Git & GitHub for Digital Humanists

Why are we doing this?

- Employability
  - GitHub is a great place to post your coding projects for potential employers as a portfolio
  - Being familiar with git & GitHub is another skill to add to your resume
- Version Control
  - You can undo mistakes or find past code that’s been committed to GitHub
- Risk Management
  - Keeps a backup of your work online so you’re not stuck if your personal computer crashes or if you don’t have access

One Project, Three Places

git

GitHub

files saved locally

files saved remotely

Git ≠ GitHub

Git

- Tool installed on your computer
- Keeps a history of changes made to your files
- Works without the internet bc it lives only on your laptop (aka is local)

GitHub

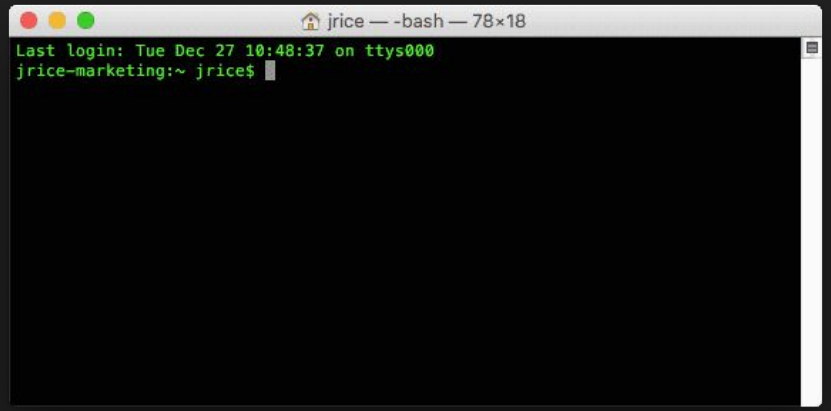
- A website
- Stores git projects online
- Allows others to see your work*

*__Note__: always be careful with what you put on GitHub, especially sensitive information

What to install (if you haven't already)

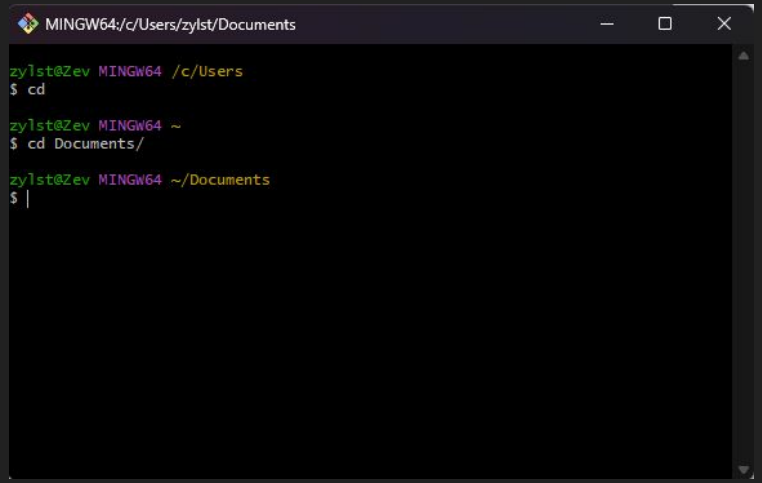
If you have a Mac:

Terminal is already installed, congrats!



If you have a Windows machine:

Install [Git Bash for Windows]



Command Line

Allows you to interact with your computer through a series of text commands

pwd

“print working directory” - tells you where you are located

ls

lists the contents of the current directory

cd <directory name>

changes the directory to the one specified

cd ..

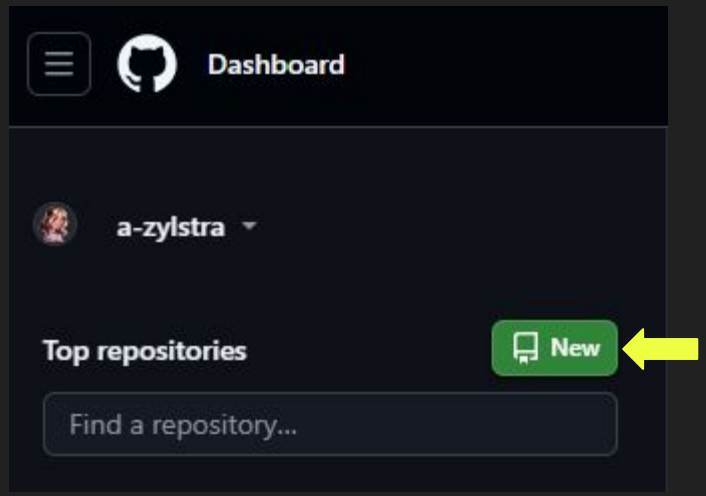
takes you up on level in the directory structure

