Building a Personal Website using Quarto and blogdown

Kuan Liu

Guest lecture - R workshop

Nov 20, 2023

UNIVERSITY OF TORONTO

Front matters

- For this workshop we assume you know R and Rstudio.
- In this tutorial, we will

  1. introduce Quarto and how to build a simple personal website using Quarto and hosting the page on GitHub
  2. introduce blogdown with a live-demo to build a quick blogdown template website and deploy it on netlify

- Let's start with a 15 mins tutorial on markdown

What is Quarto?

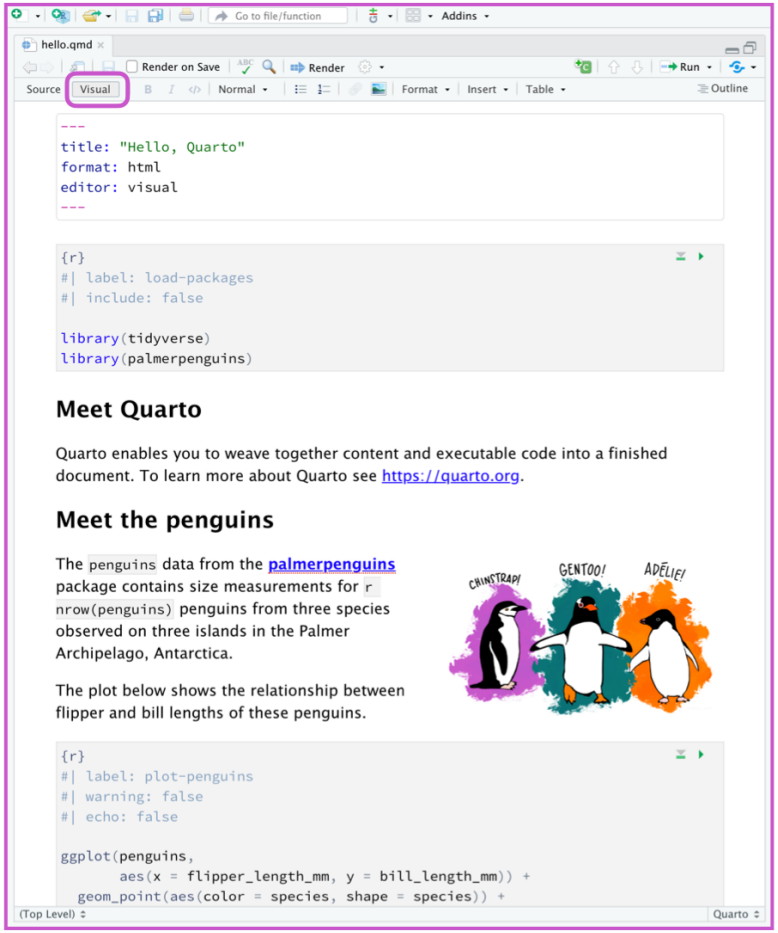
Quarto is an open-source scientific and technical publishing system built on Pandoc

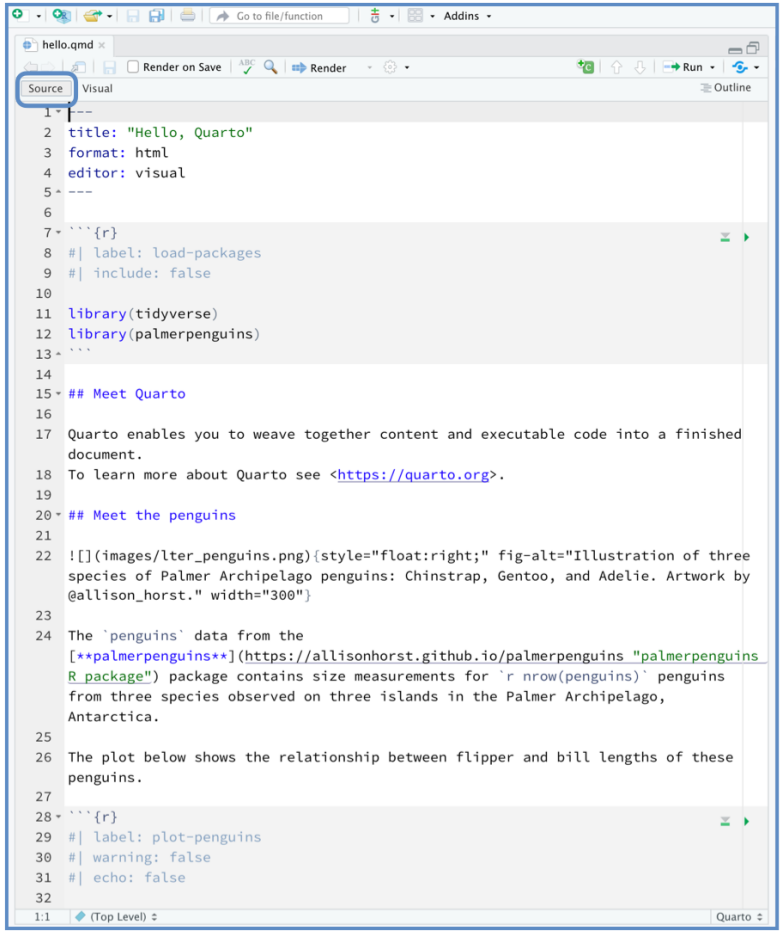
Quarto is the **next generation of RMarkown**.

