How to Setup Git for Version Control

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Step 1: Register Github

Go to github.com to register an account on GitHub.

Step 2: Setup Github Authentication in Rstudio

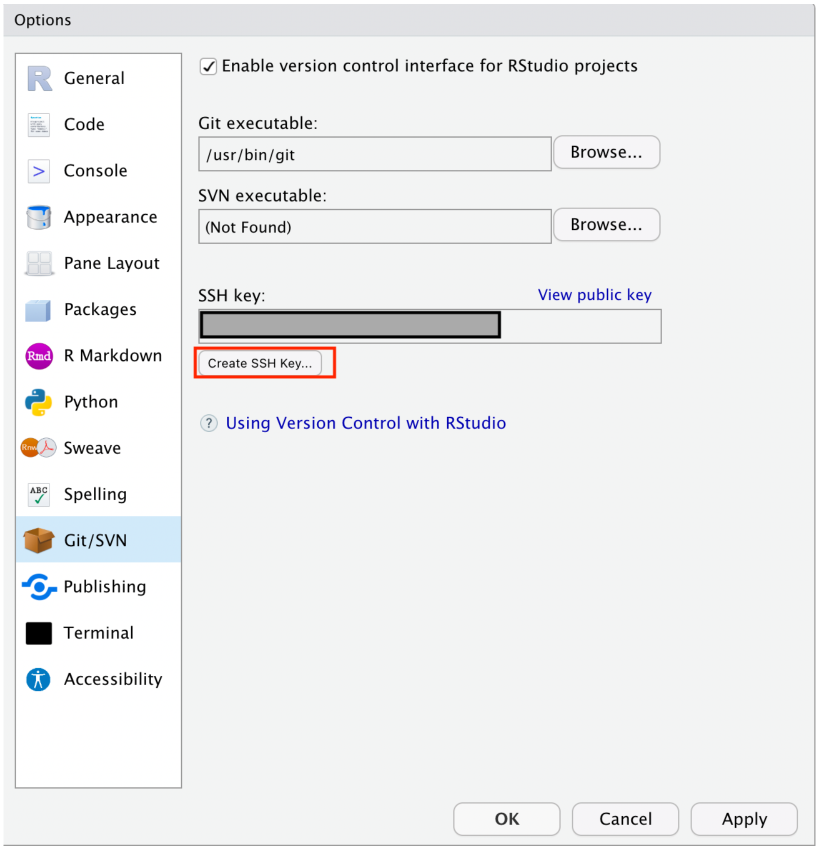
After you have registered on GitHub, the next thing you should do is to setup your local RStudio so that it can retrieve data from and upload data to GitHub.

Tools —> Global Option —> Git/SVN

Step 2a: Make a SSH key

Reader further: What is a SSH key?

Click "Create SSH Key…" Leave all settings as default. You may leave "Passphrase (optional)" and "Confirm" empty.