mkdir <directory name>

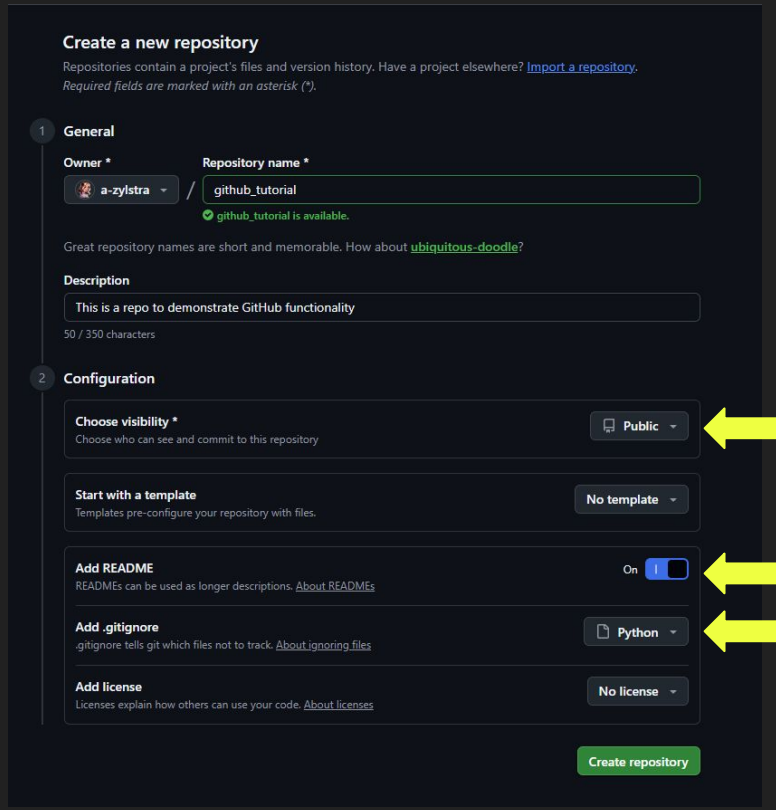
creates a new directory with the specified name

Want a guide on navigating command line? Click here

Creating a GitHub repository



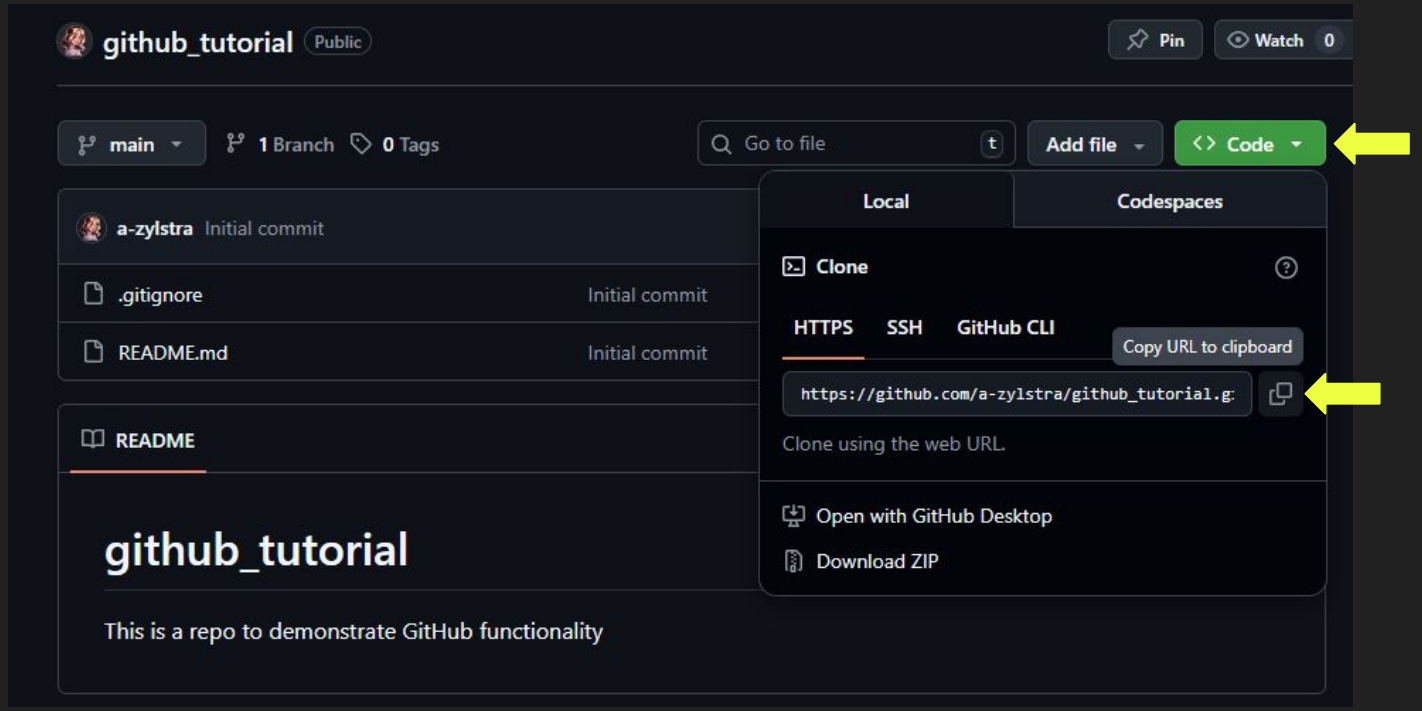
Go to GitHub.com, this should be on the top left of the screen



