

Create and publish webpages using Quarto

NM2207: Computational Media Literacy

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**Faculty of Arts
& Social Sciences**

What is Quarto?

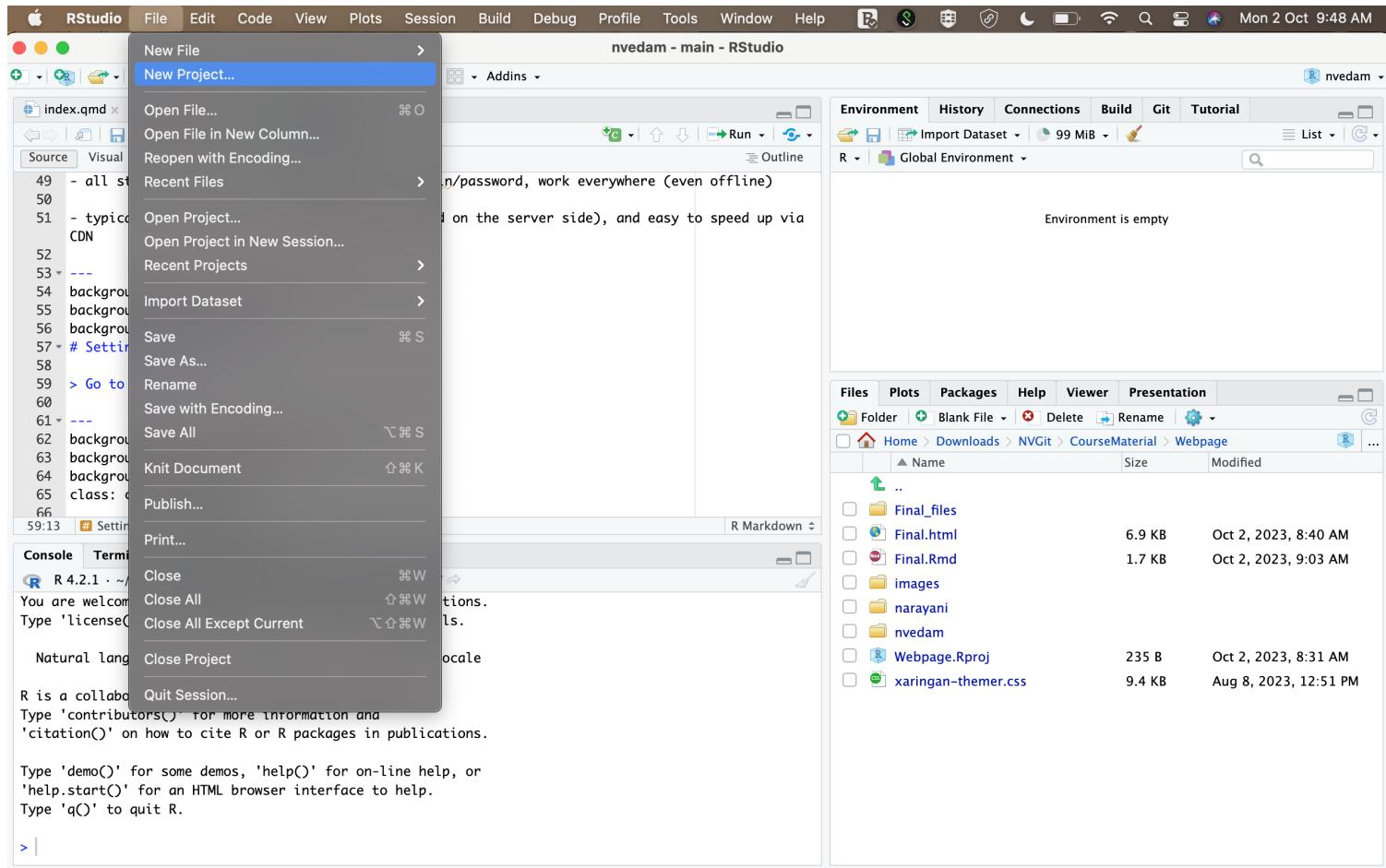
- | It is an open-source scientific and technical publishing system built on Pandoc
- A Quarto document i.e. a `.qmd` is a plain text file, like a `.rmd`, that can be rendered to many different formats,
 - HTML reports and websites
 - PDF reports
 - MS Office (Word, Powerpoint)
 - Presentations (Powerpoint, Beamer, revealjs)
 - Books
- What changes?
 - Nothing for R Markdown users
 - You just render the output using Quarto
- You can learn more about Quarto [here](#)

Why not WordPress, Tumblr, Medium.com, Blogger.com, etc?

- No R Markdown support (even math support is often nonexistent or awkward)
- Huge benefits of static websites compared to dynamic websites
- all static files, no PHP or databases, no login/password, work everywhere (even offline)
- typically fast to visit (no computation needed on the server side), and easy to speed up via CDN

Setting up your project

| File --> New Project



The screenshot shows the RStudio interface with the 'File' menu open. The 'New Project...' option is highlighted. The main workspace shows an R Markdown document titled 'index.qmd'. The 'Files' panel on the right displays a directory structure under 'Downloads' for a project named 'NVGit'. The 'CourseMaterial' folder contains a 'Webpage' folder, which in turn contains files like 'Final_files', 'Final.html', 'Final.Rmd', 'images', 'narayani', 'nvedam', 'Webpage.Rproj', and 'xaringan-themer.css'.

