STA2201H Methods of Applied Statistics II

Monica Alexander

Introduction to GitHub

Git

- Git is a version control system
- The system tracks changes you make to git repositories ('repos')
- Think of repos as folders
- In order for file versions to be tracked, they need to be **commited** to the git repo
- Think of committing as like saving, but with slightly more steps

GitHub

https://github.com/

- A hosting service for git repos
- You can sign up for free, and host an unlimited number of public or private repos
- You will be submitting lab exercises via GitHub, so you need to set up an account!

The simplest Git/GitHub workflow

- New repo on GitHub
- Clone onto local computer
- Do work on local computer
- Save
- Add and commit to git repo
- Push to GitHub (this means your new work will appear on the GitHub website)

If you are working on your own, on one computer, this is it!

Git/GitHub

- If you are working on a couple of different computers / servers, you may also need to **pull** from GitHub to update any new work done elsewhere
- Git is designed for collaborative work. More complicated workflows have branches, pull requests, merges
- More later (time permitting)

Git

For now, you just need to learn

- clone
- status
- add
- commit
- push
- pull

Steps on GitHub

1. Create an account on GitHub
2. Click the new repository green button
3. Name it something sensible (e.g. STA2201H-applied-stats), select private, select initialize with README, click create
4. Settings –> Collaborators –> Add MJAlexander as a collaborator

Steps to clone on your computer

Disclaimer: I use the terminal and will show you these steps.

You are welcome to use the GitHub Desktop:
https://desktop.github.com/

Steps to clone on your computer

1. open terminal window
2. `cd` into place you want to save the folder
3. `git clone https://github.com/yourusername/yourrepo`

Steps to add work, commit and push

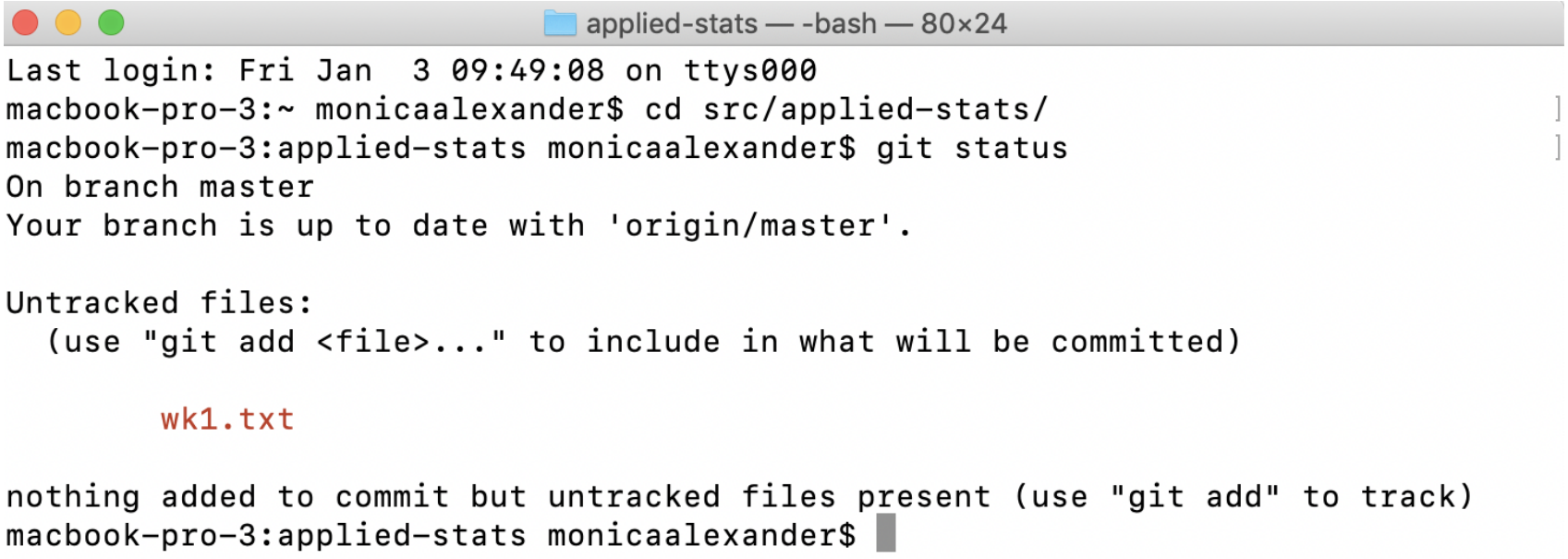
Save some work:

- Create a text file with your name and favorite thing to do in Toronto
- Save it as something like `wk1.txt` to the git repo folder (as you would normally save something)

Steps to add work, commit and push

Commit work

- open terminal window
- cd into git repo
- `git status` should show uncommitted work



Steps to add work, commit and push

- `git add wk1.txt` adds the file to staging area
- do a `git status` again to see what's going on

```
macbook-pro-3:applied-stats monicaalexander$ git add wk1.txt
macbook-pro-3:applied-stats monicaalexander$ git status
On branch master
Your branch is up to date with 'origin/master'.

Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   wk1.txt

macbook-pro-3:applied-stats monicaalexander$
```

Steps to add work, commit and push

- `git commit -m "adding wk1 file"` commits the file (`-m` gives the option of a message)
- do a `git status` again to see what's going on

```
macbook-pro-3:applied-stats monicaalexander$ git commit -m "adding wk1 file"
[master 96c178f] adding wk1 file
 1 file changed, 1 insertion(+)
 create mode 100644 wk1.txt
macbook-pro-3:applied-stats monicaalexander$ git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
macbook-pro-3:applied-stats monicaalexander$
```

Steps to add work, commit and push

Push to Github

- `git push`

```
macbook-pro-3:applied-stats monicaalexander$ git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 335 bytes | 335.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/MJAlexander/applied-stats
   8488fdc..96c178f  master -> master
macbook-pro-3:applied-stats monicaalexander$
```

- Now check your repo on GitHub to check the new work is there

This week's lab assessment

- Make a repo and add me as a collaborator
- Add a text file with your name and what you recommend doing in Toronto
- Push changes to GitHub