Personal Preference Settings

Cloning the Repository Locally

Translation: Copy these files into a new folder on your laptop



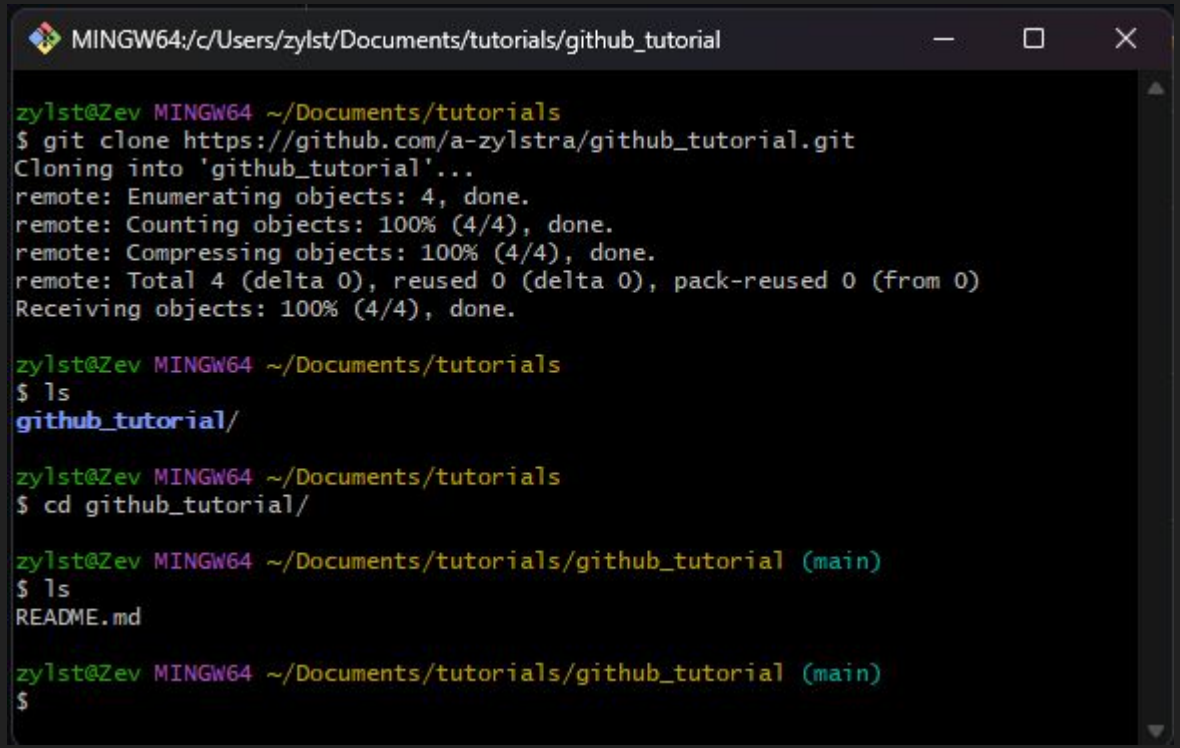
Cloning the Repository Locally

In terminal/git bash navigate to the correct folder then run:

