

rmarkdown_pdf

Sébastien Renault

2018-09-06

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Different outputs

- There are six versions of this document:
 - *.Rmd*: The **R**markdown document.
 - *.html*: A Webpage as we saw in the previous section. Follow using this version.
 - *rmarkdown_word_pdf2.html*: A **radix** webpage.
 - *.docx*: A MS Word document.
 - *.tex*: A LaTeX document.
 - *.pdf*: A PDF document.

html document

```
---
title: "rmarkdown_pdf"
author: "Sébastien Renault"
date: '2018-09-06'
output:
  html_document:
    toc: yes
---
```

Microsoft Word

```
---
title: "rmarkdown_docx"
author: "Sébastien Renault"
date: '2018-09-06'
```

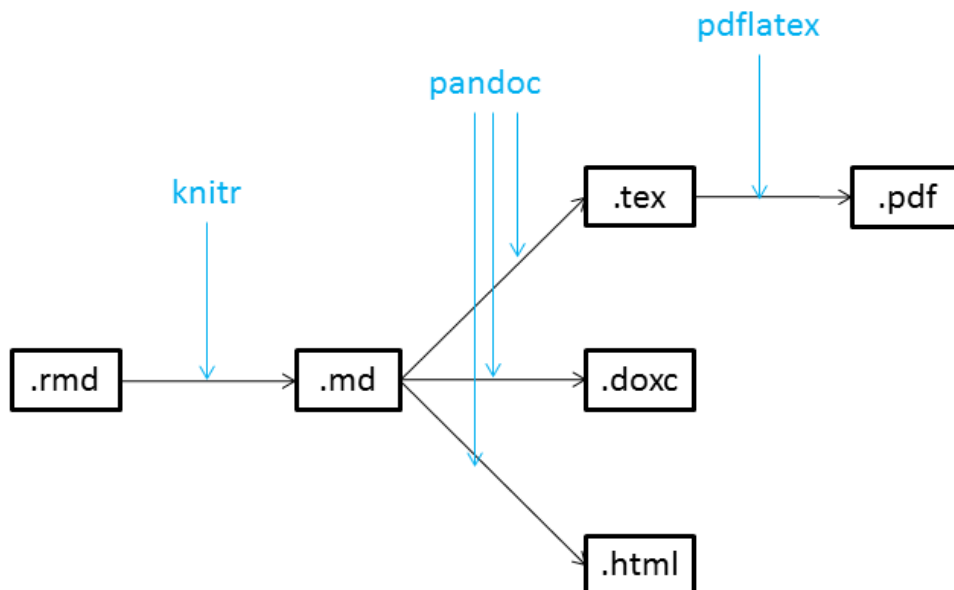
```
output:
  word_document:
    toc: yes
---
```

- You can specify it when you create a new **Rmarkdown** document.
- You can also specify it later in the header.
- Then, it's just a matter of knitting the document!
- Little documentation, few options & configurations are possible (This is probably not the format that should be promoted, as it moves away from an open source environment).
- (FYI, there is a spellchecker in **Rstudio**: Edit >Check Spelling...)

Portable Document Format (.pdf)

```
---
title: "rmarkdown_pdf"
author: "Sébastien Renault"
date: '2018-09-06'
output:
  pdf_document:
    keep_tex: true
    toc: yes
---
```

- You need an extra step to go from a LaTeX (*.tex*) format to a *.pdf*. This is handled by the **pdflatex** function in R.
- LaTeX software is a high-quality typesetting system.
- It is the *de facto* standard for the communication and publication of scientific documents.
- LaTeX is available as free software [here](#).



- If interested, follow this discussion: *Why LaTeX is such a bloated system?*
- So... *TinyTeX* is a custom LaTeX distribution based on TeX Live that is small in size (~150MB) but functions well in most cases, especially for R users .
- `tinytex` R package is a wrapper function that installs *TinyTeX*.

Exercise 1


- Install the `tinytex` R package from the console. It may take a few minutes to download and compile (~150MB)

```
install.packages("tinytex")
library(tinytex)
install_tinytex()
```

- Create a new document, compile it as *.pdf*.
 - Add a Table of Content.
 - Add a graphic.
- Now compile it as a Word document (*.docx*)
- Add some reference by specifying the `cs1`: `../cs1/peerj.csl` and `bibliography`: `../biblio/test_library.bib` in the header

LaTeX template

- This allows further options in the *.Rmd* file when going from *.tex* file to *.pdf*.
- You can build your own *.tex* template if you know LaTeX...
- There are many templates available on the web that you can use.

