

Hello Quarto

Quarto - authoring and publishing tools for collaborative scientific writing

Lars Schöbitz

April 3, 2024

Welcome! 🙌

Lars Schöbitz

 <https://quarto-ambition.github.io/website/>



- Environmental Engineer 
- Retired researcher 
- RStudio certified instructor
- Data steward at ETHZ

Learning objectives

1. Learn to use the Quarto file format and the RStudio IDE visual editing mode to produce scholarly documents with citations, footnotes, cross-references, figures, and tables.
2. Learn to use Quarto Pub to publish a website and share research with a broader audience.

Your turn

Think about the last time you published a written document:

- Which tasks gave you joy?
- Which tasks were challenging or frustrating?

Take some written notes.

Quarto

authoring and publishing workflows for collaborative
scientific writing



Every student will have a personal, published, free website that links to their (academic) profiles, shows slides, and has the potential to be used as a (scientific) blog.

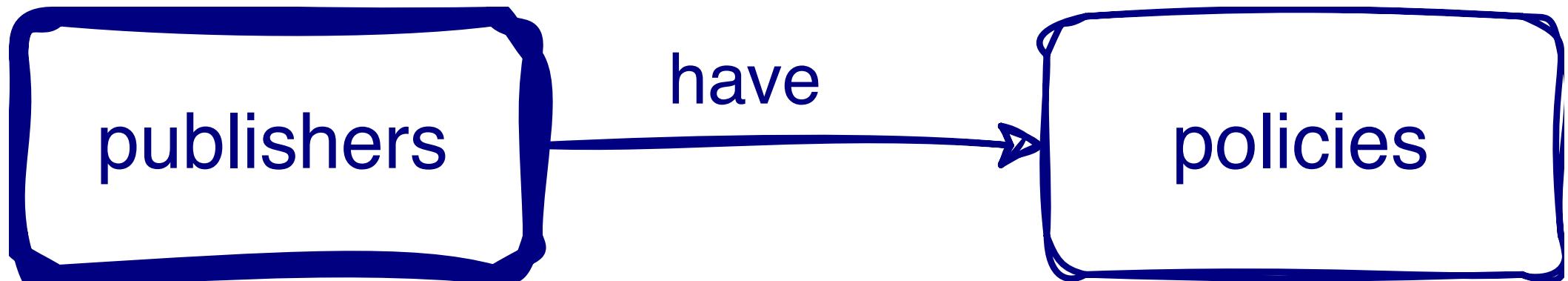


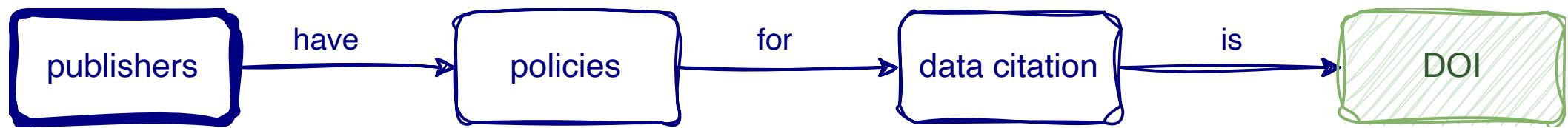
Quarto

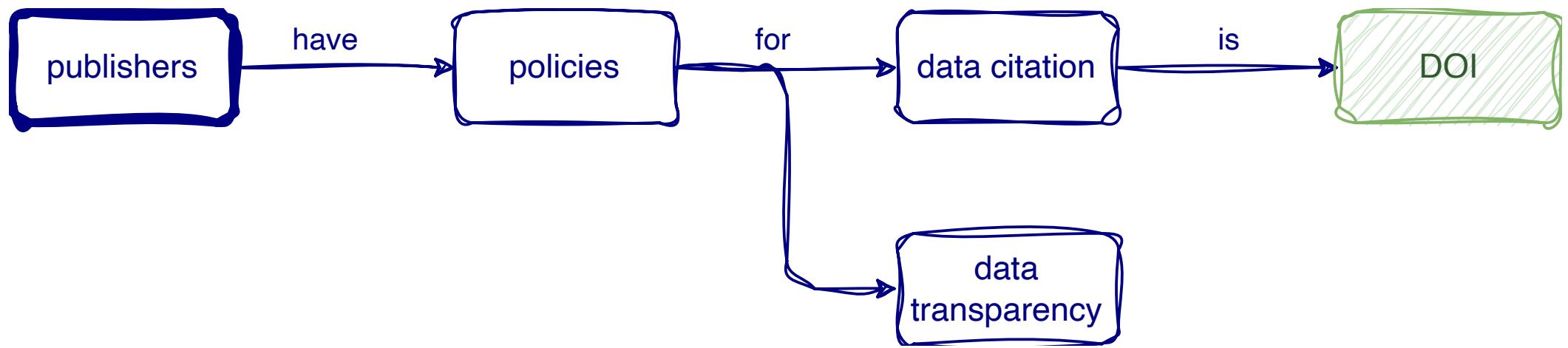
RStudio IDE on Posit Cloud

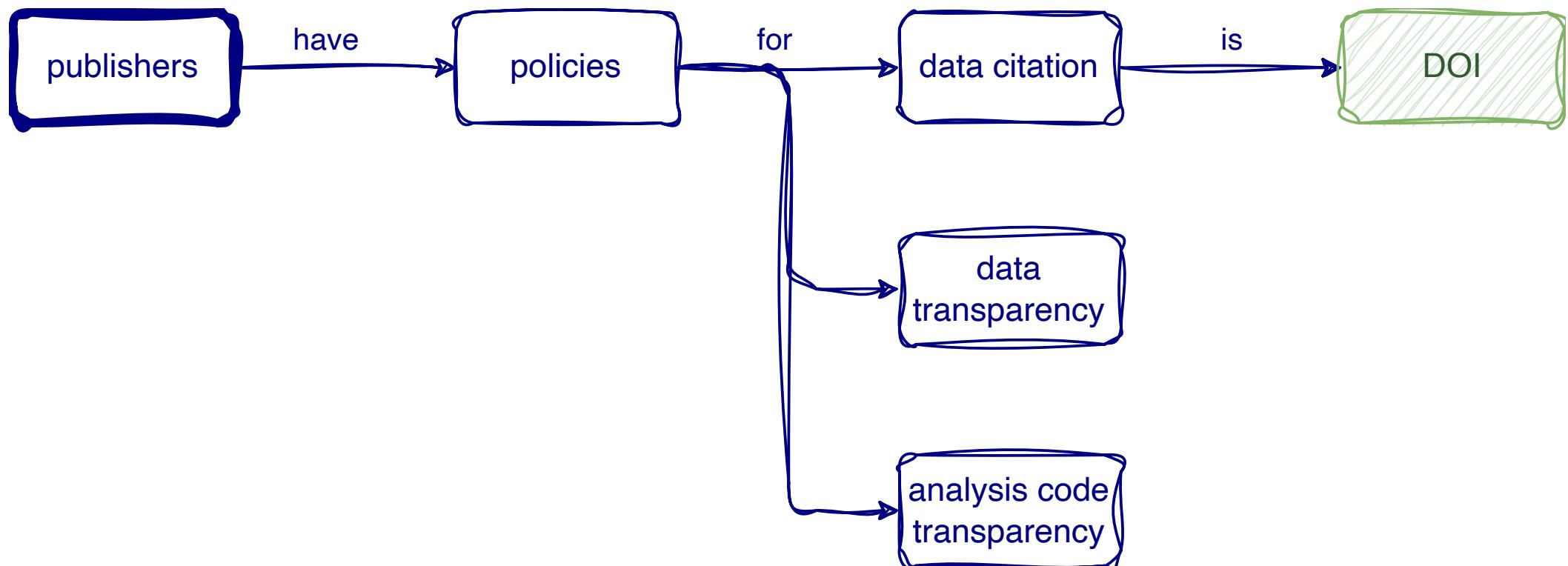
Quarto Pub

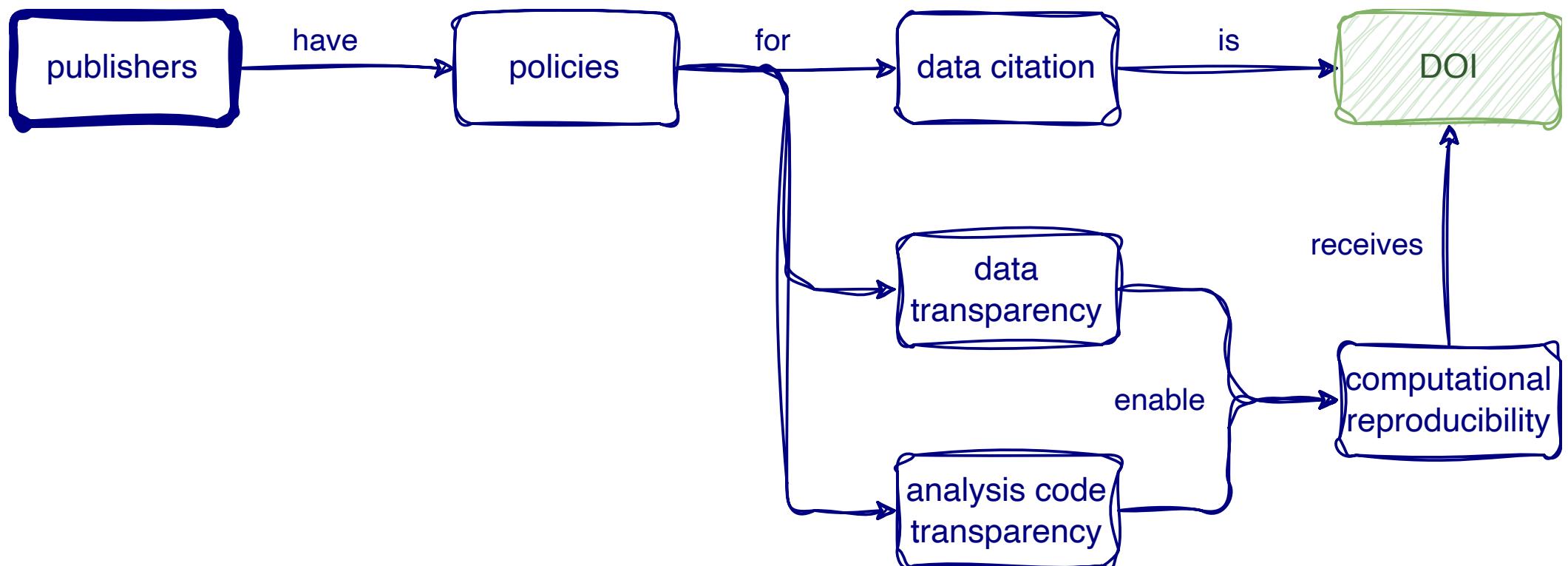
Why? -> Reproducibility

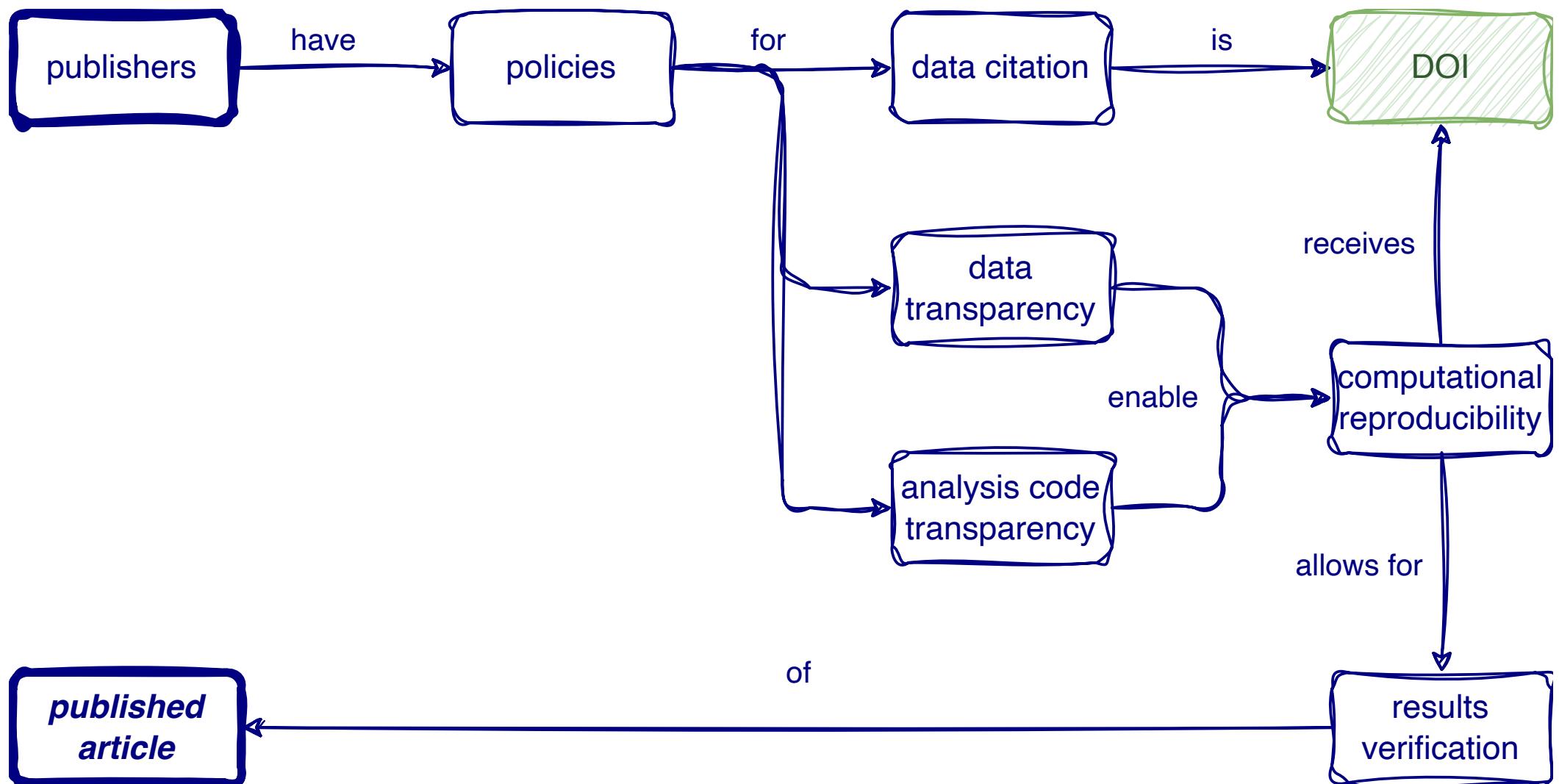


