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Intro to Git and Github

The purpose of today's class

- Today we will learn about what open source software are, git and GitHub are, what the difference between the two are. We will commit code in a few different ways our GitHub Repositories.

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What will we accomplish today

- Create our Github accounts and Cloud 9 accounts
- Develop a clear understanding of what open source software is
- Know what the difference between Git and Github are
- Create a few markdown files
- Clone and fork repos
- Create repositories
- Commit our code in a few different ways including the command line
- Submit pull requests

Why I decided to teach this class

- This content was very hard for me master
- The language of git can be complex and tricky at first but once you start to understand it – it's pretty easy to understand
- If this is something you enjoy doing, you should consider becoming a software engineer

Introductions

- Name
- Favorite movie
- What brings you here today

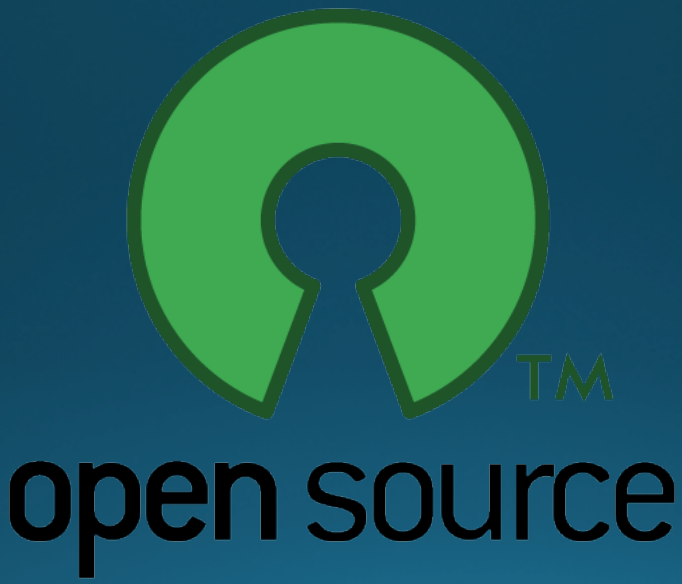
My Story

What is git

What is GitHub

These tool help us work together smarter

Open Source Software



Let's take a look around GitHub

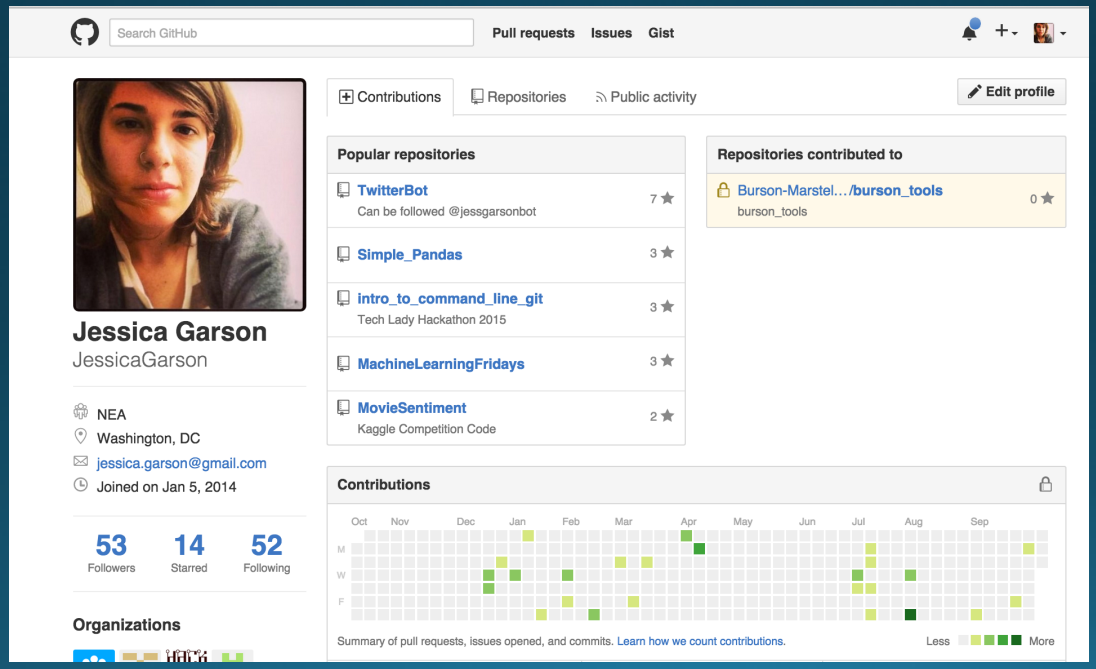
- We will check out a few repositories and play around for a minute

There are a few ways to add files to GitHub

- Manually
- The command line
- Graphical Interfaces
  - GitHub has their own one
  - SourceTree
  - I used the command line tools built into PyCharm sometimes – other editors have git interfaces