- Here is one I like for manuscripts (Thanks svmler on )
 - Using this (slightly modified) template, I am writing my first *.Rmd* manuscript.

1 A commercial seaweed extract strongly structured 2 microbial communities associated with tomato and 3 pepper roots and significantly increased crop yield

4 Sébastien Renaut^{1,2}, Jacynthe Masse^{1,2}, Jeffrey P. Norrie³, Bachar Blal³ Mohamed Hijri^{1,2}

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6 4101 Sherbrooke Est, Montreal, H1X 2B2, Quebec, Canada. ²Quebec Centre for Biodiversity Science,
7 Montreal, Quebec, Canada ³Acadian Seaplant Ltd, 30 Brown Avenue, Dartmouth, Nova Scotia, Canada,
8 B3B 1X8

9 Seaweeds have been used as a source of natural fertilizer and biostimulant in agriculture
10 for centuries. However, their effects on soil and crop roots microbiota remain unclear.
11 Here, we used a commercially available *Ascophyllum nodosum* extract (ANE) to test its ef-
12 fect on bacterial and fungal communities of rhizospheric soils and roots of pepper and
13 tomato plants in greenhouse trials. Two independent trials were conducted in a split

- Here is one I like for *Curriculum Vitae*
 - Using this template, I re-wrote my CV to give it a fresh look!

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 Quebec Centre for Biodiversity Science (QCBS), Montreal, Canada
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Employment

Research Professional, Université de Montréal, Montreal 2014-current

- Provide bioinformatics support and supervise graduate students
- Conduct multi-disciplinary research (microbial ecology, genomics, biodiversity)
- Lead, teach and organize training workshops
- Draft reports and grant applications

Education

Postdoctoral fellow, Biodiversity Research Centre, UBC, Vancouver 2010-2014
 (supervisor: Dr Loren Bieganski)

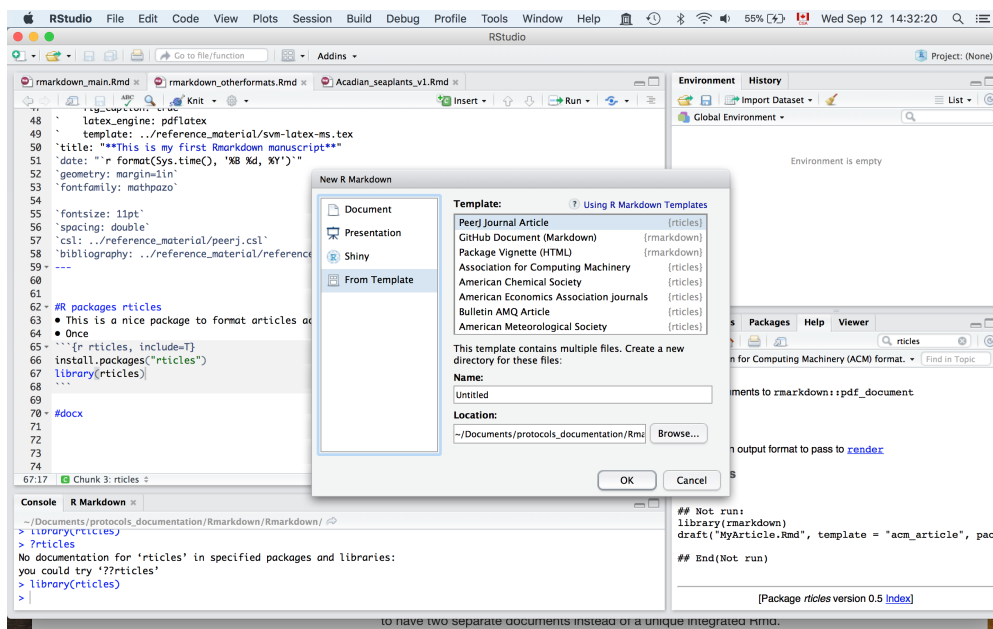
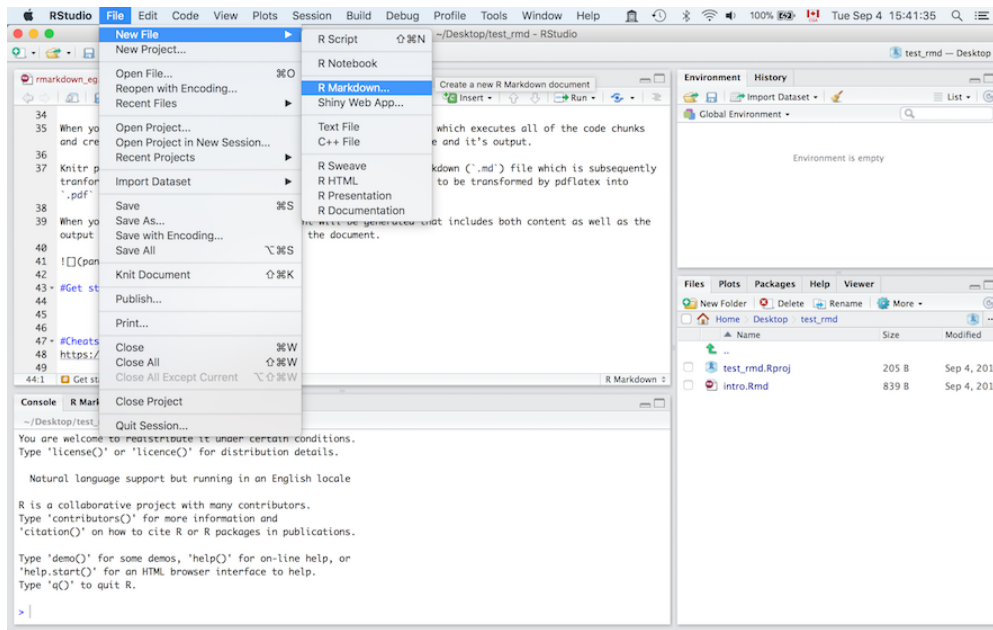
- Download template and add it to the header. Not however that you should download or at least take a look at the *.Rmd* to see options, and *.pdf* to see output.

```
---
output:
  pdf_document:
    keep_tex: true
    fig_caption: true
    latex_engine: pdflatex
    template: ../reference_material/svm-latex-ms.tex
title: "**This is my first Rmarkdown manuscript**"
#many more options can go here which will be using by pdflatex.
---
```