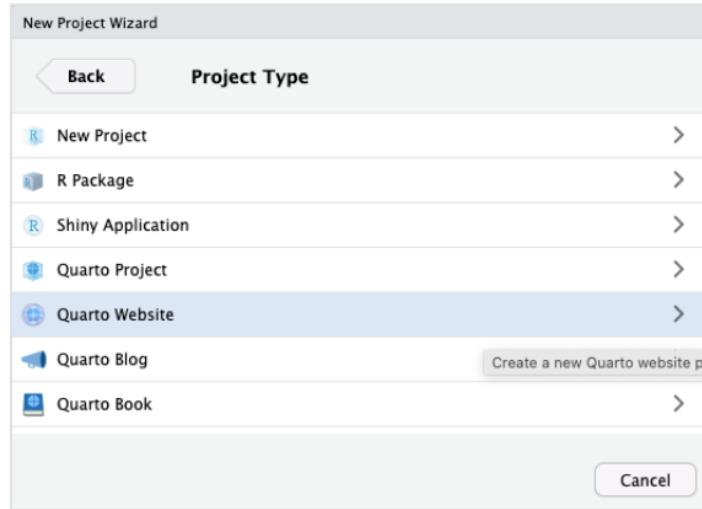
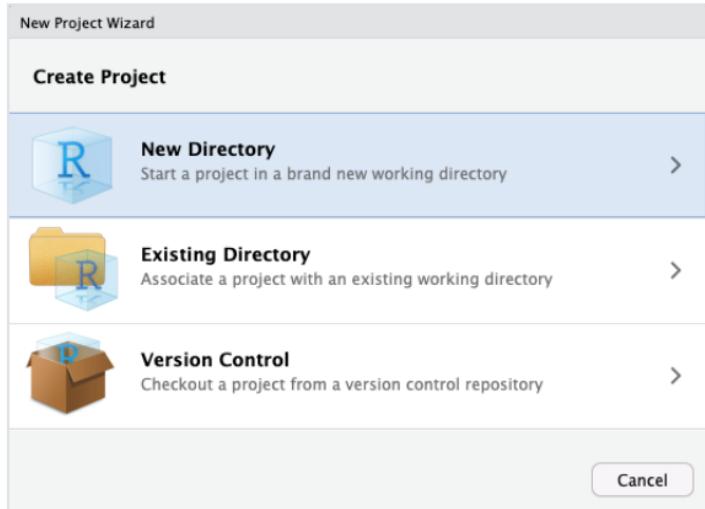
```

Final_files
Final.html
Final.Rmd
images
narayani
nvedam
Webpage.Rproj
xaringan-themer.css

```

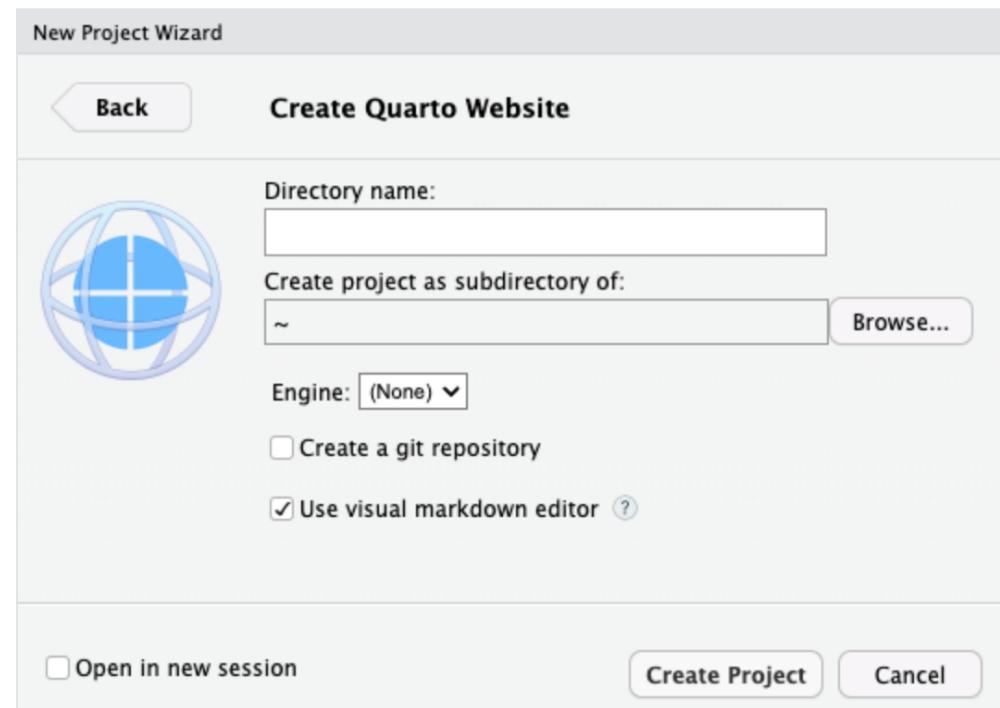
Setting up your project

New Directory --> Quarto Website



Setting up your project

- Provide the name of your directory.
- While doing so, you may want to name the folder after the address you want for your webpage, it should be, **githubusername.github.io**
- If you do not name it after your github username, you will not be able to publish your webpage
- Because we will be hosting the webpage using github pages



