



WDI PANGOLINS

GIT BASICS

LEARNING OBJECTIVE

- ▶ Learn the basic workflow of Git.
- ▶ Learn the common commands used in Git.
- ▶ Practice using these commands.

WHAT IS GIT?

- ▶ Git is a version control system.
- ▶ Version control is a system that tracks file changes so that you can recall specific versions later.

WHAT MAKES UP GIT?

- ▶ A local repository is made up of three parts.

Head, Index and Working Directory.

- ▶ Working Directory holds all the actual files in your project.
- ▶ Index is a staging area for the modified files.
- ▶ Head points to the most recently committed files.

GIT WORKFLOW

► Basic git workflow:

1. Create and modify files in your working directory.
2. Add the files to the index by staging them.
3. Commit the files, which takes the state of the file when staged and stores that in the head.

GITHUB?

- ▶ Git is not GitHub
- ▶ Git is a version control system, written to keep track of changes to a code base. The codebase itself is referred to as a repo or repository.
- ▶ GitHub is a webservice for git repos, which doubles as a sort of social network where developers can share code and projects.

CREATE A NEW REPOSITORY

- ▶ You begin a new project in a new directory... Inside that directory, we can run

git init

to create a new git repo.

A RULE...

- ▶ NEVER Init a repo in a repo.
- ▶ EVER.
- ▶ No. Seriously.

OR CHECKOUT A REPOSITORY

- ▶ You create a working local copy of a repo from github by running the command

```
git clone git@github.com:repo_to_clone.git
```

WORKFLOW – ADDING AND COMMIT

- ▶ Step one is to propose changes (adding to the index) by running the command:

git add <filename>

or

git add . (to add all files)

- ▶ To commit the changes you've made we use the command:

git commit -m "commit message"

This commits the file to the head.

PUSHING CHANGES

- ▶ The changes we made are in the head of the local copy of this repo.
- ▶ If we want to send these changes to the remote repo hosted on github, we run the command:

git push origin master

UPDATING LOCAL REPOS FROM REMOTE

- ▶ If your local repo falls behind your remote repo, you will need to pull changes.
- ▶ This happens if you work on one project across multiple machines, or if someone else made changes to the remote repo.
- ▶ We can get the most updated version of the repo by running the command:

git pull

KEEPING TRACK?

- ▶ You'll forget what you've modified. To check the status of your repository, use the command:

git status

This will tell you the current branch and if it is up to date with 'origin/master' as well as the current tracked (added) files.

FIXING F-UPS.

- ▶ You can replace local changes in the working directory with the copy from the HEAD by using the command:

```
git checkout -- <filename>
```

- ▶ You can roll back if you need to. You'll need the commit id.

```
git reset --hard ffbcd2225f96249ae5c00da58a373b411619ccb1
```