Rmarkdown: Word and pdf documents

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Microsoft Word

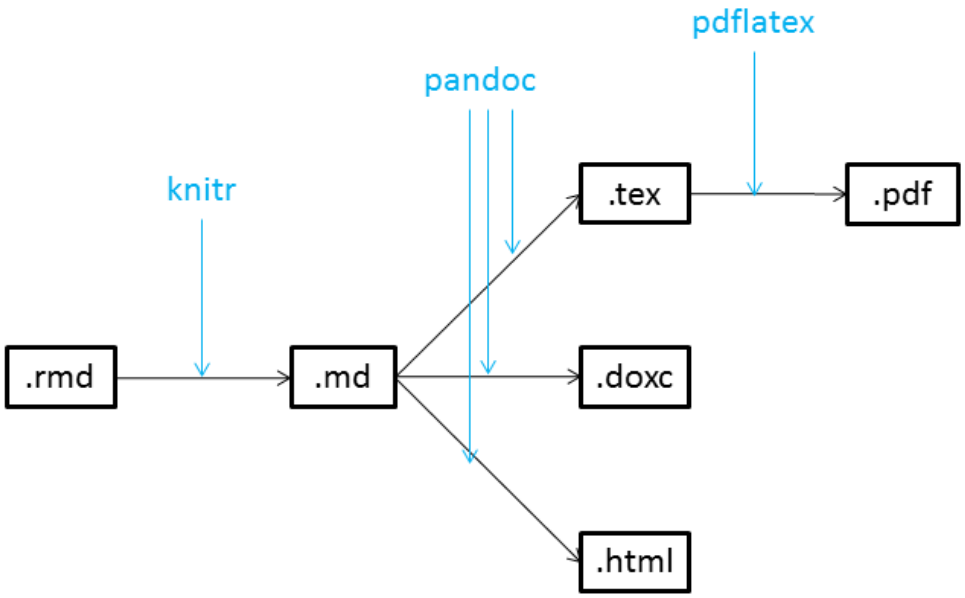
- You can specify it when you create a new `rmarkdown` document.
- You can also specify it later in the YAML header.

```
---
title: "rmarkdown_pdf_docx"
author: "Sebastien Renaut"
date: '2018-09-06'
output: word_document
---
```

- Then, it's just a matter of kniting the document!
- Little documentation, few options & configurations are possible. (This is not the course of events that should be promoted, as it moves away from an open source environment).

Portable Document Format (.pdf)

- You need a extra step to go from 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.



- Latex software is available 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*.

Exercice 1 (15min.)

- Install the `tinytex` R package from the console.

  install.packages("tinytex")
  library(tinytex)
  It takes a few minutes to download and compile tinytex (~150MB)
  install_tinytex()

- Compile your document as *.pdf*:

  —
  title: "rmarkdown_pdf_docx"
  author: "Sebastien Renaut"
  date: '2018-09-06'
  output: pdf_document
  —

More complex header

—
output
pdf_document:
keep_tex: true
fig_caption: true
latex_engine: pdflatex
title: "**This is my first Rmarkdown manuscript**"
date: February 07, 2019
geometry: margin=1in
fontfamily: mathpazo
fontsize: 11pt
spacing: double
csl: ../reference_material/peerj.csl
bibliography: ../reference_material/reference.bib
—

