

INTRO TO

VERSION CONTROL

WHAT IS VERSION CONTROL?

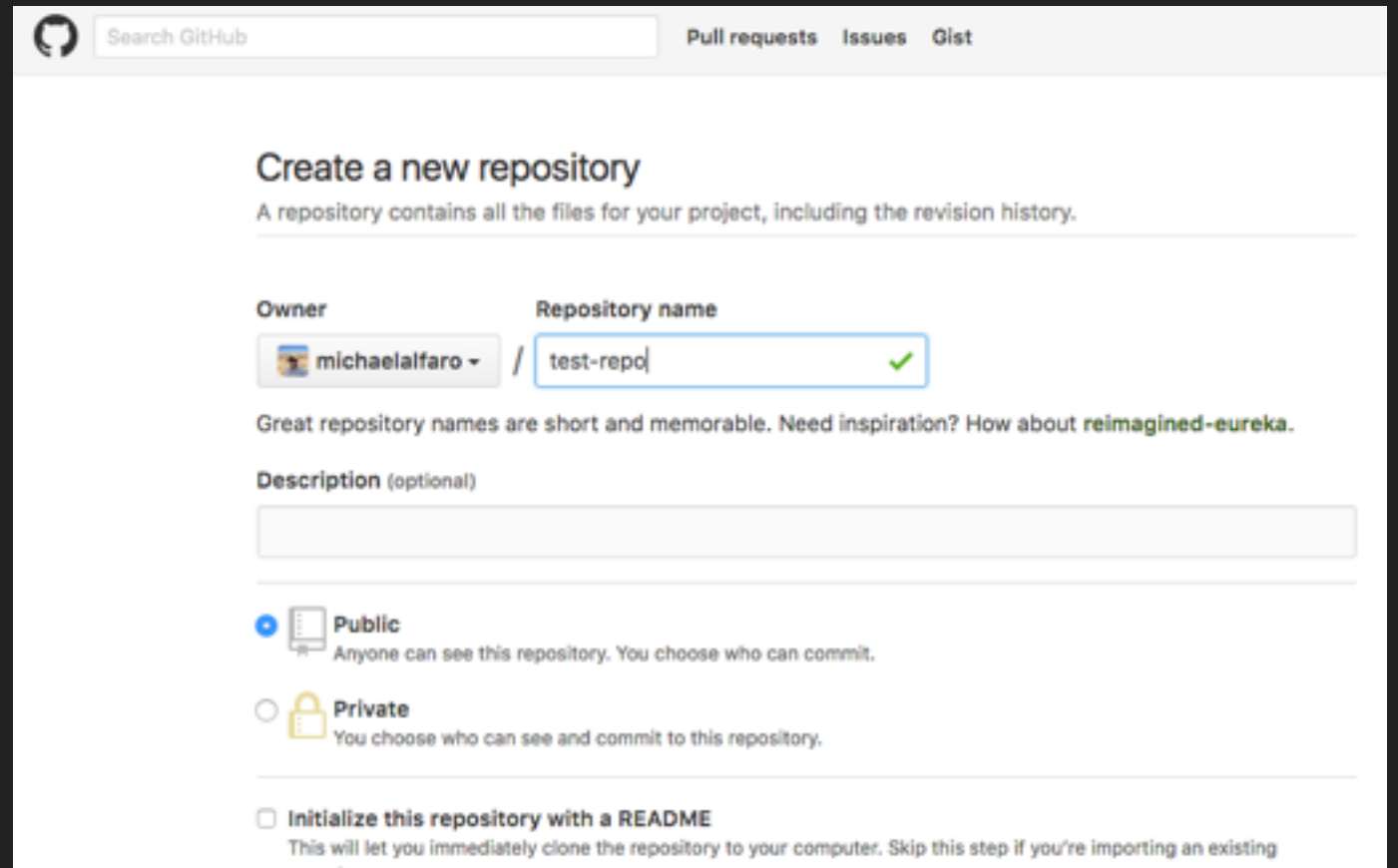
- ▶ records and organizes changes to your work (files, directories)
- ▶ useful for collaborative projects
- ▶ super useful for tracking and organizing files associated with a project (collaborative or not...)

GIT

- ▶ version control tracker
- ▶ developed by Linus Torvalds (Linux guy)
- ▶ free

CREATING A NEW REPOSITORY

- ▶ create a new repository
 - ▶ go to your github page and create new repository
 - ▶ use terminal to create a directory with the same name, change to it, and type "git init"



Search GitHub Pull requests Issues Gist

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: michaelalfaro / Repository name: test-repo ✓

Great repository names are short and memorable. Need inspiration? How about [reimagined-eureka](#).

