Arguments

fn a file name or URL pointing to script metadata file

Value

R shiny code for providing inputs to the script

Author(s)

Hanming Tu

Examples

```
## Not run:
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
r1 <- build_inputs(f1)

## End(Not run)
```

build_script_df	<i>Build Script Index Dataset</i>
-----------------	-----------------------------------

Description

Grep all the YAML files, parse the metadata and build a data frame containing key metadata tags.

Usage

```
build_script_df(repo_url = "https://github.com/phuse-org/phuse-scripts.git",
  repo_base = "https://github.com/phuse-org/phuse-scripts/raw/master",
  repo_dir = NULL, work_dir = NULL, output_fn = NULL,
  days_to_update = 7, fn_only = FALSE, upd_opt = NULL)
```

Arguments

repo_url	a URL for a remote repository and default to 'https://github.com/phuse-org/phuse-scripts.git'
repo_base	a URL for repository base folder; default to "https://github.com/phuse-org/phuse-scripts/raw/master"
repo_dir	a local directory to host the repository; default to work_dir from crt_workdir if not specified
work_dir	a local directory to host the files containing a list of YAML files; default to tempdir()/myRepo
output_fn	a CSV file name for outputting a list of YAML files; default to "repo_name_yaml.csv"
days_to_update	number of days before the output_fn is updated; default to 7 days. Set it to a negative number make it to update immediately.
fn_only	return file name only; default to FALSE
upd_opt	update option: File Repo Both

Value

a data frame containing a list of script metadata

Author(s)

Hanming Tu

Examples

```
## Not run:
r1 <- build_script_df()
r2 <- build_script_df(upd_opt = "file")
r3 <- build_script_df(upd_opt = "repo")
r4 <- build_script_df(upd_opt = "both")
```

```
## End(Not run)
```

chk_workdir	<i>Verify work directory</i>
-------------	------------------------------

Description

Verify if the dir is the work directory

Usage

```
chk_workdir(dir, top_dir = NULL, sub_dir = "myRepo")
```

Arguments

dir	a work directory; default to '/Users/user for Mac; "c:/tmp" for Windows
top_dir	a top or root directory; default to '/Users/user for Mac or getwd for other OS
sub_dir	a sub directory

Value

TRUE or FALSE

Author(s)

Hanming Tu

Examples

```
f1 <- tempdir()
r1 <- chk_workdir(f1)
```

create_dir	<i>Create a directory</i>
------------	---------------------------

Description

create a directory

Usage

```
create_dir(r_dir, s_dir = NULL)
```

Arguments

r_dir root directory
s_dir sub directory

Value

directory name

Author(s)

Hanming Tu

Examples

```
## Not run:  
s1 <- tempdir()  
s2 <- "myRepo"  
# create dir /{s1}/myRepo if it does not exist  
d1 <- create_dir(s1, s2)  
  
## End(Not run)
```

crt_workdir *Create work directory*

Description

define and create a work directory.

Usage

```
crt_workdir(top_dir = NULL, sub_dir = "myRepo", to_crt_dir = TRUE)
```

Arguments

top_dir a top or root directory; default to '/Users/user for Mac or getwd for other OS
sub_dir a sub directory
to_crt_dir whether to create the dir; default to TRUE. If FALSE, just return the dir name

Value

the created directory

Author(s)

Hanming Tu

Examples

```
## Not run:
d1 <- tempdir()
r1 <- crt_workdir(d1)
r2 <- crt_workdir(d1, to_crt_dir = FALSE) # just return the dir

## End(Not run)
```

cvt_class2df*Convert a class to data frame*

Description

Convert class or list to a data frame

Usage

```
cvt_class2df(x, exc = "^_+", condition = FALSE)
```

Arguments

x	a class or list
exc	exclude pattern
condition	condition for excluding

Author(s)

Hanming Tu

Examples

```
r1 <- Sys.getenv()
r2 <- cvt_class2df(r1)
```

cvt_list2df*Convert list to data frame*

Description

convert list to a data frame with the following structure: variable, level, type, value

Usage

```
cvt_list2df(a)
```

Arguments

a a list returned by read_yaml or any list

Value

data frame

Author(s)

Hanming Tu

Examples

```
## Not run:
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
r1 <- read_yaml(f1)
r2 <- cvt_list2df(r1)

## End(Not run)
```

download_fns	<i>Download files from a repository</i>
--------------	---

Description

download files defined in the input data frame.

Usage

```
download_fns(df, tgtDir = NULL,
             baseDir = "https://github.com/phuse-org/phuse-scripts/raw/master")
```

Arguments

df a data frame containing file names produced from extract_fns

tgtDir target directory for storing the files

baseDir base directory in the repository including the repo URL. Default to "https://github.com/phuse-org/phuse-scripts/raw/master"

Author(s)

Hanming Tu

Examples

```
## Not run:
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
f2 <- read_yaml(f1)
f3 <- extract_fns(f2)
f4 <- download_fns(f3)

## End(Not run)
```

download_script	<i>Download files defined in script metadata</i>
-----------------	--

Description

download scripts, data or any file defined in the script metadata.