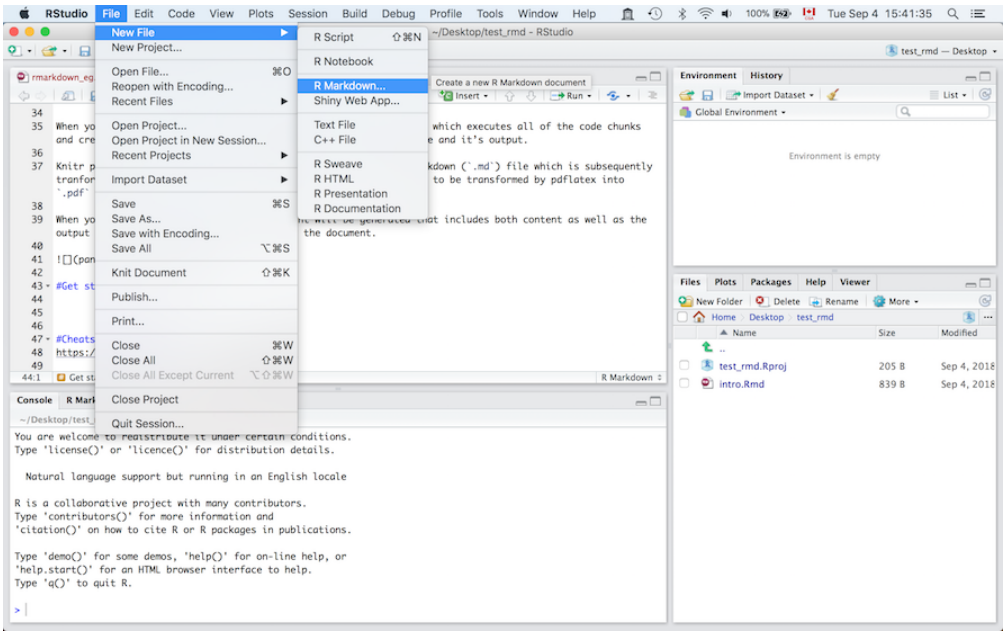
- Note the indentation in the **.Rmd** document.
- Note the bibliography file and csl file for formatting references.

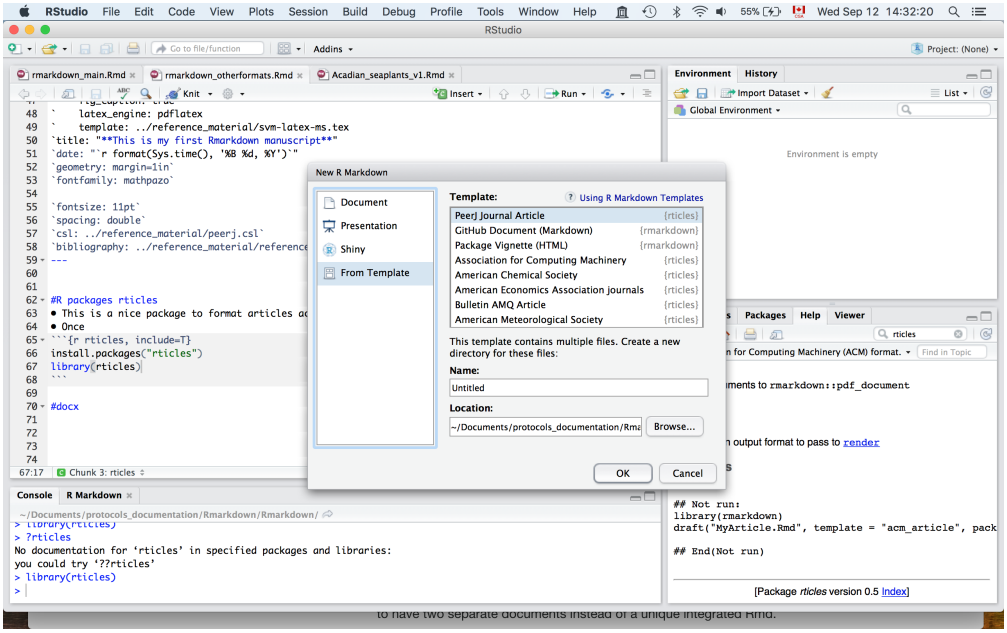
Exercice 2: R packages `rticles` (10min.)

- This is a nice package to format articles according to the specification of a journal.
- But first, you need to install it in the R console `install.packages("rticles")`.