- You should know have all the tools to generate your fully reproducible manuscripts from R. The only objection I see is formatting manuscript this way is integrating comments from co-authors who do not use R, R markdown, git or github.

Exercise 2

- R packages *rticles* is (potentially) a nice package to format articles according to the specification of a journal.
- But first, you need to install it in the R console.
- Once installed, try starting a new R markdown document according to your journal of interest.



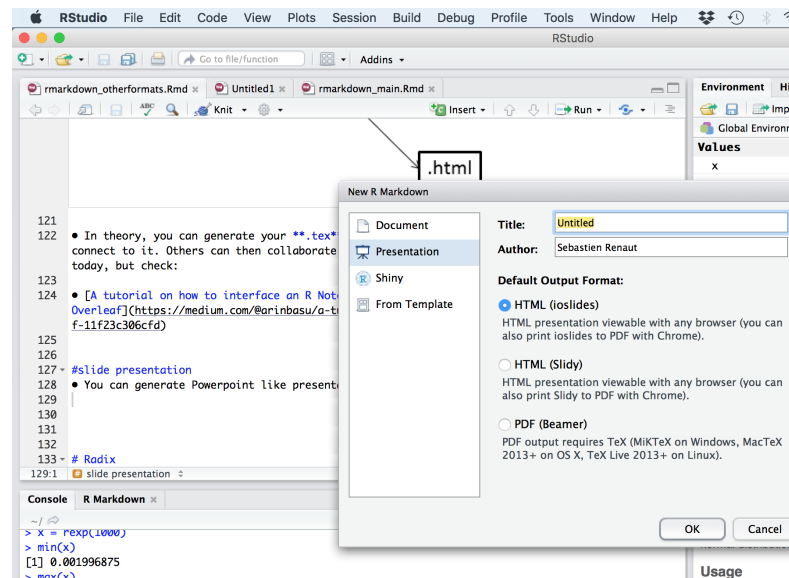
- Right now, few templates available.
- Some templates may be slower to render, depending on what *LaTeX* package they depend on and need to be downloaded (e.g PNAS).

Other possibilities

Presentations

```
---
title: "Untitled"
author: "Sebastien Renaut"
```

```
date: "27/02/2019"
output: ioslides_presentation
---
```



