Git & GitHub

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Overview

✓ What is Version Control?

✓ What is Git?

✓ How does Git work?

✓ What is GitHub?

✓ Install Git

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What is Version Control?

What is Version Control?

- A system that keeps records of your changes
- Allows for collaborative development
- Allows you to know who made what changes and when
- Allows you to revert any changes and go back to a previous state

2 What is Git?

What is Git?

- **Global Information Tracker**
- **Git** is a distributed version control system
- Every dev has a working copy of the code and full change history on their local machine ___By **Linus Torvalds.**
- Started in 2005
- Created by Linus Torvald to aid in Linux kernel development

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How does Git work??

How Does Git Works?

- Commit
- Repositories
  - Cloning
  - Pulling
  - Pushing
- Branches
- Merging

Commit

- Can be a noun or verb
  - "I commited code"
  - "I just made a new commit"
- Essentially, a project is made up of a bunch of commits
- Commits contain three pieces of information:
  - Information about the changed from previous
  - A reference to the parent commit
  - A hash code name: f2d2ec5069fc6776c80b3ad6b7

Repositories

- The short form of **repo** is knows as **repository** in Git

- It's a collection of all the files and the history of those files

- Basically it's a place where all your hard work is stored

Repositories --> Cloning

- The act of **copying** a repository from a remote server is called **cloning**

- Cloning from a remote server allows teams to work together

Repositories --> Pulling

- The process of downloading commits that don't exist on your machine from a remote repository is called **pulling** changes

Repositories --> Pushing

- The process of adding your local changes to the remote repository is called **pushing** changes

Branches

- All commits in git live on some branch
- But there can be many, many branches
- The main branch in a project is called the master branch
- A bunch of commits linked together that live on some branch, contained in a repository

Merging

- Once you're done with your feature, you merge it back into master

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What is GitHub?

GitHub

- GitHub is a web-based hosting service for version control using git

- www.github.com

- Largest web-based git repository hosting service
  - Aka, hosts 'remote repositories'

- Allows for code collaboration with anyone online

- Founded in 2008

- Free for students as part of the Student Developer Pack.

BitBucket

- www.bitbucket.org
- Largest web-based git repository hosting service
- Allows for code collaboration with anyone online
- Adds extra functionality on top of git
- Founded in 2010
- Free for up to 5 users

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Install Git?

Install Git

- Linux (Debian) –

  Command: `sudo apt-get install git`

- Linux (Fedora) –

  Command: `sudo yum install git`

- Mac –

  http://git-scm.com/download/mac

- Windows –

  http://git-scm.com/download/win

Thank You All