Git & GitHub Workshop

with SODA

Welcome!

- In the Zoom chat,

  describe your least favorite Thanksgiving side dish for others to guess

SODA

Sign up to be an auxiliary member!

Meetings

- Every other Tuesday
- 5:30-6:30 pm

This Workshop

By the end of this workshop you will

- Learn what Git and GitHub are, how they are useful, and how they are different.
- Practice Git commands from the command line including fork, clone, status, and commit.
- Remotely collaborate with teammates on a shared .py file.
- Perform a commit to a GitHub repository.
- Familiarize yourself with Git and GitHub so you can save your projects using them.

Git & GitHub

- What are they?
- Why are they useful?
- How are they different?

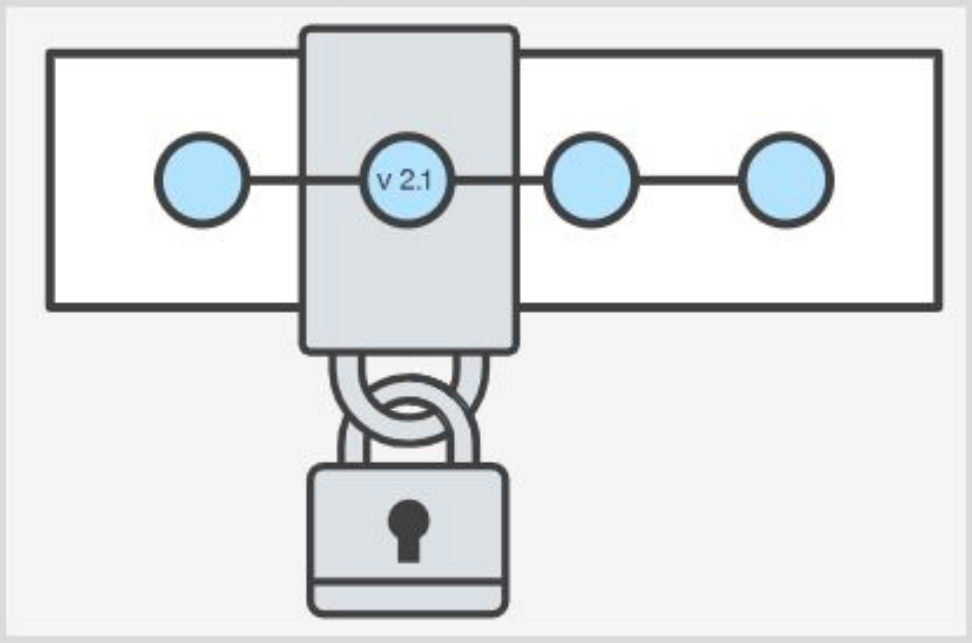
What is Git?

Git is a “**free and open source distributed version control system**”. Version control systems fall under the general umbrella of software configuration management.

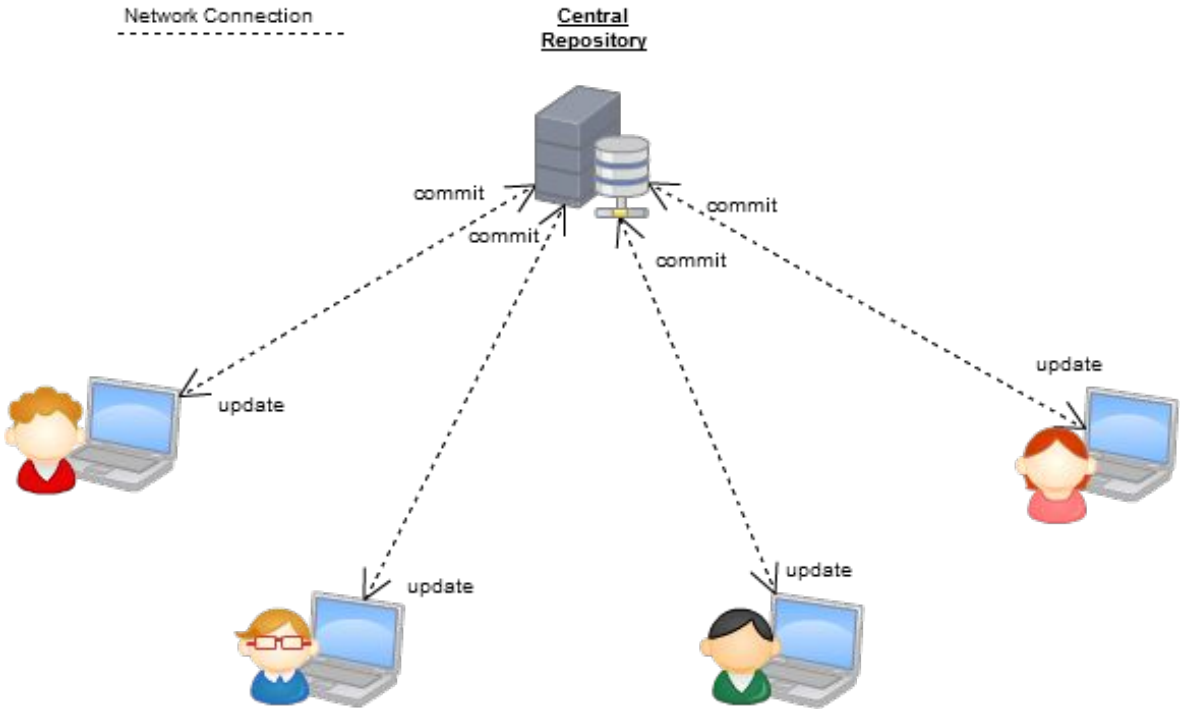
Git was created by Linus Torvalds the creator of the Linux OS.