“‘{r rticles, include=T}
#install.packages(“rticles”)
library(rticles)
“‘

- Once installed, try starting a new R markdown document according to your journal of interest.





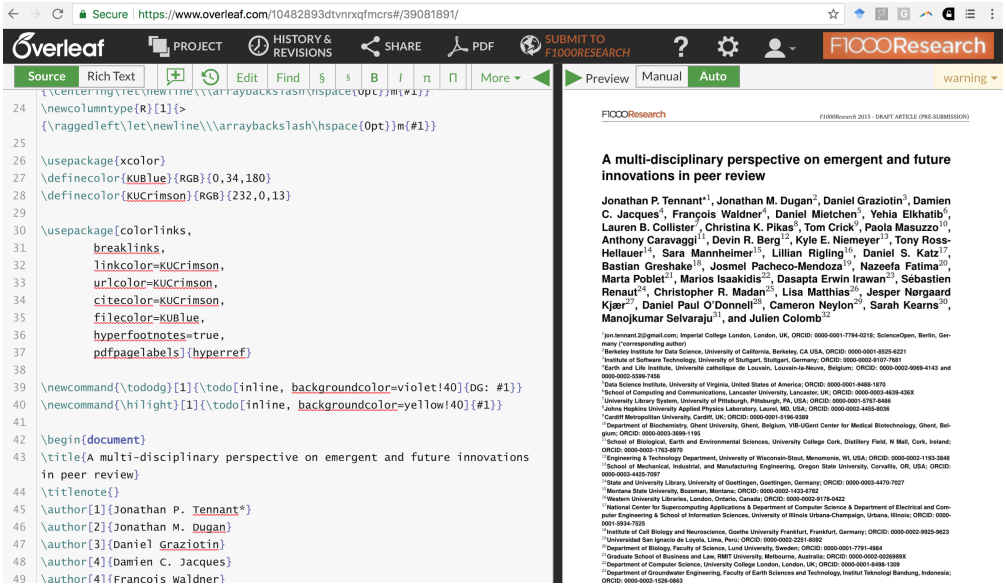
Template (*.tex*)

- You can build your own 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 svmiller!):
- Here is one I like for CVs:
- Simply download it and add it to the YAML header like this: `template: ../reference_material/svm-latex-ms.tex`

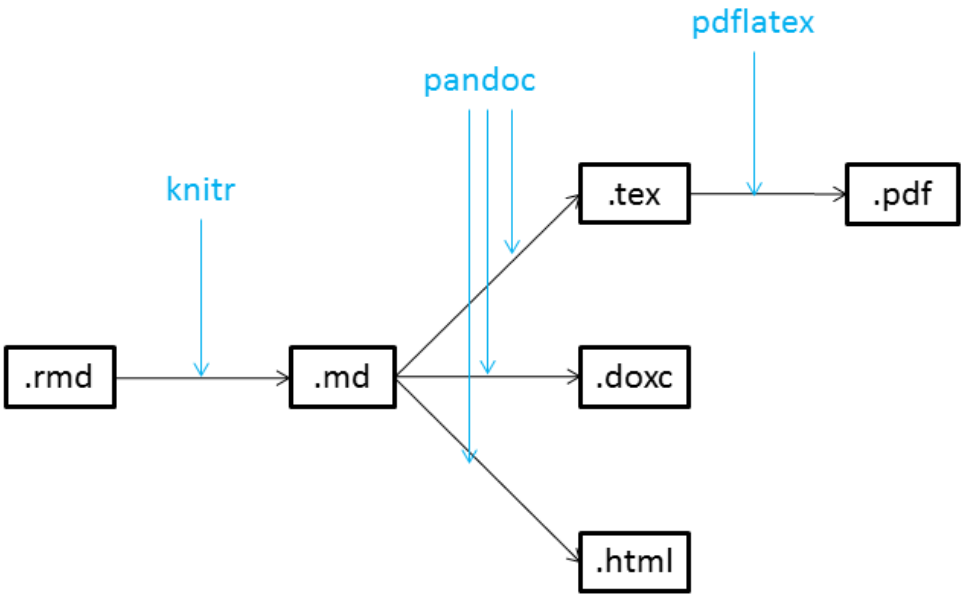
— output:
pdf_document:
keep_tex: true
fig_caption: true
latex_engine: pdflatex
template: ../reference_material/svm-latex-ms.tex
title: "**This is my first Rmarkdown manuscript**
—