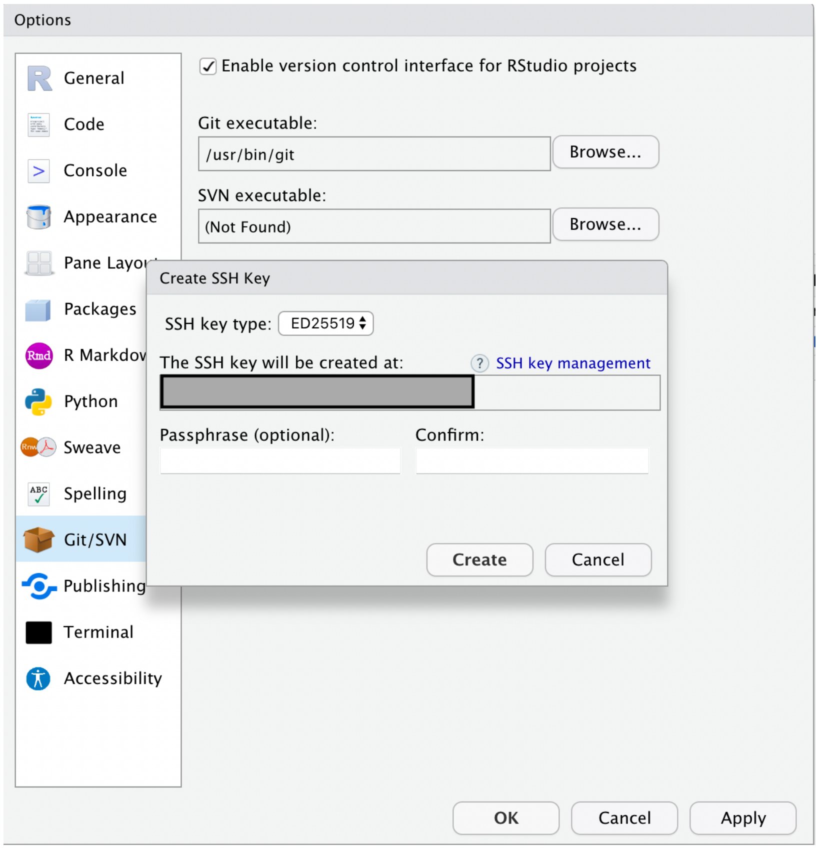
Options

☑ Enable version control interface for RStudio projects

Git executable: /usr/bin/git

SVN executable: (Not Found)

SSH key: [redacted]



Options

☑ Enable version control interface for RStudio projects

Git executable: /usr/bin/git

SVN executable: (Not Found)

Create SSH Key

SSH key type: ED25519

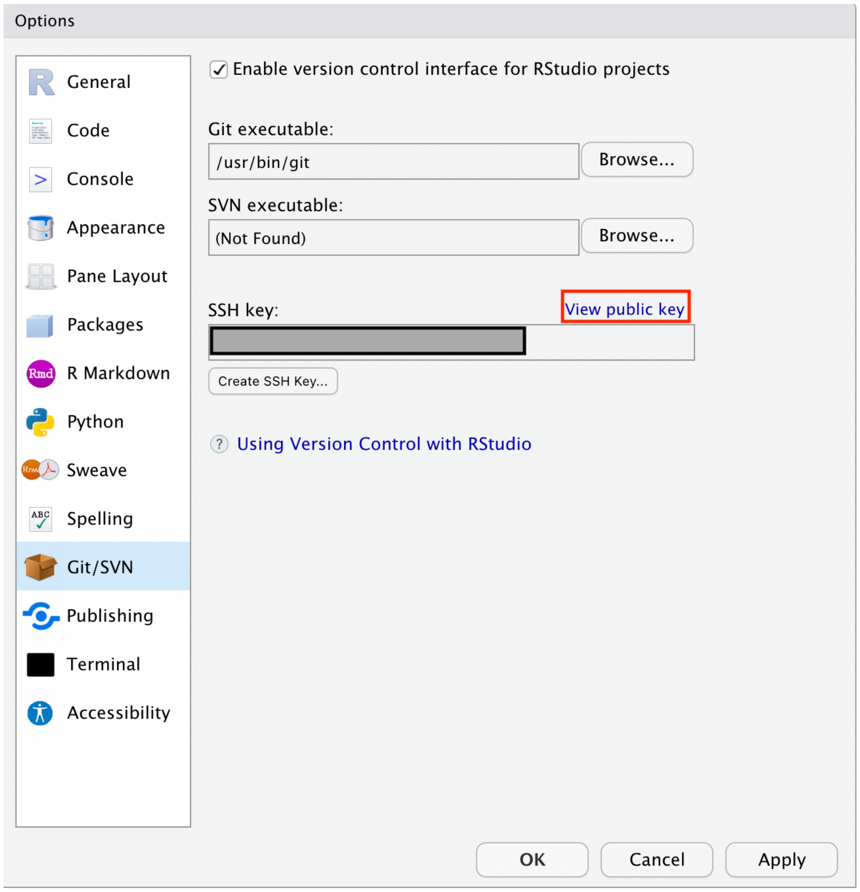
The SSH key will be created at: [redacted]

Passphrase (optional):

Confirm:

Step 2b: Copy information of your SSH key

After you have successfully created your SSH key, click “View public key.” Copy ALL the text in the pop-up window to your clipboard.