Publish high-quality articles, reports, presentations, websites, blogs, and books in HTML, PDF, MS Word, ePub, and more.

Quarto can author documents in plain text formats (**rmarkdown**, **markdown**) or mixed formats (**Jupyter** notebook) - **more than just Rmarkdown!**

What is Quarto?



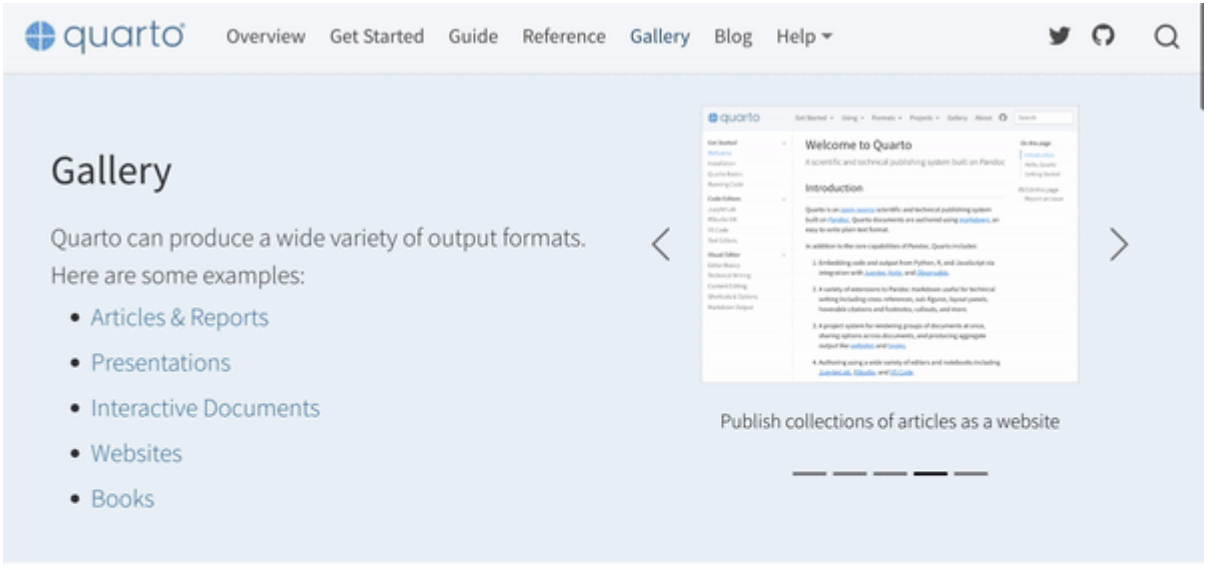


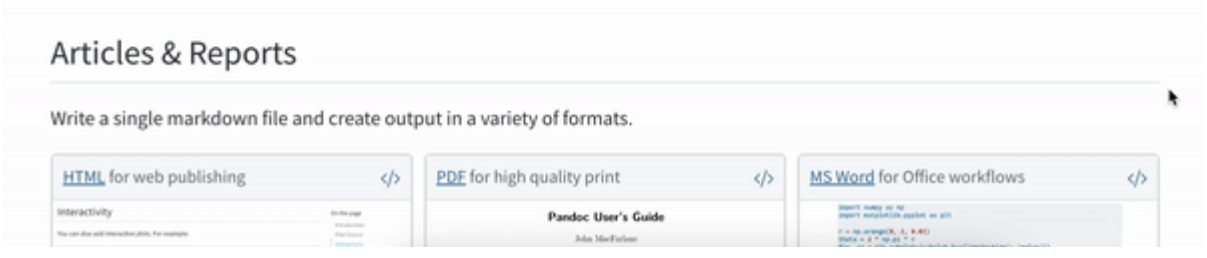
List of Quarto formats

- Basic documents in html, pdf, docx
- Presentations in beamer, pptx, and revealjs (html slides)
- **Websites & Blogs** in Quarto Website and Quarto Blogs

Quarto > RMarkdown

Quarto is a one-stop-shop that renders multiple output formats!





Building Websites with Quarto

UNIVERSITY OF TORONTO

Why not WordPress, Medium etc

- **Minimum Rmarkdown support**
- no ads, no login/password, no cost!
- fast building!

Quarto websites

Convenient: Documents published as part of a website share navigational elements, rendering options, and visual style.

Features: Website navigation through a global navbar, a sidebar with links, or both. You can also enable full text search for websites.

Example website: https://kuan-liu.github.io/biostat3/

Host: can be published to a wide variety of destinations including **GitHub Pages**, **Netlify**, **RStudio Connect**, etc.

Getting started

- Be sure that you have installed the **Quarto** package

```
install.packages("quarto")
```

- Create a website

```
quarto create-project MySiteName --type website
```

- create a blog

```
quarto create-project MyBlogName --type website:blog
```

- or use RStudio > New Project > New Quarto Blog

Try this - create Quarto website project

- Create a new RStudio project and select a new directory and Quarto website
- specify directory name with your GitHub account name plus **.github.io**, e.g., Kuan-Liu.github.io
- Explore the directory

Navigation & Structure

- `_quarto.yml`, website configuration file
  - provides website options such as website theme, navigation bar.
- index.qmd, home page of the website
- about.qmd, the about page of the website
- styles.css, Custom CSS for website (for advanced coder)

Rendering posts and building webiste

- On a specific post, Render with RStudio > Render
- Build tab > Render/Preview Website (try)

