Part 2: Quarto Introduction

OCTRI-BERD Workshop July 2025

Jessica Minnier, Meike Niederhausen

2025-07-17

This file contains just the code from the **Part 2: Quarto Introduction** slides. Please see the [slides](https://ohsu-octri-berd.github.io/Quarto_BERD_2025/slides/part2_intro.html#/title-slide) for context and more detailed information.

# 3 types of Quarto content: text

1. *Text*, lists, images, tables, links
2. Code chunks
3. YAML metadata

## Formatting text

*This text is in italics*, but *so is this text*.

**Bold** also has **2 options**

~~Should this be deleted?~~

Needsuper orsub scripts?

Code is often formatted as verbatim

This is a block quote.

## Headers

Organize your documents using headers to create sections and subsections

Use # at the beginning of the line to create headers

Make sure there is no space before the #, and there IS a space after the # in order for the header to work properly.

Above we already saw level one # and two ## headers be used.  
Below are more levels of headers:

### Header 3

#### Header 4

##### Header 5

###### Header 6

## Unnumbered lists

* This is an **unnumbered list**
  + with *sub-items*
    - and *sub-sub-items*,
      * or even deeper.
* You can use characters \*, +, and - interchangeably to create lists.
  + The order of the
    - character types is not important
    - and character types can be repeated.

What *is* important is the **spacing**!

* indent each
  + sub-level with a tab and make sure
  + there is a **space between the character starting the list and the first bit of text**, \*otherwise the text won’t be a new bullet in the list, such as this line.

Also, if you do not have an empty line + before starting a list, + then the output will be continuous text - instead of bullet points.

## Numbered lists

1. This is a **Numbered list**,
2. which can have
   1. sub
   2. items
      1. and
      2. sub-sub-items.

You can also

1. create numbered lists
2. by repeating
3. 1. over and over again.
   1. Each bullet
   2. can start with
   3. 1. or i.
      1. or a.,
      2. in theory…

When lists get interrupted

1. the numbering restarts
2. at 1. though.

To create a list

1. whose numbering

does not

1. get interrupted,
2. use (@).

## To-do lists

* You can also create *tasks*, or to-do lists, with Quarto.
* Note that you can check off boxes in the slides!

Topics to cover:

* ☒ Formatting text
* ☒ Headers
* ☐ Lists
  + ☒ Unnumbered lists
  + ☒ Numbered lists
  + ☐ To-do lists
* ☐ Hyperlinks
* ☐ Images

## Practice

1. **Part 1**
   1. Using the visual editor, practice formatting text in your qmd file, such as making text **bold**, *italicized*, and in code format.
   2. Add 1st, 2nd, and 3rd level headers
   3. Add a list with a
      * sub-list (bullet and/or numbered)
   4. Add a table
   5. Add whatever else you are interested in!
2. **Part 2**
   1. Switch back to the Source editor and examine the markdown code that was used for the formatting.

**Questions**: *Share in the chat:*

1. What went smoothly?
2. What hurdles did you encounter?

## Hyperlinks

* **Hyperlink where the url is visible: <url>**

Workshop website link: <https://ohsu-octri-berd.github.io/Quarto_BERD_2025/>.

* **Hyperlink showing text instead of the url: [text](url)**

We also have a shortened [bitly link](https://bit.ly/berd2025_quarto).

* **Open link in a new tab: [text](url){target="\_blank"}**

This link will open in a new tab [bitly link](https://bit.ly/berd2025_quarto)

## Images (1/2)

* Add an image with a simple ![](filepath)
* The filepath can be an image on your computer or a url for an image on the web.
* So that you can render this html file, we are using an image on the web below:

![](data:text/html; charset=utf-8;base64,)

You can add html image options to change the width or height:

Specifying *width* in terms of **pixels**:

![](data:text/html; charset=utf-8;base64,) Specifying *height* in **inches**:

![](data:text/html; charset=utf-8;base64,)

Specifying *width* as a **percent** of the original image size:

![](data:text/html; charset=utf-8;base64,)

## Images (2/2)

Add captions, links, and align

* Add caption text (& align left):

|  |
| --- |
| Caption text |

* Add caption text that is linked to OHSU webpage (& align center):

|  |
| --- |
| [Caption text with linked url](https://www.ohsu.edu) |

* Logo image itself is linked to OHSU webpage (& align right):

|  |
| --- |
|  |

## Tabsets

You can add tabbed content to webpages or slides using the standard Quarto syntax for [tabsets.](https://quarto.org/docs/output-formats/html-basics.html#tabsets)

* Each header creates a new tab.
  + The header level (# vs ## vs ###, etc.) doesn’t matter, but they all have to be the same level to create new tabsets.
  + Here we used ### level header so that the tabset appears nested within the contents of the slide, which is ## level.