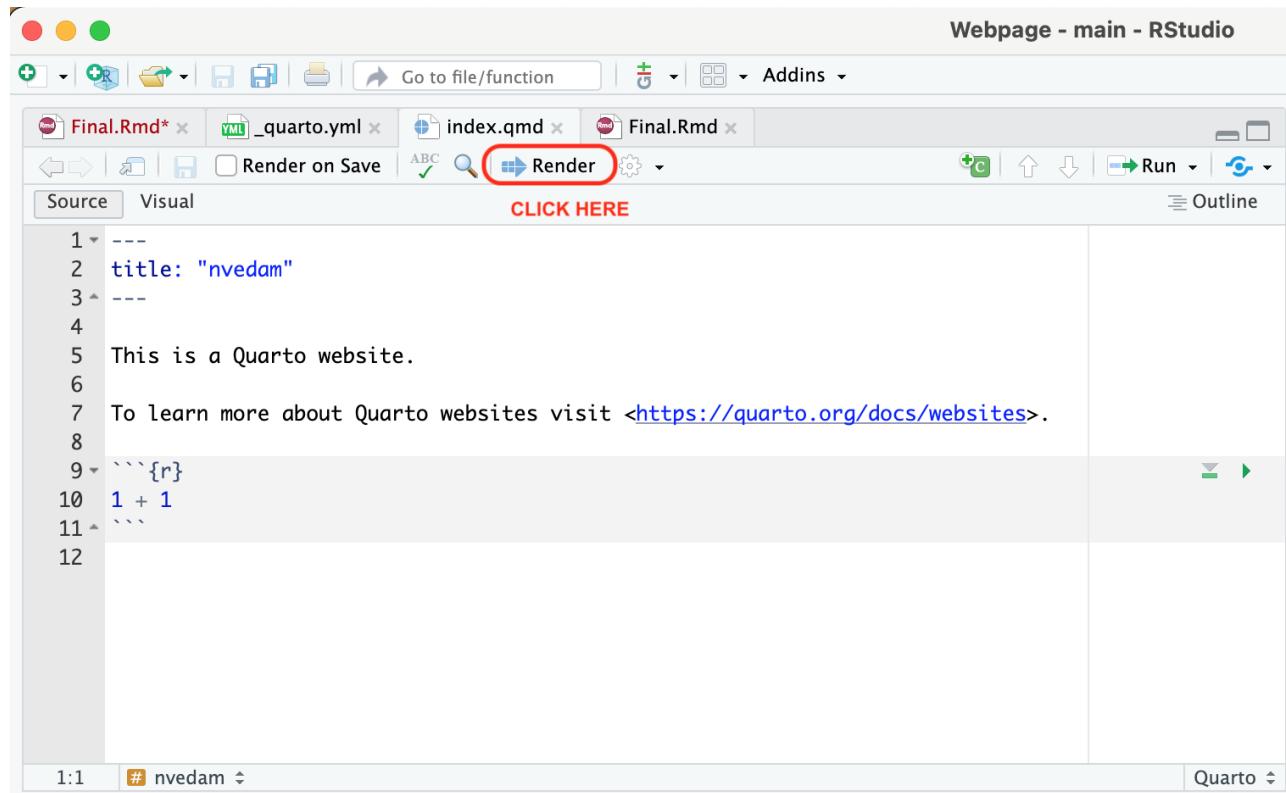
Quarto files

Once you set-up your project, the following files will be generated automatically

File	Description
<code>_quarto.yml</code>	Quarto project file.
<code>index.qmd</code>	Blog home page.
<code>about.qmd</code>	Blog about page.
<code>posts/</code>	Directory containing posts
<code>posts/_metadata.yml</code>	Shared options for <code>posts</code>
<code>styles.css</code>	Custom CSS for website

Setting up your project

Once the sample `index.qmd` file opens, click on Render in the toolbar to preview the webpage



