Cambridge Summer 2022 Data Science
Feb 26 - Week 2

- Class Schedule
- One-on-Ones
- Terminal
- Git
- Jupyter Notebook

FLATIRON SCHOOL

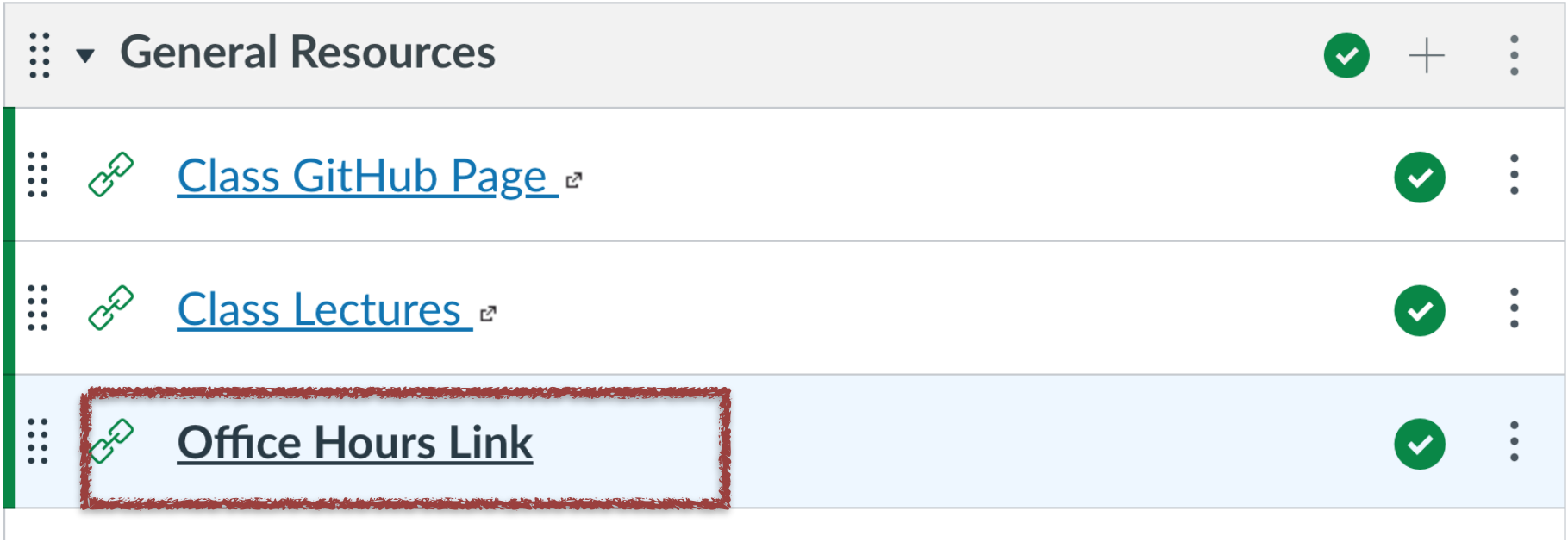
Class-Schedule

- 6:00 - 6:20 Canvas Time
  - Assist with any issues
- 6:20 - 7:25 Lecture
- 7:25 -> Canvas Time

One-on-Ones

- Me-You
- Zoom
- Help/Guidance/Check-in
- Weekly/?

Canvas


General Resources
Class GitHub Page
Class Lectures
Office Hours Link

Gitbash/Terminal

Canvas lessons are all in Gitbash!