git clone <link>

This is now a folder you can navigate to and interact with on your laptop

Note: you need to use Shift+Insert to paste into the command line, not Ctrl+V

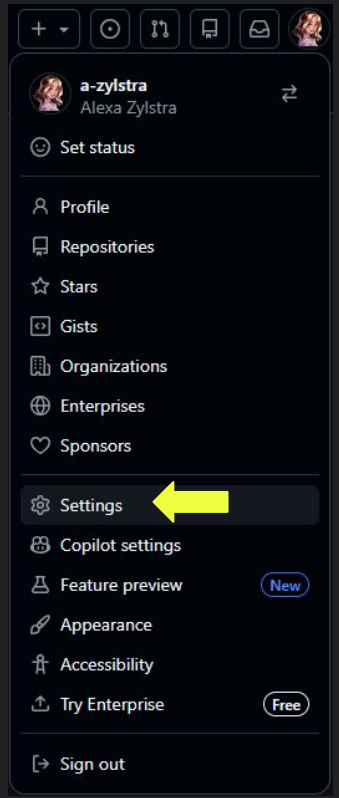


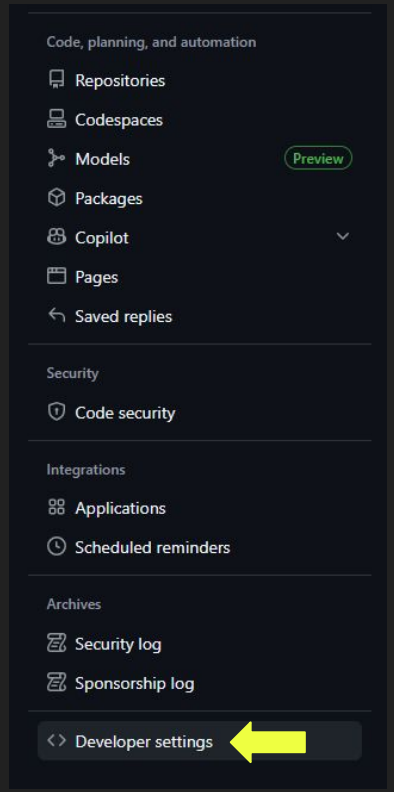
Any issues so far? Anyone prompted to login to GitHub when cloning a repo?

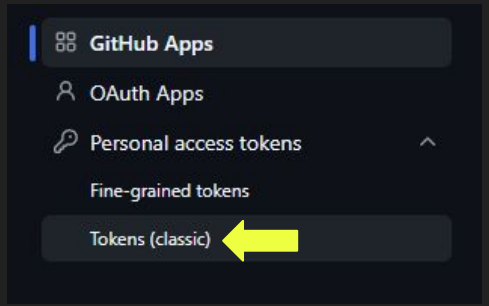
Creating a Personal Access Token

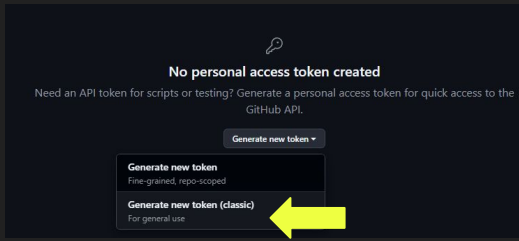
Before we can sync our local and remote repositories, we must create a personal access token on GitHub. You only need to do this process once.

1. Navigate to github.com and make sure that you are logged into your account.
2. Open **Settings** by clicking on your profile picture in the upper right corner.
3. In the menu on the left, scroll to the bottom and choose **Developer Settings**, then choose **Personal access tokens** -> **Tokens (classic)**
4. Choose **Generate new token** -> **Generate new token (classic)**, give it a name, and ensure that you have selected the repo scope.
5. Take the resulting token and save it in a file somewhere (or email to yourself).









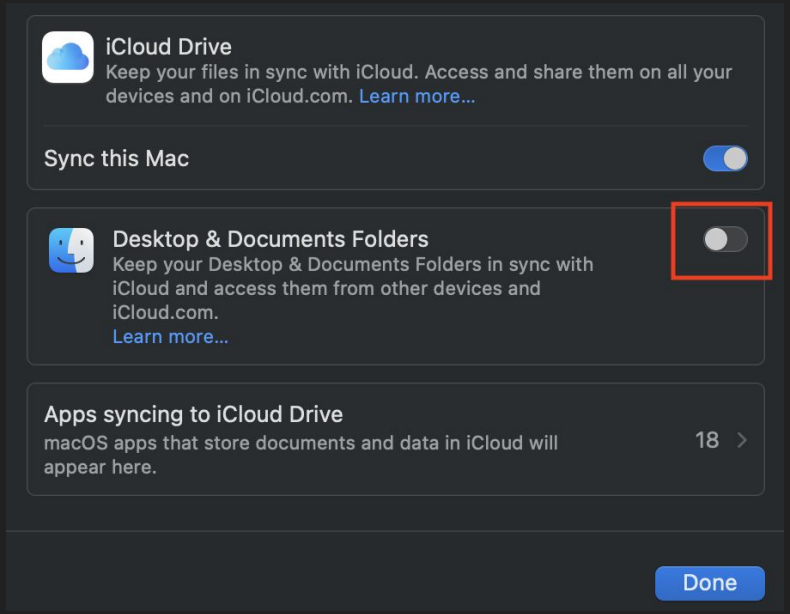
Mac Specific Issues

If you get an error message about missing xcrun, then you need to install xcode by running