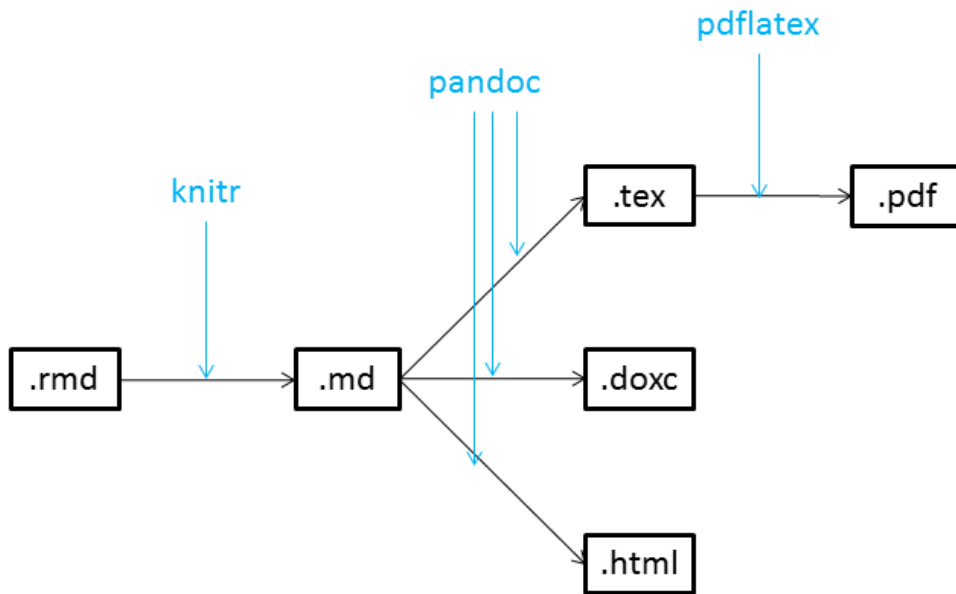
- You can also generate Powerpoint-like presentations.

Overleaf

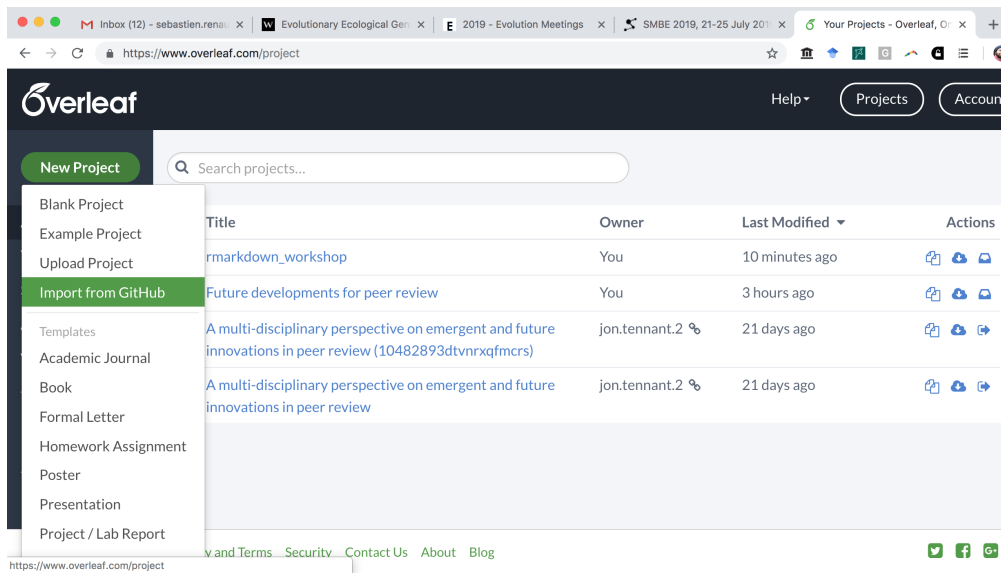
- Overleaf is an online LaTeX and Rich Text collaborative writing and publishing tool that makes the whole process of writing, editing and publishing scientific documents much quicker and easier.

A screenshot of the Overleaf web interface. The top navigation bar includes 'PROJECT', 'HISTORY & REVISIONS', 'SHARE', 'PDF', and 'SUBMIT TO F1000RESEARCH'. Below this is a toolbar with icons for source, rich text, edit, find, and various text formatting options. The main area is split into two panes. The left pane shows LaTeX source code for a document titled 'A multi-disciplinary perspective on emergent and future innovations in peer review'. The code includes package declarations, color definitions, and author information. The right pane shows the rendered PDF of the document. The PDF has a header with the F1000Research logo and the title 'A multi-disciplinary perspective on emergent and future innovations in peer review'. The main body of the PDF lists the authors: Jonathan P. Tennant, Jonathan M. Dugan, Daniel Graziotin, Damien C. Jacques, Francois Waldner, Daniel Metchen, Yehia Elkhattab, Lauren B. Collister, Christina K. Pike, Tom Crick, Paola Masuzzo, Anthony Caravaggi, Devin R. Berg, Kyle E. Niemeyer, Tony Ross-Hellauer, Sara Mannheimer, Lillian Rigling, Daniel S. Katz, Bastian Greshake, Josmel Pacheco-Mendoza, Nazeefa Fatima, Marta Poblet, Marios Isaakidis, Dasapta Erwin Irawan, Sébastien Renaud, Christopher R. Madan, Lisa Matthias, Jesper Nørgaard Kjær, Daniel Paul O'Donnell, Cameron Neylon, Sarah Kearns, Manojkumar Selvaraju, and Julien Colomb. At the bottom of the PDF, there is a list of footnotes corresponding to the ORCID iDs of the authors.

