Git and Github

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Agenda

- What are Version Control Systems (VCS)
- History of Git & GitHub
- How git works
- Creating, cloning, branching, merging a repo
- Pull Requests
- Productivity Tips

What is a Version Control System?

What is a Version Control System?

- A Directory Content Management System
- Keeps track of changes
- Manage Source Code

Why use a Version Control System?

What is Git?

- Open Source VCS
- Created by Linus Torvalds, Linux Founder
- www.git-scm.com/downloads

Who is Git For?

- Anyone who needs to track edits
- Anyone working on a team
- Most popular with developers
- Not as useful for non-text files

What is the difference between git and GitHub?

What is git?

- **Git** is the version management tool
- Installed on your computer

What is GitHub?

- **GitHub** is a Web-based Git repository hosting service
- Offers Private Repositories
- A good place to find open source projects

Commits

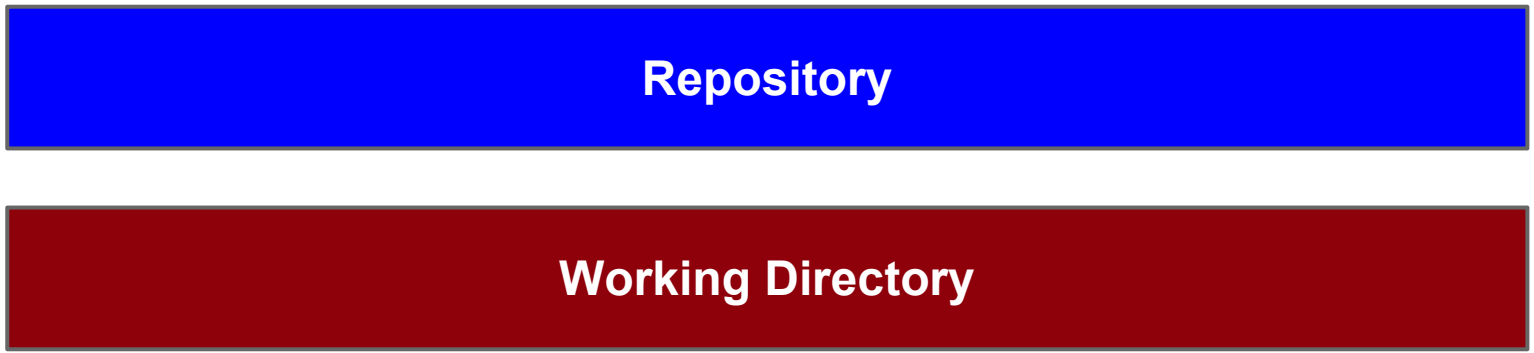
- Creating a code snapshot
- A project has many commits

