

Static Document

Let's start with a [.Rmd document](#) which renders two different *static* views of the [Palmer Archipelago \(Antarctica\) Penguin Data](#).

This is what the rendered document looks like:

The screenshot shows a web browser window with the address bar displaying 'penguins-static.html'. The page title is 'Penguins'. The content is divided into two sections. The first section, titled 'head(penguins)', shows a tibble with 6 rows and 8 columns. The second section, titled 'knitr(head(penguins))', shows a table with the same data.

```
## # A tibble: 6 x 8
##   species island bill_length_mm bill_depth_mm flipper_length_mm body_mass_g
##   <fct>   <fct>      <dbl>        <dbl>        <dbl>        <dbl>
## 1 Adeliae Torgersen    39.1          18.7          181         3750
## 2 Adeliae Torgersen    39.5          17.4          186         3800
## 3 Adeliae Torgersen    40.3          18.0          195         3250
## 4 Adeliae Torgersen    NA           NA           NA           NA
## 5 Adeliae Torgersen    36.7          19.3          193         3450
## 6 Adeliae Torgersen    39.3          20.6          190         3650
##   sex      year
##   <fct>   <int>
## 1 male   2007
## 2 female 2007
## 3 female 2007
## 4 <NA>   2007
## 5 female 2007
## 6 male   2007
```

species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adeliae	Torgersen	39.1	18.7	181	3750	male	2007
Adeliae	Torgersen	39.5	17.4	186	3800	female	2007
Adeliae	Torgersen	40.3	18.0	195	3250	female	2007
Adeliae	Torgersen	NA	NA	NA	NA	NA	2007
Adeliae	Torgersen	36.7	19.3	193	3450	female	2007
Adeliae	Torgersen	39.3	20.6	190	3650	male	2007

The following Shiny application embeds this document perfectly using `includeHTML()` to read in the HTML file and `htmlOutput()` to inject it into the UI.

```
library(shiny)
library(rmarkdown)

ui <- fluidPage(
  htmlOutput("document")
)

server <- function(input, output) {
  output$document <- renderUI({
    path_rmd <- "penguins-static.Rmd"
    path_html <- tempfile(fileext = ".html")
    render(
      path_rmd,
      output_file = path_html
    )
    includeHTML(path_html)
  })
}

shinyApp(ui = ui, server = server)
```

And this is what the application looks like. Precisely as expected.

~/proj/314-datawookie-site/blog/content/blog/2021-06-03-shiny-inception-javascript-in-rendered-markdown - S...

http://127.0.0.1:3156 Open in Browser Publish

Penguins

head(penguins)

```
## # A tibble: 6 x 8
##   species island bill_length_mm bill_depth_mm flipper_length_mm body_mass_g sex   year
##   <fct>   <fct>         <dbl>         <dbl>         <int>      <int> <fct> <int>
## 1 Adelia Torgersen    39.1          18.7          181      3750 male  2007
## 2 Adelia Torgersen    39.5          17.4          186      3800 female 2007
## 3 Adelia Torgersen    40.3          18.0          195      3250 female 2007
## 4 Adelia Torgersen    NA             NA             NA         NA NA     2007
## 5 Adelia Torgersen    36.7          19.3          193      3450 female 2007
## 6 Adelia Torgersen    39.3          20.6          190      3650 male  2007
```

kable(head(penguins))

species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adelia	Torgersen	39.1	18.7	181	3750	male	2007
Adelia	Torgersen	39.5	17.4	186	3800	female	2007
Adelia	Torgersen	40.3	18.0	195	3250	female	2007
Adelia	Torgersen	NA	NA	NA	NA	NA	2007
Adelia	Torgersen	36.7	19.3	193	3450	female	2007
Adelia	Torgersen	39.3	20.6	190	3650	male	2007

Dynamic Document

Now, let's replace the static document with a [.Rmd document](#) using the `{DT}` package to create a *dynamic* table. Simply knitting the document gives the output below, a responsive table with a selection of bells and whistles.

penguins-dt.Rmd Open in Browser Publish

Penguins

datatable(penguins, rownames = FALSE)

Show 10 entries Search:

species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adelia	Torgersen	39.1	18.7	181	3750	male	2007
Adelia	Torgersen	39.5	17.4	186	3800	female	2007
Adelia	Torgersen	40.3	18	195	3250	female	2007
Adelia	Torgersen						2007
Adelia	Torgersen	36.7	19.3	193	3450	female	2007
Adelia	Torgersen	39.3	20.6	190	3650	male	2007
Adelia	Torgersen	39.9	17.8	181	3625	female	2007
Adelia	Torgersen	39.2	19.6	195	4675	male	2007
Adelia	Torgersen	34.1	18.1	193	3475		2007
Adelia	Torgersen	42	20.2	190	4250		2007

Showing 1 to 10 of 344 entries Previous 1 2 3 4 5 ... 35 Next

How about simply plugging this into the original Shiny application?

```
library(shiny)
library(rmarkdown)

ui <- fluidPage(
  htmlOutput("document")
)

server <- function(input, output) {
  output$document <- renderUI({
    path_rmd <- "penguins-dt.Rmd"
    path_html <- tempfile(fileext = ".html")
    render(
```

```

      path_rmd,
      output_file = path_html
    )
    includeHTML(path_html)
  })
}

```

```
shinyApp(ui = ui, server = server)
```

Let's give that an optimistic whirl.