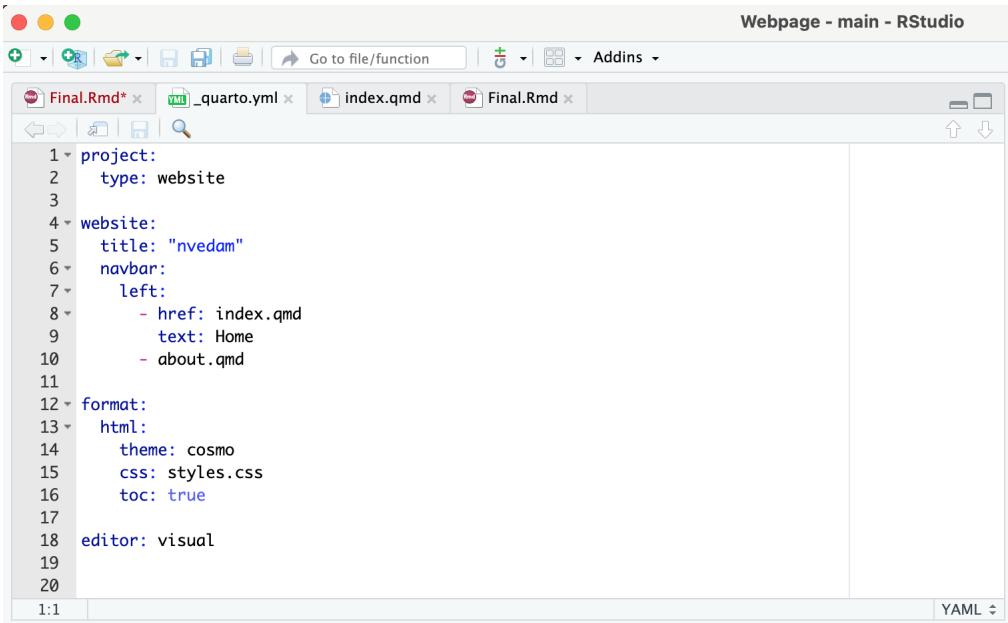
The screenshot shows the RStudio interface with a Quarto project open. The title bar says "Webpage - main - RStudio". The toolbar includes standard Mac OS X window controls, a file menu, a "Go to file/function" search bar, and an "Addins" dropdown. Below the toolbar, there are tabs for "Final.Rmd*", "_quarto.yml", "index.qmd" (which is the active tab), and "Final.Rmd". The "index.qmd" tab has a "Render on Save" checkbox and a "Render" button, which is circled in red. A red arrow points to this button with the text "CLICK HERE". The main workspace shows the Quarto code:

```
1 ---  
2 title: "nvedam"  
3 ---  
4  
5 This is a Quarto website.  
6  
7 To learn more about Quarto websites visit <https://quarto.org/docs/websites>.  
8  
9 `r{r}  
10 1 + 1  
11`  
12
```

The status bar at the bottom shows "1:1" and "nvedam".

Config files

- Every website has a `.yml` file
- This is the config file
- All the website settings can be incorporated in this file



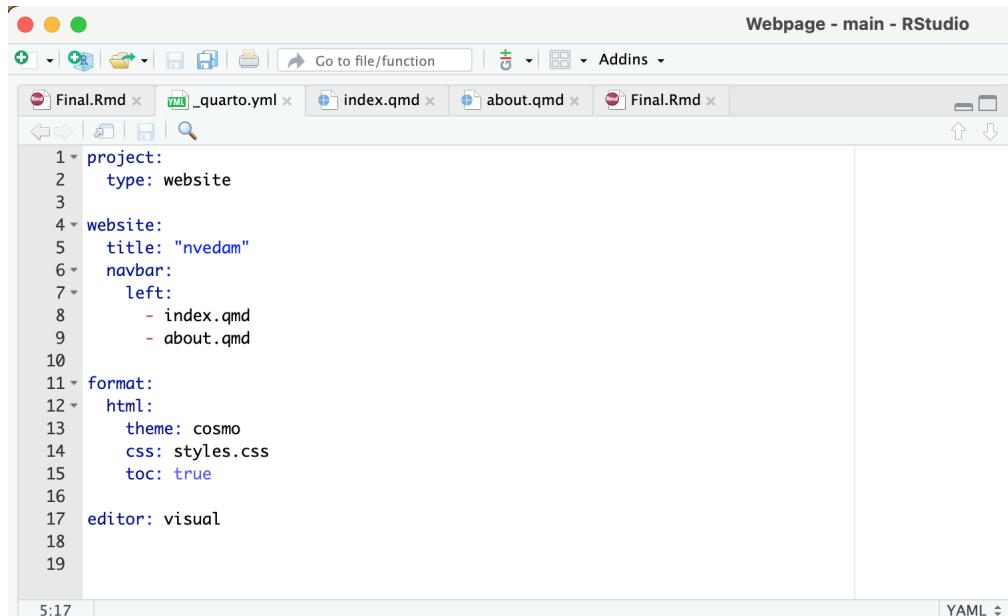
The screenshot shows the RStudio interface with a YAML configuration file open. The title bar reads "Webpage - main - RStudio". The code editor displays the following YAML code:

```
1 * project:
2   type: website
3
4 * website:
5   title: "nvedam"
6   navbar:
7     left:
8       - href: index.qmd
9         text: Home
10      - about.qmd
11
12 * format:
13   html:
14     theme: cosmo
15     css: styles.css
16     toc: true
17
18 editor: visual
19
20
```

The code editor has a status bar at the bottom right indicating "YAML".