Let's make our own GitHub profile

www.github.com



Let's Create Our Cloud 9 account

https://c9.io/web/sign-up/free

Let's build a house

- As a class we will separate into groups and each draw a different room of house.
- Each group checkout a room of the house
- When we are done we will leave our rooms in the staging location
- As a class we will piece together the house

Lets debrief on this

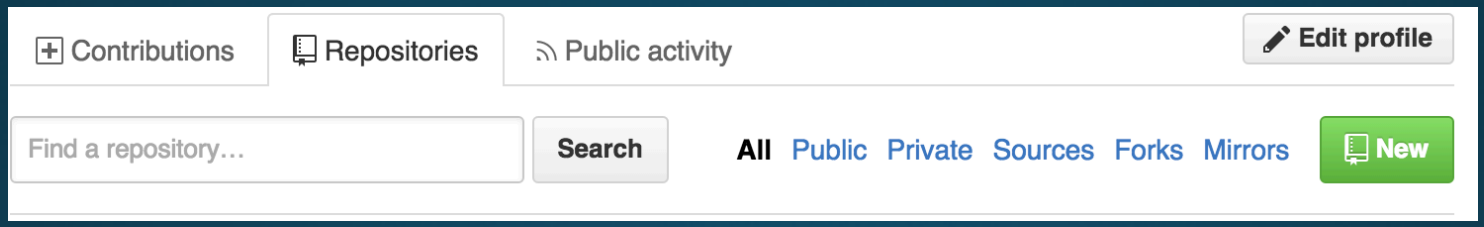
- How did we work together in this activity?
- How does this activity teach us about Git and GitHub?
- Did this workflow help is in managing how we were working together on this activity

Fun fact

- The terms repo and repository are typically used interchangeably

Let's Create Our First Repository

- Let's go into the GitHub and create our first repository



- From there we will use to text command and the editor in cloud 9 to create a text file inside of cloud 9 and commit the file by cutting and pasting the file.

Let's create a text file inside of cloud 9

- We will use the touch command to create new files from the command line
- From there we will commit this file to our git repository using the following commands
  1. git add newfile.txt
  2. git commit – m "adding new file"
  3. git push origin master

The difference between a clone and a fork

- Cloning copies the repository into our own machine
- Forking allows us to have our own copy on GitHub – we can later compare between forks and changes to the repository that way
- Let's fork the repo of todays class and clone the repo into our cloud 9 environment

Let's Clone Our First Repository

Step one: Let's grab the https link from the GitHub repo

Let's add another file from the command line

```
jessicagarson1:~/workspace $ touch newfile.txt
```

Let's Clone Into Our First Repository

Step Two: Let's clone the repository inside of our cloud 9 environment

```
jessicagarson1:~/workspace $ git clone https://github.com/JessicaG
arson/testforclass.git
```

Creating a Repository From the Command Line

```
jessicagarson1:~/workspace $ echo "# new" >> README.md
jessicagarson1:~/workspace $ git init
Initialized empty Git repository in /home/ubuntu/workspace/.git/
jessicagarson1:~/workspace (master) $ git add README.md
jessicagarson1:~/workspace (master) $ git commit -m "first commit"
[master (root-commit) 7baeb55] first commit
 1 file changed, 18 insertions(+)
 create mode 100644 README.md
jessicagarson1:~/workspace (master) $ git remote add origin https:
//github.com/JessicaGarson/new.git
jessicagarson1:~/workspace (master) $ git push -u origin master
Username for 'https://github.com': JessicaGarson
Password for 'https://JessicaGarson@github.com':
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 554 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/JessicaGarson/new.git
 * [new branch]      master -> master
Branch master set up to track remote branch master from origin.
```

A few helpful commands in trouble shooting

- git status - list's the files you've changed and tells you what you have or haven't committed
- git diff – allows you to view all the merge conflicts
- git branch – allows you to see all the branches and let's you know which branch you are currently on

Let’s play around

- Create a few text files
- Add, commit, and push the files you create

Markdown – the language of communication

- Markdown helps us communicate better with each other.
- It is displays content as HTML
- There is a GitHub flavored version of markdown

Let's make our first markdown file

- There is a sample profile in the folder titled "profile resources" in the repository of today's class
- There are two links that can be helpful as well in this profile
- Let's make our first markdown file

Let's add our files to the main repository

Step one: Let's clone our forked repo from earlier

- Make sure you grab your html

Let's add our files to the main repository

Step two: Clone your forked repo

```
jessicagarson1:~/workspace $ git clone https://github.com/JessicaG
arson/testforclass.git
```

Let's add our files to the main repository

- Step 3: Stage our file

```
jessicagarson1:~/workspace (master) $ git add Jessica_Garson.md
```

Let's add our files to the main repository

- Step 4: Commit the file with a message

```
jessicagarson1:~/workspace (master) $ git commit -m "adding my pro
file"
```

Let's add our files to the main repository

- Step 5: Commit the file with a message

```
jessicagarson1:~/workspace (master) $ git commit -m "adding my pro
file"
```

Let's add our files to the main repository

- Step 5: Push the file

```
jessicagarson1:~/workspace (master) $ git push origin master
```

