

R Markdown Cheat Sheet

learn more at rmarkdown.rstudio.com

rmarkdown 0.2.50 Updated: 8/14



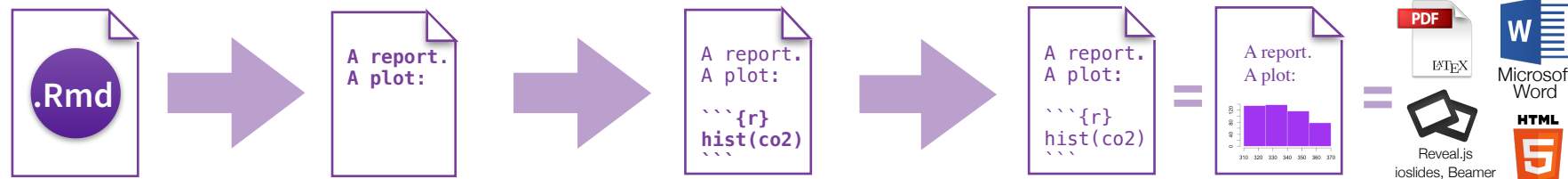
1. Workflow R Markdown is a format for writing reproducible, dynamic reports with R. Use it to embed R code and results into slideshows, pdfs, html documents, Word files and more. To make a report:

i. Open - Open a file that uses the .Rmd extension.

ii. Write - Write content with the easy to use R Markdown syntax

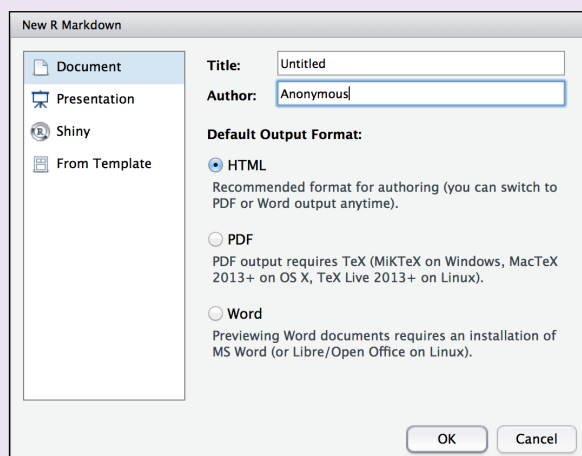
iii. Embed - Embed R code that creates output to include in the report

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__`
superscript² and `^2^`
~~strikethrough~~ and `~strikethrough~`
[\[link\]\(www.rstudio.com\)](http://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

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End a line with two spaces to start a new paragraph.
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bold and **bold**
superscript²
~~strikethrough~~
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Table Header	Second Header
Table Cell	Cell 2
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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)

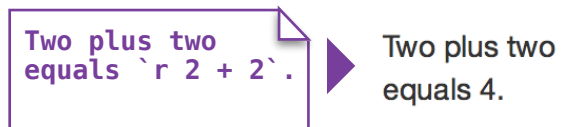
output: ioslides_presentation ioslides slideshow (html)



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.

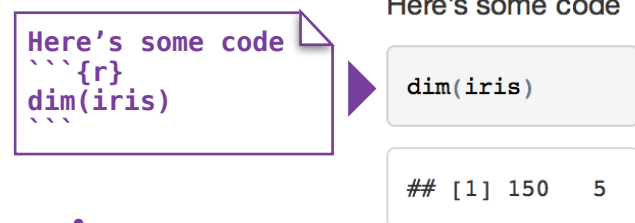
inline code

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



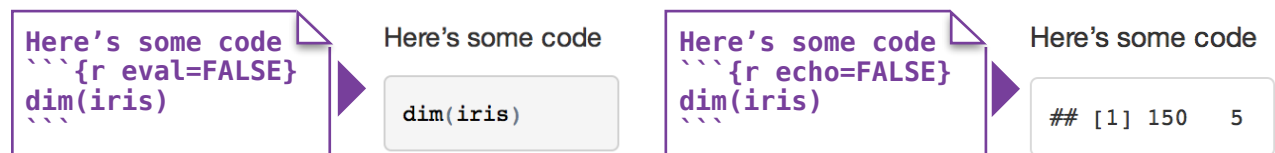
code chunks

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.



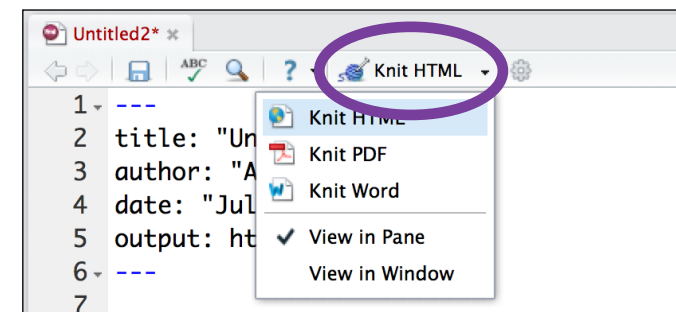
option	default	effect
<code>eval</code>	TRUE	Whether to evaluate the code and include its results
<code>echo</code>	TRUE	Whether to display code along with its results
<code>warning</code>	TRUE	Whether to display warnings
<code>error</code>	FALSE	Whether to display errors
<code>message</code>	TRUE	Whether 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/

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

1 Add `runtime: shiny` to the YAML header

```
---
title: "Line graph"
output: html_document
runtime: shiny
---
```

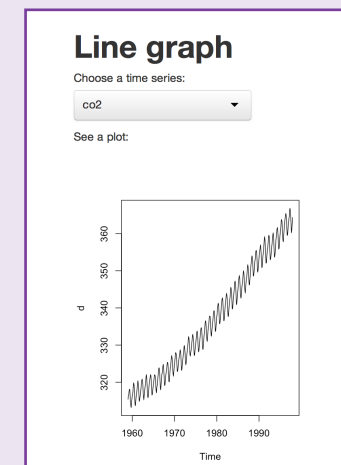
2 In the code chunks, add Shiny **input** functions to embed widgets. Add Shiny **render** functions to embed reactive output

```
---
title: "Line graph"
output: html_document
runtime: shiny
---

Choose a time series:
```{r echo = FALSE}
selectInput("data", "",
 c("co2", "lh"))
```

See a plot:
```{r echo = FALSE}
renderPlot({
 d <- get(input$data)
 plot(d)
})
```

**3** Render with `rmarkdown::run` or click **Run Document** in RStudio



\* 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

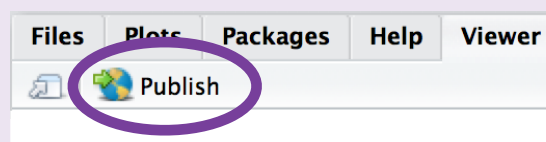
### Rpubs.com

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)

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