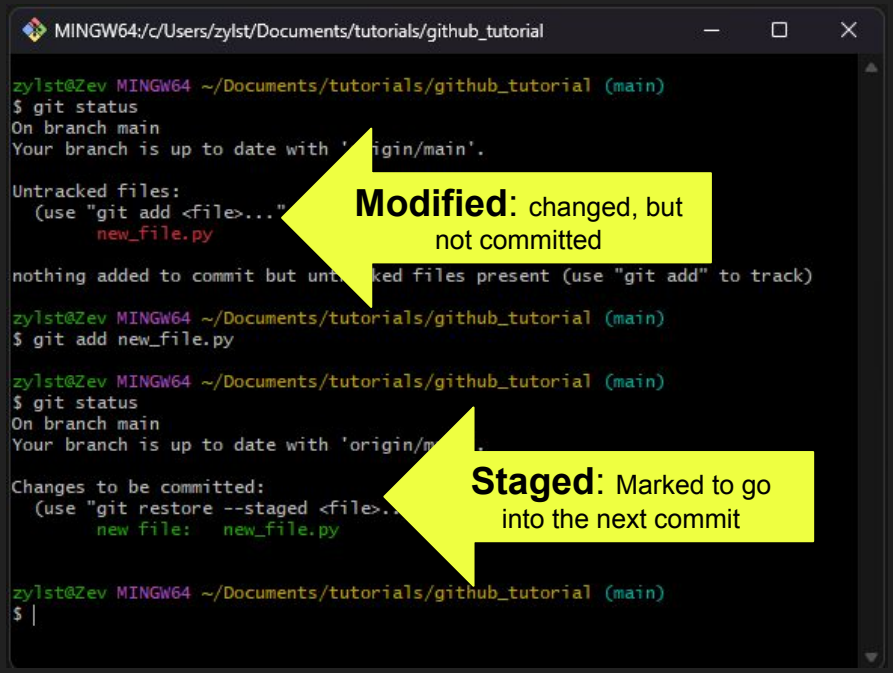
```
xcode-select --install
```

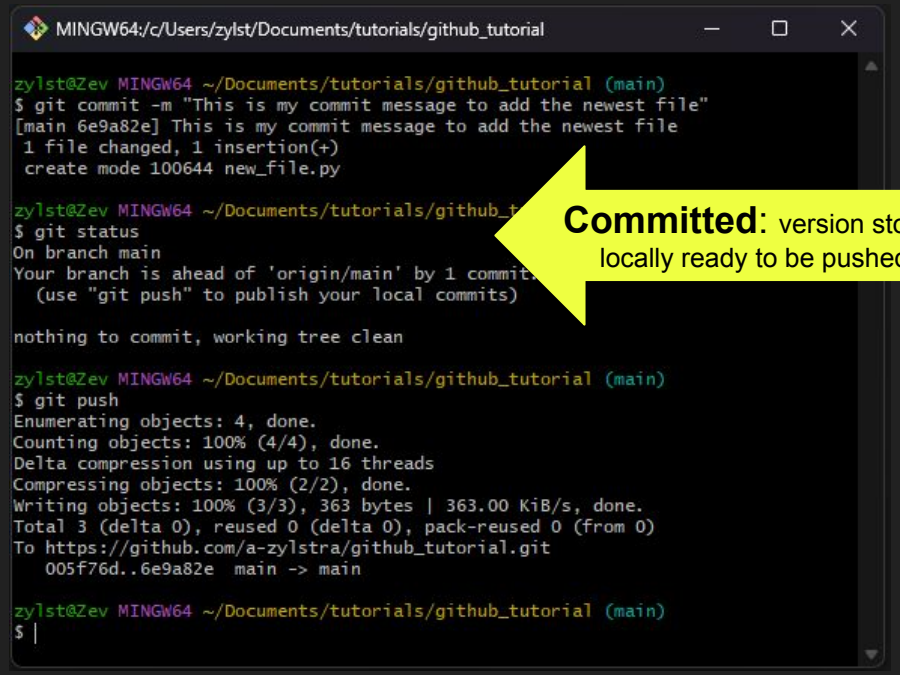
If you have iCloud set to sync your Documents folder, be aware that this can sometimes cause confusion with Git.

To fix, disable iCloud from syncing your Documents folder. This can be done by going to settings > appleID > iCloud.