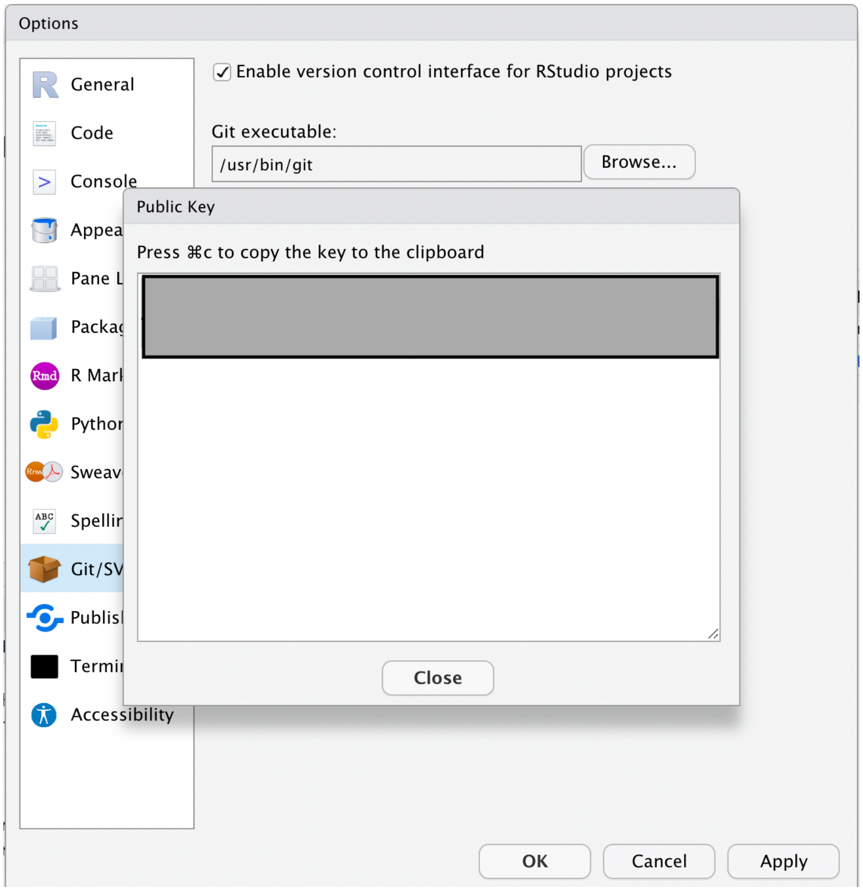


☑ Enable version control interface for RStudio projects

Git executable:
/usr/bin/git

SVN executable:
(Not Found)

SSH key:
[redacted]



☑ Enable version control interface for RStudio projects

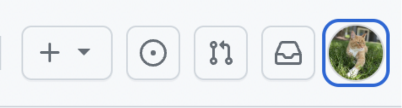
Git executable: /usr/bin/git

Press ⌘c to copy the key to the clipboard

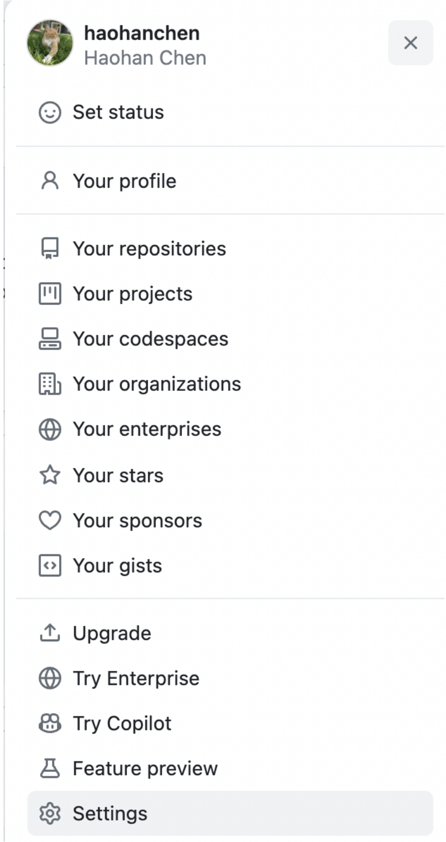
[redacted]

Step 2c: Put information of your (public) SSH key in GitHub

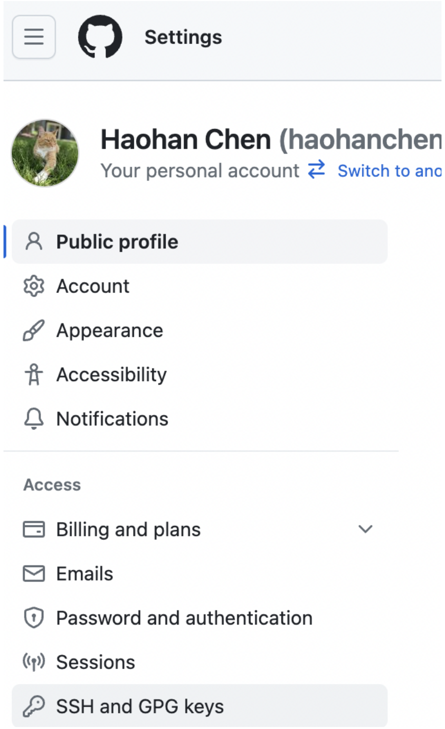
Click on your profile picture at the top right corner.



