

# R Markdown Cheat Sheet

learn more at [rmarkdown.rstudio.com](http://rmarkdown.rstudio.com)

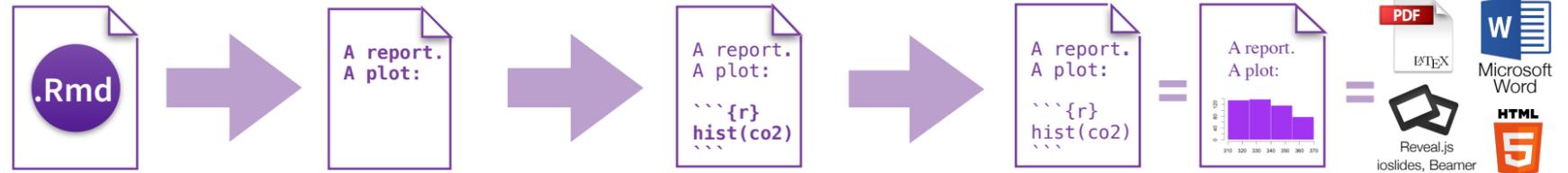
rmarkdown 0.2.50 Updated: 8/14



## 1. Workflow

R Markdown is a format for writing reproducible, dynamic reports with R. Use it to embed R code and results into slideshows, pdfs, html documents, Word files and more. To make a report:

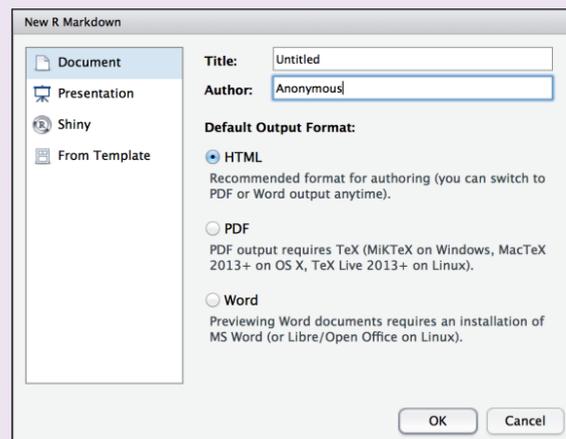
- i. Open** - Open a file that uses the .Rmd extension.
- ii. Write** - Write content with the easy to use R Markdown syntax
- iii. Embed** - Embed R code that creates output to include in the report
- iv. Render** - Replace R code with its output and transform the report into a slideshow, pdf, html or ms Word file.



## 2. Open File

Start by saving a text file with the extension .Rmd, or open an RStudio Rmd template

- In the menu bar, click **File ► New File ► R Markdown...**
- A window will open. Select the class of output you would like to make with your .Rmd file
- Select the specific type of output to make with the radio buttons (you can change this later)
- Click OK



## 3. Markdown

Next, write your report in plain text. Use markdown syntax to describe how to format text in the final report.

### syntax

Plain text  
End a line with two spaces to start a new paragraph.  
*\*italics\** and `_italics_`  
**\*\*bold\*\*** and `__bold__`  
superscript`^2^`  
~~~strikethrough~~~  
`[link](www.rstudio.com)`

# Header 1  
## Header 2  
### Header 3  
#### Header 4  
##### Header 5  
##### Header 6

endash: `--`  
emdash: `---`  
ellipsis: `...`  
inline equation: `$A = \pi*r^{2}$`  
image: ``

horizontal rule (or slide break):  
`***`

> block quote

\* unordered list  
\* item 2  
+ sub-item 1  
+ sub-item 2

1. ordered list  
2. item 2  
+ sub-item 1  
+ sub-item 2

|              |               |
|--------------|---------------|
| Table Header | Second Header |
| Table Cell   | Cell 2        |
| Cell 3       | Cell 4        |

### becomes

Plain text  
End a line with two spaces to start a new paragraph.  
*italics* and *italics*  
**bold** and **bold**  
superscript<sup>2</sup>  
~~strikethrough~~  
[link](#)

# Header 1

## Header 2

### Header 3

#### Header 4

##### Header 5

###### Header 6

endash: –  
emdash: —  
ellipsis: …  
inline equation:  $A = \pi * r^2$

image: 

horizontal rule (or slide break):  
-----

block quote

- unordered list
- item 2
  - sub-item 1
  - sub-item 2

1. ordered list  
2. item 2

- sub-item 1
- sub-item 2

| Table Header | Second Header |
|--------------|---------------|
| Table Cell   | Cell 2        |
| Cell 3       | Cell 4        |

## 4. Choose Output

Write a YAML header that explains what type of document to build from your R Markdown file.

### YAML

A YAML header is a set of key: value pairs at the start of your file. Begin and end the header with a line of three dashes (---)