These will preview the entire website

- "Freeze" is a feature to specify which file you would like to render at each built (fast & efficient building).

```
execute:
  freeze: auto  # re-render only when source changes
```

- Add `freeze: auto` to the _quato.yml file

Themes

- My favourite two new themes: Zephyr and Quartz
    - A list of build-in themes: https://quarto.org/docs/websites/website-blog.html#themes
- To change theme, modify the bottom of your website's `_quarto.yml`

```
format:
  html:
    theme: Zephyr
```

About page templates

- list of themes: https://quarto.org/docs/websites/website-about.html

jolla

Finley Malloc

Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Ut interdum in dolor quis accumsan. Suspendisse sed nisi sollicitudin, suscipit turpis quis, molestie ipsum. Phasellus ante ante, vehicula a porta quis, venenatis non magna.

twitter Github

trestles

Finley Malloc

twitter Github

Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Ut interdum in dolor quis accumsan. Suspendisse sed nisi sollicitudin, suscipit turpis quis, molestie ipsum. Phasellus ante ante, vehicula a porta quis, venenatis non magna.

Education

University of California, San Diego | San Diego, CA

PhD in Mathematics | Sep 2011 - June 2015

Macalester College | St. Paul MA

B.A in Economics | Sep 2007 - June 2011

Experience

Wengo Analytics | Head Data Scientist | April 2018 - present

GeoScynce | Chief Analyst | Spet 2012 - April 2018

Try this - customize the about page

- create a subfolder in your working directory called "images" and put a thumbnail photo in this folder (for example, HDWG.jpg).
- now updating the about page title section with

```
about:
  template: jolla
  image: images/HDWG.jpg
  links:
    - icon: twitter
      text: twitter
      href: https://twitter.com/
    - icon: github
      text: Github
      href: https://github.com/
```

Home page

- The home (landing) page for this website by default is generated following the `index.qmd` file
- We might want to feature about page as the landing page
    - simply rename the qmd files about.qmd to index.qmd
    - and rename index.qmd to anther tab of your website, for example publication or research