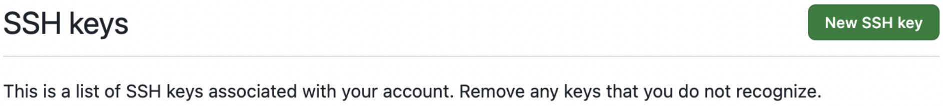
In the pop-up menu, click "Settings"



In the navigation bar located in the column in the left, click ““SSH and GPG keys.”



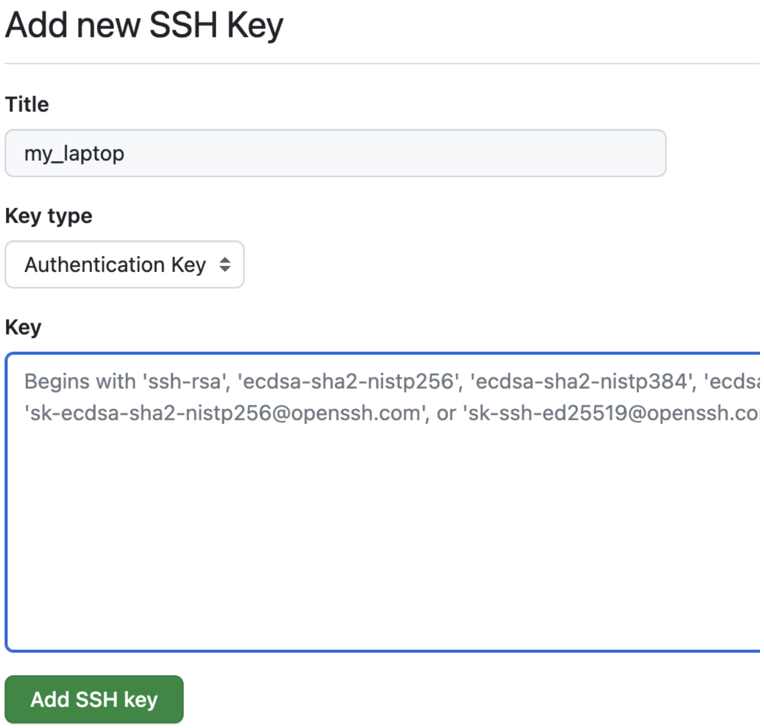
It will open a page that lists all your existing SSH keys. Click the button “New SSH key”



SSH keys

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.

It will open a page titled “Add new SSH Keys.” In the “Title” field, you may input any name of your choice (preferably one that tells you which machine this key is stored). In the “Key” field, input the text you have copied in RStudio in **Step 2**.



Add new SSH Key

Title

my_laptop

Key type

Authentication Key

Key

Begins with 'ssh-rsa', 'ecdsa-sha2-nistp256', 'ecdsa-sha2-nistp384', 'ecdsa
'sk-ecdsa-sha2-nistp256@openssh.com', or 'sk-ssh-ed25519@openssh.co

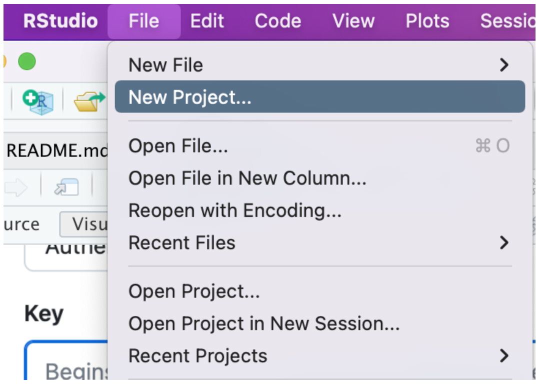
Click the green button “Add SSH key” and GitHub will direct you back to the “SSH Key” page. If your key is added successfully, you should be able to see its title and information in the “Authentication Keys” section. You may delete it when it becomes relevant.

WARNING: For your account’s security, if you discard a device, you would definitely want to delete the SSH key associated with it.