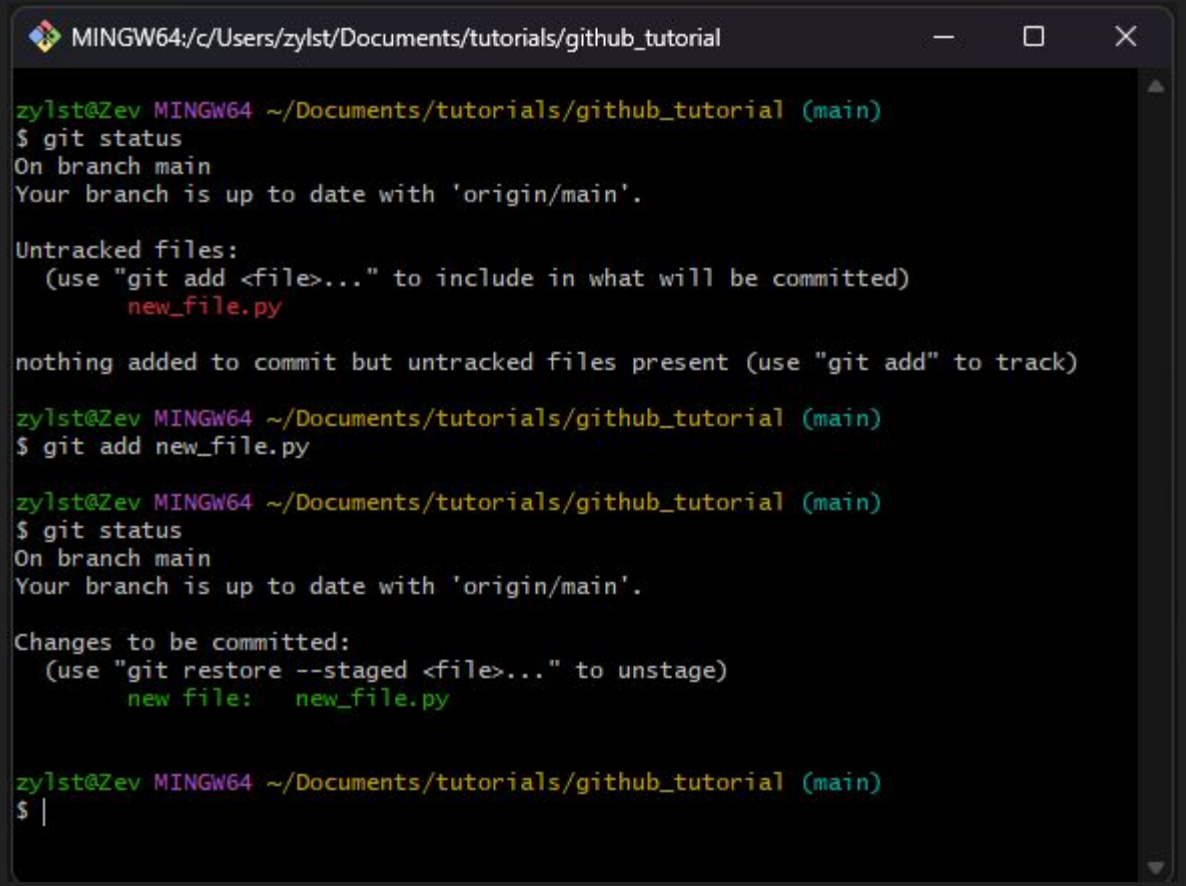
Tracked Files Exist in One of Three States





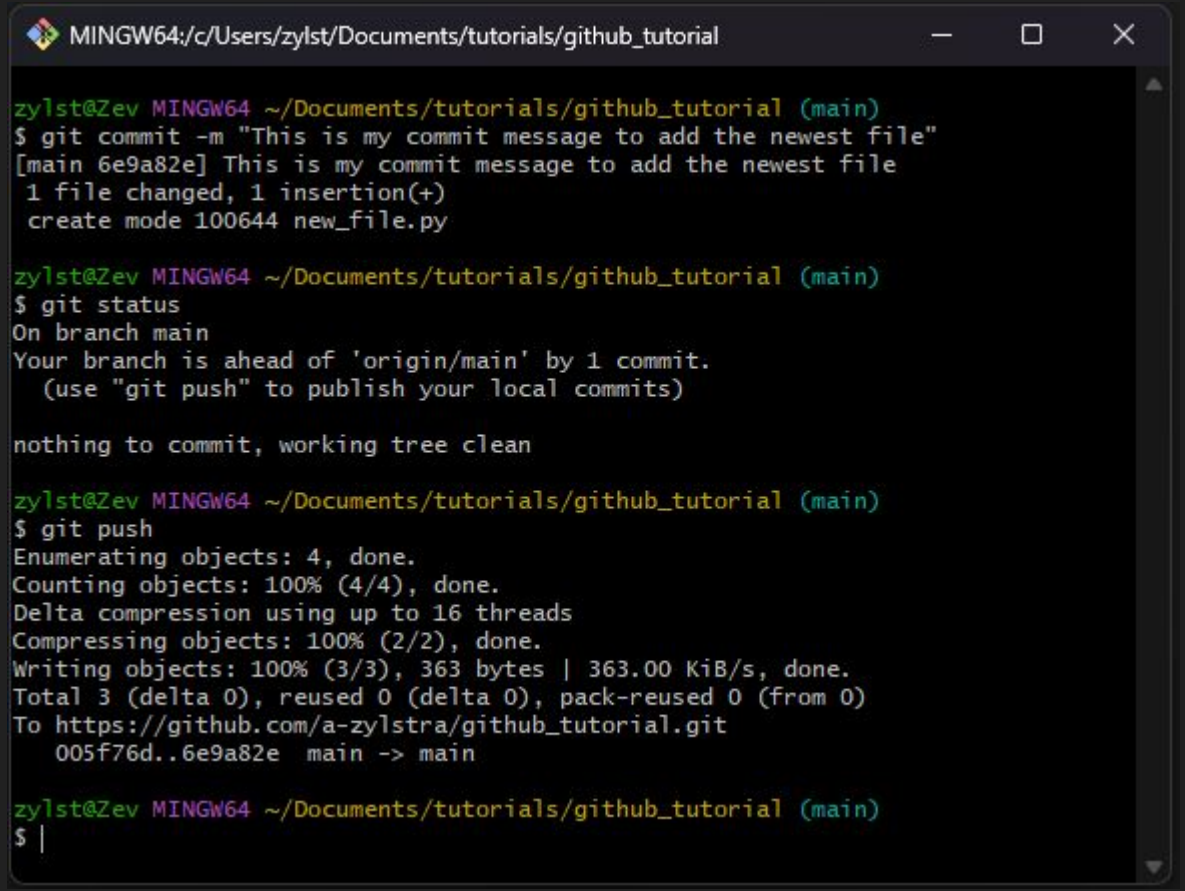
Git Commands

- Navigate to your folder
- Run git status to see what changes have been made
- Run git add <file name> to stage the file
- Staging the file means this file is now ready to be committed