Mac/Linux

- Gitbash is in native OS
- All is OK

Gitbash/Terminal

Windows PC

- **Gitbash** is NOT in native OS
  - Does not know where conda is installed
  - DOES know where git is installed

- **Command Prompt** is in native OS
  - Conda and git easily found b/c they are installed by local OS

- **Solutions:**
  1. Use command-line for everything
  2. Fix gitbash
     - Tell it where conda is
  3. Use command line for conda

Gitbash/Mac and Windows PC Commands

Gitbash/ Mac	Windows PC	Description
ls	dir	List contents of a directory
cd	cd	Change working directory
cp	copy	copy a file to a new place and/or name
mv	move	move a file or directory to a new location
pwd	cd	Prints name of working directory; On PC, cd with no input parameters returns working directory
clear	cls	Clear the screen
man --all	help	Prints all commands
mkdir	mkdir	Create a directory
rm	del	Delete one or more files
rmdir	rmdir	Remove a directory.. and all contents
Comprehensive List: https://www.lemoda.net/windows/windows2unix/windows2unix.html		
Note: Most of the commands on the comprehensive list are fairly benign, however some can be destructive. Here are a few to be careful with: rmdir -> remove directory (and maybe contents) rm -> Delete file(s) regedit/edit /etc/* -> DO NOT USE THESE		

Welcome to Git

Intro to Git and Git Fundamentals

FLATIRON SCHOOL

Objectives

/ Fork a repo on GitHub

/ Clone a repo from GitHub

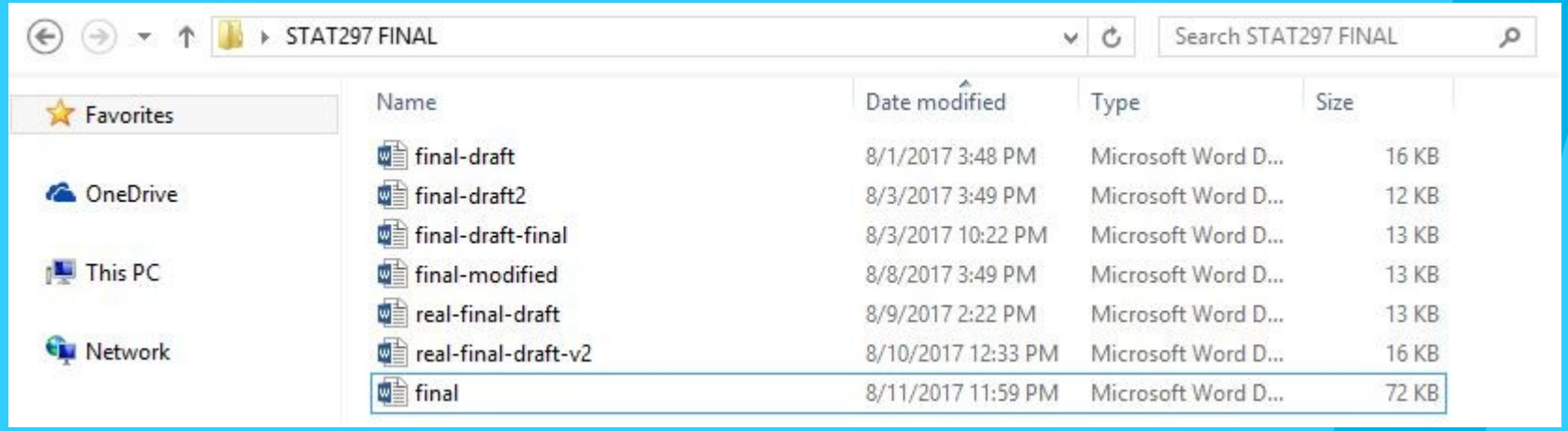
/ Use **git add**

/ Use **git commit** (with meaningful messages)