Image source: https://git-scm.com/

Version Control System (VCS)



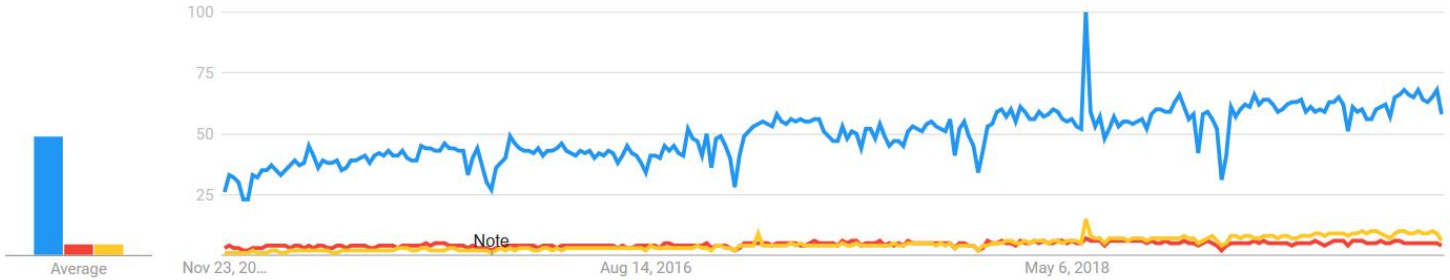
Distributed Version Control System (DVCS)



What is GitHub?

GitHub is a company which **provides hosting for software development version control systems** like Git. Alternatives include GitLab and BitBucket.

GitHub was purchased by Microsoft for $7.5B in 2018.



