

Package ‘containr’

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Title Containerize Your 'R' Project

Version 0.1.3

Description Provides tools for containerizing 'R' projects. The core function, 'generate_dockerfile()', analyzes an 'R' project's environment and dependencies via an 'renv' lock file and generates a ready-to-use 'Dockerfile' that encapsulates the computational setup. Designed to help researchers build portable, reproducible workflows that can be reliably shared, archived, and rerun across systems. See R Core Team (2025) <<https://www.R-project.org/>>, Ushey et al. (2025) <<https://CRAN.R-project.org/package=renv>>, and Docker Inc. (2025) <<https://www.docker.com/>>.

License Apache License (>= 2)

Encoding UTF-8

Language en-US

RoxygenNote 7.3.2

URL <https://github.com/erwinlares/containr>,
<https://erwinlares.github.io/containr/>

BugReports <https://github.com/erwinlares/containr/issues>

Suggests spelling, testthat (>= 3.0.0), withr

Imports cli, dplyr, glue, httr, purrr, readr

Config/testthat/edition 3

NeedsCompilation no

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generate_dockerfile *Generate a reproducible Dockerfile for an R project*

Description

`generate_dockerfile()` inspects an R project's dependencies via an `renv` lockfile and writes a ready-to-use Dockerfile to the specified output directory. It supports multiple Rocker base images, optional system libraries, Quarto installation, file copying, user creation, and inline documentation comments.

Usage

```
generate_dockerfile(  
  verbose = FALSE,  
  r_version = "current",  
  data_file = NULL,  
  code_file = NULL,  
  misc_file = NULL,  
  add_user = NULL,  
  home_dir = "/home",  
  install_quarto = FALSE,  
  expose_port = "8787",  
  r_mode = "base",  
  install_syslibs = TRUE,  
  comments = FALSE,  
  output = tempdir()  
)
```

Arguments

<code>verbose</code>	Logical. If TRUE, prints progress messages as each section of the Dockerfile is written. Defaults to FALSE.
<code>r_version</code>	A character string specifying the R version to use, e.g. "4.3.0". Defaults to "current", which resolves to the version of R running in the current session.
<code>data_file</code>	A character string. Path to an optional data file to copy into the container under <code>/home/data/</code> . Defaults to NULL.
<code>code_file</code>	A character string. Path to an optional script file (e.g. <code>.R</code> , <code>.qmd</code> , <code>.rmd</code>) to copy into the container under <code>/home/</code> . Defaults to NULL.
<code>misc_file</code>	A character string. Path to an optional miscellaneous file (e.g. an image or shell script) to copy into the container under <code>/home/</code> . Defaults to NULL.
<code>add_user</code>	A character string. Name of a Linux user to create inside the container with <code>sudo</code> access. Defaults to NULL.
<code>home_dir</code>	A character string. The working directory set inside the container via <code>WORKDIR</code> . Defaults to <code>"/home"</code> .

install_quarto	Logical. If TRUE, downloads and installs the Quarto CLI inside the container. Defaults to FALSE.
expose_port	A character string. The port to expose when r_mode is "rstudio". Defaults to "8787".
r_mode	A character string selecting the Rocker base image. Inspired by the Rocker Project . One of "base" for plain R, "tidyverse" for R with the tidyverse, "rstudio" for RStudio Server, or "tidystudio" for tidyverse plus TeX Live and publishing-related packages. Defaults to "base".
install_syslibs	Logical. If TRUE, installs system libraries commonly required by R packages and needed for source compilation (e.g. libcurl4-openssl-dev, libxml2-dev). Defaults to TRUE.
comments	Logical. If TRUE, annotates each Dockerfile instruction with an explanatory comment. Useful for learning or sharing. Defaults to FALSE.
output	A character string. Directory path where the Dockerfile will be written. Defaults to tempdir().

Value

Called for its side effects. Writes a Dockerfile to output. Does not return a value.

Examples

```
# Generate a minimal Dockerfile using a pinned R version
generate_dockerfile(r_version = "4.4.0", output = tempdir())

# Pin a specific R version with the tidyverse image
generate_dockerfile(r_version = "4.3.0", r_mode = "tidyverse", output = tempdir())

# Include a data file and annotate the Dockerfile with comments
## Not run:
generate_dockerfile(
  r_version = "4.3.0",
  data_file = "data/penguins.csv",
  comments = TRUE,
  output = "."
)

## End(Not run)
```

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