Config files: Navigation bar

- navbar under `website` is used to add a top navigation bar to a website
- `left` indicates the position of the navigation options
- The two `.qmd` files - index and about - are markdown files for each tab you want in your webpage
- By default, the `title` assigned in each of these files will automatically show as the name of these tabs



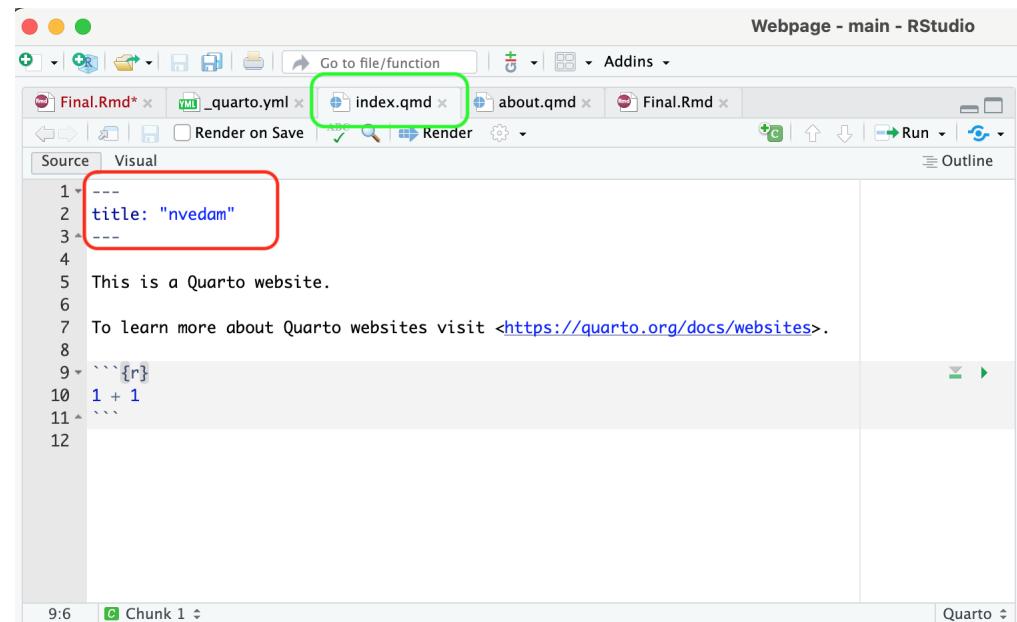
The screenshot shows the RStudio interface with the title "Webpage - main - RStudio". The code editor displays the `_quarto.yml` configuration file. The code is as follows:

```
1 project:
2   type: website
3
4 website:
5   title: "nvedam"
6   navbar:
7     left:
8       - index.qmd
9       - about.qmd
10
11 format:
12   html:
13     theme: cosmo
14     css: styles.css
15     toc: true
16
17 editor: visual
18
19
```

The code editor has syntax highlighting for YAML, with blue for keywords like `project`, `type`, `website`, etc., and red for errors. The status bar at the bottom shows "5:17" and "YAML".

Config files: Navigation bar

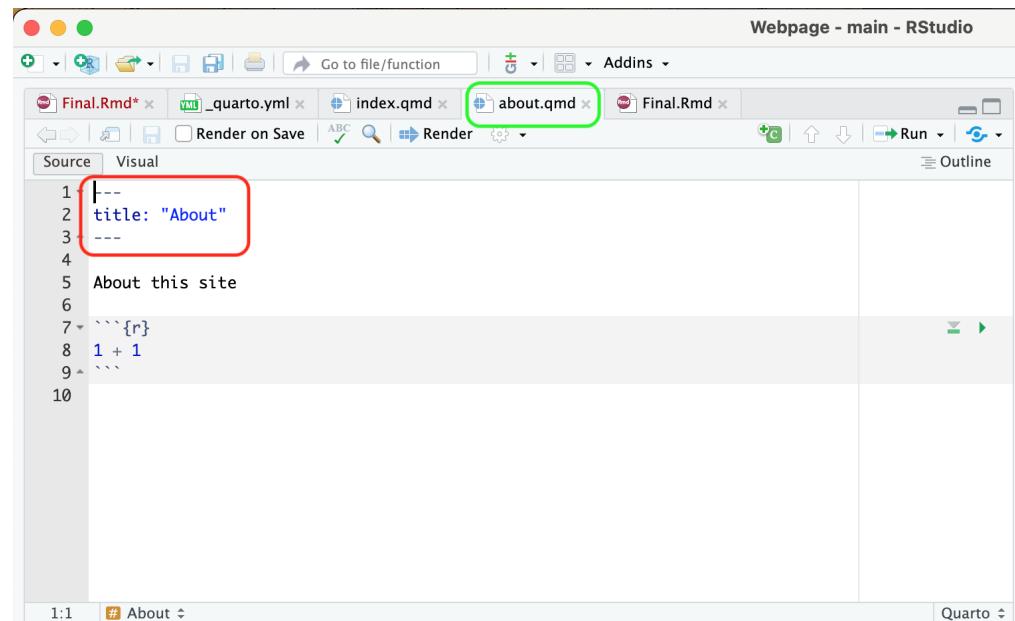
- Accordingly, **the tab to the index page** is named, "nvedam"



```
1 ---  
2 title: "nvedam"  
3 ---  
4  
5 This is a Quarto website.  
6  
7 To learn more about Quarto websites visit <https://quarto.org/docs/websites>.  
8  
9 ````{r}  
10 1 + 1  
11 ````  
12
```

Config files: Navigation bar

- Accordingly, the **tab to the about page** is named, "About"



