# Git Basics

## SETUP & INIT

Configuring user information, initializing and cloning repositories

**`git init`**

initialize an existing directory as a Git repository

**`git clone [url]`**

retrieve an entire repository from a hosted location via URL

## STAGE & SNAPSHOT

**`git status`**

show modified files in working directory, staged for your next commit

**`git add [file]`**

add a file as it looks now to your next commit (stage)

**`git reset [file]`**

unstage a file while retaining the changes in working directory

**`git commit -m “[descriptive message]”`**

commit your staged content as a new commit snapshot

## BRANCH & MERGE

Isolating work in branches, changing context, and integrating changes

**`git branch`**

list your branches. a * will appear next to the currently active branch

**`git branch [branch-name]`**

create a new branch at the current commit

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| **git checkout** |
| --- |
| switch to another branch and check it out into your working directory |
| **git merge [branch]** |
| merge the specified branch's history into the current one |
| **git log** |
| show all commits in the current branch's history |

Basic workflow for creating a branch and merging it with master branch.

- Create a branch and switch to that branch,
  - `git branch <branch_name>`
  - `git checkout <branch_name>`
- Make the changes in the files.
  - `git add -A`
  - `git commit -m"<commit_msg>"`
- Push this to remote repository.
  - `git push -u origin <branch_name>`
- Merge with master (only after extensive testing>
- In order to merge, first make master as active branch.
- Then pull master from remote repo and merge it. Then push the updated master.
  - `git checkout master`
  - `git merge <branch_name>`
- Git push origin master
- To delete the branch from local and remote repo.
  - `git branch -d <branch_name>`
  - `git push origin -delete <branch_name>`

**Links** Video1 Video2