GIT

Version control basic

Intro

- A version control system for software development
- Manage source code, co-operate with other team members

Terms

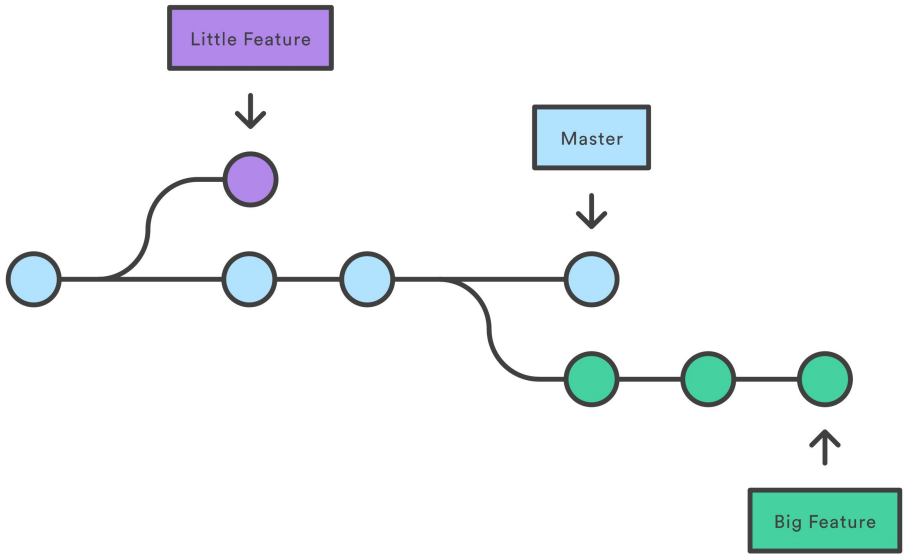
- Version Control: a system that record changes to source code so that it can be recalled later
- Commit: a recorded version of source code
- Repository: a collection of commits and source code, there are local repo and online(or remote) repo
- Branch: a flow of commits
- Fetch: getting the lastest changes from an online repository

Terms

- Pull: fetching changes and merging them into local repo
- Push: send commited changes to a remote repo
- Clone: copying a repo online and store it on your local machine
- Merge: takes the change in one branch and applies into another branch

Basic Idea

- Git stores a snapshot of everything into its system when you commit
- Branches are like streams of snapshots



Basic Commands

- Store user’s credential:
  - git config --global user.name “Hau Pham”
  - git config --global user.email hau@gmail.com
- Make a folder a local git repository
  - git init
- Connect your local repo to a remote one
  - git remote add origin <url>
- Check for remote connection
  - git remote -v

Fetching and pushing

- Fetch all changes from a remote repo
  - Git fetch <branch name>
- save all changes, ready for commit
  - Git add -A or git add <file name>
- Make a commit to local repo
  - Git commit -m “<message>”
- Branching
  - Git branch
  - Git checkout <branch name>
  - Git branch
  - Git branch -d <branch name>
  - Git push origin <branch name>

Tags and Logs

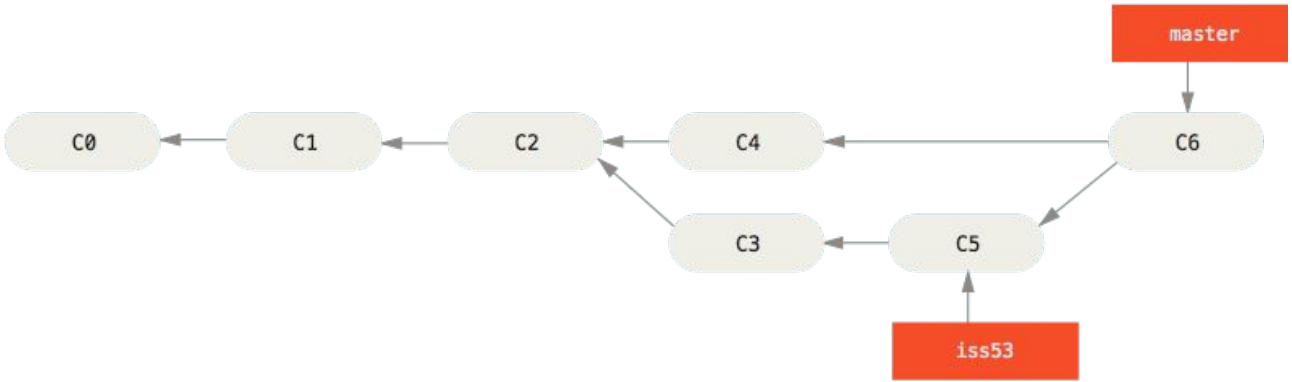
- Make a tag
  - Git tag v1.0.0
  - Git push origin --tags
- Log all commits and branches
  - Git log --graph --oneline -decorate

Revisioning

- Checkout a previous commit (just for experimental purpose)
  - Git checkout <commit code>
- Reset code to a commit
  - Git reset --hard <commit code>

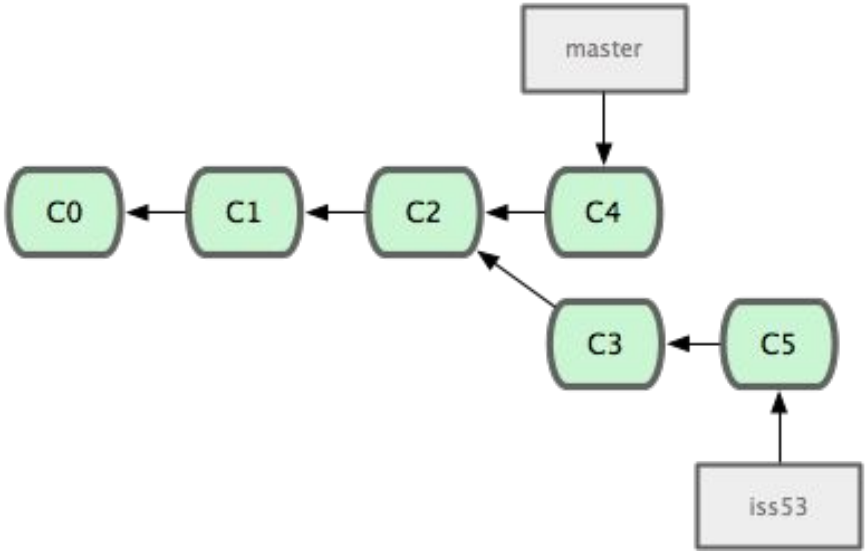
Merging

- 2 kinds of merging: fast-forward and merging with conflicts
- Fast forward
  - Git checkout master
  - Git merge iss53



Merging

- Conflicts happens when the same part of the same file from 2 branches is changed differently



Merging

- Use meld for merging
  - Install Meld
  - Git mergetool -t meld