Google Trends for

GitHub
BitBucket
GitLab

Visualizing the Git Workflow

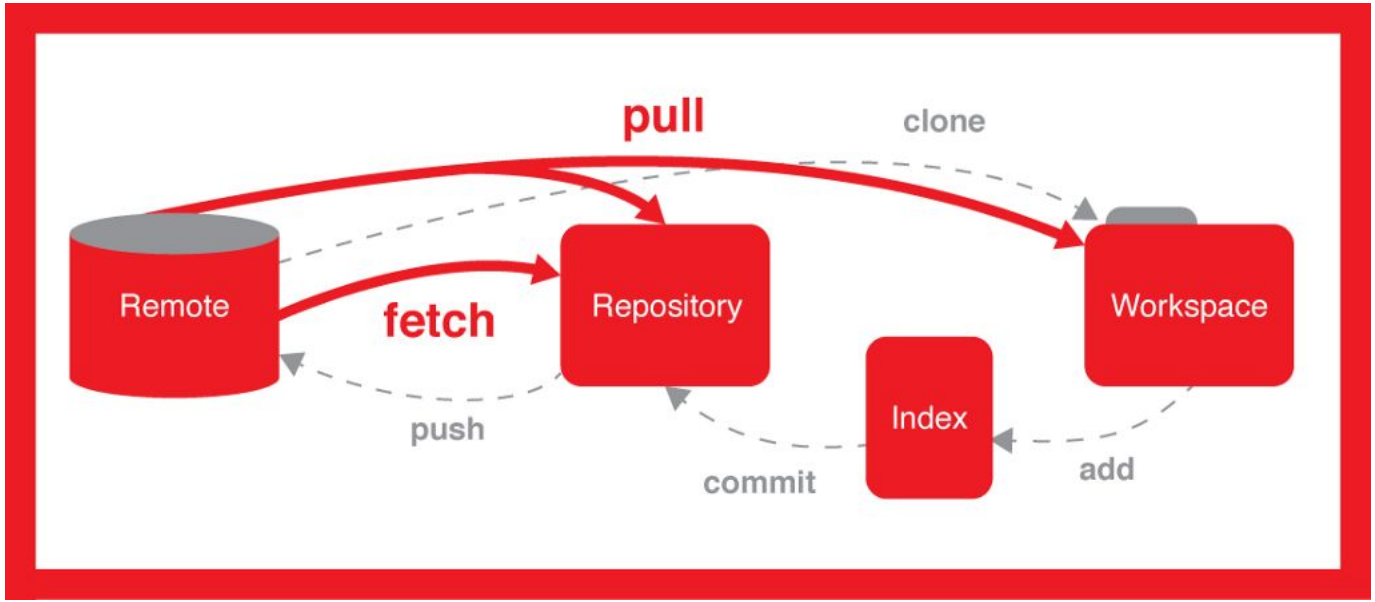
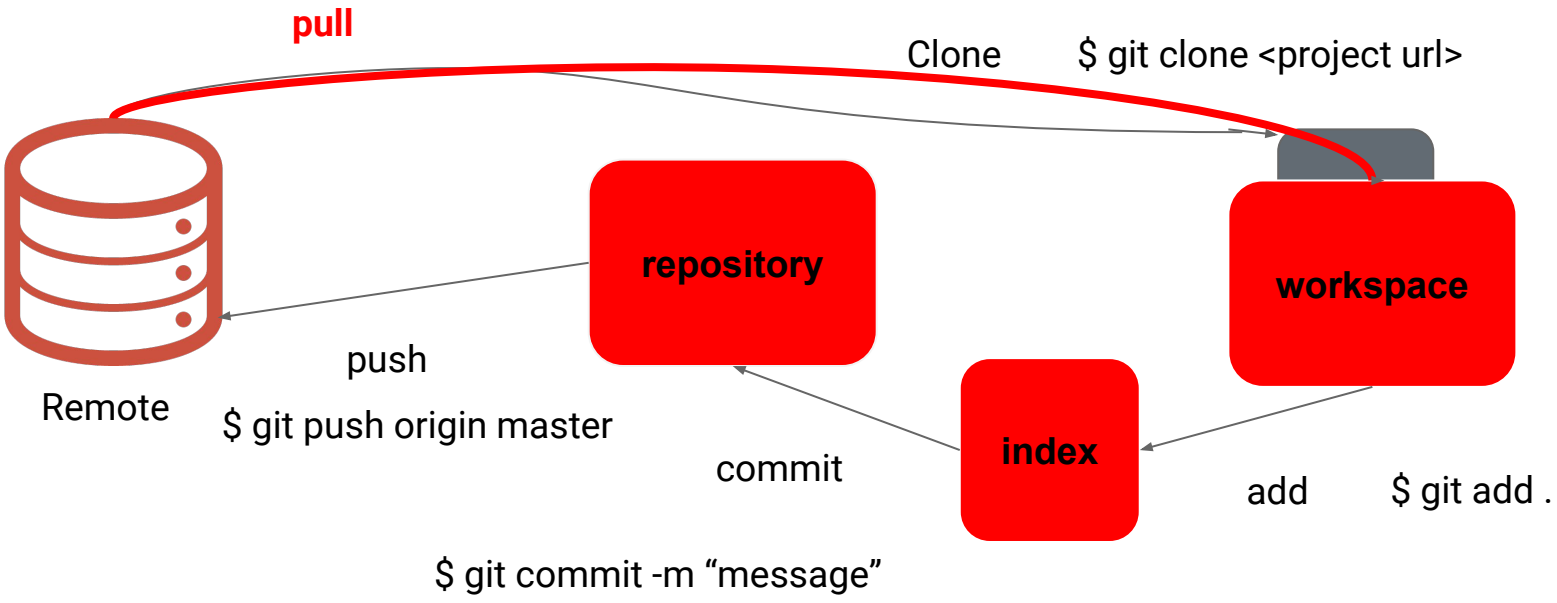