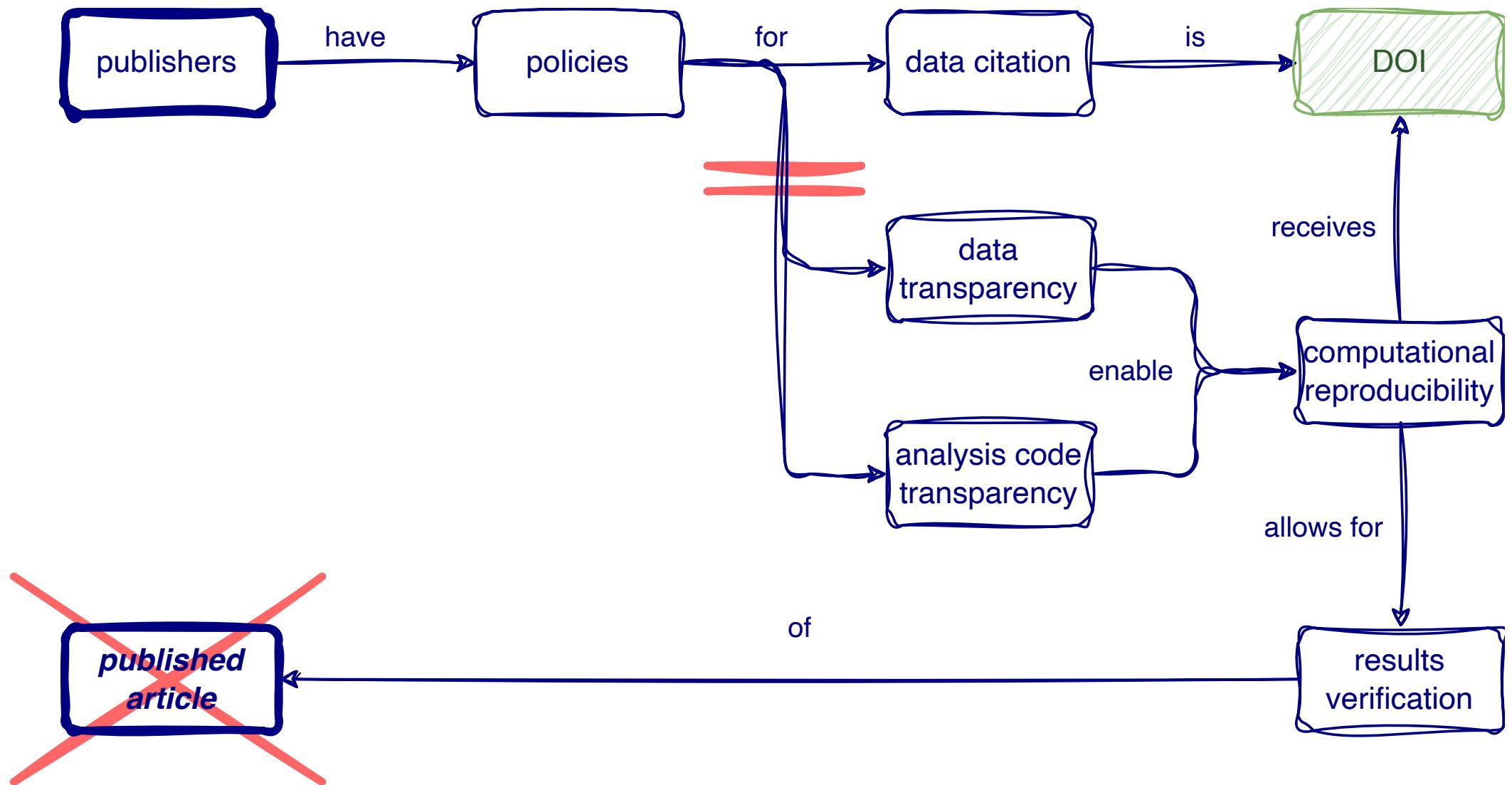












Course structure

- My turn: Lecture segments + live coding
- Our turn: Live coding + follow along
- Your turn: Exercises in break-out rooms

Getting help

- During my turn and our turn segments: Please keep your microphone on mute. Send message to the Zoom chat and we will try to support you.
- During your turn segments: Due to the large number of participants, it will