Git Intro & Hands-on Practice

How we can better manage projects

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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

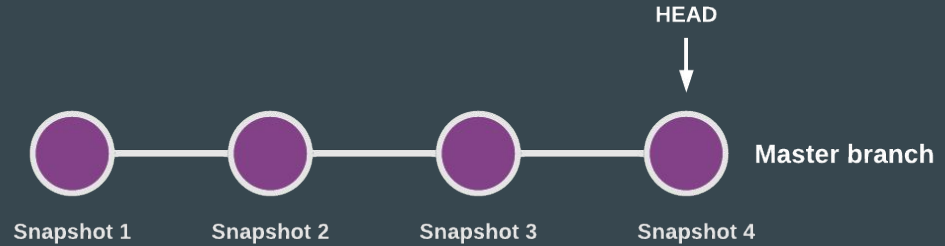- Version Control

- 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
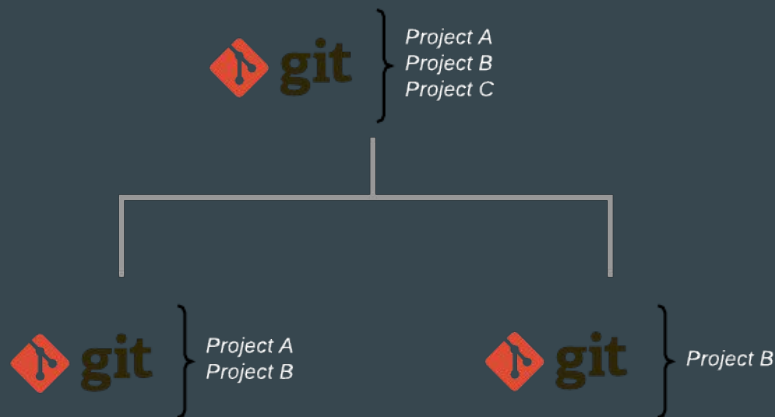
Git as **Project Version Tracking tool**

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

HEAD

Master branch

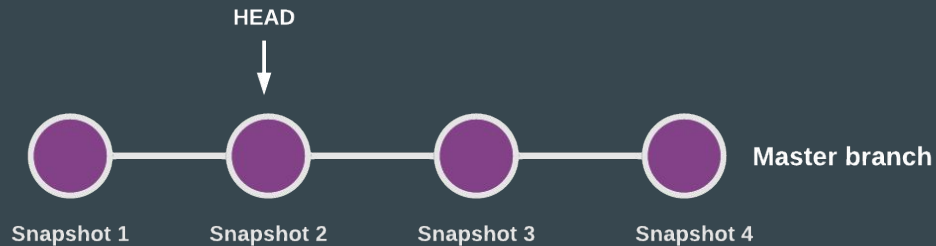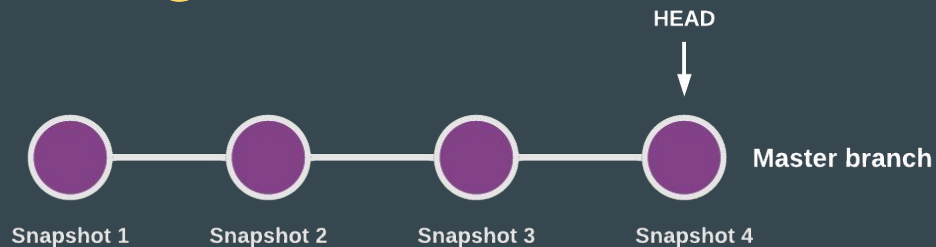Snapshot 1   Snapshot 2   Snapshot 3   Snapshot 4

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Snapshot 1 — Snapshot 2 — Snapshot 3 — Snapshot 4   **Master branch**