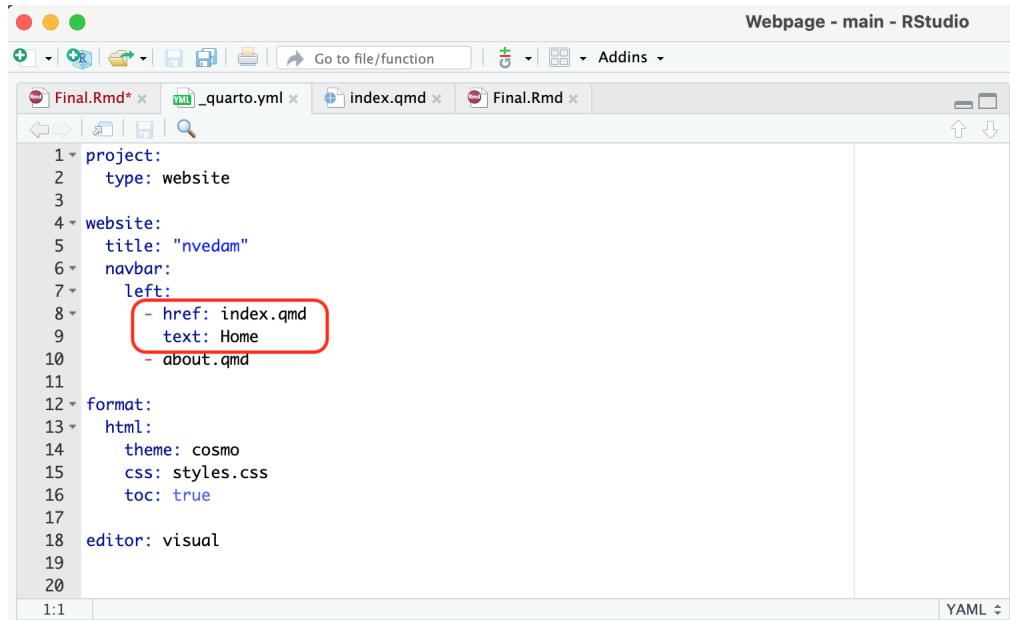
The screenshot shows the RStudio interface with the title bar "Webpage - main - RStudio". The top menu bar includes "File", "Edit", "View", "Insert", "Tools", "Help", "Go to file/function", and "Addins". Below the menu is a toolbar with icons for file operations like Open, Save, Print, and a search bar. The main workspace shows several tabs: "Final.Rmd*", "_quarto.yml", "index.qmd", "about.qmd" (which is highlighted with a green box), and "Final.Rmd" again. The "about.qmd" tab has a red box around its title. The code editor displays the following content:

```
1 ---  
2 title: "About"  
3 ---  
4  
5 About this site  
6  
7 `r`  
8 1 + 1  
9 ``  
10
```

The status bar at the bottom indicates "1:1" and "# About".

Config files: Navigation bar

- If you want to change the name of these tabs in the navigation menu,
 - Use `href:` to hyperlink the file
 - Use `text:` to change the name of the tab
- Try the navigation options listed [here](#) to customise your navigation bar



```
Webpage - main - RStudio
Final.Rmd* _quarto.yml index.qmd Final.Rmd
project:
  type: website
  title: "nvedam"
  navbar:
    left:
      - href: index.qmd
        text: Home
      - about.qmd
  format:
    html:
      theme: cosmo
      css: styles.css
      toc: true
    editor: visual
```

The screenshot shows the RStudio interface with the '_quarto.yml' file open. The 'navbar' section is highlighted with a red box, specifically the 'left' key which contains two items: one with 'href: index.qmd' and 'text: Home'. The 'index.qmd' file is also visible in the tab bar.

Config files: Themes

- You can suit the theme of your webpage to your liking
- The available themes are [here](#)
- The default theme ([can be seen here](#)) is cosmo
- I have changed it to cyborg from the list in the webpage

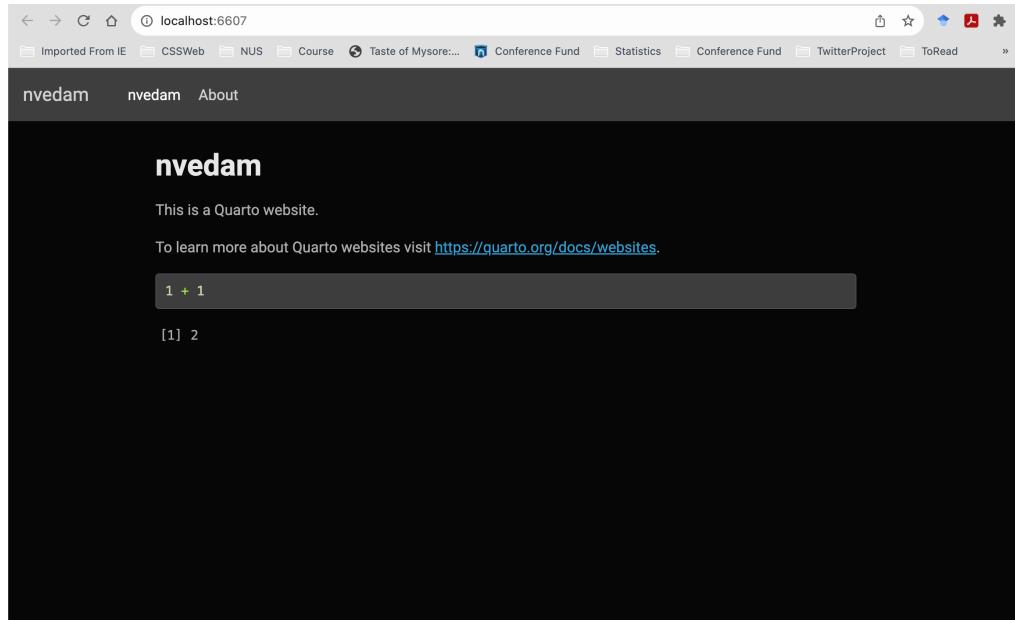
Webpage - main - RStudio

```

Final.Rmd* _quarto.yml index.qmd about.qmd Final.Rmd*
1 project:
2   type: website
3
4 website:
5   title: "nvedam"
6   navbar:
7     left:
8       - index.qmd
9       - about.qmd
10
11 format:
12   html:
13     theme: cyborg
14     css: styles.css
15     toc: true
16
17 editor: visual
18
19