Description (optional)

☒ Public
Anyone can see this repository. You choose who can commit.

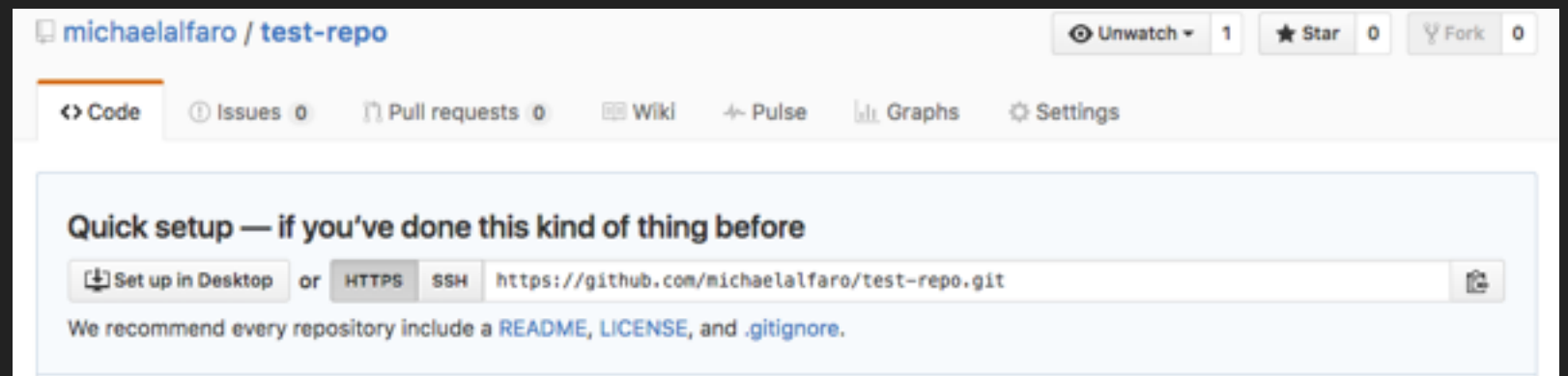
☐ Private
You choose who can see and commit to this repository.

☐ Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

```
→ ~ mkdir test-repo
→ ~ cd test-repo
→ test-repo git init
Initialized empty Git repository in /Users/michael_alfaro/test-repo/.git/
→ test-repo git:(master) git add .
```

CREATING A NEW REPOSITORY

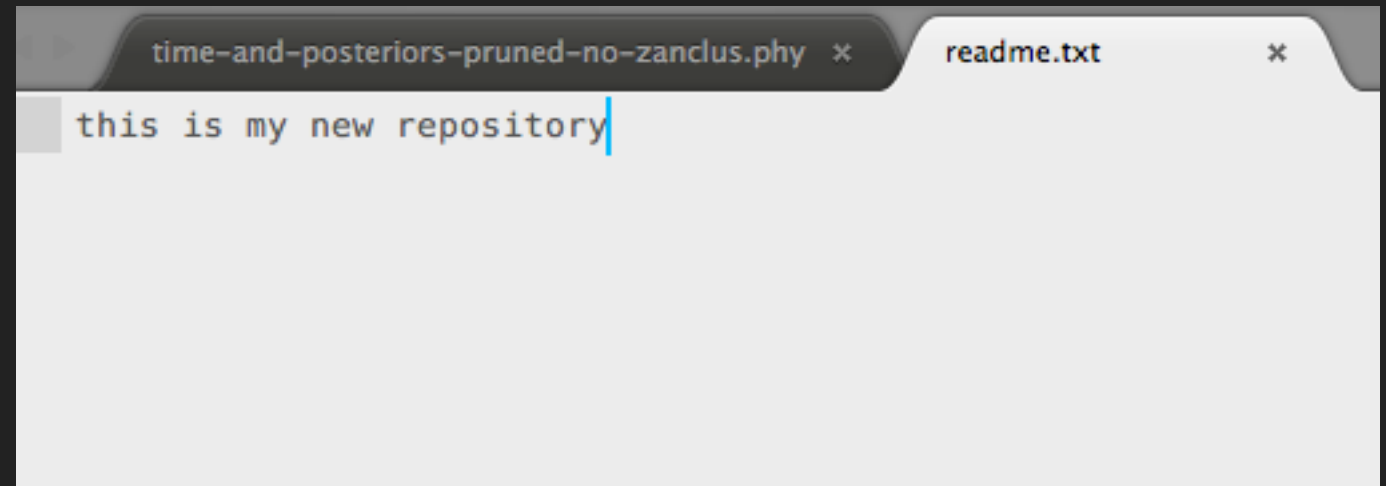
- ▶ copy remote repository URL
- ▶ go back to terminal, add remote URL with `git remote add origin URL`
- ▶ verify with `git remote -v`



```
→ test-repo git:(master) git remote add origin https://github.com/michaelalfaro/test-repo.git
→ test-repo git:(master) git remote -v
origin https://github.com/michaelalfaro/test-repo.git (fetch)
origin https://github.com/michaelalfaro/test-repo.git (push)
→ test-repo git:(master) █
```