not be feasible to join individual break-out rooms, but you will always be working in pairs.

Hello Quarto

@ <https://quarto-ambition.github.io/website/>

Meeting you where you are

I'll assume you

- do **not** have R experience
- have **not** worked in an IDE before (e.g. RStudio IDE)
- want to learn about Quarto

I'll **teach** you

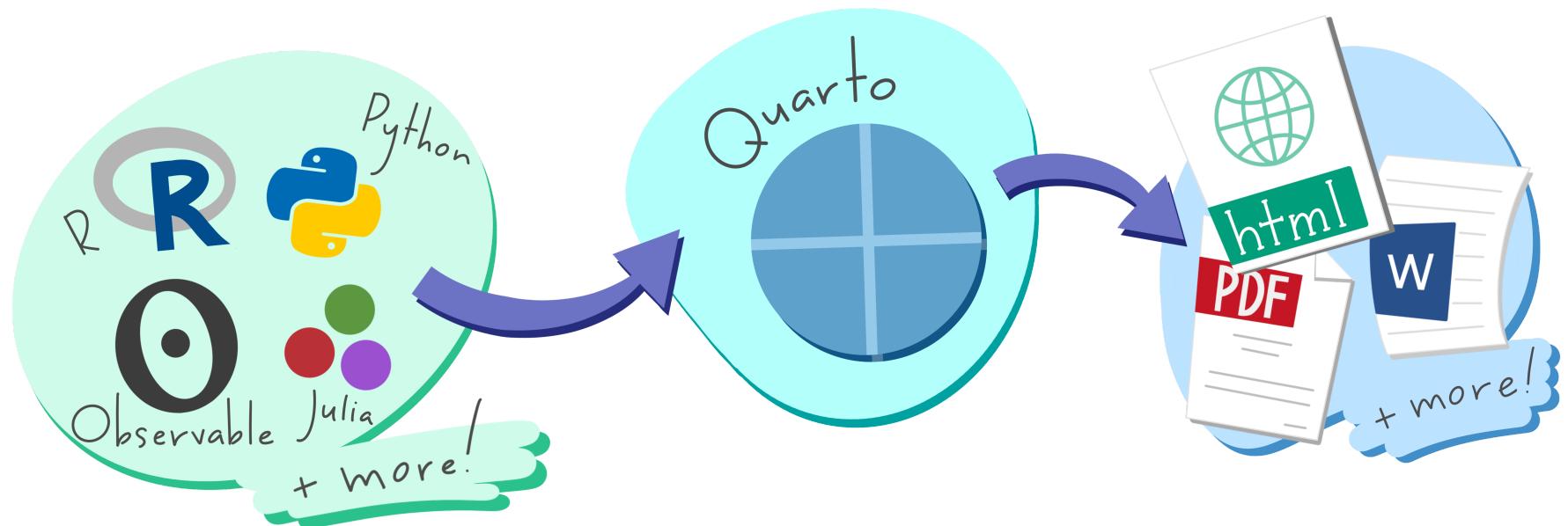
- Quarto syntax and formats
- Markdown
- Some R along the way!