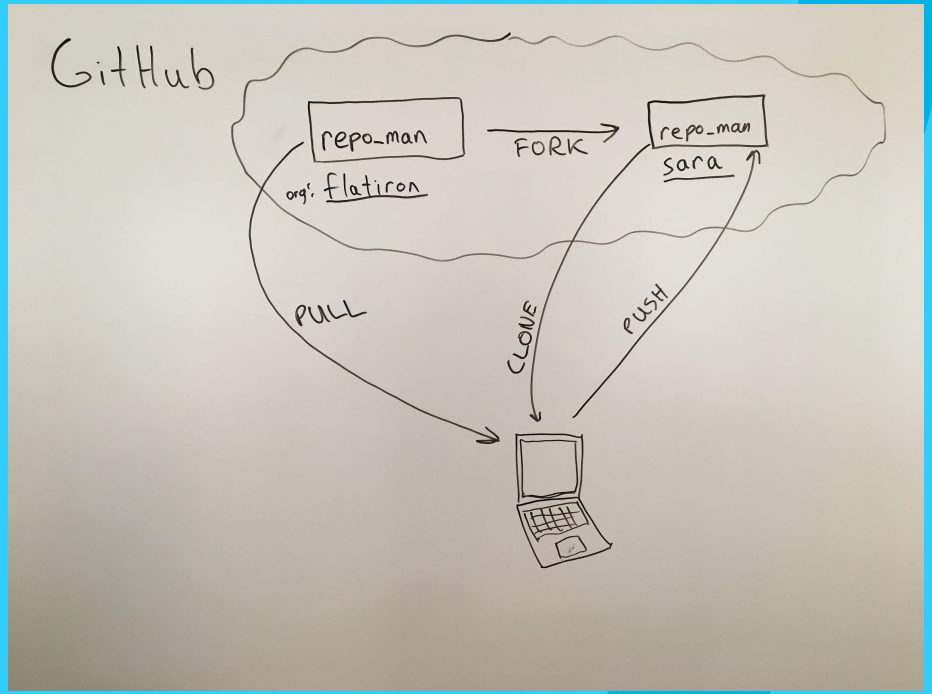
/ Use **git push**

/ Use **git pull** to incorporate remote changes

How many of you have seen a folder like this?



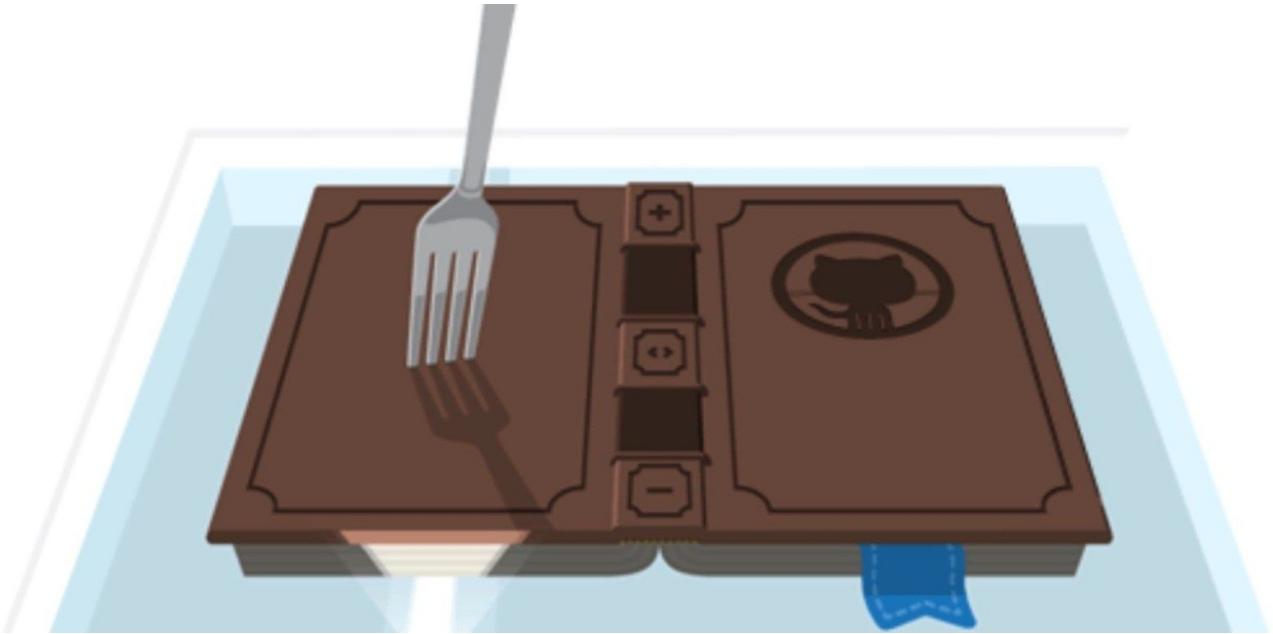
Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later