```

13:12 YAML

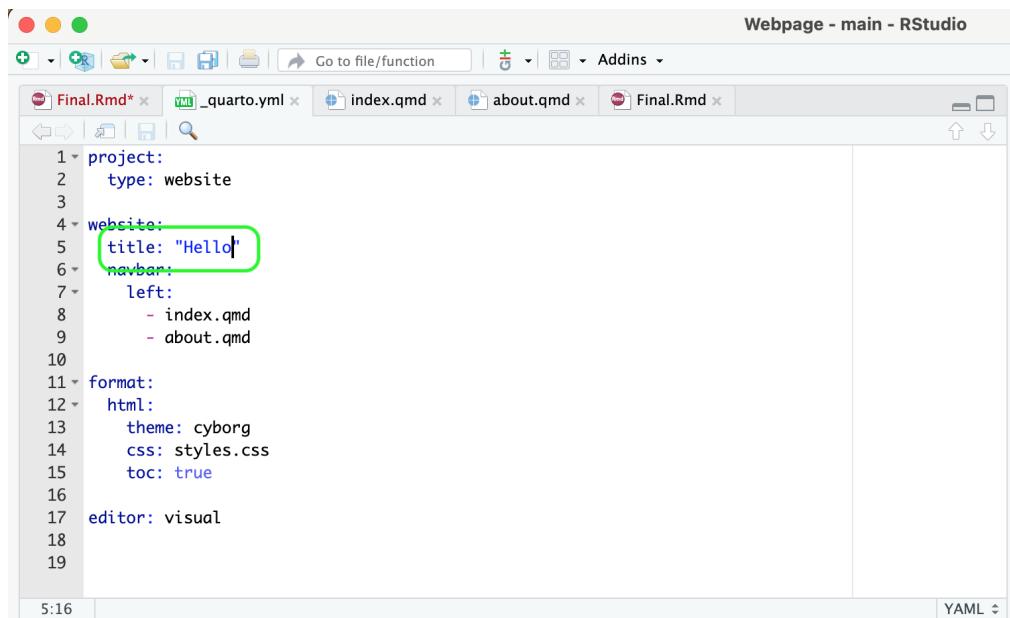


Output with new theme

Config files: Title

- You can change the `title:` on your webpage
- The original title (**can be seen here**) is nvedam
- I have changed it to Hello now

Webpage - main - RStudio

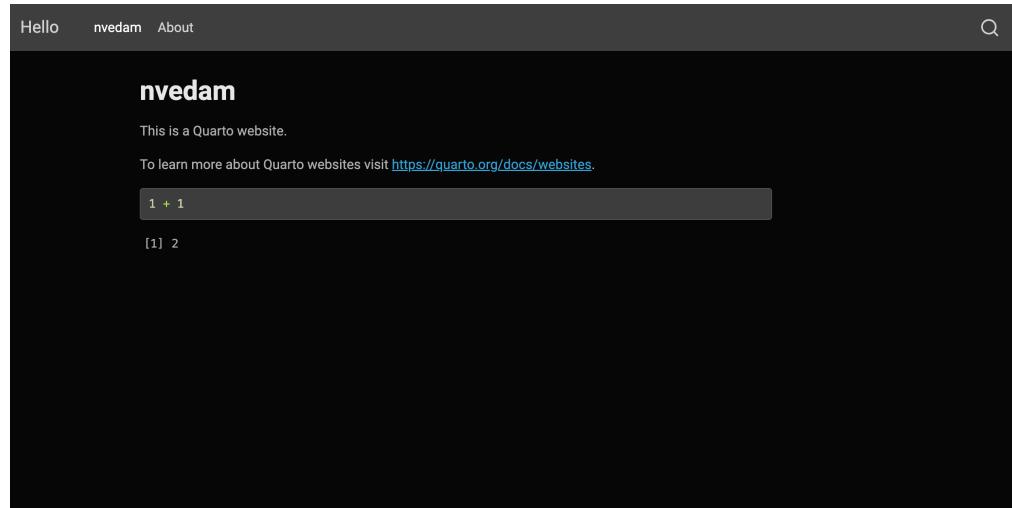


```

1 project:
2   type: website
3
4 website:
5   title: "Hello"
6   navbar:
7     left:
8       - index.qmd
9       - about.qmd
10
11 format:
12   html:
13     theme: cyborg
14     css: styles.css
15     toc: true
16
17 editor: visual
18
19