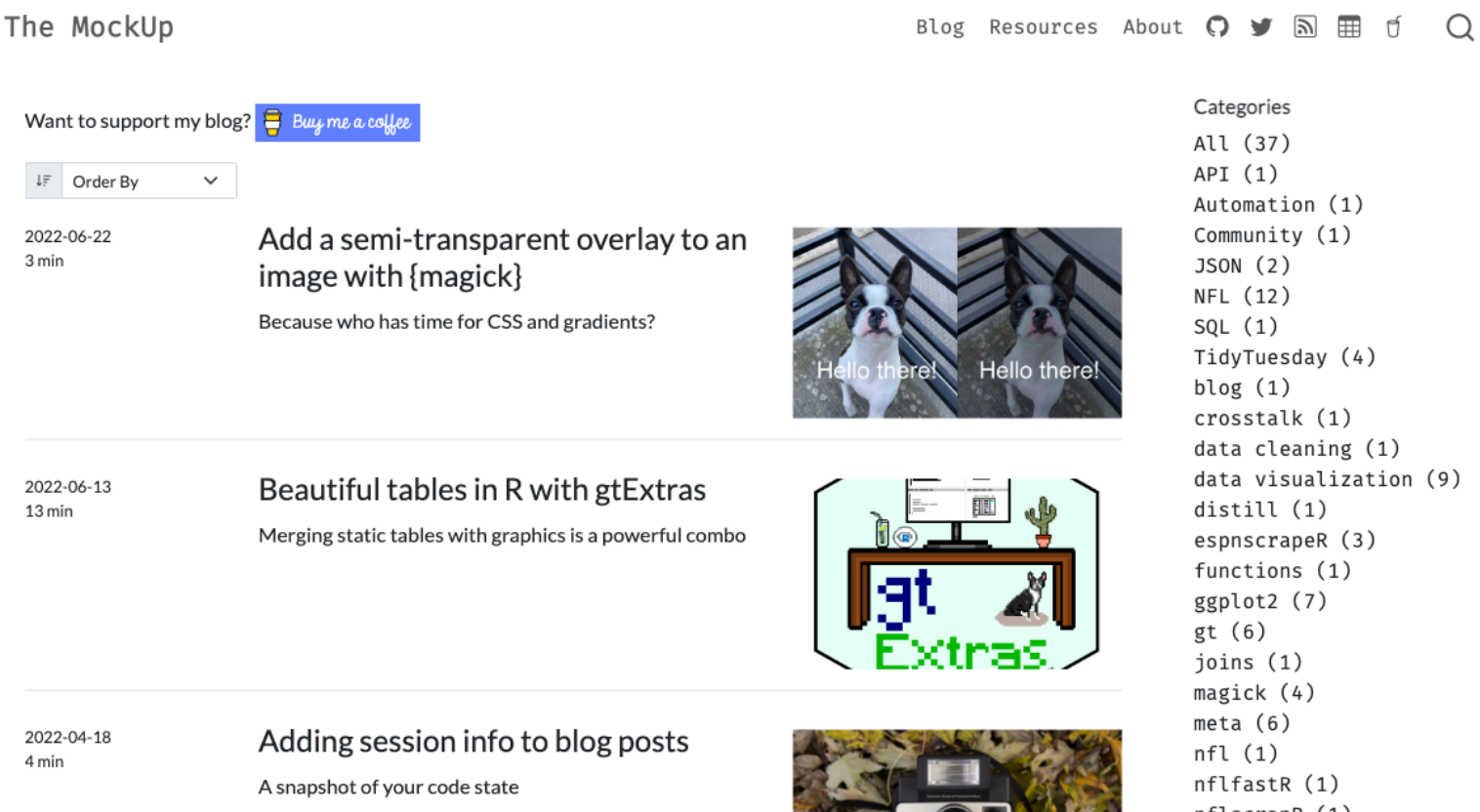
Try this - Adding icons to social account

- You can add links to GitHub, Twitter, Google Scholar on the navigation bar with icon by updating the config file, `_quarto.yml`

```
navbar:
  right:
    - href: index.qmd
      text: Home
    - icon: github
      href: https://github.com/my_user_name
    - icon: twitter
      href: https://twitter.com/my_user_name
```