Fork a repository

Forking a repository allows you to freely experiment with changes without affecting the original project

https://github.com/trending



Clone a repository

You can clone your repository to create a *local* copy on your computer. Then you can set up a sync between the remote version on GitHub and your newly created version on your local machine

```
$ git clone <URL>
```

Make local changes

Modifying files on your fork of the project will not affect the original line of the project!

git status

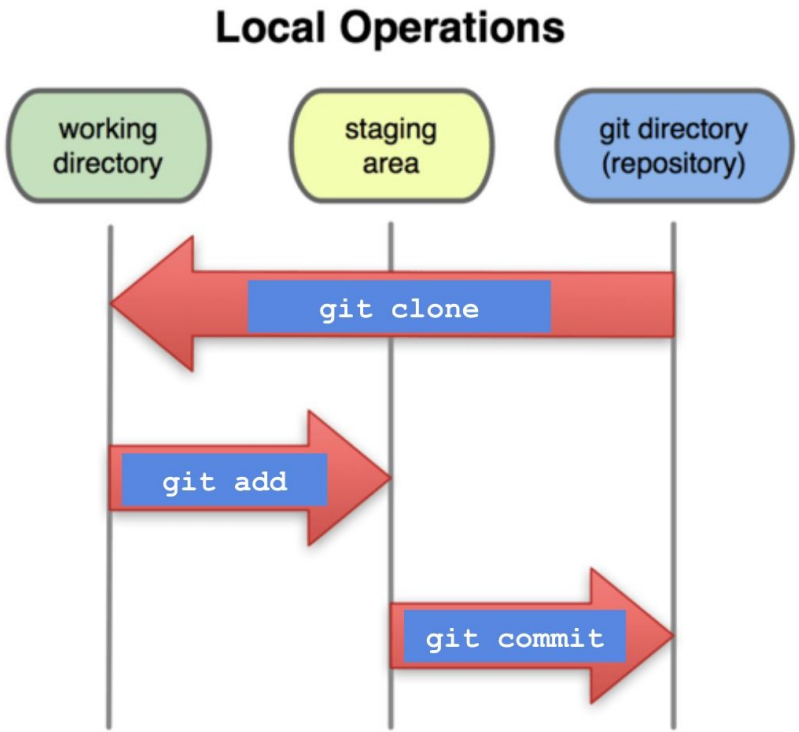
You want to obsessively use it to track your files and make sure things worked

Green represents files that are staged for commit

Red represents unstaged files

git add [FILE]

Tells git to track (pay attention to) [FILE]



git commit -m "put meaningful stuff here or else"

Saves the tracked changes

Commit messages should…:

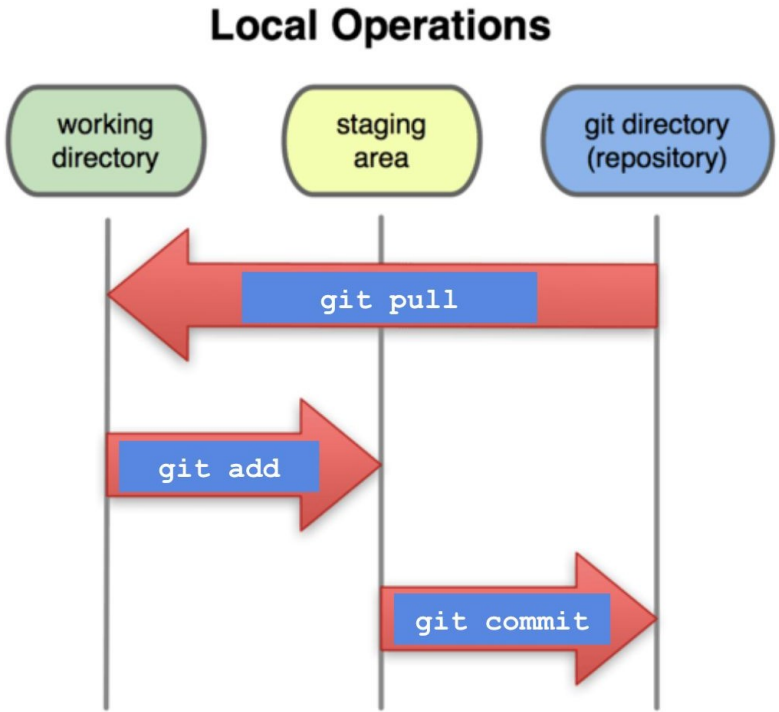
- Start with a verb in the present tense, imperative mood
- First line is the most important line, high-level summary
- If I apply this commit, it will X
  - “Add spell check feature”
  - “Fix super awful bug written by Cristian”
  - “Refactor for loop logic to be more efficient”
  - “Add my personal information”
  - “Update URLS in README.md”

