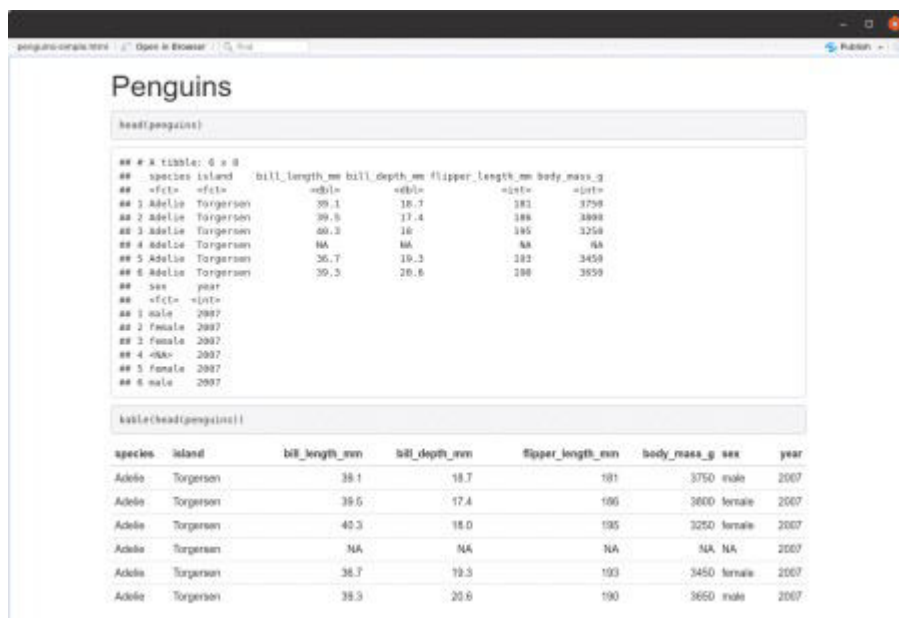


# Static Document

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:



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> <dbl> <dbl> <fct> <dbl>
## 1 Adeliae Torgersen 39.1 18.7 181 3750 male 2007
## 2 Adeliae Torgersen 39.6 17.4 186 3600 female 2007
## 3 Adeliae Torgersen 40.3 18.0 185 3250 female 2007
## 4 Adeliae Torgersen NA NA NA NA NA 2007
## 5 Adeliae Torgersen 36.7 19.3 193 3450 female 2007
## 6 Adeliae Torgersen 39.3 20.6 190 3650 male 2007
```

```
table(head(penguins))
```

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	39.6	17.4	186	3600	female	2007
Adeliae	Torgersen	40.3	18.0	185	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 Adelie  Torgersen         39.1          18.7          181       3750 male   2007
## 2 Adelie  Torgersen         39.5          17.4          186       3800 female 2007
## 3 Adelie  Torgersen         40.3          18.0          195       3250 female 2007
## 4 Adelie  Torgersen          NA           NA           NA         NA <NA>   2007
## 5 Adelie  Torgersen         36.7          19.3          193       3450 female 2007
## 6 Adelie  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
Adelie	Torgersen	39.1	18.7	181	3750	male	2007
Adelie	Torgersen	39.5	17.4	186	3800	female	2007
Adelie	Torgersen	40.3	18.0	195	3250	female	2007
Adelie	Torgersen	NA	NA	NA	NA	NA	2007
Adelie	Torgersen	36.7	19.3	193	3450	female	2007
Adelie	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
Adelie	Torgersen	39.1	18.7	181	3750	male	2007
Adelie	Torgersen	39.5	17.4	186	3800	female	2007
Adelie	Torgersen	40.3	18	195	3250	female	2007
Adelie	Torgersen						2007
Adelie	Torgersen	36.7	19.3	193	3450	female	2007
Adelie	Torgersen	39.3	20.6	190	3650	male	2007
Adelie	Torgersen	39.5	17.8	181	3625	female	2007
Adelie	Torgersen	39.2	19.6	195	4675	male	2007
Adelie	Torgersen	34.1	18.1	183	3475		2007
Adelie	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%",

```

```

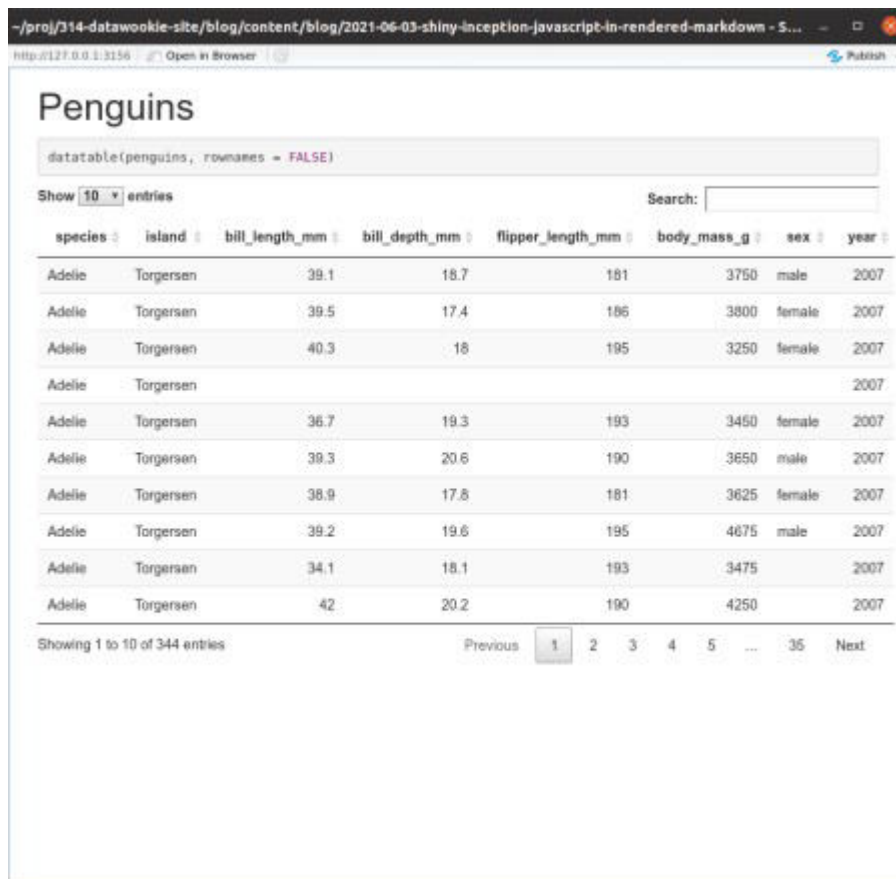
        height = 800,
        # Filename relative to the www/ folder.
        src = basename(path_html)
    )
  })
}

```

```
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:



The screenshot shows a web browser window displaying a Shiny application. The title bar indicates the URL is `http://127.0.0.1:3156`. The application has a header "Penguins" and a text input field containing `datatable(penguins, rownames = FALSE)`. Below the input, there is a "Show 10 entries" dropdown and a "Search:" field. The main content is a table with 8 columns: `species`, `island`, `bill_length_mm`, `bill_depth_mm`, `flipper_length_mm`, `body_mass_g`, `sex`, and `year`. The table displays 10 rows of data for Adelle penguins from Torgersen island in 2007. At the bottom, it says "Showing 1 to 10 of 344 entries" and includes pagination controls with "Previous", "1", "2", "3", "4", "5", "...", "35", and "Next".

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

🎉 Success!