Git

Install Git

- Mac:
  - Git
- Windows:
  - Git for Windows (Git Bash)
- Linux:

  Install Git on Linux

Confirm Git is installed by typing `git --version` on your terminal

Source Control Systems

- **Distributed**
  - Git, Mercurial
- **Client-Server**
  - Subversion, Perforce, CVS

Repository

- Is a directory with your code + the entire history of the project.
- Can be **local** (where you work) or **remote** (where you share and backup).

`git init`

- Creates a new empty repository.
- Adds `.git` directory containing project configuration files.

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

- Saves **staged** changes to your files.
- A message must be provided, describing the changes in the commit.
- Staged files are files that are about to be committed.

`git add myfile.txt`

- Adds `myfile.txt` to the staging area.
- Multiple files can be staged: `git add .`
- Files can be removed from the staging area `git reset myfile.txt`.
- Resetting keeps changes in the files, they are simply not tracked in the commit.

`git status`

- Shows in green the files that are in the staging area and ready for commit.
- Files in red are untracked.

`git stash`

- Temporary storage for uncommitted changes.
- `git stash pop`
  - Applies the most recent stash to the working directory.
- `git stash list`
  - List the stashes stored on the stack.

Branch

- The code that is in the repository is stored by default in a master branch.
- A branch can create other branches that will be a replica of the master on which developers make changes, and that will allow us to work in isolation without affecting the master branch.
- At any time, we can merge one branch with another.

Merge

- Merges the code of one branch with another.

Checkout

- This is the action that allows to switch from one branch to another.

Fetch

- Retrieves metadata from the remote repository without merging it with the local repository.

Pull

- This is the action that consists of updating your local repository from the remote repository.
- A pull is equivalent to fetch and merge.

Push

- A push is the reverse action of a pull.
- It allows us to update the remote repository from the local repository.