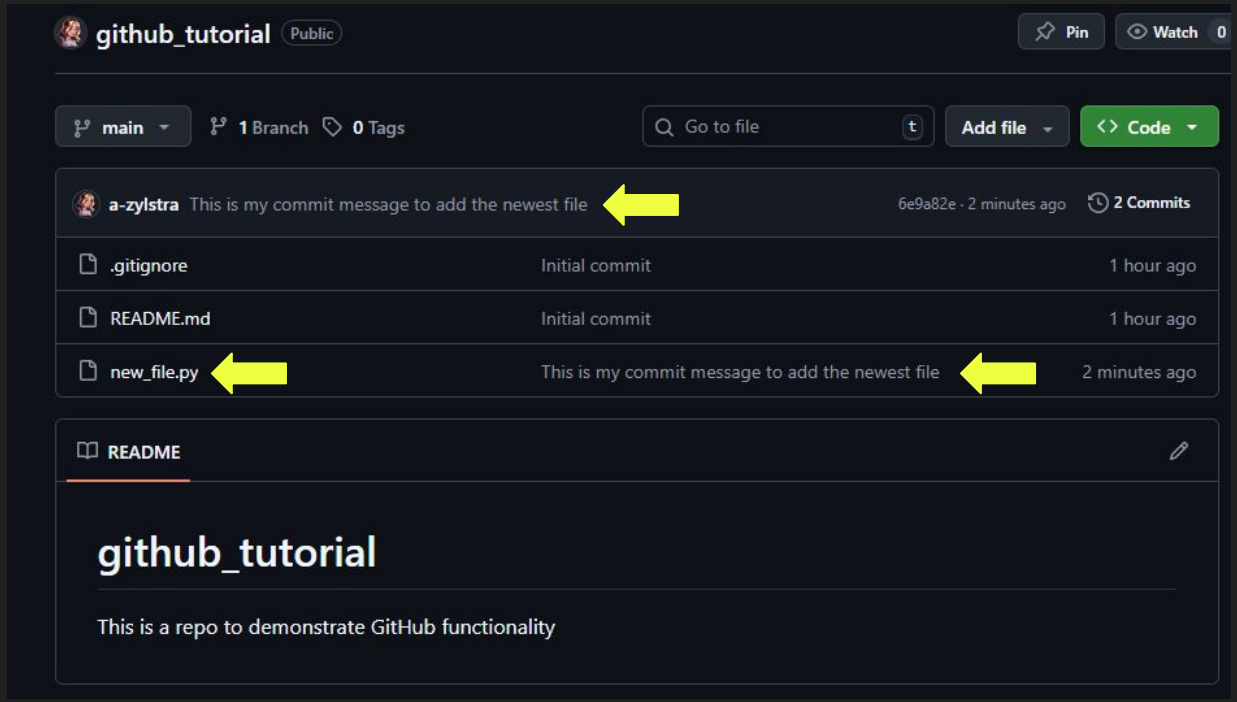
Git Commands

- Run git commit -m “insert a detailed comment” to commit the staged changes
- Running another git status shows that you have made the commit
- Run git push to push your changes to GitHub



Git Commands

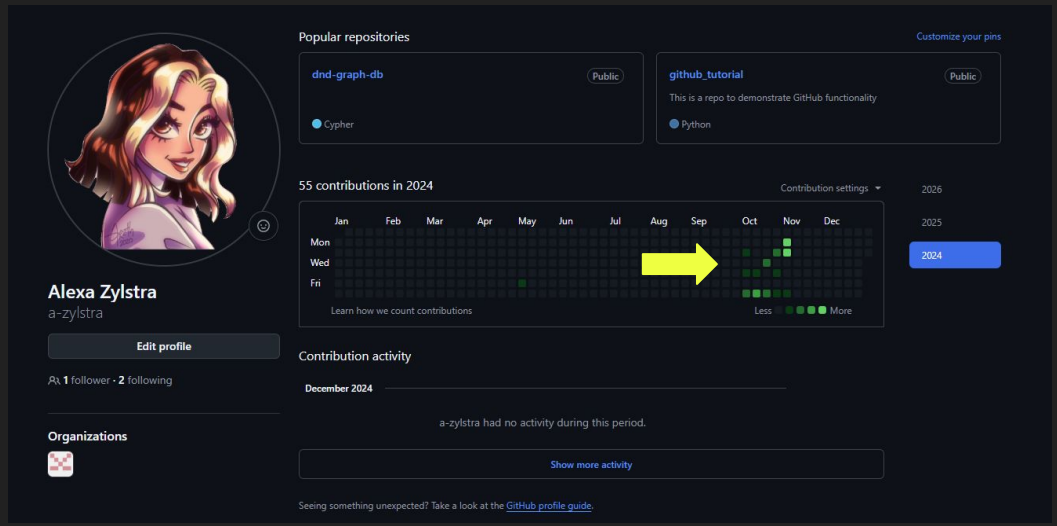
If you navigate to your repository page in GitHub, you can see your new file along with the commit message.



