Package 'phuse'

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Type Package

Title Web Application Framework for 'PhUSE' Scripts

Version 0.2.2

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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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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Suggests testthat

Imports yaml, shiny, RCurl, git2r, rlist, httr, stringr, jsonlite, SASxport

NeedsCompilation no

Repository CRAN

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R topics documented:

`build_inputs` *Build Inputs from Script Metadata for Phuse Web Framework*

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` *Build Script Index Dataset*

Description

Grep all the YML 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 YML files; default to tempdir()/myRepo
`output_fn`	a CSV file name for outputing a list of YML files; default to "repo_name_yml.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` *Verify work directory*

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)
```

clone_github *Clone a GitHub repositoru*

Description

Clone a specified GitHub.

Usage

```
clone_github(repo_url = "https://github.com/phuse-org/phuse-scripts.git",
repo_dir = NULL, repo_name = NULL, upd_opt = NULL)
```

Arguments

repo_url	a URL for a remote repository and default to 'https://github.com/phuse-org/phuse-scripts.git'
repo_dir	a local directory to host the repository; default to work_dir from crt_workdir if not specified
repo_name	repo name; default to the repo name in repo_url.
upd_opt	update option: Repo

Value

nothing.

Author(s)

Hanming Tu

Examples

```
## Not run:
  r1 <- clone_github()

## End(Not run)
```

create_dir *Create a directory*

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 fram*

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_yml 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_yml(f1)
  r2 <- cvt_list2df(r1)

## End(Not run)
```

download_fns *Download files from a repository*

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_yml(f1)
  f3 <- extract_fns(f2)
  f4 <- download_fns(f3)

## End(Not run)
```

---

download_script *Download files defined in script metadata*

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 scrpt 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_yml(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_yml(f1)
f3 <- extract_fns(f2)
```

gen_simplified_ts *Generate Simplified TS domain xpt file*

Description

This procedure creates a simplified trial summary SAS xpt file.

Usage

```
gen_simplified_ts(studyid, tsparmcd = "SSTDTC",
  tsval = format(Sys.time(), "%Y-%m-%d"), tsvalnf = " ",
  ofn = "ts.xpt")
```

Arguments

studyid	is Study Identifier(STUDYID); required.
tsparmcd	is Trial Summary Parameter Short Name(TSPARMCD); defaults to 'SSTDTC'
tsval	is Parameter Value(TSVAL); defaults to current date in format of "YYYY-MM-DD"
tsvalnf	is Parameter Null Flavor(TSVALNF); default to blank
ofn	is output file name

Author(s)

Hanming Tu

Examples

```
## Not run:
  library(phuse)
  fn <- gen_simplified_ts();

## End(Not run)
```

---

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

fn	a file name or URL pointing to script metadata file
input	the input parameter from shiny webpage
cmd	the cmmandArgs

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_yml_inputs` *Get Inputs from Script Metadata File*

Description

Get inputs from script metadata.

Usage

```
get_yml_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_yml(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` *Compare and merge two lists*

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 varibles to the first if they doe 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

```
## Not run:
  a <- "https://github.com/phuse-org/phuse-scripts/raw/master"
  b <- "development/R/scripts"
  c <- "Draw_Dist1_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_yml(f1)
```

```
  r2 <- read_yml(f2)
  r3 <- merge_lists(r1, r2)

## End(Not run)
```

`read_yml` *Read YML file into a list*

Description

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

Usage

```
read_yml(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 *Resolve absolute path*

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_api *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_api(file_ext = "yml",
  gh_api = "https://api.github.com/search/code",
  rp_name = "phuse-org/phuse-scripts",
  rep_url = "https://github.com/phuse-org/phuse-scripts",
  rep_dir = "tree/master",
 rep_base = "https://raw.githubusercontent.com/phuse-org/phuse-scripts/master",
  loc_base = "C:/myCodes/phuse-org/phuse-scripts", filename = NULL,
  search_for = NULL, size = NULL, path = NULL)
```

Arguments

file_ext	file extension; default to 'yml'
gh_api	GitHub API URL; default to 'https://api.github.com/search/code'
rp_name	repository name; default to 'phuse-org/phuse-scripts'
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"
loc_base	a URL for repository base folder; default to "C:/myCodes/phuse-org/phuse-scripts"
filename	file names to be searched; default to null
search_for	text or key word to be searched in the files; defualt to null.
size	file size; default to null
path	file path; default to null

Value

a list of YML files

Author(s)

Hanming Tu

Examples

```
## Not run:
  r1 <- search_api('yml')

## 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 = "*.yml",
  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 *.yml.
`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 YML files; default to tempdir()/myRepo
`output_fn`	a CSV file name for outputing a list of YML files; default to "repo_name_yml.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 YML files

Author(s)

Hanming Tu

Examples

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

## End(Not run)
```

`start_app` *Start Phuse Web Application*

Description

start phuse web appllication framework. This includes all the functions in start_phuse plus starting standalone application by name.

Usage

```
start_app(app_name = NULL, 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, loc = "local")
```

Arguments

`app_name`	app or script name
`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
`loc`	location of the scirpt: locallgithub; default to 'local'

Author(s)

Hanming Tu

Examples

```
## Not run:
  library(phuse)
  start_appe()  # default to "02_display"
  start_app(1)  # start "01_html"

## End(Not run)
```

---

start_phuse *Start Phuse Web Application*

Description

start phuse web appllication 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` *Check URL based on httr package*

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`	bolean variable; default to FALSE

Value

TRUE or FALSE

Author(s)

Hanming Tu

Examples

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

Index