A Minimal Book Example

John Doe

2022-02-23

Contents

Chapter 1

About

This is a *sample* book written in **Markdown**. Test using {targets}.

Near the top of the document, you may also wish to remove the `_targets_r` directory previously written by non-interactive runs of the report. Otherwise, your pipeline may contain superfluous targets.

```
targets::tar_unscript()
```

1.1 Setup

If you are using old versions of `targets` (<= 0.7.0) and/or `knitr` (<= 1.33), you will need to load the `targets` package in the R Markdown document in order for Target Markdown code chunks to work.

```
library(targets)
```

```
## Warning: package 'targets' was built under R version 4.1.2
```

1.2 Globals

We first define some global options/functions common to all targets. The function below plots a histogram of ozone concentrations, and our histogram target will need it.

```
options(tidyverse.quiet = TRUE)
tar_option_set(packages = c("biglm", "dplyr", "ggplot2", "readr", "tidyr"))
create_plot <- function(data) {
  ggplot(data) +
    geom_histogram(aes(x = Ozone), bins = 12) +
    theme_gray(24)
}
```

```
## Establish _targets.R and _targets_r/globals/example-globals2.R.
```

```
tar_make()
```

```
## • end pipeline
## Warning message:
## package 'targets' was built under R version 4.1.2
```

Chapter 2

Chapter 1

Target Markdown is a powerful R Markdown interface for reproducible analysis pipelines, and the chapter at https://books.ropensci.org/targets/markdown.html walks through it in detail. This R Markdown report the example from the chapter. Try it out in both interactive and non-interactive modes, either by running the code chunks in different ways or setting the `tar_interactive` chunk option.

2.1 Packages

The example requires several R packages, and `targets` must be version 0.5.0.9000 or above.

```
install.packages(c("biglm", "dplyr", "ggplot2", "readr", "targets", "tidyr"))
```

2.2 Targets

Our first target borrows the `airquality` dataset built into base R.

```
tar_target(raw_data, airquality)
#> Establish _targets.R and _targets_r/targets/raw-data.R.
```

Our next targets preprocess the data, make a histogram, and fit a model.

```
list(
  tar_target(data, raw_data %>% filter(!is.na(Ozone))),
  tar_target(hist, create_plot(data))
)
#> Establish _targets.R and _targets_r/targets/downstream-targets.R.
```

Set the `tar_simple` chunk option to `TRUE` to define a single target with the command in the code chunk. The chunk below only contains `biglm(Ozone ~ Wind + Temp, data)` in the source, but because `tar_simple` is `TRUE`, it is shorthand for `tar_target(name = fit, command = biglm(Ozone ~ Wind + Temp, data))`. All other arguments to `tar_target()` are set to their default values (configurable with `tar_option_set()`).

```
tar_target(fit, {
  biglm(Ozone ~ Wind + Temp, data)
})
#> Define target fit from chunk code.
#> Establish _targets.R and _targets_r/targets/fit.R.
```

2.3 Pipeline

If you ran all the `{targets}` chunks in non-interactive mode, then your R scripts are set up to run the pipeline.

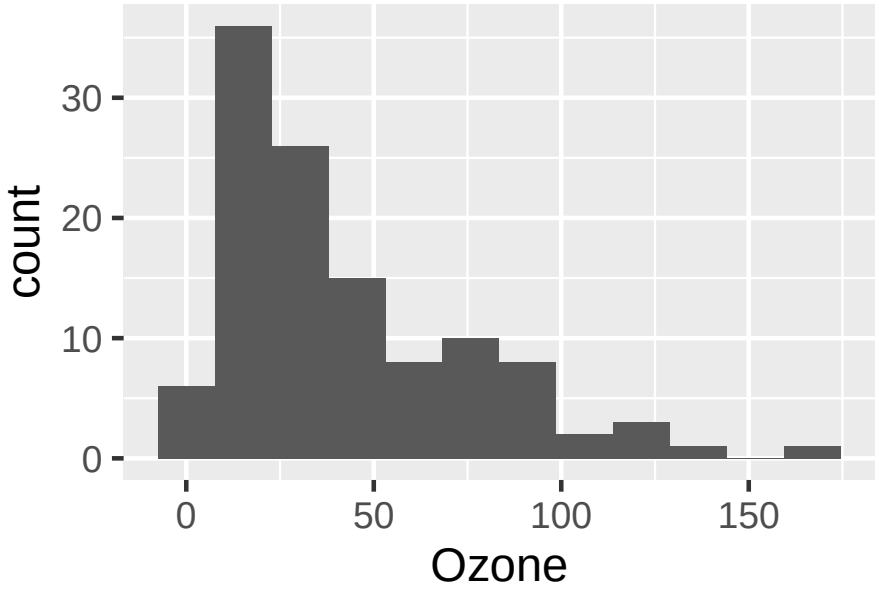
```
tar_make()
#>   skip target raw_data
#>   skip target data
#>   skip target fit
#>   skip target hist
#>   skip pipeline
#> Warning message:
#> package 'targets' was built under R version 4.1.2
```

