GIT

- What is “version control”
- Centralized Version Control Systems
- Distributed Version Control Systems

A distributed version control system

VERSION CONTROL

- **What is "version control"**
  - Version control allows you to keep track of your work and helps you to easily explore the changes you have made
    - data, codes, notes, etc.
  - Managing multiple versions of documents, programs, websites, etc
- **Benefits of using version control:**
  - Traceability.
  - Reduction Of Duplication And Errors
  - Collaborations

Why use a version control system

- To have a common repository for all project files available and updated remotely
- To make sure that concurrent changes to the same file are properly handled
- To Ensure a proper rollback sequence in the event that some changes need to be undone

- **Well-known version control systems**
  - CVS, Subversion, Mercurial and Git
- **Centralized Version Control system**
  - It works on a Client-Server relationship.
  - The repository is located in one place and provides access to many clients.
- **Distributed Version Control Systems.**
  - Each user has a local copy of the repository in addition to the central repo on the server-side

Why git

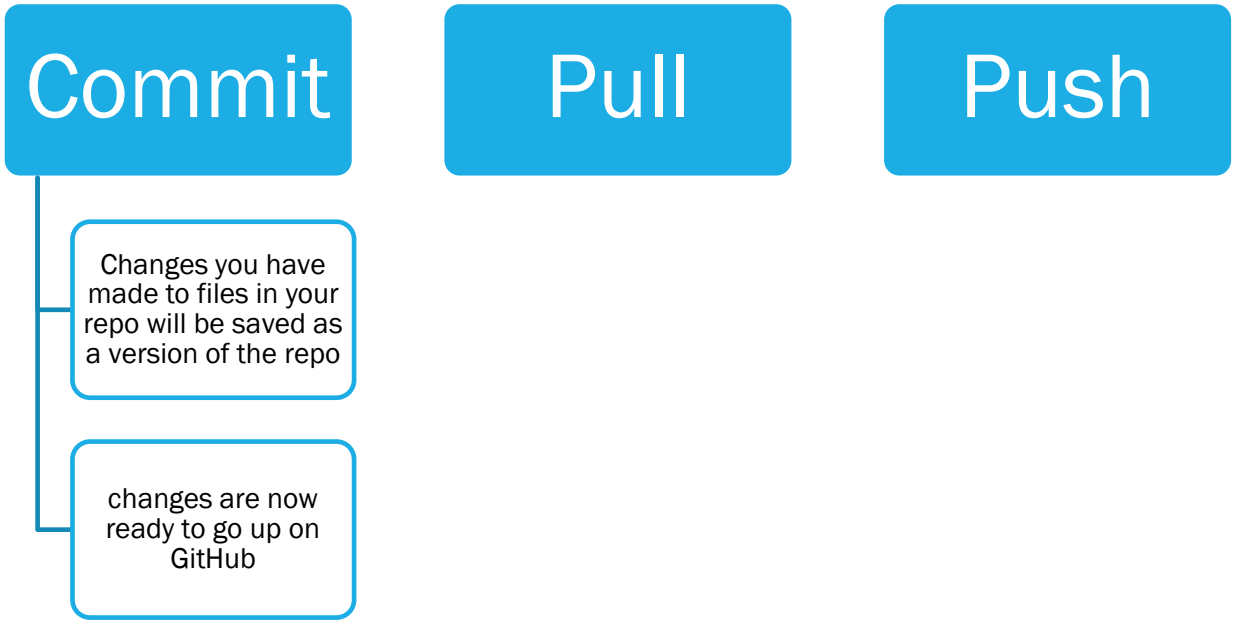
- More efficient, better workflow, etc.
- Maintains a history of what changes have happened.
- branches and merges
- Version control system allows developers to revert and go back to an older version of the code

Git install

- Here's the standard one:
  - http://git-scm.com/downloads
  - Note: Git is primarily a command-line tool

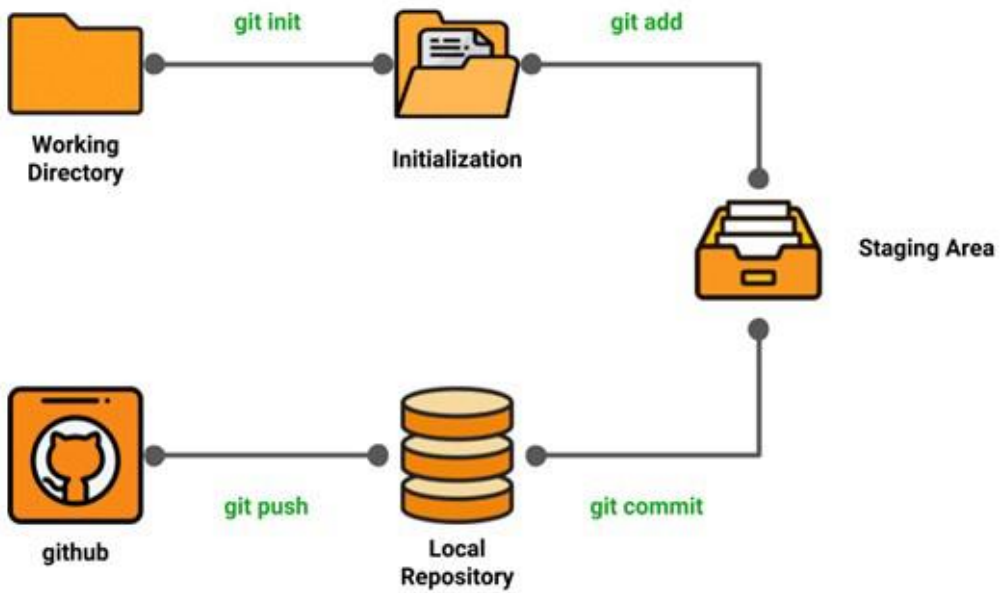
- What is a repository?
  - Project Folder
- GitHub
  - A website to host your repositories

GitHub workflow



- Environment Setup
  - Create a GitHub account
  - Create a local repository (directory)
  - Git init
  - Configure Git (local system)

- To tell Git who we are, run the following two commands:
  - git config --global user.email "you@example.com"
  - git config --global user.name "Your Name



Git Life Cycle1

BASIC GIT COMMANDS

Git clone `git clone <https://name-of-the-repository-link>`

- downloading existing source code from a remote repository.

Git branch

- Developers are able to work in parallel on the same project simultaneously using Branch

Git status

Git add

- git add <file>

Git commit `git commit -m "commit message"`

- save changes and setting a checkpoint in the development process

Git push: send your changes to the remote server

Git pull : get updates from the remote repo

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- Local systems :
  - git init, git touch, git status, git add, git commit, and git rm
- **Remote Commands**:
  - git remote, git pull, and git push