What is Quarto?

@ <https://quarto-ambition.github.io/website/>

Quarto ...

- is a new, open-source, scientific, and technical publishing system
- aims to make the process of creating and collaborating dramatically better



A tour of Quarto

Sit back and enjoy!

Your turn

- Open posit.cloud & login with your details
- Open the workspace for the course:
https://posit.cloud/spaces/497061/content/all?sort=name_asc
- Click “Start” next to the `exercises` project
- Wait until the project has deployed
- Open `hello-penguins.qmd` in RStudio from the Files tab in the bottom-right window
- Render the document
- Update your name and re-render
- Inspect components of the document and make one more update and re-render.

From the comfort of your own workspace

The screenshot shows a Quarto workspace interface with the following components:

- EXPLORER**: A sidebar listing files and notebooks, including "execution-options.qmd", "julia.qmd", "jupyter-kernels.qmd", "ojs.qmd", "palmer-penguins.csv", "parameters.qmd", and "python.qmd".
- OPEN EDITORS**: A list of open editors.
- QUARTO-WEB**: A section containing:
 - "execution-options.qmd"
 - "julia.qmd"
 - "jupyter-kernels.qmd"
 - "ojs.qmd"
 - "palmer-penguins.csv"
 - "parameters.qmd"
 - "python.qmd"
- OUTLINE**: A list of sections and subsections.
- TIMELINE**: A list of timeline entries.
- QUARTO: HELP**: A section with help documentation for the "plot" function and a code editor for "python.qmd".
- python.qmd**: A code editor window showing Python code for a polar plot. The code imports numpy and matplotlib.pyplot, generates data points, and creates a polar plot. The plot shows concentric blue circles centered at (0,0) on a polar coordinate system with radial ticks at 0.5, 1, 1.5, and 2.
- Interactive-1**: An IPython terminal window showing the output of the code. It includes the Python version, copyright information, and the generated polar plot.
- Bottom Status Bar**: Shows the mode (Edit), file path ("quarto-jupyterlab.ipynb"), and other status information.
- Bottom Navigation Bar**: Includes a search bar with the URL "https://quarto-ambition.github.io/website/" and a GHE logo.

 <https://quarto-ambition.github.io/website/>

Quarto formats

@ <https://quarto-ambition.github.io/website/>

One install, “Batteries included”

- RMarkdown grew into a large ecosystem, with **varying syntax**.
- Quarto comes “**batteries included**” straight out of the box
 - HTML reports and websites
 - PDF reports
 - MS Office (Word, Powerpoint)
 - Presentations (Powerpoint, Beamer, `revealjs`)
 - Books
- Any language, *exact same* approach and syntax

Many Quarto formats

Feature	R Markdown	Quarto
Basic Formats	html_document pdf_document word_document	html pdf docx
Beamer	beamer_presentation	beamer
PowerPoint	powerpoint_presentation	pptx
HTML Slides	xaringan ioslides revealjs	revealjs
Advanced Layout	tufte distill	Quarto Article Layout

Many Quarto formats

Feature	R Markdown	Quarto
Cross References	html_document2 pdf_document2 word_document2	Quarto Crossrefs
Websites & Blogs	blogdown distill	Quarto Websites Quarto Blogs
Books	bookdown	Quarto Books
Interactivity	Shiny Documents	Quarto Interactive Documents
Journal Articles	rticles	Journal Articles
Dashboards	flexdashboard	Coming soon!

Your turn

In your exercises project in RStudio on Posit Cloud, go to **File > New File > Quarto document** to create a Quarto document with HTML output. Render the document, which will ask you to give it a name – you can use `my-first-document.qmd`. Use the visual editor for the next steps.

- In the YAML header at the top of the document, add a title in the `title:` field and your name to the `author:` field.
- Create three sections in the document formatted as Heading 2, name these sections
 - Joyful tasks
 - Challenging tasks
 - A fact to learn
- **Stretch goal:** In the YAML header add a table of contents in the `format:` field. Tipp: Check quarto.org and use search function  with “HTML table of contents”
- **Stretch goal:** Change the html theme to `sketchy`. Tipp: Check quarto.org and use search function  with “HTML theming”

Take a break

Please get up and move! Let your emails rest in peace.



Thanks! 🌻

Slides created via revealjs and Quarto:

<https://quarto.org/docs/presentations/revealjs/> Access slides as
[PDF on GitHub](#)

All material is licensed under [Creative Commons Attribution Share Alike 4.0 International.](#)