Quick Git Tutorial/Resources

Git is the industry standard for version control systems. As a software developer you will use Git and associated software such as GitHub in order to collaborate with other developers on your team.

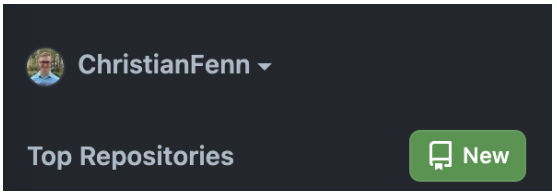
1. In order to install Git on your local computer, follow the installation guide here: https://git-scm.com/book/en/v2/Getting-Started-Installing-Git

2. Create an account at GitHub.com.

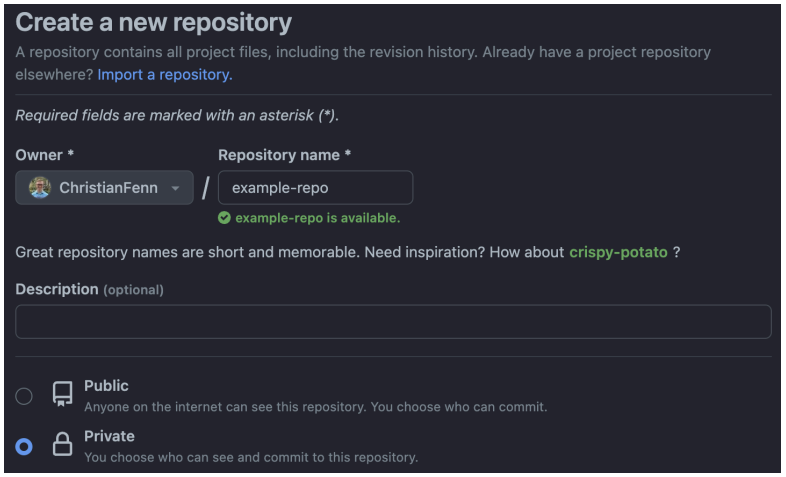
3. Set up authentication between your computer and GitHub. This involves generating a cryptographic key pair (consisting of a public key, and a private key), and uploading the public key to GitHub. See:
    a. Generating a new SSH key and adding it to the ssh-agent
    followed by:
    b. Adding a new SSH key to your GitHub account

Note: this above authentication step can be tricky if you're not used to using the command line or various cryptography topics. Reach out if you need help.

4. Create a new repository on GitHub (press the "New" button):



5. Fill in a name for the repository and set the visibility to private for any assignments/labs:



6. With Git installed on your local computer, run the following commands (from your terminal, within your project directory):

```
git init # initialise a new Git repository
git add . # add all files in the current directory to Git
git commit -m "first commit"
git branch -M main # change default branch name to main
git remote add origin git@github.com:<your user/repo>.git
git push -u origin main
```

7. You should see your code on GitHub now!

Once you've familiarised yourself with the basics of Git and pushing to your master/main branch, you can start using a more professional branching strategy.

Generally within a software project each feature/change you work on will be isolated to a "feature branch", pushed to GitHub, reviewed and then merged to main/master.

```
git checkout -b <new_branch_name> #create and switch to a new branch

# make some code changes

git add . # add files to the staging area
git commit -m "first commit to new_branch_name"
git push origin new_branch_name
```

At this stage you will be able to create a pull request in GitHub. After creating a pull request (PR) you would typically add reviewers to your change.

Getting used to Git takes some time. Let me know if you need any help with it.