Image source: https://hackernoon.com/hn-images/1*9qX9F9MGsWKfcmgT0R9BPw.png

Visualizing the Git Workflow



Installing Git

If you don’t have git installed or you’re not sure:

https://git-scm.com/book/en/v2/Getting-Started-Installing-Git/

Time to Practice!

Join breakout rooms!
We will leave them open
So you can work with the same people

Meet someone new!

Determine the team leader

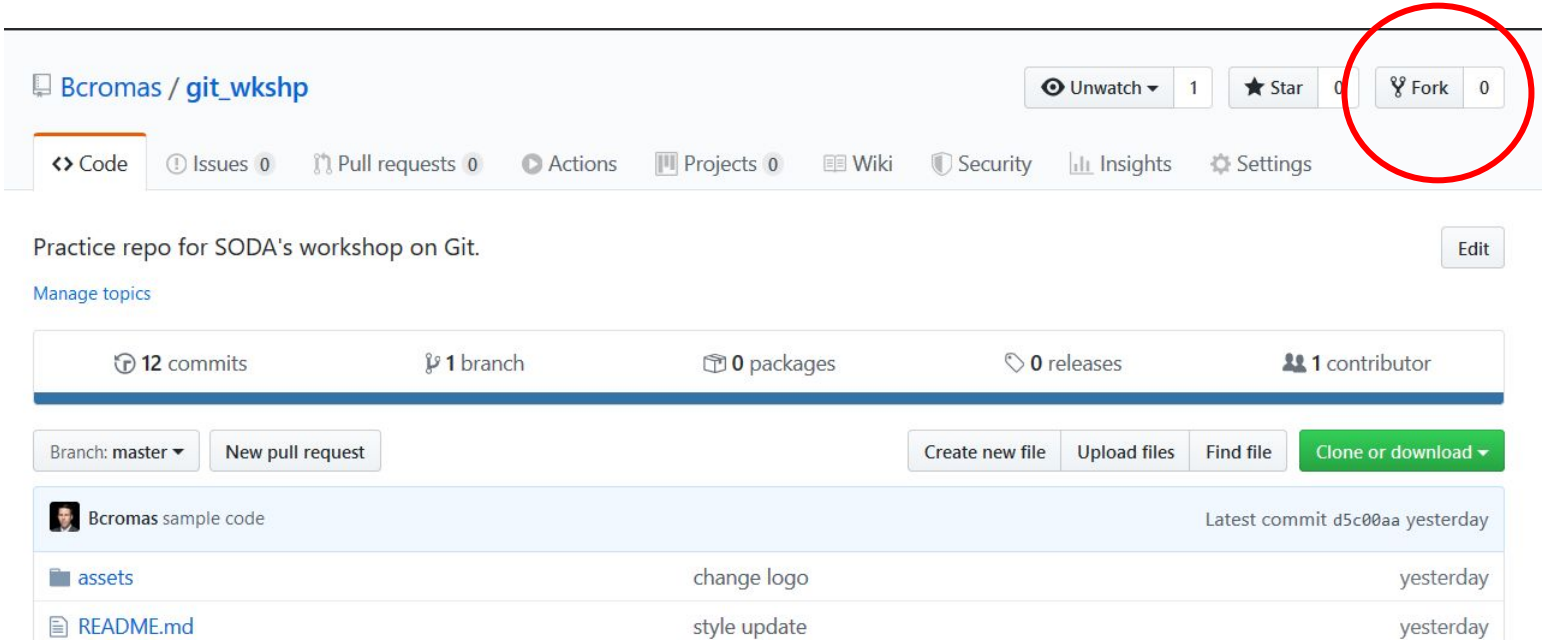
The person with the most vowels in their name.

In case of a tie, it’s the youngest person.