```
---  
title: "Untitled"  
author: "Anonymous"  
output: html_document  
---  
  
This is the start of my  
report. The above is metadata  
saved in a YAML header.
```

The RStudio template writes the YAML header for you

The output value determines which type of file R will build from your .Rmd file (in Step 6)

**output: html\_document** ..... html file (web page)

**output: pdf\_document** ..... pdf document

**output: word\_document** ..... Microsoft Word .docx

**output: beamer\_presentation** ..... beamer slideshow (pdf)

**output: ioslides\_presentation** ..... ioslides slideshow (html)



**5. Embed Code** Use knitr syntax to embed R code into your report. R will run the code and include the results when you render your report.

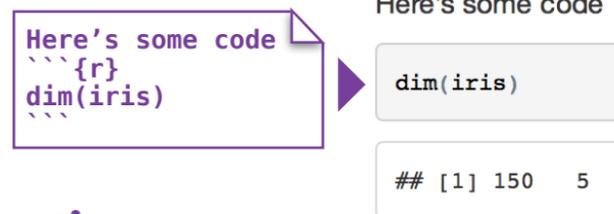
### inline code

Surround code with back ticks and `r`. R replaces inline code with its results.



### code chunks

Start a chunk with ````{r}`. End a chunk with `````.



### display options

Use knitr options to style the output of a chunk. Place options in brackets above the chunk.



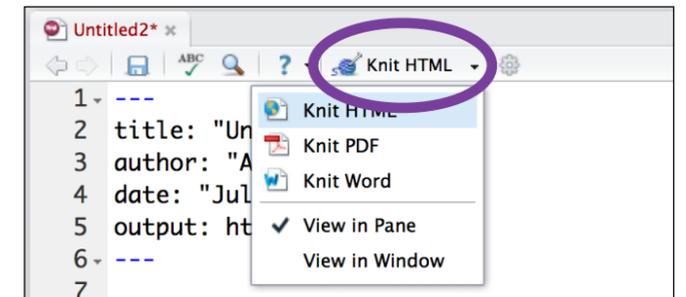
| option                  | default  | effect                                                    |
|-------------------------|----------|-----------------------------------------------------------|
| <code>eval</code>       | TRUE     | Whether to evaluate the code and include its results      |
| <code>echo</code>       | TRUE     | Whether to display code along with its results            |
| <code>warning</code>    | TRUE     | Whether to display warnings                               |
| <code>error</code>      | FALSE    | Whether to display errors                                 |
| <code>message</code>    | TRUE     | Whether to display messages                               |
| <code>tidy</code>       | FALSE    | Whether to reformat code in a tidy way when displaying it |
| <code>results</code>    | "markup" | "markup", "asis", "hold", or "hide"                       |
