

Building a website with R

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CCCP

WiSo - Universität zu Köln

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- ▶ Welcome to the workshop!
- ▶ The course is about building simple websites with the help of R and GitHub
- ▶ This is **not** a course on web design
 - This means we will use existing website templates
 - We also will not be building specific websites: for books or packages

1. Preparing the required programs (9:00 - 9:50 am)
2. Break I (9:50 - 10:00)
3. Building a website (10:00 - 10:50)
4. Break II (10:50 - 11:10)
5. Building a website (11:10 - 12:00)
6. Break III (12:00 - 12:10)
7. Deploying a website (12:10 - 13:00)



- ▶ Preparing necessary programs and software
- ▶ Website building and editing
- ▶ Deploying a website (aka, making it public! :))



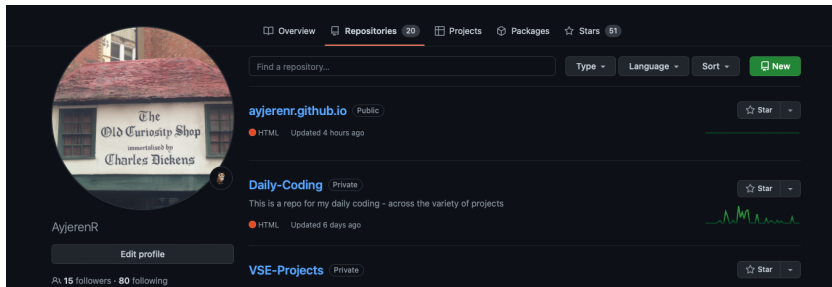
☐ Please Ask Questions!

- ☒ I have R and RStudio installed
- ☒ I have a GitHub Account
- ☐ My GitHub and RStudio are synced
- ☐ I can create a repository (repo)
- ☐ I can push to and pull from a repo

- ▶ GitHub authentication is a way of connecting your RStudio to your GitHub account
- ▶ Download Git from the following [link](#)
- ▶ Follow installation steps

1. Repository is a digital copy of a project
2. Used by developers and increasingly by social scientists
3. Benefits:
 - Saves works and allows to retrace previous copies of code
 - Makes sharing work easier; consequently collaboration made easy
 - From academic perspective, it is a perfect tool for reproducibility

- ▶ Go to main page of your account
- ▶ Go to the Repositories sub-tab
- ▶ Press **New**



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Repository template
Start your repository with a template repository's contents.

[No template](#)

Owner + **Repository name** +

[AyjerenR](#) /

Great repository names are short and memorable. Need inspiration? How about [musical-palm-tree](#)?

Description (optional)

☒ **Public**
Anyone on the internet can see this repository. You choose who can commit.

☐ **Private**
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

☒ **Add a README file**
This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)

[.gitignore template: None](#)

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)

[License: None](#)

ⓘ You are creating a public repository in your personal account.

[Create repository](#)

- ▶ Give a name to the repository
- ▶ You can add a description
- ▶ Choose the Public option for visibility
- ▶ Do not choose README file (for our purposes only!)
- ▶ Press **Create repository**

Create your first repo – III



AyjererR/Example Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Quick setup — if you've done this kind of thing before

[Set up in Desktop](#) or [HTTPS](#) [SSH](#) <https://github.com/AyjererR/Example.git>

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "# Example" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/AyjererR/Example.git
git push -u origin main
```

...or push an existing repository from the command line

```
git remote add origin https://github.com/AyjererR/Example.git
git branch -M main
git push -u origin main
```

...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

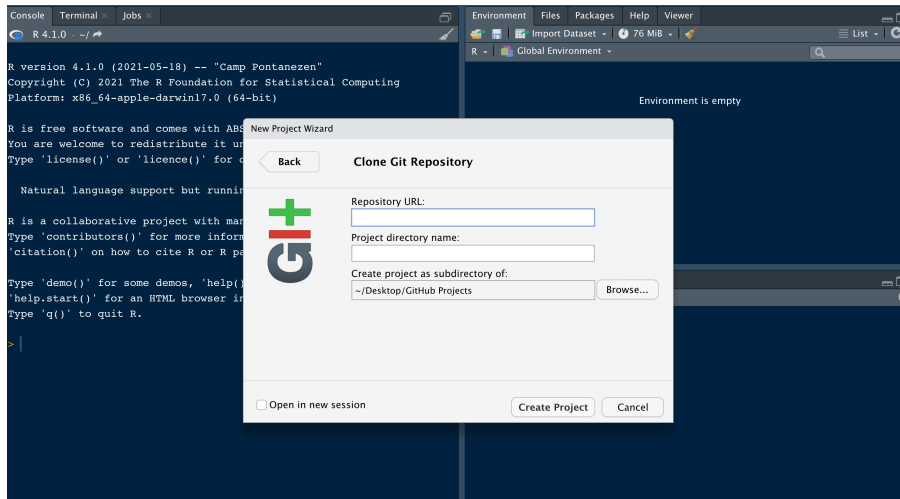
[Import code](#)

ProTip! Use the URL for this page when adding GitHub as a remote.



1. Copy the HTTPS link of your new repository
2. Open RStudio
3. File → New Project → Version Control → Git
4. Paste the HTTPS link into the Repository URL
5. Create the project

Copy the repo to RStudio – IV



The image shows the RStudio interface with the 'New Project Wizard' dialog box open. The dialog box is titled 'New Project Wizard' and has a 'Back' button. The main section is 'Clone Git Repository'. It contains the following fields and options:

- Repository URL:** A text input field.
- Project directory name:** A text input field.
- Create project as subdirectory of:** A dropdown menu showing '~/.Desktop/GitHub Projects' and a 'Browse...' button.
- Open in new session:** An unchecked checkbox.
- Create Project** and **Cancel** buttons at the bottom right.

The background shows the R console with the following text:

