Talon 3 Survival Guide

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Chapter 1

Logging into Talon - SSH

This is a *sample* book written in **Markdown**. You can use anything that Pandoc's Markdown supports, e.g., a math equation $a^2 + b^2 = c^2$.

The **bookdown** package can be installed from CRAN or Github:

```
install.packages("bookdown")
# or the development version
# devtools::install_github("rstudio/bookdown")
```

Remember each Rmd file contains one and only one chapter, and a chapter is defined by the first-level heading `#`.

To compile this example to PDF, you need XeLaTeX. You are recommended to install TinyTeX (which includes XeLaTeX): https://yihui.name/tinytex/.

Chapter 2

Python Installations

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter @ref(intro). If you do not manually label them, there will be automatic labels anyway, e.g., Chapter @ref(methods)

Figures and tables with captions will be placed in `figure` and `table` environments, respectively x^2.

```
par(mar = c(4, 4, .1, .1))
plot(pressure, type = 'b', pch = 19)
```

Reference a figure by its code chunk label with the `fig:` prefix, e.g., see Figure @ref(fig:nice-fig). Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table @ref(tab:nice-tab).

```
knitr::kable(
  head(iris, 20), caption = 'Here is a nice table!',
  booktabs = TRUE
)
```

Table 2.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

You can write citations, too. For example, we are using the **bookdown** package (Xie 2019) in this sample book, which was built on top of R Markdown and **knitr** (Xie 2015) and (Urbanek 2018).

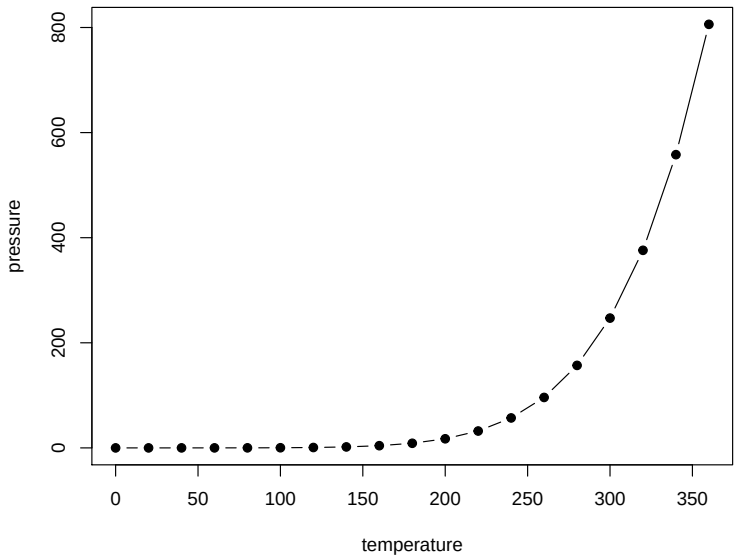


Figure 2.1: Here is a nice figure!

Chapter 3

R Installations

R and RStudio introductions (Urbanek 2018).

Chapter 4

Parallel Processing

What is parallel processing

Chapter 5

Slurm Batch Scripts

Some *significant* applications are demonstrated in this chapter.

Example one

Example two

Chapter 6

Using Python with HPC

Parallel Processing with Python

Chapter 7

Using R with HPC

Parallel Processing with R

Urbanek, Simon. 2018. *Unixtools: Interface to Various System-Level Facilities in Unix*. http://www.rforge.net/unixtools.

Xie, Yihui. 2015. *Dynamic Documents with R and Knitr*. 2nd ed. Boca Raton, Florida: Chapman; Hall/CRC. http://yihui.name/knitr/.

———. 2019. *Bookdown: Authoring Books and Technical Documents with R Markdown*. https://CRAN.R-project.org/package=bookdown.