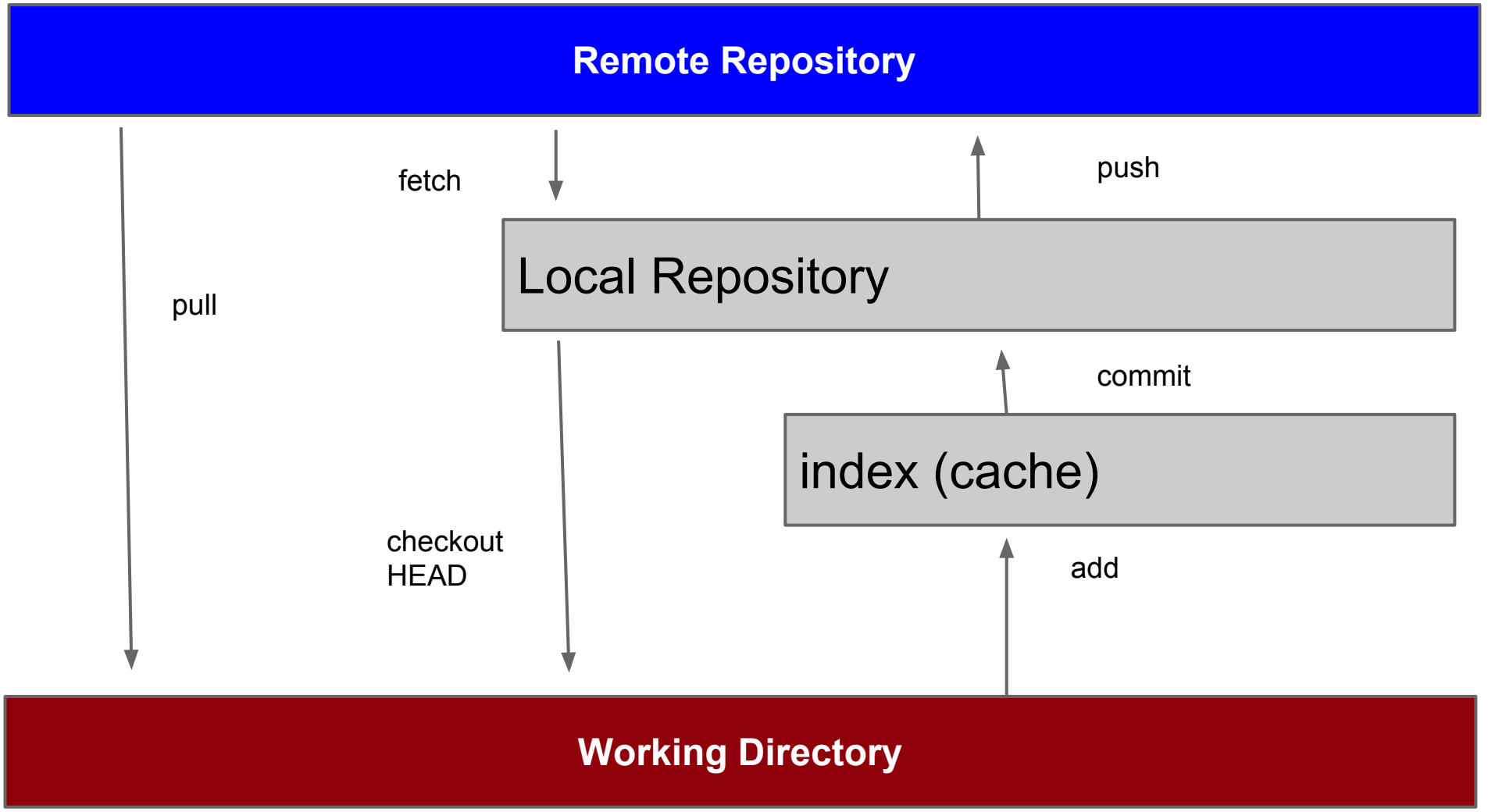
Repositories

- A collection of files and the history of all of the files
- Made up of all the commits
- Can be local
- Can be remote

Git Workflow

- Obtain a Repository
- Make edits
- Stage Changes
- Commit Work
- Push Changes


Repository
Working Directory


Remote Repository
fetch
push
pull
Local Repository
commit
index (cache)
checkout
HEAD
add
Working Directory

Interacting with Git

- Command Line
- Desktop (github.com/desktop)
- 3rd party apps

Git Installation

- git --version
- git config --global user.name “eporcello”
- git config --global user.email “eve@moonhighway.com”

Git add .
Git commit
Git push

Creating a Repo

- git init
- .gitignore
- README.md
- License

Add

	New Files	Modified Files	Deleted Files	
git add –A	✓	✓	✓	Stage All (new, modified, deleted) files
git add .	✓	✓	✗	Stage New and Modified files only
git add -u	✗	✓	✓	Stage Modified and Deleted files only

Markdown Overview

- .md
- A formatting syntax for writing technical docs
- Originally created to be a way for non-technical people to write HTML
- Mou, Hashify, and more

Clone a Repo

Branching a Repo

Branching a Repo

- git checkout -b topic-name master
- git checkout master
- git merge topic-name
- git branch -d topic-name