Team leaders navigate to

https://github.com/bhburnstein/git_workshop

Team leaders fork the repository

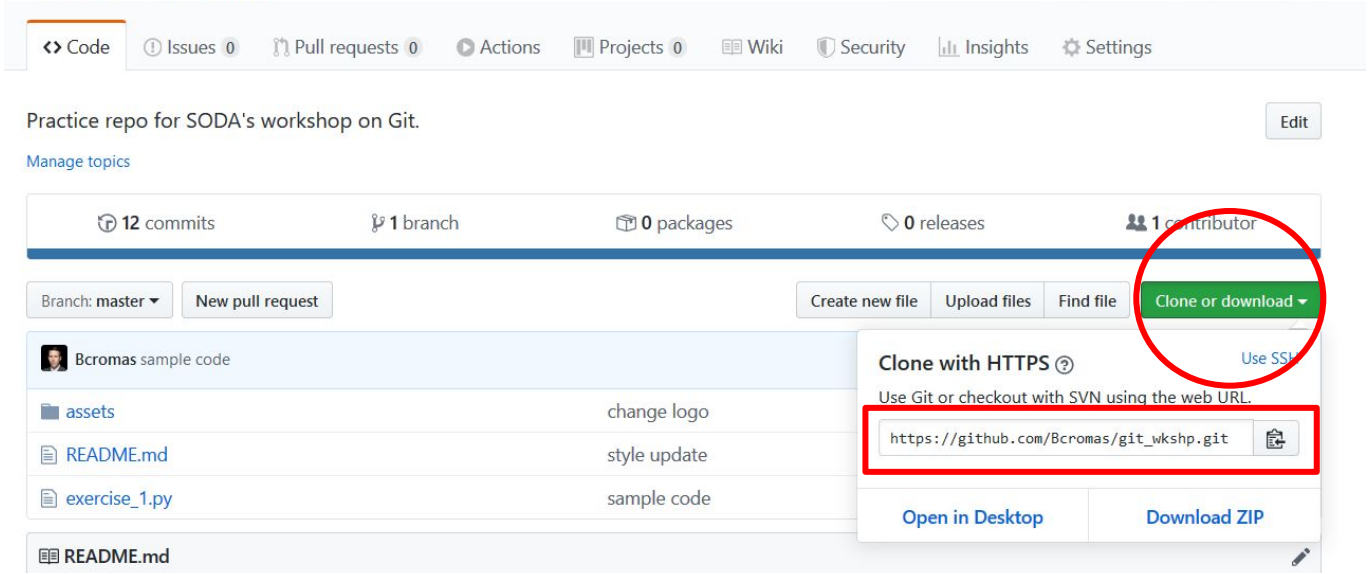


Team leaders add collaborators to the repo

Settings> Manage access> Enter password> Invite Collaborators

Everyone clone the repo

https://github.com/bhburnstein/git_workshop



Click

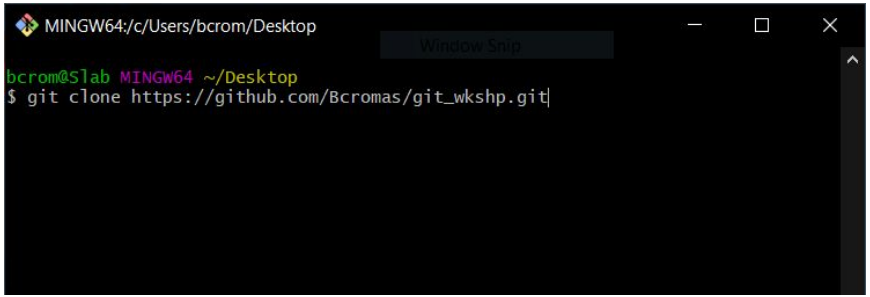
Copy

Everyone open Git Bash

1. **Navigate to a desired directory using ‘cd’**

   Desktop is a fine choice.

2. **Enter ‘git clone <paste url here>’**



Everyone open exercise_1.py

1. Navigate to git_wkshp/
2. Open exercise_1.py in your IDE/text editor
3. Run exercise_1.py

Team leaders edit exercise_1.py

1. **Edit the file so**
   MEMBER_1 = <your name>
   MEMBER_1_HOME = <your home>
2. **Save the file**
3. **In Git Bash run ‘git status’**

Team leaders commit changes

In Git Bash run

1. ‘git add exercise_1.py’
2. ‘git status’
3. ‘git commit -m “<description of change>” ’
4. ‘git status’
5. ‘git push origin master’

Next person's turn

The person who traveled the furthest to attend UMSI goes next.