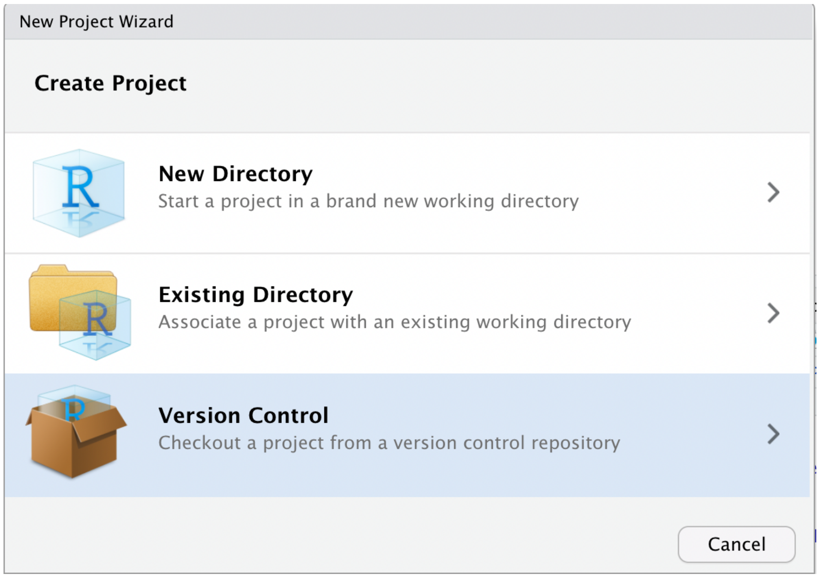
Step 3: Clone the in-class demo repo to your local device

By now, you have set up GitHub and are ready to use it. In this step, you will *clone* a copy of the course’s GitHub Repo to your local device. We are doing this for two purposes. (1) You can stay up-to-date with the our teaching and learning materials. (2) You may follow the same steps to clone any GitHub repo to your local device.

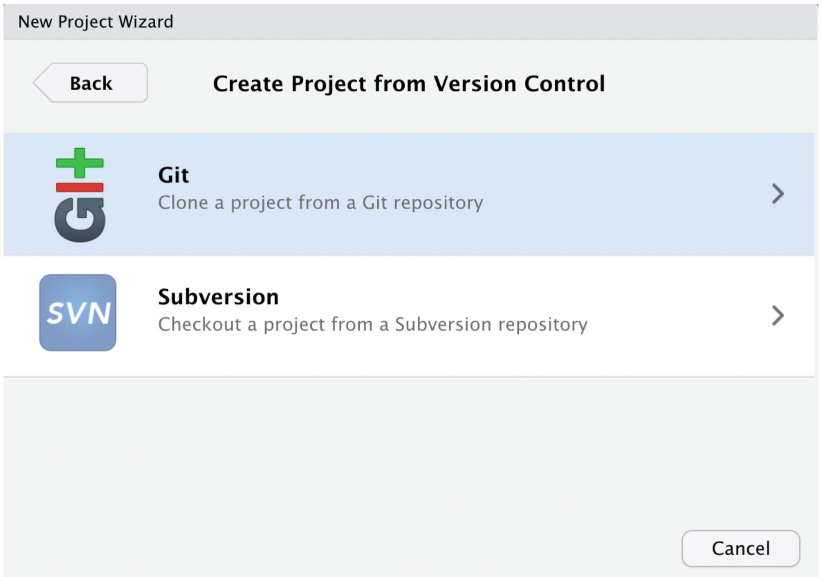
To start with, please go to File –> New Project



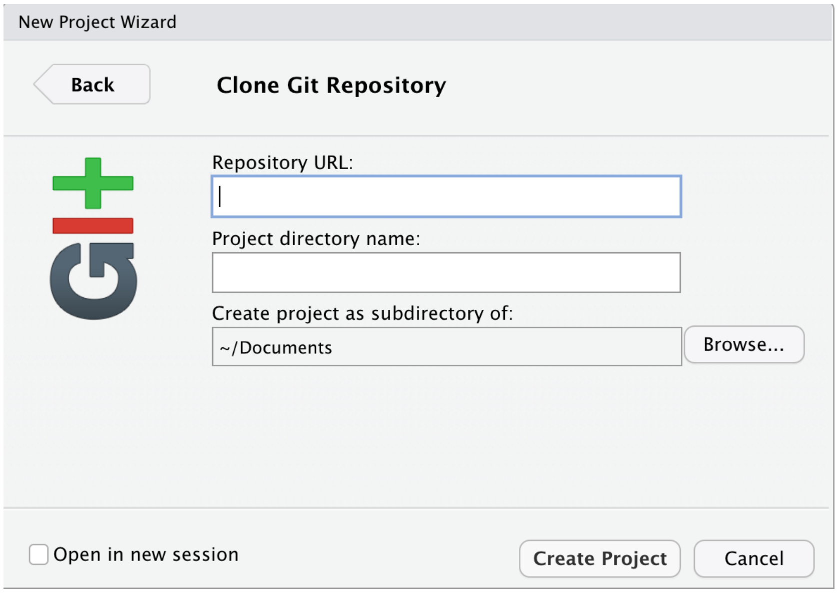
In the pop-up window, choose “Version Control.”