Usage

```
download_script(cfg, wkDir = "workdir", source_lib = TRUE)
```

Arguments

cfg	a list containing script metadata
wkDir	work directory where the files will be downloaded to
source_lib	whether to source the library defined for the script in the metadata

Value

target directory name

Author(s)

Hanming Tu

Examples

```
## Not run:
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
f2 <- read_yaml(f1)
f3 <- download_script(f2)

## End(Not run)
```

download_script_files *Download files from a repository*

Description

download files defined in the input list from a repository.

Usage

```
download_script_files(fns, tgtDir,  
  baseDir = "https://github.com/phuse-org/phuse-scripts/raw/master",  
  scriptDir = "data/send/PDS/Xpt")
```

Arguments

fns	a list containing file names
tgtDir	target directory for storing the files
baseDir	base directory in the repository including the repo URL. Default to "https://github.com/phuse-org/phuse-scripts/raw/master"
scriptDir	script directory in the repository

Author(s)

Hanming Tu

Examples

```
## Not run:  
fns <- c("dm.xpt", "ex.xpt")  
dir <- tempdir()  
a <- download_script_files(fns, dir)  
  
## End(Not run)
```

echo_msg *Echo message*

Description

This method displays or writes the message based on debug level. The filehandler is provided through environment variable 'log_fn', and the outputs are written to the file. This method will display message or a hash array based on debug level ('d_level'). If 'd_level' is set to '0', no message or array will be displayed. If 'd_level' is set to '2', it will only display the message level (lvl) is less than or equal to '2'. If you call this method without providing a message level, the message level (lvl) is default to '0'. Of course, if no message is provided to the method, it will be quietly returned. If 'd_level' is set to '1', all the messages with default message level, i.e., 0, and '1' will be displayed. The higher level messages will not be displayed.

Usage

```
echo_msg(prg, step, msg, lvl = 0, fn = NULL)
```

Arguments

prg	program name calling from
step	step in the program
msg	the message to be displayed. No newline is needed in the end of the message. It will add the newline code at the end of the message.
lvl	the message level is assigned to the message. If it is higher than the debug level, then the message will not be displayed.
fn	log file name

Value

message

Author(s)

Hanming Tu

Examples

```
NULL;
```

extract_fns

Extract File Names from Script Metadata

Description

extract folders and file names from a list containing script metadata.

Usage

```
extract_fns(lst)
```

Arguments

lst	a list containing script metadata
-----	-----------------------------------

Value

a data frame (subdir, filename) containing parsed file names

Author(s)

Hanming Tu

Examples

```
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
f2 <- read_yaml(f1)
f3 <- extract_fns(f2)
```

`get_inputs`*Get Inputs from Input Sources*

Description

Get inputs from interactive session (shiny webpage), command line or script metadata.

Usage

```
get_inputs(fn = NULL, input = NULL, cmd = NULL)
```

Arguments

<code>fn</code>	a file name or URL pointing to script metadata file
<code>input</code>	the input parameter from shiny webpage
<code>cmd</code>	the commandArgs

Value

a list of input values provided for the script

Author(s)

Hanming Tu

Examples

```
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
r1 <- get_inputs(f1)
```

get_yaml_inputs *Get Inputs from Script Metadata File*

Description

Get inputs from script metadata.

Usage

```
get_yaml_inputs(fn = NULL)
```

Arguments

fn a file name or URL pointing to script metadata file

Value

a list of input values provided for the script

Author(s)

Hanming Tu

Examples

```
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
r1 <- get_inputs(f1)
```

init_cfg *Initialize configuration for phuse*

Description

read script metadata file in the repository and merged it with a local script metadata file if it exists.

Usage

```
init_cfg(cfg)
```

Arguments

cfg a list containing script metadata information

Value

a list containing the merged configuration

Author(s)

Hanming Tu

Examples

```
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
f2 <- read_yaml(f1)
r1 <- init_cfg(f2)
```

is_empty

Check if a variable is na or null or space

Description

check if string or list is empty (na, null or blank spaces).

Usage

```
is_empty(x)
```

Arguments

x a list or string

Value

true or false

Author(s)

Hanming Tu

Examples

```
is_empty(NULL);
is_empty('');
is_empty(NA);
```

merge_lists	<i>Compare and merge two lists</i>
-------------	------------------------------------

Description

compare two lists using the first list as a base; update the values of the first list if the second one has different values; add variables to the first if they do not exist in the first list.