Blog posts

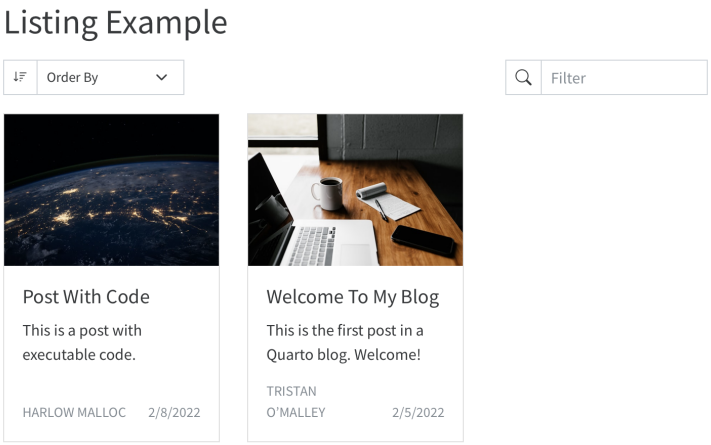
- you can add a quarto page to host blog posts by creating a blog.qmd file where you will display your blog posts in a listing.



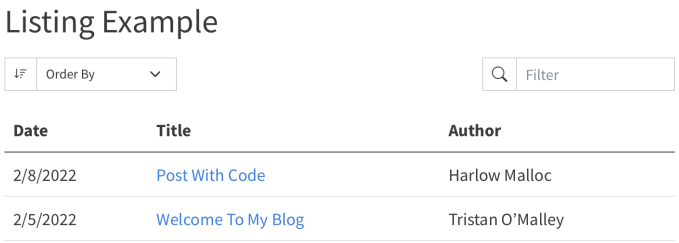
Listing

- There are three types of listing displays: default, table, and grid

- Grid



- Table



Try this - creating a blog post

1. create blog.qmd and specify in the title section

```
title: my blogs
listing:
  contents: posts
  sort: "date desc"
  type: default
  categories: true
---
```

1. create a sub folder name it "posts", under "posts" create another sub folder name it "blog1"

Writing a post

1. inside blog1 folder try Blank File > Quarto document and name it index.qmd (example).
    - **This index.qmd will host content of your blog!**
2. specify in the title section of blog1/index.qmd

```
title: "My first post with R"
description: "you can post a summary description
author: "Kuan"
date: "11/20/2023"
categories:
  - R code
---
```

Publishing - GitHub

- Use GitHub Pages when the source code for your document or site is hosted on GitHub repo.
- make sure to render your site (html files) in the docs folder
  - in _quarto.yml specify `output-dir: docs`
- **Try this:**

1. Build your website and push to GitHub repo **github_account.github.io**
2. go to settings of the repo and select page. Specify Branch master and /docs and save!
3. Your site should be live at https://github_account.github.io.

Try this - publishing your website on GitHub

- You can folk or download codes to build the template Quarto website I made for this tutorial at **https://github.com/Kuan-Liu/Kuan-Liu.github.io**.

Building Websites with blogdown

UNIVERSITY OF TORONTO

What is blogdown?

- An R package for building website using R Markdown and Hugo
  - building website via Hugo using Rmarkdown
- Hugo
  - no cost, open-source, and easy to install
  - tons of features for fancy customization if you are familiar with css (Cascading Style Sheets)
  - example website: https://www.kuan-liu.com/
- blogdown book: https://bookdown.org/yihui/blogdown/

