

GIT & GITHUB

FOR BEGINNERS AND BEYOND!

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WHAT YOU WILL LEARN

WE WILL COVER THE BASIC FUNCTIONALITY
OF BOTH TOOLS SO YOU CAN START CODING
AND SHARING YOUR IDEAS IN NO-TIME!



**UNDERSTAND
HOW GIT AND
GITHUB WORK**



**CREATE YOUR
FIRST COMMIT**



**SHARE YOUR
CODE WITH
OTHERS!**

WHAT IS GIT?



- ✓ Distributed version control system
- ✓ Started in 2005 by Linus Torvalds
- ✓ Allows for collaborative development
- ✓ Used worldwide by several companies and software development projects.
- ✓ One of the few tools you will never complain about!

HOW DO I INSTALL GIT?

```
~$ sudo apt-get install git
```

WHAT IS GITHUB?



- ✓ Web-based hosting service for version control using git
- ✓ Helps you to organize and centralize your work
- ✓ Provides social networking-like functions such as feeds, followers and wikis
- ✓ Free for public repositories

LET'S DO SOME **WORK**

We are going to create an account
on GitHub!

”

HOW DO I USE GIT SUCCESSFULLY?

“

<https://xkcd.com/1597/>

THIS IS GIT. IT TRACKS COLLABORATIVE WORK ON PROJECTS THROUGH A BEAUTIFUL DISTRIBUTED GRAPH THEORY TREE MODEL.

COOL. HOW DO WE USE IT?

NO IDEA. JUST MEMORIZE THESE SHELL COMMANDS AND TYPE THEM TO SYNC UP. IF YOU GET ERRORS, SAVE YOUR WORK ELSEWHERE, DELETE THE PROJECT, AND DOWNLOAD A FRESH COPY.



LET'S ADDRESS A FEW **TOPICS** FIRST

IF YOU WANT TO USE GIT EFFECTIVELY FIRST
YOU NEED TO UNDERSTAND A FEW
CONCEPTS ON HOW IT WORKS.



**WHAT'S A
REPOSITORY?**



**SNAPSHOTS AND
COMMITTS?**



**HOW DO
BRANCHES
WORK?**

GIT **REPOSITORIES**



- ✓ Repositories are used to organize a project or a set of files
- ✓ They contain commits and references to those commits
- ✓ Stores information about itself on a `.git` folder, which is located on the root of the repository
- ✓ A repository is stored within the project files and is not centralized on a server

GIT COMMITS



- ✓ A commit contains a set of files referring to a point in time
- ✓ They also store a reference to the previous state of said files
- ✓ Git repositories are represented by multiple commits, each containing a pointer to its parent
- ✓ Each project has a commit with no parent which is known as the initial commit

GIT BRANCHES



- ✓ Branches are a reference to a commit and its history
- ✓ At the start of your project, a master branch is created by default which contains a reference to the last commit
- ✓ Every time you do a commit, the branch reference moves its pointer to the new snapshot

USEFUL GIT COMMANDS

USE YOUR CHEAT SHEET AND DO THE FOLLOWING:

- ✓ Configure your username, password and email information for all repositories
- ✓ Clone the cba_tae_training repository
- ✓ Create a new branch with your username
- ✓ Snapshot a new file <firstname>. <lastname>.txt
- ✓ Create a new commit & push your changes!



Q & A
TIME!