2.4 Output

You can retrieve results from the `_targets/` data store using `tar_read()` or `tar_load()`.

```
library(biglm)
tar_read(fit)
#> Large data regression model: biglm(Ozone ~ Wind + Temp, data)
#> Sample size =  116
```

```
tar_read(hist)
```



At this point, you can go back and run `{targets}` chunks in interactive mode without interfering with the code or data of the non-interactive pipeline.

Chapter 3

Chapter 2

Target Markdown is a powerful R Markdown interface for reproducible analysis pipelines, and the chapter at https://books.ropensci.org/targets/markdown.html walks through it in detail. This R Markdown report the example from the chapter. Try it out in both interactive and non-interactive modes, either by running the code chunks in different ways or setting the `tar_interactive` chunk option.

3.1 Packages

The example requires several R packages, and `targets` must be version 0.5.0.9000 or above.

```
install.packages(c("biglm", "dplyr", "ggplot2", "readr", "targets", "tidyr"))
```

3.2 Targets

Our next targets preprocess the data, make a histogram, and fit a model.

```
list(
  tar_target(hist2, create_plot(data))
)
#> Establish _targets.R and _targets_r/targets/downstream-targets2.R.
```

Set the `tar_simple` chunk option to `TRUE` to define a single target with the command in the code chunk. The chunk below only contains `biglm(Ozone`

`~ Wind + Temp, data)` in the source, but because `tar_simple` is `TRUE`, it is shorthand for `tar_target(name = fit, command = biglm(Ozone ~ Wind + Temp, data))`. All other arguments to `tar_target()` are set to their default values (configurable with `tar_option_set()`).

```
tar_target(fit2, {
  biglm(Ozone ~ Wind + Temp, data)
})
#> Define target fit2 from chunk code.
#> Establish _targets.R and _targets_r/targets/fit2.R.
```

3.3 Pipeline

If you ran all the `{targets}` chunks in non-interactive mode, then your R scripts are set up to run the pipeline.

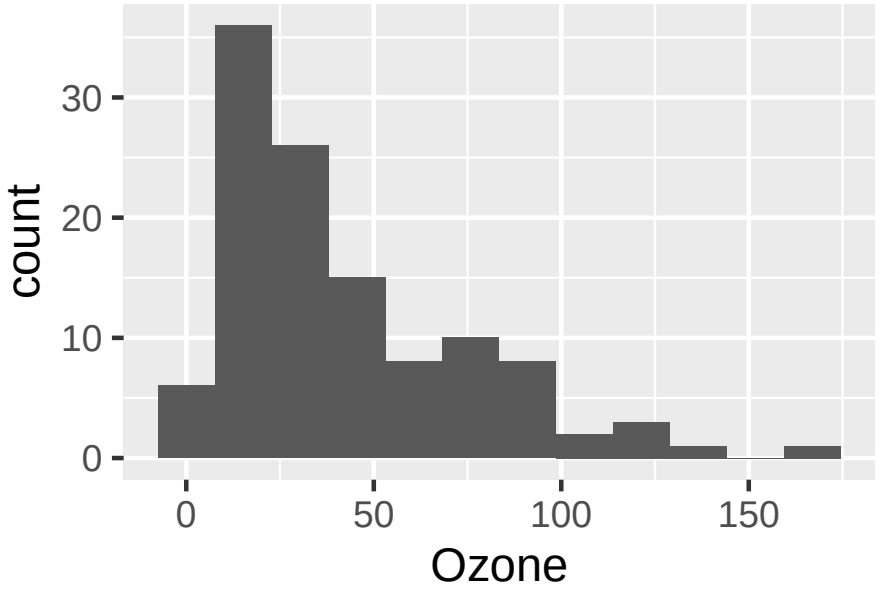
```
tar_make()
#>   skip target raw_data
#>   skip target data
#>   skip target fit2
#>   skip target fit
#>   skip target hist
#>   skip target hist2
#>   skip pipeline
#> Warning message:
#> package 'targets' was built under R version 4.1.2
```

3.4 Output

You can retrieve results from the `_targets/` data store using `tar_read()` or `tar_load()`.

```
library(biglm)
tar_read(fit2)
#> Large data regression model: biglm(Ozone ~ Wind + Temp, data)
#> Sample size =  116
```

```
tar_read(hist2)
```



At this point, you can go back and run `{targets}` chunks in interactive mode without interfering with the code or data of the non-interactive pipeline.