Submitting a pull request

- Can we get one volunteer to come up to the front
- We are going to log into GitHub, compare forks, and submit a pull request
- Let's all submit a pull request

Typical workflow of software teams

- Usually new branches are created when one works on a project. You would usually create and checkout a new branch
- From there you would add your files, stage them, commit and push to the branch

Do This at Home

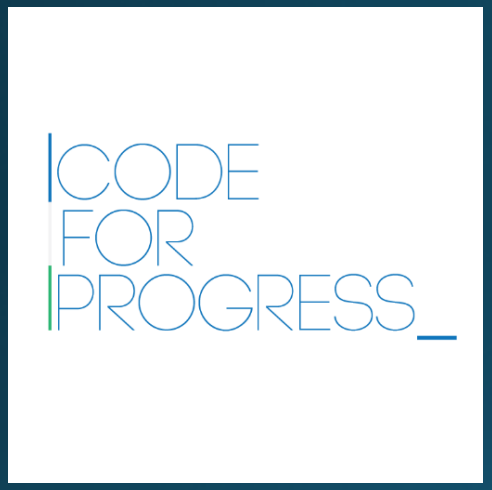
Shell Environments

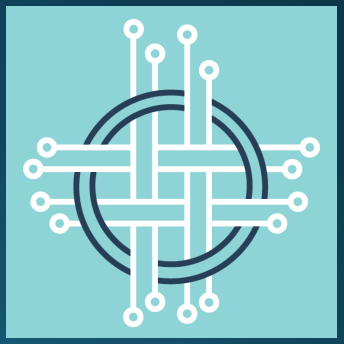
- On a mac – there is a Linux environment that comes pre-installed called the terminal
  - To get to the terminal go to finder select utilities and inside the folder you should
    - On a PC – There are many options but I really like babun - http://babun.github.io/

Text Editors

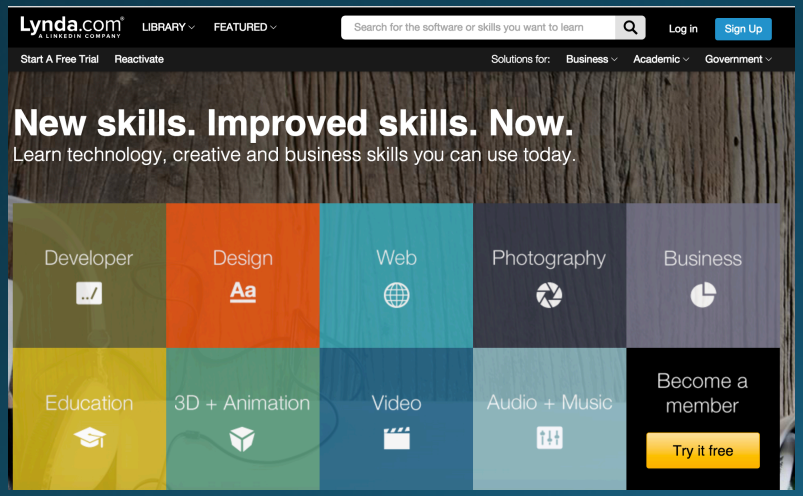
- Sublime Text - http://www.sublimetext.com/
- Atom - https://atom.io/
- Notepad ++ for PC only - https://notepad-plus-plus.org/

The coolest thing about DC right now

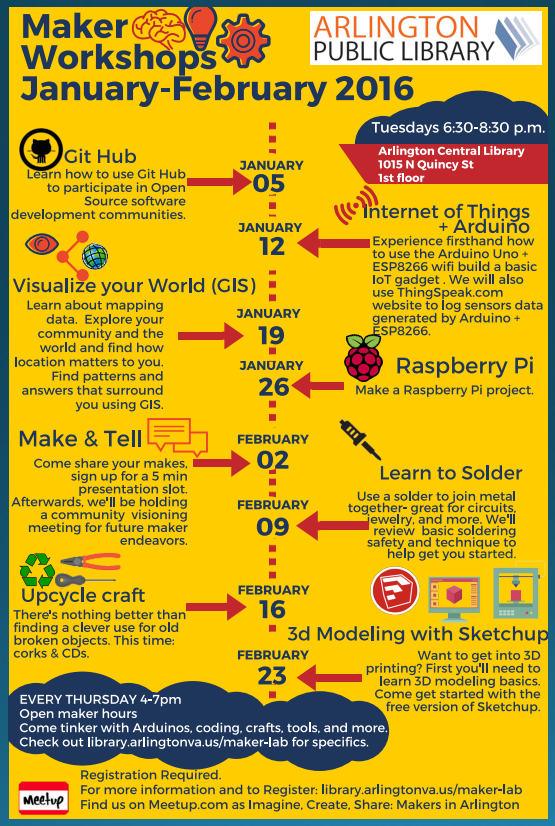




What Resources Does The Library Offer?



Other Classes in this Series



Questions, Comments, Feedback

- Let us know if you have any