

Git Intro & Hands-on Practice

How we can better manage projects



October 17, 2019
Honolulu Women in Tech

Outline

- What is **Git**
- Git exercise
 - Setup git repository
 - Shell scriptings
 - Git play time!

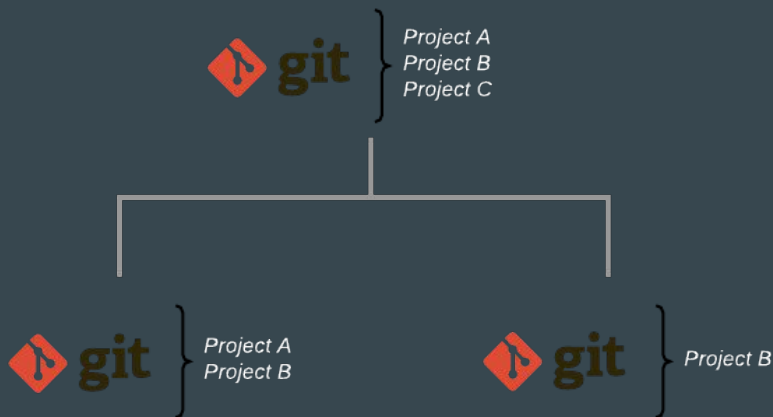
Git

Keeping track of work

- Centralized storage for projects
- Version Control
- Collaborative Workflow

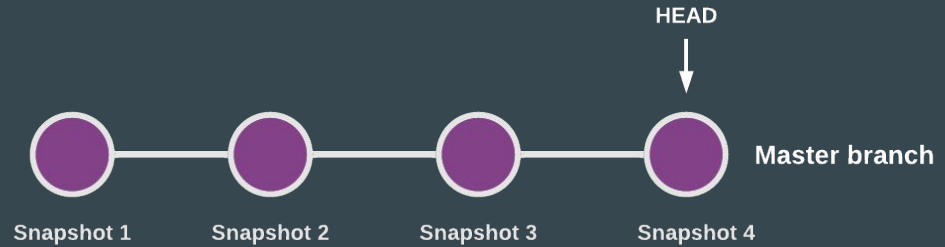
Git as a storage: **Centralized Repository**

- Access your projects from centralized storage and get a local copy
- Update projects in centralized storage
- Distributed Version Control System (DVCS) - developer's work copy is a repository with full history of changes



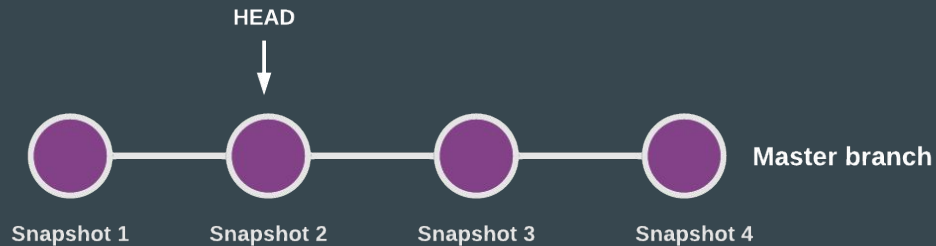
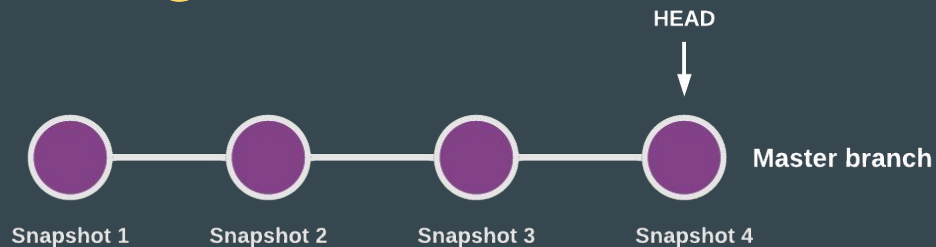
Git as **Project Version Tracking tool**

- Take a "Snapshot" of your project
- Go back to previous versions
- Leave a note with each version
- Keep track of important version