In case of a tie, it's the shortest person.

Next person pulls & commits changes

1. In Git Bash run ‘git pull origin master’
2. Open exercise_1.py in your IDE/text editor

   Note the edits from your team leader.
3. Edit the file so

   MEMBER_2 = <your name>

   MEMBER_2_HOME = <your home>
4. Save the file
5. In Git Bash run ‘git status’

Next person pulls & commits changes

In Git Bash run

1. git pull origin master
2. ‘git add exercise_1.py’
3. ‘git status’
4. ‘git commit -m “<description of change>” ’
5. ‘git status’
6. ‘git push origin master’

Last person’s turn!

Do your thing.

Last person pulls & commits changes

1. In Git Bash run ‘git pull origin master’
2. Open exercise_1.py in your IDE/text editor

   Note the edits from your teammates.
3. Edit the file so

   MEMBER_3 = <your name>

   MEMBER_3_HOME = <your home>
4. Save the file
5. In Git Bash run ‘git status’

Last person pulls & commits changes

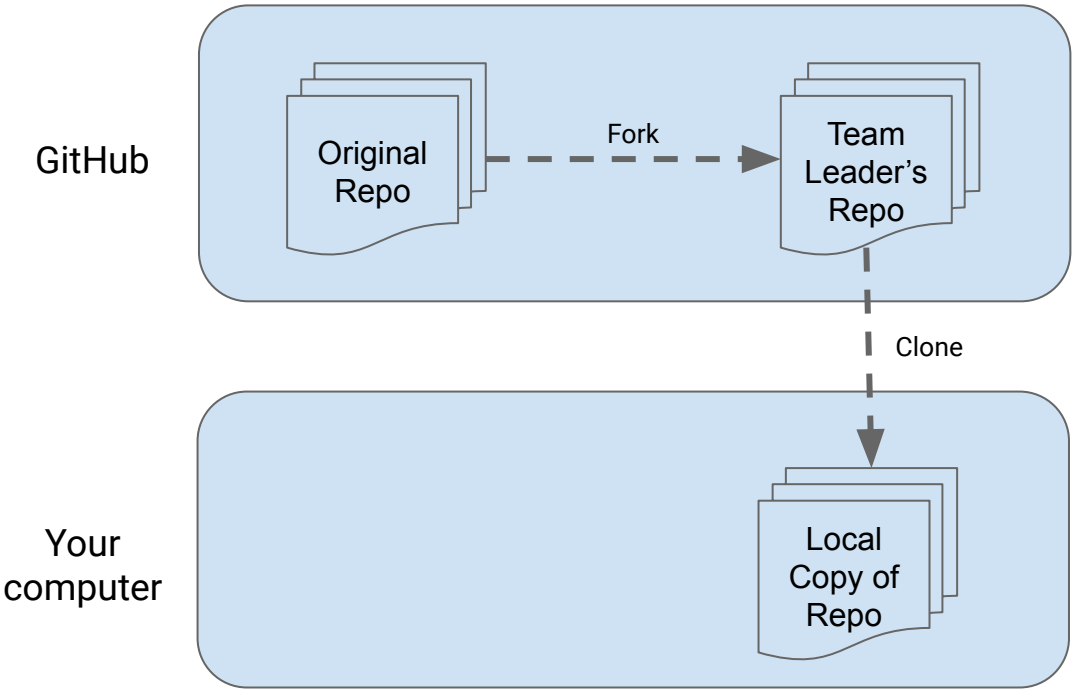
In Git Bash run

1. ‘git add exercise_1.py’
2. ‘git status’
3. ‘git commit -m “<description of change>” ’
4. ‘git status’
5. ‘git push origin master’

Everyone pulls repo

1. In Git Bash run ‘git pull’
2. Open exercise_1.py in your IDE/text editor
3. Run exercise_1.py

Note the updated results, engage in vitual high fiving


GitHub
Original Repo
Fork
Team Leader's Repo
Clone
Your computer
Local Copy of Repo

Some Git resources

- **Reference**
  - https://rogerdudler.github.io/git-guide/
  - https://github.com/grayghostvisuals/Practice-Git
  - http://gitready.com/ *more advanced
- **Reference & practice**
  - https://try.github.io/