Overleaf

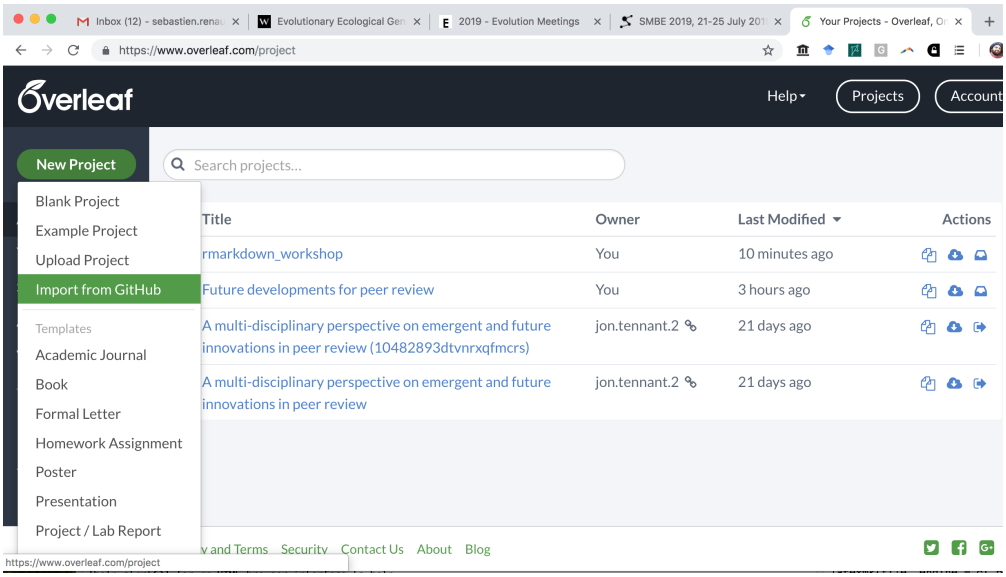
- Overleaf is an online LaTeX and Rich Text collaborative writing and publishing tool that makes the whole process of writing, editing and publishing scientific documents much quicker and easier.



- Remember this:



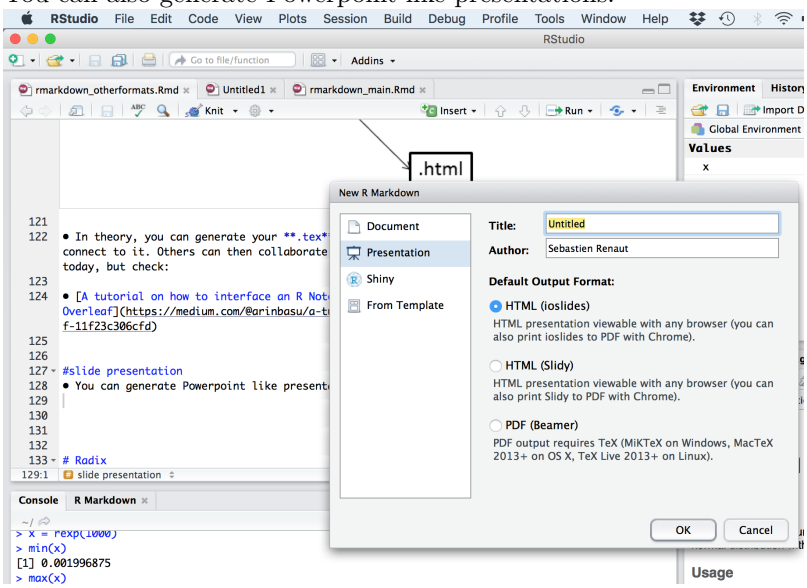
- So you can generate your **.tex** file, upload it to a github repo and Overleaf will connect to it. Others can then collaborate and modify the .tex file.
- Let's take a quick look at overleaf. Once you have an overleaf account, you can connect it to a github repository. You can then pull/push from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

Presentations

- You can also generate Powerpoint-like presentations.