Getting started

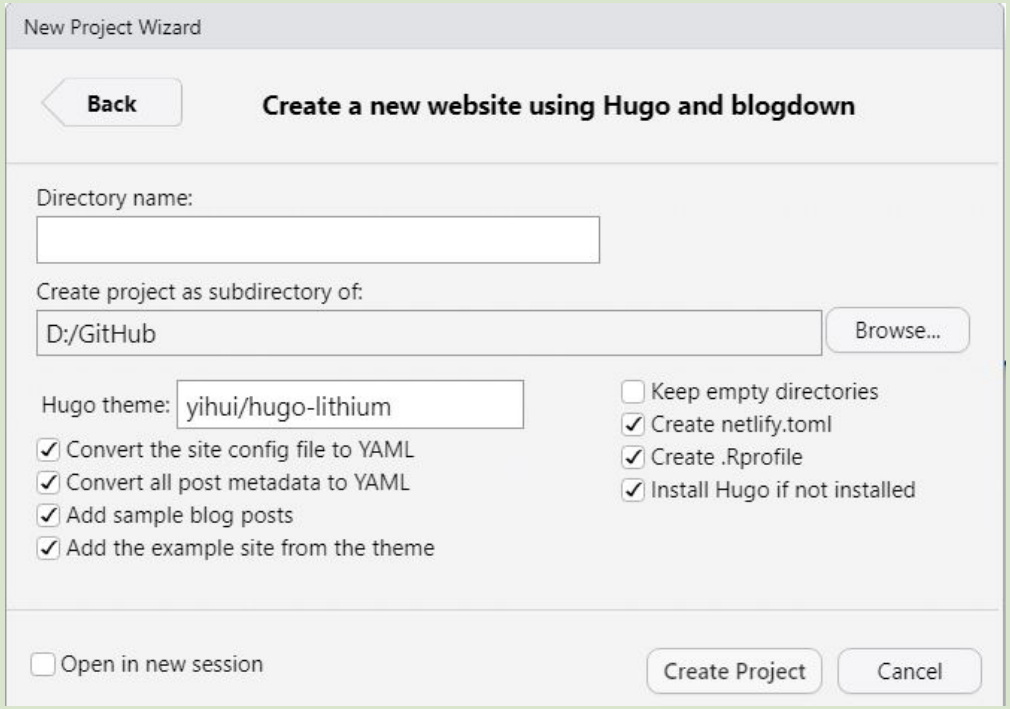
- Be sure that you have installed the **blogdown** package

```
install.packages("blogdown")
blogdown::install_hugo(version="0.86.0")
blogdown::hugo_version()
# if you have multiple version of hugo, you can s
# options(blogdown.hugo.version = '0.86.0')
```

- list of Hugo themes: https://themes.gohugo.io/
  - for my personal website I used the hello-friend-ng theme
  - go to https://themes.gohugo.io/ and take a quick look at all the amazing Hugo theme templates

Try this - create a new blogdown project

- create a new project, select website using blogdown, specify Hugo theme `hugo-apero/hugo-apero`
- developed by the awesome Alison Hill

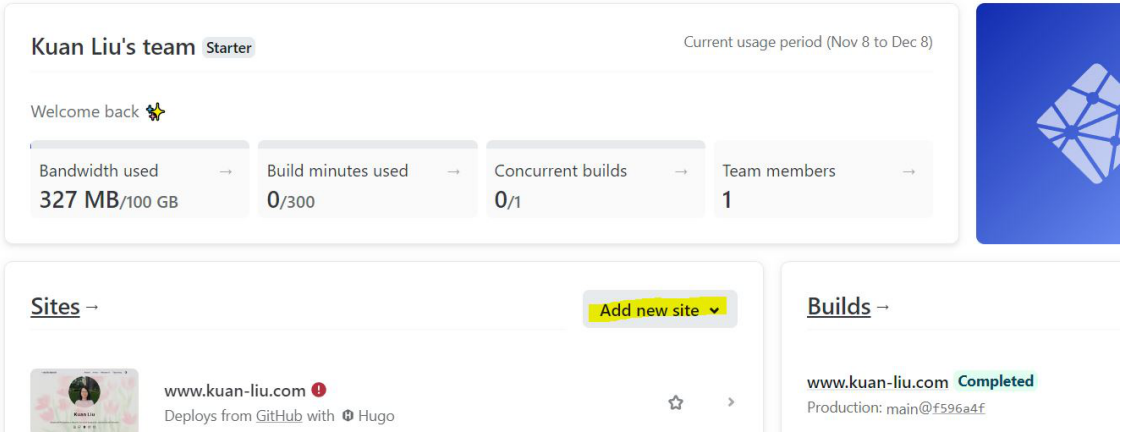


Try this - building website

- explore the project structure
- try Knit the website
- subfolder *content* contents all markdown files or rmarkdown files for your website
- More resources

Publishing on Netlify

- create and upload repo on GitHub via GitHub desktop
- log in to your netlify account via GitHub!
- select add new site > import an existing project > connect to GitHub > select repo
- update domains names



Live demo - pulishing website on Netlify

Acknowledgement

- "Permanent link" to the slides at https://kuan-liu.github.io/Quarto_website_workshop/
- Credit: This template and tutorial is created based on Tom Mock, Yihui Xie, and Alison Hill's work

Thank you! 🥂

- Free feel to reach me at kuan.liu at utoronto.ca ❤️
- Materials for this workshop
  - online slides
  - Quarto template personal page repo
  - Quarto template personal page