Doh! The table doesn't appear at all. Why? I'm guessing that the viewer is using JavaScript to run the application but it doesn't extend to running JavaScript in an embedded document.

To get this to work I used an `<iframe>`, which in retrospect is the obvious solution for embedding a complete HTML page into the application. Getting it to work though is not entirely trivial.

```

library(shiny)
library(here)
library(rmarkdown)

dir.create("www")

ui <- fluidPage(
  htmlOutput("document")
)

server <- function(input, output) {
  output$document <- renderUI({
    path_rmd <- "penguins-dt.Rmd"
    # Render into www/ folder.
    path_html <- tempfile(fileext = ".html", tmpdir = "www")
    render(
      path_rmd,
      output_file = path_html
    )
    tags$iframe(
      style = "border-width: 0;",
      width = "100%",

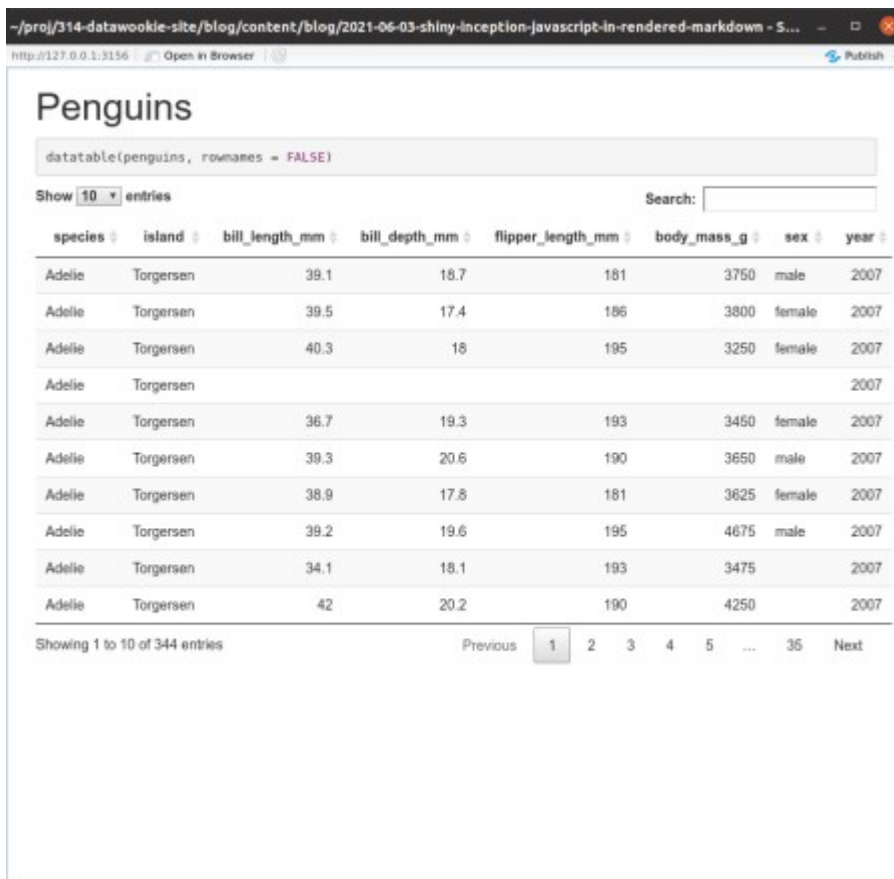
```

```
height = 800,  
# Filename relative to the www/ folder.  
src = basename(path_html)  
)  
})  
}
```

```
shinyApp(ui = ui, server = server)
```

There's a bit of plumbing required: the document must be rendered into the `www/` folder so that it's visible to the application at runtime.

Here's the result:



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Penguins

`datatable(penguins, rownames = FALSE)`

Show 10 entries Search:

species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adelle	Torgersen	39.1	18.7	181	3750	male	2007
Adelle	Torgersen	39.5	17.4	186	3800	female	2007
Adelle	Torgersen	40.3	18	195	3250	female	2007
Adelle	Torgersen						2007
Adelle	Torgersen	36.7	19.3	193	3450	female	2007
Adelle	Torgersen	39.3	20.6	190	3650	male	2007
Adelle	Torgersen	38.9	17.8	181	3625	female	2007
Adelle	Torgersen	39.2	19.6	195	4675	male	2007
Adelle	Torgersen	34.1	18.1	193	3475		2007
Adelle	Torgersen	42	20.2	190	4250		2007

Showing 1 to 10 of 344 entries Previous 1 2 3 4 5 ... 35 Next

🎉 Success!