New Project Wizard
Create Project
New Directory
Start a project in a brand new working directory
Existing Directory
Associate a project with an existing working directory
Version Control
Checkout a project from a version control repository
Cancel

Then, choose “Git.”


New Project Wizard
Back
Create Project from Version Control
Git
Clone a project from a Git repository
SVN
Subversion
Checkout a project from a Subversion repository
Cancel

Up next, you will be asked to input (1) the information of the Git repo you would like to clone and (2) the local locations where you want to store the cloned repo.

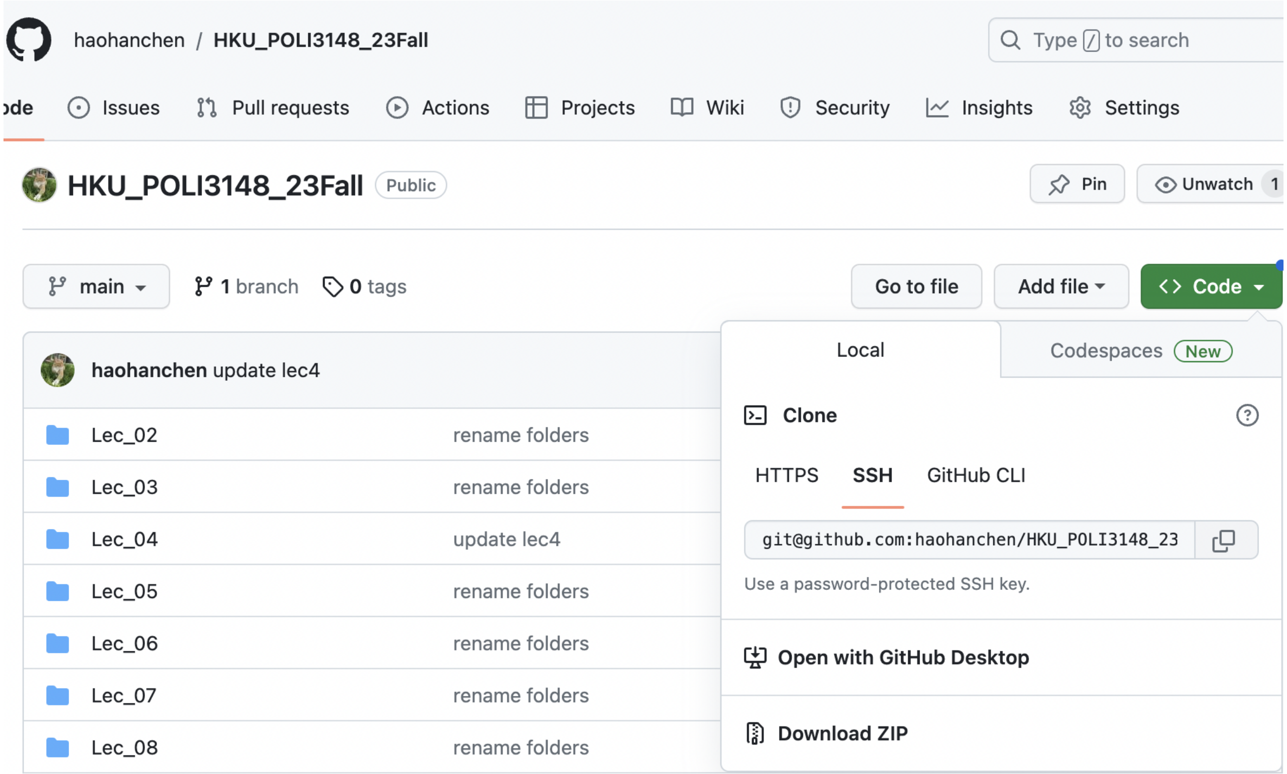


Repository URL:

Project directory name:

Create project as subdirectory of: ~/Documents

You can obtain "Repository URL" from the webpage of your GitHub project. For the course's GitHub repo, go to https://github.com/haohanchen/HKU_POLI3148_23Fall and click the green "Code" button. In the pop-up tab, choose "SSH," then copy the whole address starting with `git@github.com` (using the button on the right).