```
R version 4.1.0 (2021-05-18) -- "Camp Pontanezen"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-apple-darwin17.0 (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

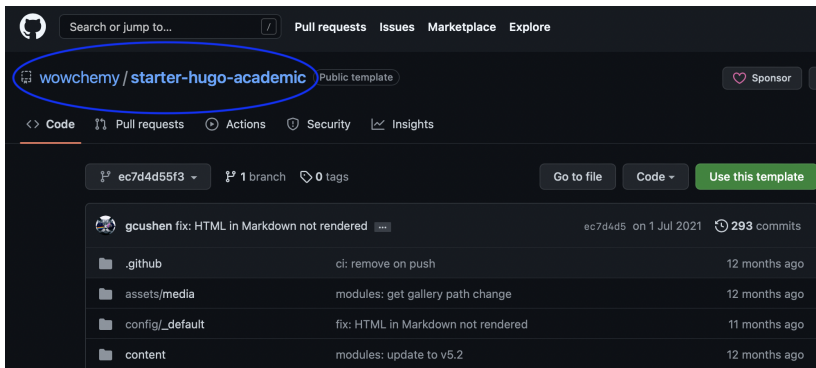
Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> |
```

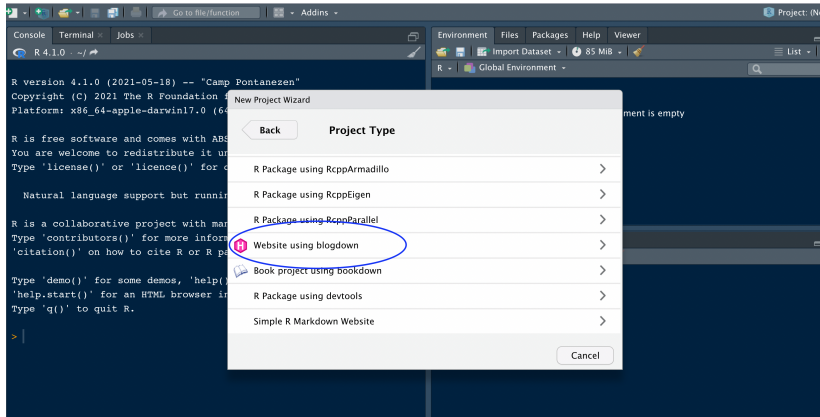
1. Choose the theme
2. Themes can be found via Hugo's official [collection](#) or this GitHub [account](#) that also collects Hugo themes
3. Copy the name of the theme from GitHub

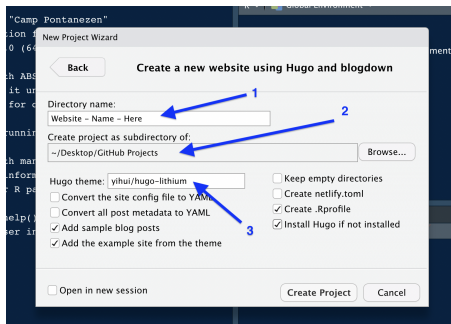


The screenshot shows the GitHub interface for the repository 'wowchemy / starter-hugo-academic'. The repository name is circled in blue. The interface includes a search bar, navigation tabs (Pull requests, Issues, Marketplace, Explore), and a table of recent commits.

Commit Message	Author	Date	Commits
gcushen fix: HTML in Markdown not rendered	gcushen	ec7d4d5 on 1 Jul 2021	293
.github	ci: remove on push	12 months ago	
assets/media	modules: get gallery path change	12 months ago	
config/_default	fix: HTML in Markdown not rendered	11 months ago	
content	modules: update to v5.2	12 months ago	

Next, go to *RStudio* → *New Project* → *New Directory* → *Website using blogdown*





1. Name of the website, recommended:
githubusername.github.io
2. Where on your computer do you wish the project to be
3. Place to input the theme name you chose earlier
4. Make sure that the ticked items perfectly copy the ones in the image
5. Press [Create Project!](#)

Run the following commands and the frame of your website is ready!

```
1 # Libraries, Always"
2 library(blogdown)
3
4 # Run the following codes to build the website
5 blogdown::build_site()
6
7 # You can see the website frame with the following command
8 blogdown::serve_site()
```

1. Content of the website is where one needs to do the most work
2. Each template is individual but there are some common themes:
 - The most important folder is called `content`
 - Almost all sites have a special function for creating a blog post → `blogdown::new_post("Post Title")`
 - Compile all of the information you would like to share on your website in a dropbox folder and make that folder accessible via a link
 - Make changes and view them with the help of R Viewer



We will do now a little a bit of work described above on the theme you choose



There are two ways of deploying a website: GitHub pages or Netlify. We will see examples of both

To share the website on GitHub:

1. Rename the **public** folder into **docs** folder
2. Commit the local repository to GitHub (we will do it together)
3. Publish the website via GitHub Pages

Deploying with Netlify is as easy as dropping the **public** folder into your Netlify account

Thanks!



Universität zu Köln

Thanks for attending!