```

5:16 YAML



Output with new title

.qmd files: Text formatting

- They are the same as your `.Rmd` file
- You can insert content here like you did for all your code-alongs and challenges
- Some text formatting options are in the table

Markdown syntax	Output
<code>*italics*</code>	<i>italics</i>
<code>**bold**</code>	bold
<code>superscript^2^</code>	$\text{superscript}^2^$
<code>subscript~2~</code>	$\text{subscript}~2~$
<code>~~strikethrough~~</code>	strikethrough
<code>verbatim code</code>	verbatim code

.qmd files: Text formatting

- Headings for your page can be formatted using the syntax in the table
- More Markdown syntax can be found [here](#)

Markdown Syntax	Output
# Header 1	Header 1
## Header 2	Header 2
### Header 3	Header 3
#### Header 4	Header 4
##### Header 5	Header 5
###### Header 6	Header 6

.qmd file: Code

Enclose code snippets within `````

```
{r}
#| out.width: "80%"
#| label: fig-airquality
#| fig-cap: Temperature and ozone level.
#| warning: false
#| eval: FALSE

library(tidyverse)

ggplot(airquality, aes(Temp, Ozone)) +
  geom_point() +
  geom_smooth(method = "loess")
```

.qmd file: Images

Use the code below to insert the image

```
![alt text for screen readers](/path/to/image.png "Text to show on mouseover")
```

Alternately, you can also use this code enclosed within `````

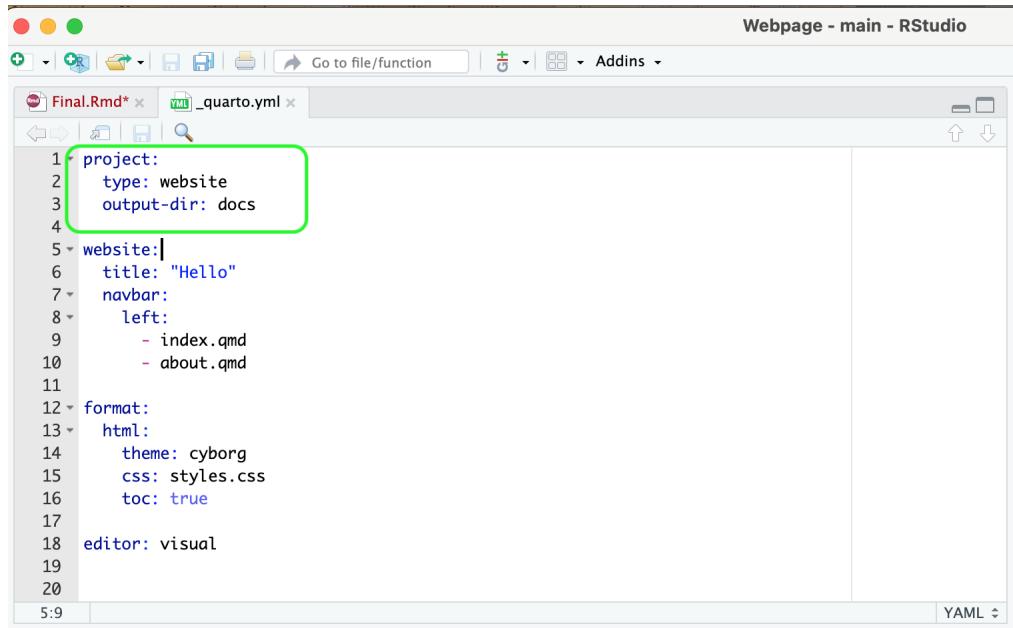
```
{r}
#| eval=FALSE
#| out.width="100%"

knitr:::include_graphics("path_to_fig")
```

More markdown basics can be found [here](#)

Publish your webpage

- Add `output-dir: docs` in the `.yml` file as shown in the Figure beside
- Once again, make sure that you have named your folder as
- Commit and push your folder to Github using your Github Desktop client
- Wait for a few minutes before accessing your webpage at, <https://githubusername.github.io>
- More instructions to publish using Github pages can be found [here](#)
 - Make sure you select "User or organization site"



The screenshot shows the RStudio interface with the title bar "Webpage - main - RStudio". In the center, there is a code editor window with two tabs: "Final.Rmd*" and "YAML _quarto.yml". The "YAML _quarto.yml" tab is active, displaying the following YAML code:

```
project:
  type: website
  output-dir: docs

website:
  title: "Hello"
  navbar:
    left:
      - index.qmd
      - about.qmd

format:
  html:
    theme: cyborg
    css: styles.css
    toc: true

editor: visual
```

A green rectangular box highlights the first three lines of the YAML code, specifically the `project:` section.

Thanks!

Slides created via the  packages:

xaringan
gadenbuie/xaringanthemer.



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