

Using kableExtra in Bookdown Projects

Hao Zhu

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Chapter 1

Introduction

If you have tried to use `kableExtra` in a `bookdown` project with multiple formats, you may have experienced some problems. For example, you might not be able to render HTML and PDF tables at the same time using the same piece of code. At the same time, you might start to wonder if it's possible to create `bootstrap` style tables in `gitbook`. I will try to address these issues using this example.

This book is hosted at <https://github.com/haozhu233/kableExtra/tree/master/docs>.

You can find the source code for this project at <https://github.com/haozhu233/kableExtra/tree/master/docs>.

Chapter 2

Cross-format Tables in Bookdown

Note that if `kableExtra` 0.9.0 doesn't support the EPUB format. If you need to output tables in `.epub`, please upgrade to the dev version or version 1.0 on CRAN once it's released.

2.1 Use the “K-M” approach instead of “M-K”

Please read this chapter about the “K-M”/“M-K” approaches in `bookdown`: <https://bookdown.org/yihui/bookdown/new-session.html>

To generate cross-format tables with `kableExtra` in a multi-format bookdown project, you will have to use the “M-K” approach by setting `new_session: true` in `_bookdown.yml`. Somehow the “M-K” approach, which merges chapters to a big Rmd and then renders, shares the global environment across formats. For now, I'm not sure if this is a bug or intended behavior. It might be fixable in the future but please don't count on that. By setting `new_session: true`, we force R to use a new session for every chapter for different formats. In this way, tables are generated differently in different formats.

Note that the “M-K” approach is slower than the “K-M” approach. At the same time, packages and data are not shared across chapter.

```
# Example _bookdown.yml
book_filename: "bookdown_example"
delete_merged_file: true
new_session: true
language:
  ui:
    chapter_name: "Chapter "
```

2.2 Prepare Your Tables for Both Formats

In most cases, functions in `kable` and `kableExtra` use the same API to accomplish the same styling task in HTML and LaTeX. However, you also need some format specific settings so your tables will look good in both formats. Some common items here include the `booktabs` and `longtable` settings in `kable` and the `bootstrap_options` and `latex_options` in `kable_styling`.

Here is an example for a table that will work in both HTML and LaTeX.

```
library(kableExtra)
mtcars[1:5, 1:5] %>%
```

```

kable(booktabs = T) %>%
kable_styling(
  latex_options = c("striped"),
  full_width = F
) %>%
column_spec(1, bold = T) %>%
add_header_above(c(" ", "Group A" = 2, "Group B" = 3))

```

	Group A		Group B		
	mpg	cyl	disp	hp	drat
Mazda RX4	21.0	6	160	110	3.90
Mazda RX4 Wag	21.0	6	160	110	3.90
Datsun 710	22.8	4	108	93	3.85
Hornet 4 Drive	21.4	6	258	110	3.08
Hornet Sportabout	18.7	8	360	175	3.15

Chapter 3

Use Bootstrap Tables in gitbooks & epub

3.1 Gitbook

Most of `kableExtra` tricks will work in `bookdown` except those requires `bootstrap`. By default, `rmarkdown` won't load `bootstrap` for you on gitbook as it's not necessary. In `kableExtra`, I used the `bootstrap 3.3.7` customization tool and made a customized `css` copy. You can load it by setting `options(kableExtra.html.bsTable = T)`.

```
library(kableExtra)
options(kableExtra.html.bsTable = T)

mtcars[1:5, 1:5] %>%
  kable(booktabs = T) %>%
  kable_styling(
    bootstrap_options = c("striped", "hover", "bordered"),
    latex_options = c("striped"),
    full_width = F
  ) %>%
  column_spec(1, color = "red") %>%
  add_header_above(c(" ", "Group A" = 2, "Group B" = 3))
```

	Group A		Group B		
	mpg	cyl	disp	hp	drat
Mazda RX4	21.0	6	160	110	3.90
Mazda RX4 Wag	21.0	6	160	110	3.90
Datsun 710	22.8	4	108	93	3.85
Hornet 4 Drive	21.4	6	258	110	3.08
Hornet Sportabout	18.7	8	360	175	3.15

However, very unfortunately, as we can see, the `hover` part is not working and the table still looks different from a regular bootstrap table. The reason is that gitbook defines its own way to style tables and some of its rules are conflicting with the one defined in `bootstrap`. For `css`, it's like once you load something, it's impossible to really unload it. As a result, unless there are some changes in `bookdown` (for example, we can replace the gitbook table part with bootstrap tables), there is nothing we can do here.

3.2 Epub

Right now, it's impossible to load additional CSS through HTML dependency (due to a setting in rmarkdown). I will file an issue in `rmarkdown` and see if this is something that can be changed. In the mean time, to use bootstrap tables in Epub, you will have to manually load this stylesheet by putting it to a CSS file (such as "style.css") and load it in `_output.yml`. For example,

```
bookdown::epub_book:  
  stylesheet: style.css
```