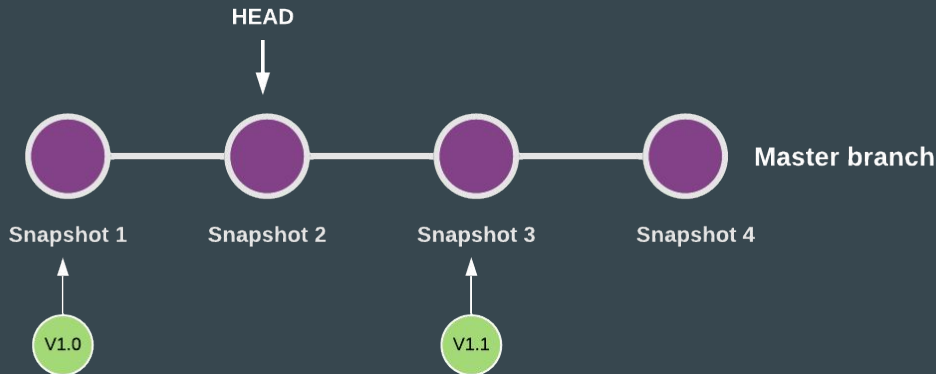
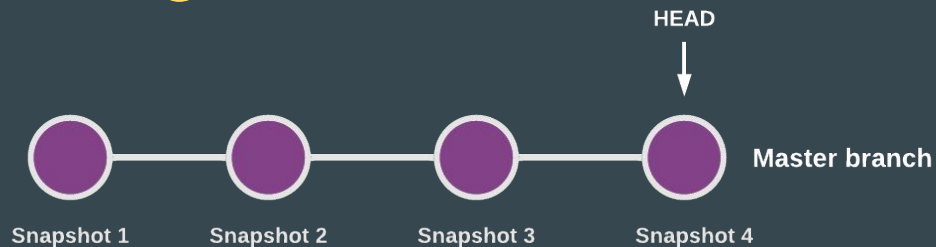
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Inside of Git

- Develop new features without affecting the released version
- Merge back into the main code

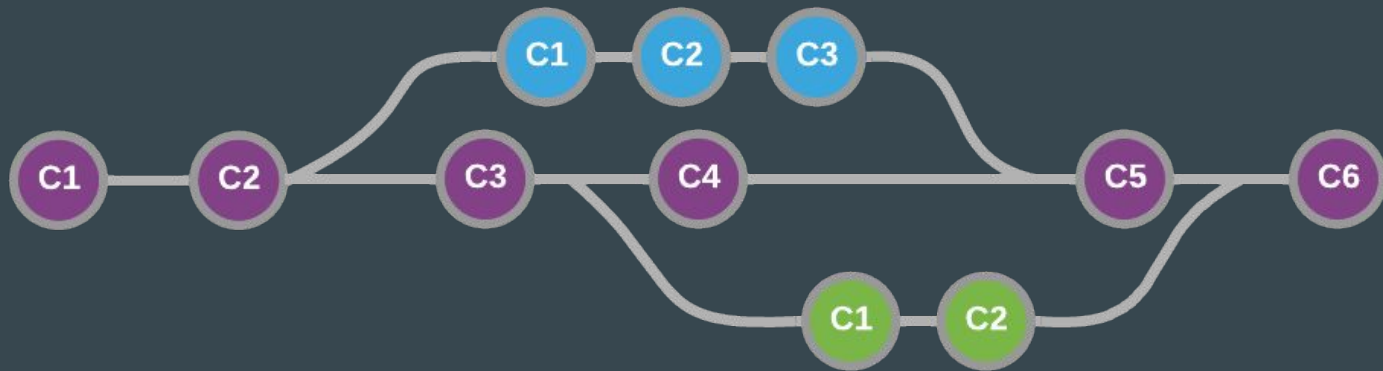


Git as a **Collaboration tool**

- Simultaneously and independently work on features

NEW

MASTER



Git vs. GitHub vs. GitLab

Git

Repository, tool



GitHub & GitLab

- GitHub/GitLab is a website/cloud-based service
- Users store and manage code
- Make your repository Private/Public



GitLab



GitHub

Let's git



Shell Scripting

1. Download and Install
2. Open git bash

<https://git-scm.com/downloads>

A few basic scripts (how to communicate with computers)

>pwd

>ls

>mkdir

>cd

>clear

Where am I ?

```
> pwd
```

View the contents of my project folder

```
> ls
```


Create a folder!

```
>mkdir
```

Clear all the text in my terminal

```
>clear
```

Folder navigation scripts

```
>cd ~/
```

```
>cd ..
```

```
>cd sub1
```

```
>cd sub1/sub2/sub3
```

**How to make your project folder
a Git repository?**

A few basic git commands

```
>git init
```

```
>git add
```

```
>git commit
```

```
>git init
```

Turn your local project folder into a Git repository

```
>git add
```

Place your updated copies into a “stage”

```
>git commit
```

Add to the repository history

How to use GitHub?

A few basic git commands

```
>git clone
```

```
>git push
```

```
>git pull
```

```
>git push
```

Upload your most up-to-date copy to remote

```
>git clone
```

Copy a project repository from remote site to local

```
>git pull
```

Update your local repository with changes from remote

```
>git init
```

Create your local project folder into a Git repository

A few basic git commands

```
>git log
```

```
>git diff
```

```
>git checkout
```

```
>git log
```

View your repository's revision history


```
>git diff
```

View your current changes since the last commit

```
>git checkout
```

Create a new branch or undo your current changes

Resources

Markdown Basics: <https://www.markdownguide.org/getting-started>

Markdown Cheatsheet:

<https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet>

Learn Enough Command Line to Be Dangerous:

<https://www.learnenough.com/command-line-tutorial/basics>

Git Branching and Merging:

<https://git-scm.com/book/be/v2/Git-Branching-Basic-Branching-and-Merging>