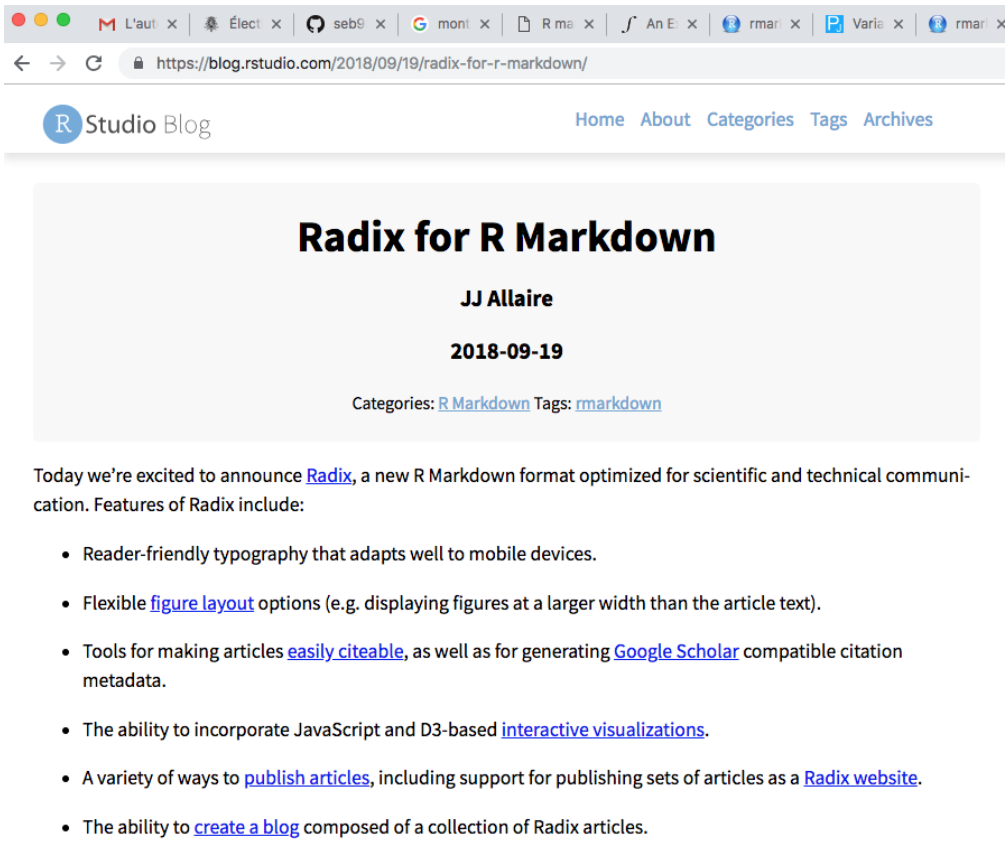


Bookdown

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

Radix

- Radix offers a better look for publishing blog, webpages, adapted to mobile devices.



- You will need:
  - [Rstudio v1.2][https://www.rstudio.com/products/rstudio/download/preview/].
  - `radix`

```
```{r radix, echo = T}
install.packages("radix")
```
```

- Change output in header to:

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

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

```
```{r radix_example, echo = F, layout='l-screen-inset'}
library(leaflet)
leaflet() %>%
addTiles() %>%
addMarkers(lng=174.768, lat=-36.852,popup="The birthplace of R")
```
```