### Tab A

Content for Tab A

### Tab B

Content for Tab B

### Tab C

Content for Tab C

## Callout Blocks ⚠️

|  |
| --- |
| Tip |
| Callouts are an excellent way to draw attention to specific pieces of information. |

|  |
| --- |
| Note |
| They are especially useful for notes, warnings, or tips. |

|  |
| --- |
| Important |
| You create them using fenced divs ::: with a special class. |

|  |
| --- |
| Caution |
| There are 5 types of callouts. |

|  |
| --- |
| Warning |
| It is tempting to overdo it with callout boxes! |

### Customizing Callout Blocks ⚠️

|  |
| --- |
| Tip with different title |
| You can change the title of any type of callout box by adding ## New title right below the first line of the callout. |

|  |
| --- |
| Note |
| You can omit the icon of any type of callout box by adding icon=false within the {} of the first line of the callout. |

|  |
| --- |
| Callouts can be collapsed in html files (not in slides - yet) |
| * If you look at the html file (not the slides), you will see that the content of this callout is “folded” and needs to be expanded by the user to see it. * Use collapse="true" if you want it collapsed by default, and * collapse="false" to make it expanded by default. |

## Tables

One benefit of using or switching over to the Visual editor is that it is much easier to add tables.

| Name | Date | Measure |
| --- | --- | --- |
| Jessica | 02/04/25 | 9.3 |
| Meike | 01/03/25 | 10.1 |
| BERD | 🐦 | 10.5 |

|  |
| --- |
| Important |
| * When creating tables summarizing data or showing regression output, this is NOT the way to create them. * Use code chunks and table options within R to create them instead. |

## Equations with LaTeX

* **Mathematical equations and symbols** can be included using LaTeX, both as *inline equations* or *centered display equations*
* Use single $ for inline equations:
* Use double $$ for centered display equations:

# 3 types of Quarto content: code

* ☒ 1. Text, lists, images, tables, links
* ☐ 2. *Code chunks*
* ☐ 3. YAML metadata

## Code chunks

* See slides for material on creating and running code chunks.

## Code chunk options

### eval

* **eval** determines whether the R code is **run** or not.
* The default is true.
* When set to false, the code is not run but still displayed in the output:

#| eval: true

y <- 1:10  
mean(y)

[1] 5.5

#| eval: false

y <- 1:10  
mean(y)

### echo

* **echo** determines whether the R code is **displayed** or not.
* The default is true. When set to false, the code is not displayed in the output but the output is (if eval is set to true):

#| echo: true

y <- 1:10  
mean(y)

[1] 5.5

#| echo: false

[1] 5.5

### Other options

* warning: do you want R’s warnings include in your output?
* message: do you want R’s messages include in your output?

For a complete list of options, see the Quarto reference page for [Code Cells: Knitr](https://quarto.org/docs/reference/cells/cells-knitr.html). In particular the sections on [Code Output](https://quarto.org/docs/reference/cells/cells-knitr.html#code-output) and [Cell Output](https://quarto.org/docs/reference/cells/cells-knitr.html#cell-output).

### Set options globally

* Usually you want most of your document to have the same code chunk options.
* You can set these options in the YAML of the Quarto file (next topic!).

# 3 types of Quarto content: YAML

* ☒ 1. Text, lists, images, tables, links
* ☒ 2. Code chunks
* ☐ 3. *YAML metadata*

See the slides for information about the YAML.

## Change the output file type

* The YAML specifies the format of the output file:
  + html, Word, pdf, slides, website, book, etc.
* This is done by changing the format: option

---  
title: "My first Quarto file"  
author: "Meike"  
date: "9/25/2023"  
format: html  
editor: visual  
---

| Output format | YAML |
| --- | --- |
| html | format: html |
| Word | format: docx |
| pdf[[1]](#footnote-87) | format: pdf |
| html slides | format: revealjs |
| PPT slides | format: pptx |

## Practice

* Change the format of the qmd file to **revealjs** and render the file.
  + How do the slides look?
  + What in the code determines when a new slide is created?
* Change the format of the qmd file to **pptx** and render the file.
  + How do the slides look? Which styling options worked and which did not?
  + What in the code determines when a new slide is created?
* Change the format of the qmd file to **docx** and render the file.
  + How does the Word doc look? Which styling options worked and which did not?

## YAML customizations

* Below are some YAML options to customize your html file.
* Download from GitHub the file [part2\_intro\_code\_yaml\_extra.qmd](https://github.com/OHSU-OCTRI-BERD/Quarto_BERD_2025/blob/main/code_files/part2_intro_code_yaml_extra.qmd) to render it on your computer.
  + You can view the [rendered version](https://ohsu-octri-berd.github.io/Quarto_BERD_2025/code_files/part2_intro_code_yaml_extra.html) online. *This will look different from on your computer though since the workshop’s website’s setting are being applied to it.*
* Learn about many more YAML options from Quarto’s [HTML Options page](https://quarto.org/docs/reference/formats/html.html).

---  
title: "Part 2: Quarto Introduction"  
pagetitle: "Part 2: Quarto Introduction"  
subtitle: "OCTRI-BERD Workshop July 2025"  
author: "Jessica Minnier, Meike Niederhausen"  
institute: "OHSU-PSU School of Public Health"  
date: "7/17/25"  
format:  
 html:  
 link-external-newwindow: true # open links in a new tab  
 toc: true # create a table of contents  
 number-sections: true # numbers header sections  
 embed-resources: true # IMPORTANT! Creates a standalone html file that other can view without needing additional files.  
 code-fold: show # true collapses all code chunks; show shows the code  
 code-tools: true # creates menu at top of html to toggle code folding  
execute:  
 echo: true # show all code in code chunks  
 eval: true # run all code in code chunks   
editor: source # other options is visual  
# editor\_options:   
# chunk\_output\_type: console # Code output shown in console instead of inline  
---

1. pdf requires LaTeX installation [↑](#footnote-ref-87)