- Remember this:




- You can generate your *.tex* file, upload it to a github repo and Overleaf will connect to it. Others can then collaborate and modify the *.tex* file.
- Let's take a quick look at overleaf. Once you have an overleaf account, you can connect it to a github repository and *.tex* document. You can then pull/push from overleaf to github, allowing others to modify your *.tex* file.



- A tutorial on how to interface an R Notebook with Overleaf
- How do I connect an Overleaf project with a repo on GitHub, GitLab or BitBucket?

Bookdown

- Bookdown  is an open-source R package that facilitates writing books and long-form articles/reports with R Markdown.

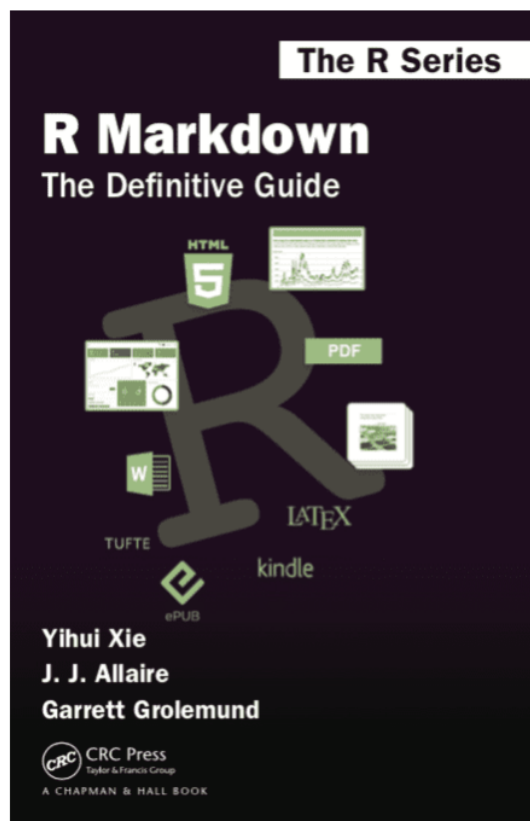
R Markdown: The Definitive Guide

Yihui Xie, J. J. Allaire, Garrett Golemund

2019-01-29

Preface

Note: This book has been published by [Chapman & Hall/CRC](#). The online version of this book is free to read here (thanks to Chapman & Hall/CRC), and licensed under the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#).



Radix

- Radix offers a better look for publishing blog, webpages, adapted to mobile devices.
- Note that in future version, *Radix* is now called *distill*

Radix for R Markdown

JJ Allaire

2018-09-19

Categories: [R Markdown](#) Tags: [rmarkdown](#)

Today we're excited to announce [Radix](#), a new R Markdown format optimized for scientific and technical communication. Features of Radix include:

- Reader-friendly typography that adapts well to mobile devices.
- Flexible [figure layout](#) options (e.g. displaying figures at a larger width than the article text).
- Tools for making articles [easily citeable](#), as well as for generating [Google Scholar](#) compatible citation metadata.
- The ability to incorporate JavaScript and D3-based [interactive visualizations](#).
- A variety of ways to [publish articles](#), including support for publishing sets of articles as a [Radix website](#).
- The ability to [create a blog](#) composed of a collection of Radix articles.

- You will need Rstudio v1.2, `radix` and `leaflet`.

```
install.packages("radix")  
install.packages("leaflet")
```

- Change output in header to:

```
---  
title: "Rmarkdown: radix"  
author: "Sébastien Renaut"  
output: radix::radix_article  
---
```

- Then you can start playing with the `radix` options, such as in this example below (full width figures):

#Note that you may need to set `eval = F` for some formats (pdf, docx) to compile properly

```
```{r radix_example, echo = F, eval = T, layout='l-screen-inset'}  
library(leaflet)
leaflet() %>%
addTiles() %>%
addMarkers(lng=174.768, lat=-36.852,popup="The birthplace of R")
```
```

Exercice 3

- Use a previously generate document to generate a `radix` html output.
- What does it look like? Better?