haohanchen update lec4

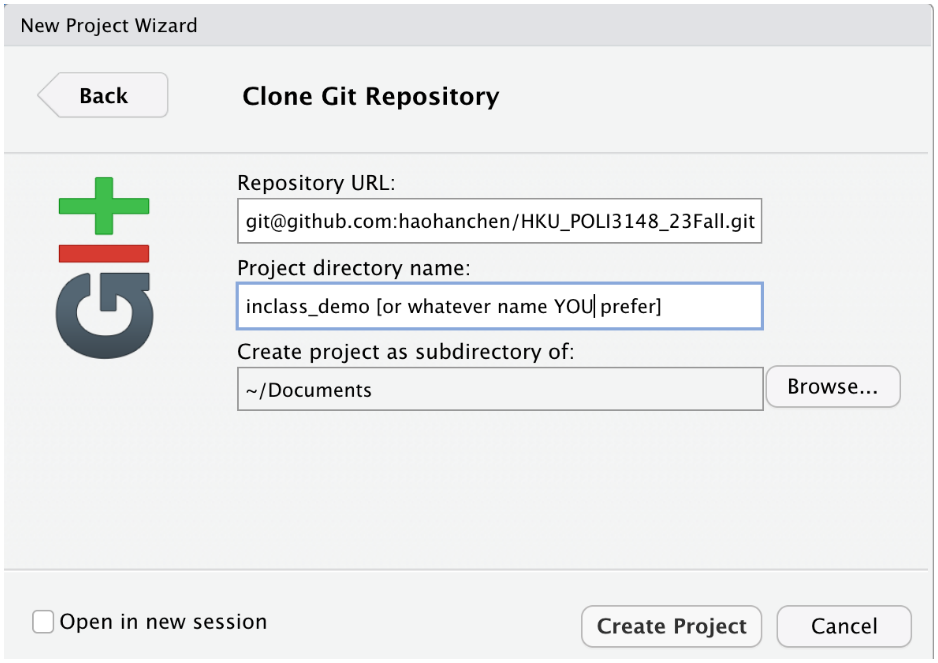
Lec_02	rename folders
Lec_03	rename folders
Lec_04	update lec4
Lec_05	rename folders
Lec_06	rename folders
Lec_07	rename folders
Lec_08	rename folders

```
git@github.com:haohanchen/HKU_POLI3148_23
```

Use a password-protected SSH key.

Now, go back to RStudio. Paste the address in the "Repository URL" field. If the address is correct, the field "Project directory name" will be automatically filled with the name of your GitHub project. I would recommend that you keep the default name (i.e., not making any change to to auto-filled names). But it is fine if you want to change it to a different name for self-reference.

In the field "Create project as subdirectory of," please choose the location where you want the cloned repo to stay. It can be anywhere of your choice.



Repository URL:
git@github.com:haohanchen/HKU_POLI3148_23Fall.git

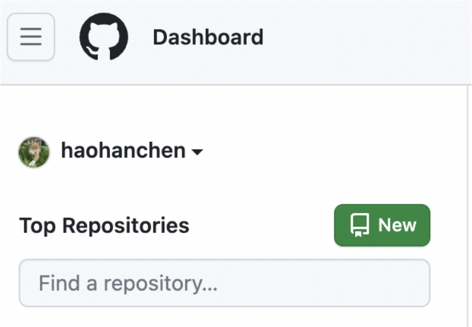
Project directory name:
inclass_demo [or whatever name YOU prefer]

Create project as subdirectory of:
~/Documents

When all the above are done, click "Create Project." If will take Rstudio and Git a while to download the project data. You will know it is successful when the repo is opened in R.

