Cheatsheet: fast container builds for R 🖋

docker command line

Run container interactively

docker run −it \ namespace/repo:tag

Run rocker/rstudio container

docker run --rm -p 8787:8787 \ -it -e PASSWORD=mypassword \ rocker/rstudio

Build from Dockerfile

docker build \ -t namespace/repo:tag .

Convenient R commands

Dockerfile from DESCRIPTION file

dockerfiler::dock_from_desc()

Package system requirements

pak::pkg system requirements("DT", "ubuntu", "20.04")

Reducing image size

- Install2.r: rm -rf /tmp/downloaded_packages - RSPM: strip /usr/local/lib/R/site-library/*/libs/*.so

Acknowledgements

Rocker and r2u are mainly developed by Carl Boettiger and Dirk Eddelbuettel. This cheatsheet was created by Geert van Geest

- apt-get: rm -rf /var/lib/apt/lists/*

Dockerfile examples

apt-get

interacts with the system package manager, that usually includes R packages

```
FROM ubuntu
RUN apt-get update \
    && apt-get install -y \
    --no-install-recommends \
    r-cran-rmarkdown \
    r-cran-dt \
    r-bioc-biostrings
```

FROM rocker/rstudio:4

RUN install2.r \ rmarkdown \ DT

Binary or source installation?

For most applications, a binary

: default

installation is recommended

It's faster and it's easier to

handle dependencies.

FROM rocker/r-bspm:f37

RUN R -e \ 'install.packages("DT")'

FROM r-base: latest

RUN apt-get update \ && apt-get install -y \ --no-install-recommends \ r-cran-rmarkdown \ r-cran-dt \ r-bioc-biostrings

FROM eddelbuettel/r2u:jammy

fastest!

RUN install2.r \ rmarkdown \ DT Biostrings

install2.r/install.r scripts

Helpers for installing R packages (<u>littler</u> package). All options here.

Choosing your base image

The base images below have many different characteristics. Refer to their specifications for a full

let a second contact and accompanies.						
bioconductor support		overview.	<u>rocker</u>		<u>r2u</u>	
		Versioned	<u>Base</u>	rocker/r-ubuntu	rocker/r-bspm	eddelbuettel/r2u
	apt-get install	No	Yes 🏁	Yes ု 🔆	Yes ု 🔆	Yes ု 🔆
	repo install2.r or install.packages()	RSPM (binary)	CRAN (source)	CRAN (source)	package manager (binary)	r2u (binary)
	base image	ubuntu	debian	ubuntu	debian, ubuntu, fedora, opensuse	ubuntu