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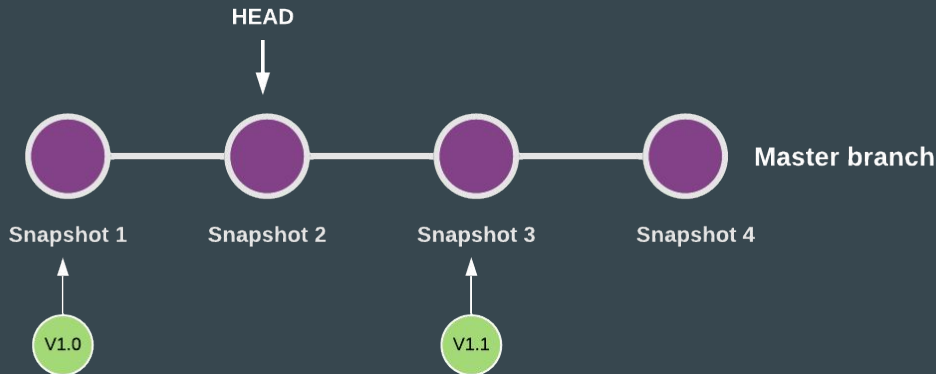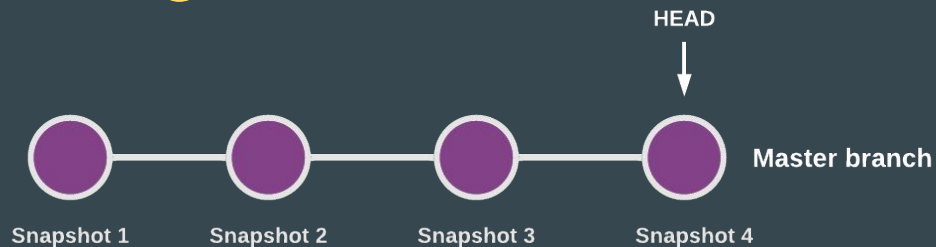Snapshot 1 — Snapshot 2 — Snapshot 3 — Snapshot 4   **Master branch**

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V1.0   V1.1

Inside of Git

- Develop new features without affecting the released version

- Merge back into the main code

Git as **Collaboration tool**

- Simultaneously and independently work on features
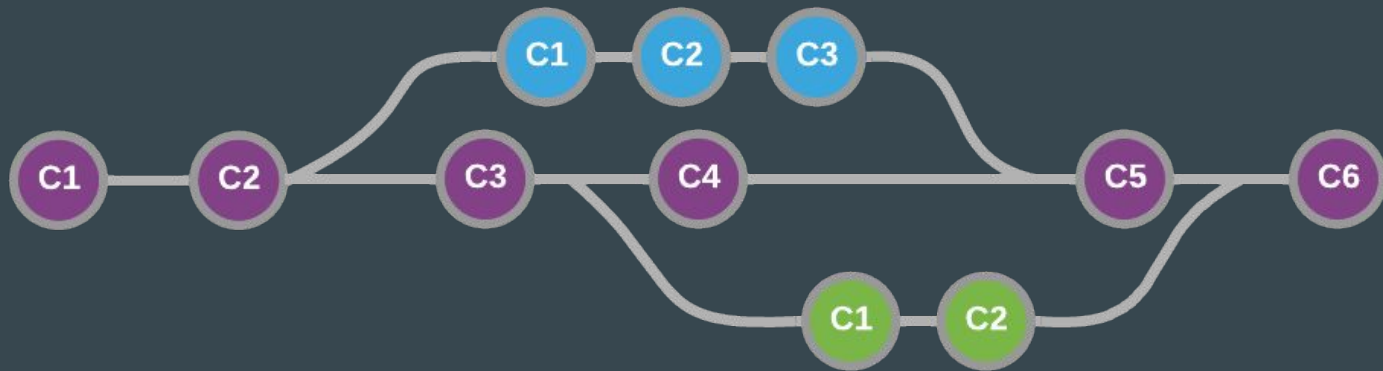
Git vs. Github vs. Gitlab

Git

Repository , tool

Github & Gitlab

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

Let's git

Shell Scripting

1. Download and Install
2. Open git bash

https://git-scm.com/downloads

Few basic script (how to communicate with computer)

```
>pwd

>ls

>mkdir

>cd

>clear
```

Where am I ?

> pwd

Go to my project folder!

```
>ls
```

Create a folder!

```
>mkdir
```

Let's download git project

```
>mkdir
```

Few basic script (how to communicate with computer)

```
>cd ~/

>cd ..

>cd sub1

>cd sub1/sub2/sub3
```

How to make your project folder i a GIT Repository?

Few basic git commands

```
>git init

>git add

>git commit
```

`>git init`

Create your local project folder into a git repository

```
>git add
```

Put your updated copies to a "stage"

`>git commit`

Add to the repository history

How to use Github?

Few basic git commands

>git clone

>git push

>git pull

```
>git push
```

Upload your most updated copy to remote

`>git clone`

Copy a project repository from remote site to local

`>git pull`

Pull your repository from remote to local

`>git init`

Create your local project folder into a git repository

```
>git log

>git diff

>git checkout
```