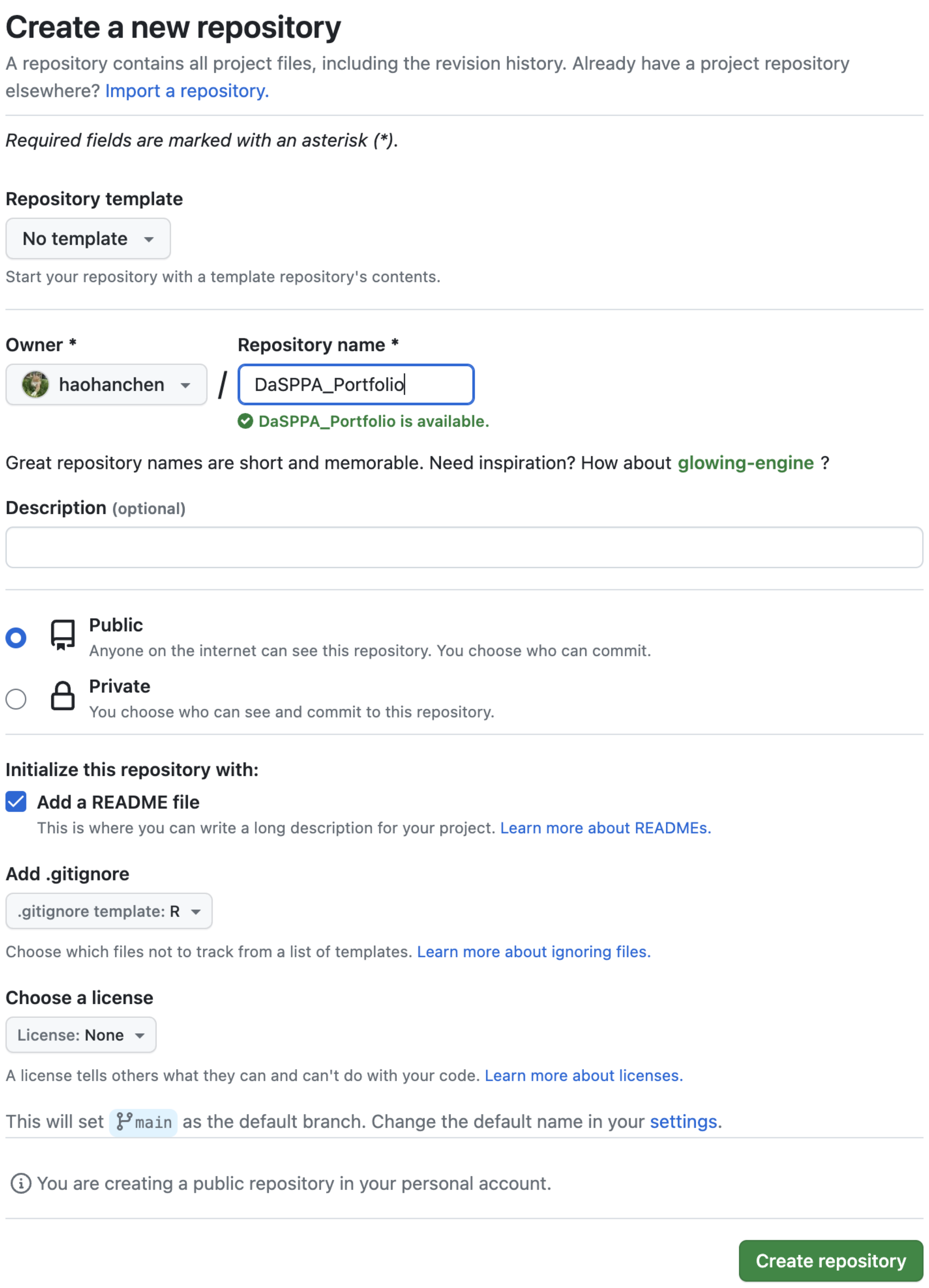
Step 4: Setup your own "DaSPPA Portfolio" on GitHub

Your final step is to set up a directory to hold your DaSPPA portfolio. To create a new repository, click the green "New" button at the top left corner of your GitHub homepage.



It will direct you to a page where you can specify some basic configuration of your GitHub repo. I assume most of the options are self-explanatory. Below are some explanation of a selection of options.

- Ticking "Add a README file" will add a file named `README.md` in the root of your repository. You may use the `README.md` to document important information of your repository.
- "Add `.gitignore`" adds a hidden file at the root of a repository telling Git what files or folders you **DO NOT** wish to track change or push online. These include large data files and temporary files. As our repository will contain mostly R programs, please choose "`R`" in the drop-down menu.



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Required fields are marked with an asterisk (*).

Repository template

No template ▾

Start your repository with a template repository's contents.

Owner * haohanchen ▾ / **Repository name *** DaSPPA_Portfolio

✓ DaSPPA_Portfolio is available.

Great repository names are short and memorable. Need inspiration? How about **glowing-engine** ?

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:

☑ **Add a README file**
This is where you can write a long description for your project. Learn more about READMEs.

Add .gitignore

.gitignore template: R ▾

Choose which files not to track from a list of templates. Learn more about ignoring files.

Choose a license

License: None ▾

A license tells others what they can and can't do with your code. Learn more about licenses.

This will set `main` as the default branch. Change the default name in your settings.

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