

Package: tugboat (via r-universe)

January 11, 2025

Title Build a Docker Image from a Directory or Project

Version 0.1.2

Description Simple utilities to generate a Dockerfile from a directory or project, build the corresponding Docker image, and push the image to DockerHub.

Imports here, renv ($\geq 1.0.0$)

Suggests yaml, rmarkdown, testthat ($\geq 3.0.0$)

License GPL (≥ 3)

Encoding UTF-8

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URL <https://www.dmolitor.com/tugboat/>

Config/testthat/edition 3

Config/testthat/start-first create

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Contents

build	2
create	3
Index	5

build	<i>Build a Docker image</i>
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Description

A simple utility to quickly build a Docker image from a Dockerfile.

Usage

```
build(  
  dockerfile = here::here("Dockerfile"),  
  image_name = "tugboat",  
  tag = "latest",  
  platforms = c("linux/amd64", "linux/arm64"),  
  build_args = NULL,  
  build_context = here::here(),  
  push = FALSE,  
  dh_username = NULL,  
  dh_password = NULL  
)
```

Arguments

dockerfile	The path to the Dockerfile. The default value is a file named Dockerfile in the project directory surfaced by here::here .
image_name	A string specifying the Docker image name. Default is tugboat.
tag	A string specifying the image tag. Default is latest.
platforms	A vector of strings. Which platforms to build images for. Default is both linux/amd64 and linux/arm64.
build_args	A vector of strings specifying additional build arguments to pass to the docker buildx build command. Optional.
build_context	The directory that is the build context for the image(s). Default value is the directory returned by here::here .
push	A boolean indicating whether to push to DockerHub.
dh_username	A string specifying the DockerHub username. Only necessary if push == TRUE.
dh_password	A string specifying the DockerHub password. Only necessary if push == TRUE.

Value

The name of the built Docker image as a string.

Examples

```
## Not run:
dock <- create(
  project = here::here(),
  FROM = "rstudio/r-base:devel-bookworm",
  exclude = c("/data", "/examples")
)

image_name <- build(
  dockerfile = here::here("Dockerfile"),
  image_name = "awesome_analysis",
  push = TRUE,
  dh_username = Sys.getenv("DH_USERNAME"),
  dh_password = Sys.getenv("DH_PASSWORD")
)

## End(Not run)
```

create

Create a Dockerfile

Description

This function will crawl all files in the current project/directory and (attempt to) detect all R packages and store these in a lockfile. From this lockfile, it will create a corresponding Dockerfile. It will also copy the full contents of the current directory/project into the Docker image. The directory in the Docker container containing the current directory contents will be /current-directory-name. For example if your analysis directory is named `incredible_analysis`, the corresponding location in the generated Docker image will be `/incredible_analysis`.

Usage

```
create(
  project = here::here(),
  as = file.path(project, "Dockerfile"),
  FROM = NULL,
  ...,
  exclude = NULL,
  verbose = FALSE
)
```

Arguments

<code>project</code>	The project directory. If no project directory is provided, by default, the here package will be used to determine the active project. If no project is currently active, then here defaults to the working directory where initially called.
<code>as</code>	The file path to write to. The default value is <code>file.path(project, "Dockerfile")</code> .

FROM	Docker image to start FROM. Default is FROM r-base:R.version.
...	Additional arguments which are passed directly to renv::snapshot . Please see the documentation for that function for all relevant details.
exclude	A vector of strings specifying all paths (files or directories) that should NOT be included in the Docker image. By default, all files in the directory will be included. NOTE: the file and directory paths should be relative to the project directory. They do NOT need to be absolute paths.
verbose	A boolean indicating whether or not to print the resulting Dockerfile to the console. Default value is FALSE.

Value

The Dockerfile contained as a string vector. Each vector element corresponds to a line in the Dockerfile.

See Also

[here::here](#); this will be used by default to determine the current project directory.

[renv::snapshot](#) which this function relies on to find all R dependencies and create a corresponding lockfile.

Examples

```
## Not run:
# Create a Dockerfile based on the rocker/rstudio image.
# Write the Dockerfile locally to here::here("Dockerfile").
# Copy all files except the /data and /examples directories.
dock <- create(
  project = here::here(),
  FROM = "rocker/rstudio",
  exclude = c("/data", "/examples")
)

## End(Not run)
```

Index

build, [2](#)

create, [3](#)

here::here, [2](#), [4](#)

renv::snapshot, [4](#)