git push [origin main]

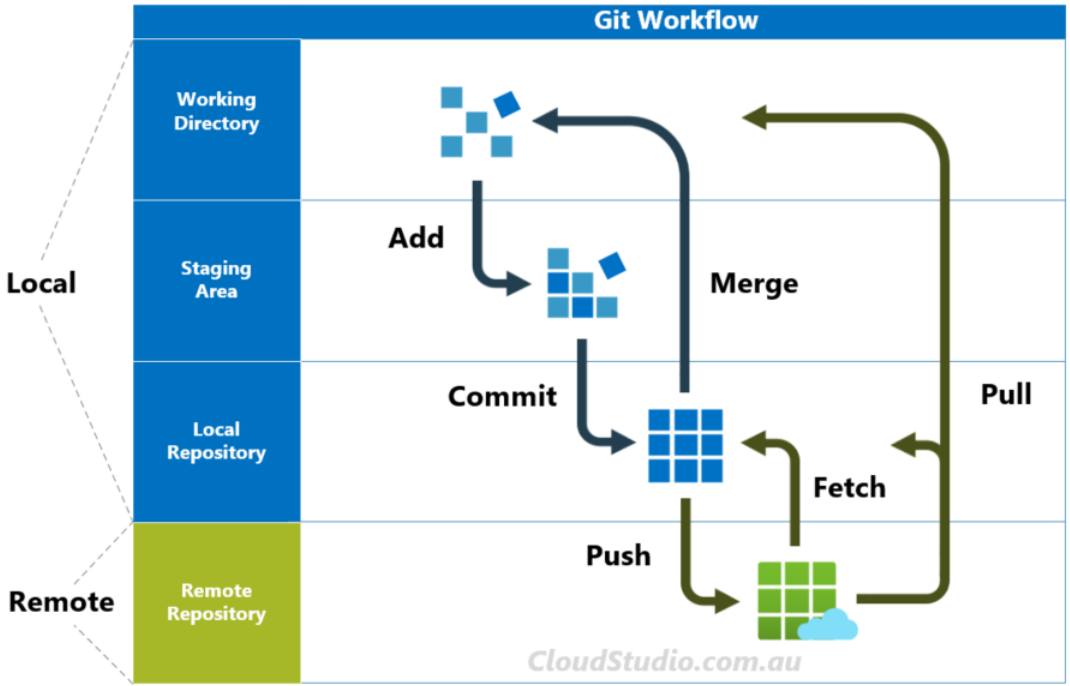
Publishes the changes in your local repository to a remote repository (on GitHub) that you specify

git pull [origin main]

- Grabs online updates and merges them with your local work
- Combination of `git fetch` and `git merge`



git summary


Git Workflow
Working Directory
Staging Area
Local Repository
Remote Repository
Local
Remote
Add
Commit
Push
Merge
Fetch
Pull
CloudStudio.com.au

Git Workflow

- Create repo on Github
- git clone https://github.com/Best/Repo/Ever

1. Do some work locally
2. git add *
3. git commit -m “Added function to read data”
4. git push
5. Rinse and repeat

- Local working directory out of sync
- git pull