| <code>cache</code>      | FALSE    | Whether to cache results for future renders               |
| <code>comment</code>    | "###"    | Comment character to preface results with                 |
| <code>fig.width</code>  | 7        | Width in inches for plots created in chunk                |
| <code>fig.height</code> | 7        | Height in inches for plots created in chunk               |

For more details visit [yihui.name/knitr/](http://yihui.name/knitr/)

**6. Render** Use your .Rmd file as a blueprint to build a finished report.

Render your report in one of two ways

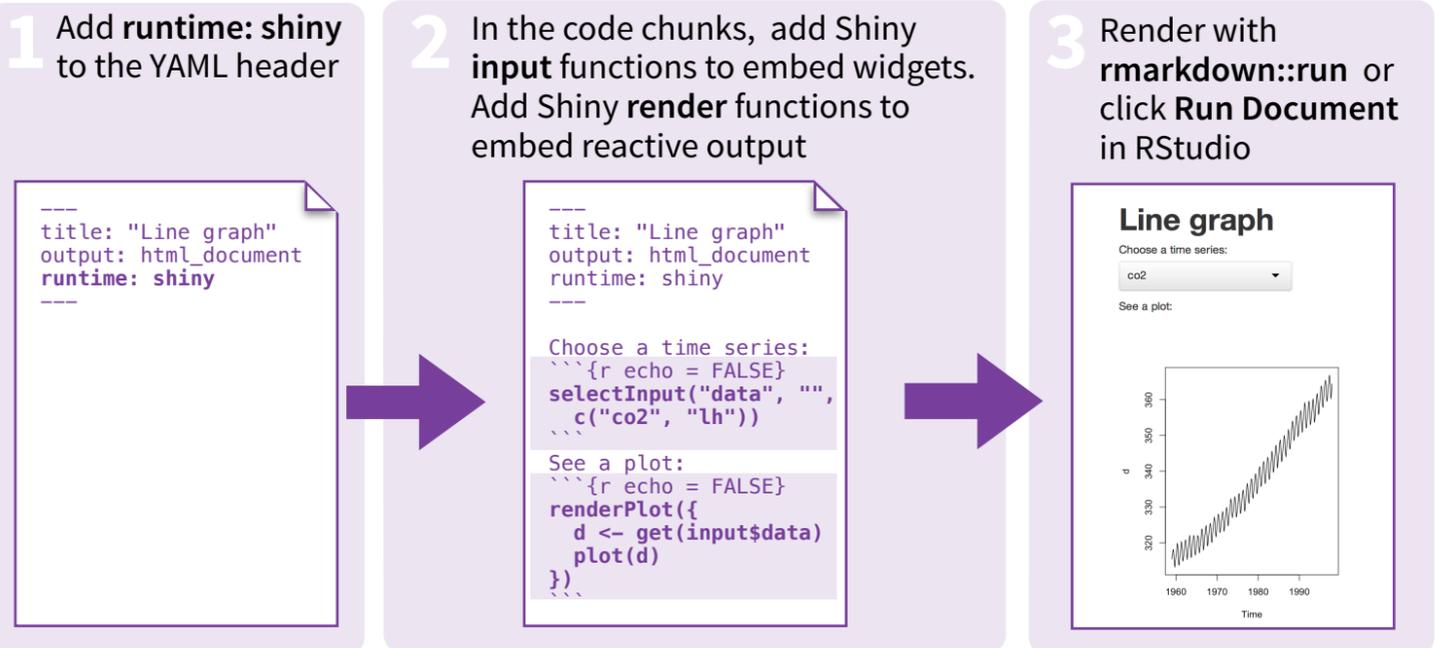
1. Run `rmarkdown::render("<file path>")`
2. Click the **knit HTML** button at the top of the RStudio scripts pane



When you render, R will

- execute each embedded code chunk and insert the results into your report
- build a new version of your report in the output file type
- open a preview of the output file in the viewer pane
- save the output file in your working directory

**7. Interactive Docs** Turn your report into an interactive Shiny document in 3 steps



\* Note: your report will be a Shiny app, which means you must choose an html output format, like `html_document` (for an interactive report) or `ioslides_presentation` (for an interactive slideshow).

**8. Publish** Share your report where users can visit it online

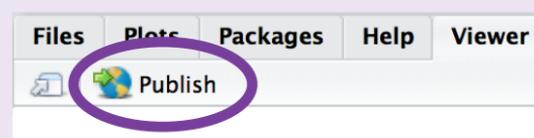
### Rpubs.com

Share non-interactive documents on RStudio's free R Markdown publishing site [www.rpubs.com](http://www.rpubs.com)

### ShinyApps.io

Host an interactive document on RStudio's server. Free and paid options [www.shinyapps.io](http://www.shinyapps.io)

Click the "Publish" button in the RStudio preview window to publish to [rpubs.com](http://rpubs.com) with one click.



**9. Learn More**

Documentation and examples - [rmarkdown.rstudio.com](http://rmarkdown.rstudio.com)

Further Articles - [shiny.rstudio.com/articles](http://shiny.rstudio.com/articles)

🌐 - [blog.rstudio.com](http://blog.rstudio.com)

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