**What is Git?**

Git is an open-source version control system that is widely used by us developers to manage documents, source files, websites, and versions of applications.

# Version Control System

This refers to the core concepts of Git to which how we can manage changes, tracking, and control changes of documents, computer programs, large websites, and other collections of information.

# Some Terms and Definitions

Directory – the working folder. It can be root or sub-directory.

Terminal or CLI – this is an interface to input text commands which where we can issue functions and actions to launch scripts, executable, and more.

cd – command to ‘change directory’.

Code Editor – this is a word processor or environment where we can write code. Code Editors today can also help manage and build projects.

Repository – the project, or the folder where your project is kept in place.

Repository can be sometimes confused with Git and GitHub.

Git is the tool which can track version and changes to your project every time.

While, GitHub is an online website where we can host all projects and repositories.

\_\_\_\_\_\_\_\_\_

# Git Commands

clone – download a copy of a remote repo on your local machine.

add – a command that is used to track changes to any file that is modified, added, or deleted. It tracks files and changes in Git.

commit – a command to use to save changes ready for pushing to the remote repository.

push – is a command to use to save and commit the changes to upload in Git to a remote repo, like GitHub.

pull – is like downloading or “pulling” changes from a remote repo to your local machine.

\_\_\_\_\_\_\_

# SSH Keys

This is a way for us to prove that we are the authorized user of a GitHub account.

Graphical user interface, text, application

Description automatically generated  
*SSH Keys setup from GitHub*

We can also set up SSH Keys locally on our machine using the command:   
ssh-keygen <param>

Example:



We need to specify the email address associated with our GitHub account.

Here are the some generated SSH Keys:

Graphical user interface, application

Description automatically generated with medium confidence

I generated an SSH Key on my local machine.

*sshKey.pub* will be the one to upload to the GitHub interface.

While *sshKey* is the private key and is meant to be secret only for me. It should also be secure inside the local machine.

This will be used whenever we are committing and pushing to a repo using our GitHub account to prove that we are authorized to the generated public key.

# Git Push

This is what we use to push local changes to a remote repo.

Command: *git push <param> origin <branch>*

Example:

Graphical user interface, application

Description automatically generated with medium confidence

*origin* – is the term of the location for our Git repo.

*master* – refers to the branch name of the repo where you want to push changes.

while the *-u* is a parameter, *--set-upstream* this is a reference for upstream tracking.

**Git init**

This the command for how we initialize a local repository from a machine to be set up to Git and GitHub.

**Setting up a local repo then connecting it to a remote via GitHub**

When we set up a local repo through *git init* we need to also set up a remote repo on GitHub where we can add, commit, track, and push changes remotely.

To do this, use the command:

git remote add origin <HTTPS>

Example:

Text

Description automatically generated with medium confidence

GitHub Workflow vs. Local Git Workflow

Diagram

Description automatically generated