Module 3 – lesson 02: Customizing Word DOCX documents

Script

In the previous lesson we worked on customizing an HTML document, next we’re going to explore the options available for customizing Word DOCX documents. We will be referring throughout this lesson to the information contained in the Rmarkdown website for the word\_document format <http://rmarkdown.rstudio.com/word_document_format.html>

Let’s continue working with the Github Repository “Module3” and the RStudio project for Module3. Go ahead and start RStudio and Open the Module3 R project.

Now that we have the project open and we’re connected to Github via GIT, let’s create a new Rmarkdown document. In RStudio, click File/New File/R Markdown. Choose Document – WORD document. Put in a title and click OK.

Go ahead and save the document.

Similar to the HTML document options, we can change the figure width and height for WORD documents. You can type the settings into the YAML header directly, or you can click the gear icon and select Output Options, click Figures and change the width and height each to 5 and click OK. Notice that the YAML header is updated automatically. Click Save and KNIT to WORD to see the results.

This next section is optional and assumes you have Microsoft WORD installed on your computer. However, you should be able to work with DOCX formatted files in Google Docs and other open source document editors.

To really change the Style and Appearance of a WORD document, we need to create a reference document. This reference document will be applied similar to how we applied the CSS (cascading style sheet) to the HTML document. Let’s go through the steps for creating a reference document we can use to apply formatting styles to our resulting WORD document.

Outside of RStudio, Open Microsoft and open the DOCX file you just created “word\_document.docx”. Let’s save this as a different filename – click File/SaveAs “word\_styles\_reference.docx”

Let’s walk through the document and change the STYLES of the formatting for the title and headers. Let’s change the TITLE first. Highlight the TITLE in WORD and let’s change the color to RED. Click on Styles, scroll to find the TITLE format, click the down arrow and choose “Update title to match selection”

Next let’s also change the next Level 2 Header. Change the color of R Markdown to PURPLE. Click Styles and choose “Update Heading 2 to match selection” When you do this notice that the next heading 2 also updates. After changing your styles – click save. Exit Word.

Go back to RStudio. In the word document, add the option reference\_docx and put in the filename of the WORD reference document you just created. The code below assume that this styles reference document is in the same folder as your word\_document.

output:

word\_document:

reference\_docx: word\_styles\_reference.docx

You should now see your title in RED and your level 2 headers in PURPLE font. Feel free to experiment with making custom WORD templates and applying them to your word documents created from RStudio. Learn more at <http://rmarkdown.rstudio.com/articles_docx.html>

Let’s try one more customization for the printing and display of tables. The option is df\_print and can be set to kable to make data frames print better. Data frames are the most common data structure in R. The built-in datasets cars and pressure are both data frames. This df\_print option works in other formats besides the word\_document. It also works for HTML and PDF documents. But let’s try it here in this WORD document. First let’s create a new section and add a code chunk to look at the head of the cars dataset which will generate a data frame object to be printed in the outputted document.

Let’s add the section and then KNIT to WORD to see what the resulting output looks like without using the df\_print option.

## Head of the cars dataset

```{r}

head(cars)

```

KNIT to WORD. Scroll to the bottom of the WORD document and you’ll see that the output looks like computer generated output.

Now let’s update the YAML header to add the df\_print: kable option.

output:

word\_document:

df\_print: kable

KNIT to WORD and look at the output again. The head of the cars dataset is now shown in a table format. This feature is very helpful for cleaning up your R code chunk outputs to be better formatted in your final document – at least for R code that generates data frame based output.

Now let’s go ahead and back everything up to your Github account.

Open Git Bash and make sure you are in the correct directory:

C:\RepTemplates\Module3

Once in that directory, type in the following 4 Git commands to check the status of your local files compared to your Github cloud repository; add or stage the modified files; commit your changes; and then push the changes to your Github cloud repository.

git status

git add .

git commit –m “add word document and reference template files”

git push

Now go to your Github repository, refresh to see your newly committed files.