SAVE EARLY SAVE OFTEN

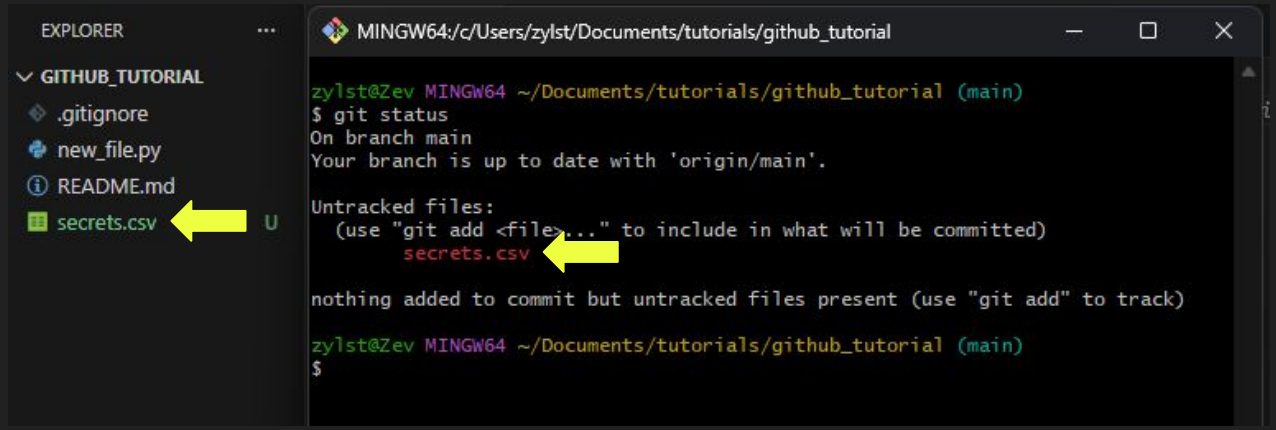
When working in code, you should save every time you solve an issue, find a bug, or even add comments. Why?

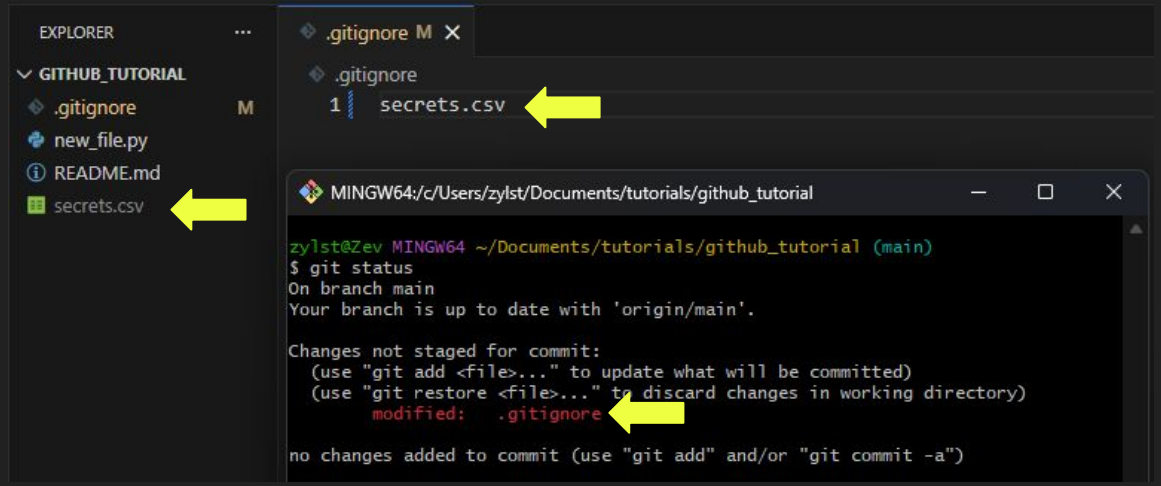
1. Makes you look more active on your GitHub profile, which is something a potential employer looks at
2. Risk management



The boxes are for each day, the more commits pushed that day the brighter the green

Data and Git





Unless you have a very compelling reason to, **do not push your data files to GitHub**! Utilize your .gitignore file

Questions?