
CICSOFT
Session #1
Starting at 6:05 PM

What we'll do today

Git & GitHub

(inspired by freeCodeCamp's tutorial on Git and GitHub for Beginners)

So... what is Git?

- Version Control System
- Free and Open-Source
- Developed by Linus Torvalds

Now... what is version control?

- The process of tracking and managing changes to documents, programs, and other information (primarily, files)
- Also known as source control, when talking about [source] code

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Wait... why have version control?

- Identify and remove errors
  - You make tons of changes to your programs, and introduce a bug somewhere.
    - Version control, to the rescue!
- Collaborate on code concurrently
  - You work together with friends, and want to develop an app together.
    - Version control is your best buddy!
- Backup your data for recovery
  - You try to save your project when your laptop crashes from overheating.
    - Version control saves the day!

Questions?
Concerns?
Anything?

Standard Terminology

- **Terminal/Command Line**: UI for Text Commands
  - Terminal (Unix-based OS or WSL)
  - Command Prompt/Powershell (Windows)

- **Code Editor**: UI for editing code and related files
  - GUI-oriented: VS Code, Atom, Eclipse, etc.
  - CLI-oriented: Vim, emacs, nano, etc.

- **Repository**: Directory containing all of your project files

- **Local**: Refers to your machine, e.g. files on your hard disk

- **Remote**: Refers to another machine, e.g. GitHub, my laptop

Wait... why not use GitHub Desktop or VS Code Source Control?

- Recommend starting with a CLI (command-line interface)
- Helps understand the Git workflows
- Makes using GUI-oriented tools easier later on

So... what is GitHub?

- Internet-hosting platform for git repositories
  - Owned by Microsoft

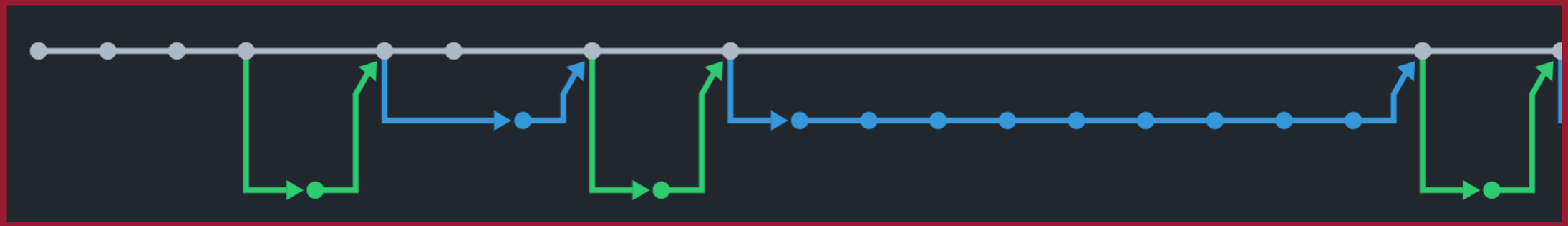
- Commonly used for open-source projects
  - Allows for private projects too

- Provides helpful features like:
  - Issue Tracking
  - Changelog
  - Documentation Wiki

Fundamental Git Commands

- `init`
  - Initializes a git repository
- `clone`
  - Bring a repository hosted on a remote platform like GitHub to your local machine
- `status`
  - Show the list of files changed in the codebase
- `add`
  - Stage (track) your files and changes in Git
- `commit`
  - Save your changes as a new commit (checkpoint) with a message
- `push`
  - Push your local code to the remote repository
- `pull`
  - Get latest code from remote repository (branch) to your local machine

Branching



1 `git branch`

List all local branches

2 `git branch <branch_name>`

Create a new local branch

3 `git checkout <branch_name>`

Move into an existing local branch

4 `git checkout -b <branch_name>`

Create a new local branch, and move into it

Questions?
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Anything?

Live Practice

CICSoft - Tech Hour Ideas

Via this form, you can let the CICSoft team know what you want us to discuss in future tech hours. This can be anything related to technology or regarding internships!

cicsoftumass@gmail.com (not shared) Switch account

* Required

What's on your mind? *

Your answer

Submit

Clear form

Never submit passwords through Google Forms.

Questions?
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Anything?

Thanks for joining us today!