Usage

```
merge_lists(a, b)
```

Arguments

a	the 1st list
b	the 2nd list

Value

a list containing the merged configuration

Author(s)

Hanming Tu

Examples

```
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist_R.yml"
f1 <- paste(a,b,c, sep = '/')
dr <- resolve(system.file("examples", package = "phuse"), "02_display")
f2 <- paste(dr, "www", "Draw_Dist_R.yml", sep = '/')
r1 <- read_yaml(f1)
r2 <- read_yaml(f2)
r3 <- merge_lists(r1, r2)
```

read_yaml	<i>Read YAML file into a list</i>
-----------	-----------------------------------

Description

read script metadata file in the repository or in a local folder.

Usage

```
read_yaml(fn)
```

Arguments

fn a URL or file name containing script metadata

Value

a list containing the parsed metadata tags

Author(s)

Hanming Tu

Examples

```
a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
b <- "development/R/scripts"
c <- "Draw_Dist2_R.yml"
f1 <- paste(a,b,c, sep = '/')
r1 <- get_inputs(f1)
```

resolve	<i>Resolve absolute path</i>
---------	------------------------------

Description

Resolve absolute directory

Usage

```
resolve(dir, relpath)
```

Arguments

dir directory
relpath relative path

Author(s)

Hanming Tu

Examples

```
resolve("/Users/htu/myRepo", "scripts")
# get "/Users/htu/myRepo/scripts"
```

 run_example

Run example

Description

run examples stored in the example folder.

Usage

```
run_example(example = NA, pkg = "phuse", port = NULL,
  launch.browser = getOption("shiny.launch.browser", interactive()),
  host = getOption("shiny.host", "127.0.0.1"), display.mode = c("auto",
  "normal", "showcase"))
```

Arguments

example	Example name
pkg	package name
port	Port number
launch.browser	define the browser- shiny.launch.browser
host	define the host or ip address
display.mode	modes are auto, normal or showcase

Author(s)

Hanming Tu

Examples

```
## Not run:
  library(phuse)
  run_example("02_display")

## End(Not run)
```

 search_github

Search GitHub and build a script index data frame

Description

Use GitHub search API to search for YML files in phuse-scripts repository and output the list.

Usage

```
search_github(filename = "*.yaml",
  rep_url = "https://github.com/phuse-org/phuse-scripts",
  rep_dir = "tree/master",
  rep_base = "https://raw.githubusercontent.com/phuse-org/phuse-scripts/master",
  out_type = "fn", work_dir = NULL, output_fn = NULL,
  days_to_update = 7, fn_only = FALSE)
```

Arguments

filename	file names to be searched; default to *.yaml.
rep_url	a URL for a remote repository and default to 'https://github.com/phuse-org/phuse-scripts'
rep_dir	rep dir for file name; default to 'tree/master'
rep_base	a URL for repository base folder; default to "https://github.com/phuse-org/phuse-scripts/raw/master"
out_type	output type; default to 'fn' - just file names.
work_dir	a local directory to host the files containing a list of YAML files; default to tempdir()/myRepo
output_fn	a CSV file name for outputting a list of YAML files; default to "repo_name_yaml.csv"
days_to_update	number of days before the output_fn is updated; default to 7 days. Set it to a negative number make it to update immediately.
fn_only	return file name only; default to FALSE

Value

a list of YAML files

Author(s)

Hanming Tu

Examples

```
## Not run:
  r1 <- search_github('*.*ml')

## End(Not run)
```

start_phuse	<i>Start Phuse Web Application</i>
-------------	------------------------------------

Description

start phuse web application framework.

Usage

```
start_phuse(n = 2, pkg = "phuse", pt = NULL,  
            lb = getOption("shiny.launch.browser", interactive()),  
            ht = getOption("shiny.host", "127.0.0.1"), dm = "normal",  
            msg_lvl = NULL)
```

Arguments

n	Example number
pkg	package name
pt	Port number
lb	define the browser- shiny.launch.browser
ht	define the host or ip address
dm	display modes are auto, normal or showcase
msg_lvl	message level

Author(s)

Hanming Tu

Examples

```
## Not run:  
library(phuse)  
start_phusee() # default to "02_display"  
start_phuse(1) # start "01_html"  
  
## End(Not run)
```

url.exists	<i>Check URL based on http package</i>
------------	--

Description

Check if URL exists.

Usage

```
url.exists(url = "https://github.com/phuse-org/phuse-scripts.git",  
          show = FALSE)
```

Arguments

url	a URL for a remote repository and default to 'https://github.com/phuse-org/phuse-scripts.git'
show	boolean variable; default to FALSE

Value

TRUE or FALSE

Author(s)

Hanming Tu

Examples

```
url.exists('https://github.com/phuse-org/phuse-scripts.git')
```

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