CREATING A NEW REPOSITORY

- ▶ Now you can create and modify files locally and push them to the remote repository
- ▶ make a readme.txt file in a text editor



BASIC GIT WORKFLOW

- ▶ work on some files in the repository
- ▶ committing changes is a 3 step process
 - ▶ add the files (`git add`)
 - ▶ commit the files with a description of the changes (`git commit -m`)
 - ▶ push the files to the remote repository (`git push`)

GIT WORKFLOW

- ▶ save the readme.txt file to your local directory
- ▶ then use push it to the remote directory

On branch master

Initial commit

Untracked files:

(use "git add <file>..." to include in what will be committed)

readme.txt

nothing added to commit but untracked files present (use "git add" to track)

→ test-repo git:(master) ✗ git add readme.txt

→ test-repo git:(master) ✗ git commit -m "created a readme for the project"

[master (root-commit) aa47c63] created a readme for the project

1 file changed, 1 insertion(+)

create mode 100644 readme.txt

→ test-repo git:(master) git push origin master

Counting objects: 3, done.

Writing objects: 100% (3/3), 249 bytes | 0 bytes/s, done.

Total 3 (delta 0), reused 0 (delta 0)

To https://github.com/michaelalfaro/test-repo.git

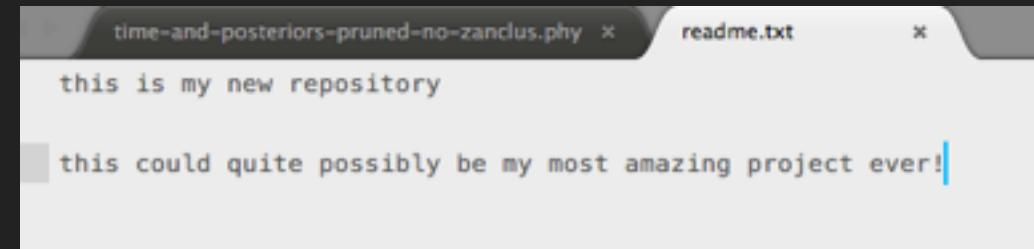
* [new branch] master -> master

→ test-repo git:(master) █

git push *remote branch*

VIEWING CHANGES WITH GIT LOG AND GIT DIFF

- ▶ add, commit, and push will allow you to create a history for each of the files in your project
- ▶ git log shows the commit messages




```
→ test-repo git:(master) git add readme.txt
→ test-repo git:(master) git commit -m "more details in the readme file"
On branch master
nothing to commit, working directory clean
→ test-repo git:(master) git push origin master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 328 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/michaelalfaro/test-repo.git
aa47c63..9ac7339 master -> master
→ test-repo git:(master) █
```


VIEWING CHANGES





- ▶ You can see all commits and changes to files on the git website for the project

more details in the readme file [Browse files](#)

 master

 michaelalfaro committed 7 minutes ago 1 parent [aa47c63](#) commit [9ac73391c10d24d8d8ccd64e2e3e399fcbd0e826](#)

 Showing **1 changed file** with 3 additions and 1 deletion. Unified Split

4     readme.txt View

...	...	@@ -1 +1,3 @@
1		-this is my new repository
	1	+this is my new repository
	2	+
	3	+this could quite possibly be my most amazing project ever!

FURTHER READING

- ▶ quick guide: <http://rogerdudler.github.io/git-guide/>
- ▶ cheat sheet: `file:///Users/michael_alfaro/Dropbox/git/eeb201/assets/git_cheat_sheet.pdf`