Introduction to Git & GitHub

A short introduction to the basics usage of git & GitHub

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What is Git?

Git is a Distributed Version Control System (DVCS) which can be used to keep track of different file versions (Snapshots).

Git States

Git has 3 different states:

- **Modified:** Any file that has been changed but not yet commited
- **Staged:** Marked modified files that are ready to be commited to the next snapshot
- **Committed:** Permanently stores the staged files as a snapshot into Git directory

Git Workflow

A simple git workflow looks like:

1. Modify files in the worktree
2. Selectively select the modified files to be staged
3. Commit the staged files

Git VS GitHub

- Git is a program that runs on computer locally.
- GitHub is a platform that hosts a git directory on the cloud.

Creating a Basic Config

```
git config --global user.name "Pedro Soares"
git config --global user.email "pedro@gmail.com"
git config --global core.editor nvim
```

Staging/Adding Files

```
git add file_name # Stages just the specifed file
git add . # Adds all modified files from within the current directory
```

Commiting Staged Files

```
git commit # Will open the editor of choice
git commit -m "A commit message"
git commit -a -m "Stages all files and commits with a message"
```

Push & Pull from remote repo

```
git pull
git push
```

Comparison of Changes

```
git diff
```

Log of all the commits

```
git log
git log --graph
```

Setting up SSH keys

```
ssh-keygen -t ed25519 -C "your email used with github"
eval "$(ssh-agent -s)"
ssh-add ~/.ssh/id_ed25519
cat ~/.ssh/id_ed25519.pub
```

A workflow Example

Demonstration ...