Database Systems
CS312
Tools for Working with Data

Week 1: 4th Sept
Fall 2020
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ClassDocs: All Class Materials

- We will be using GitHub to manage all class material. The links below are used to *pull* over your to `classDocs` repository to get slides and labs.

- **HTTP based repository pull**: works in absence of installed ssh keys.
  - `https://github.com/Allegheny-Computer-Science-312-F2020/classDocs.git`
- **SSH based repository pull**: uses installed ssh keys.
  - `git clone git@github.com:Allegheny-Computer-Science-312-F2020/classDocs.git`

GitHub

git

Installing Git

- **MacOS**: go to your *Terminal*, type in "`git`" and if not installed, MacOS will offer to install the free *Xcode* software development suit from Apple that contains `git`.
- **Ubuntu**: `Git` may already be installed. If not, use the command, `sudo apt install git` to install `git`. You will need your password.
  - Good ref: https://www.digitalocean.com/community/tutorials/how-to-install-git-on-ubuntu-20-04
- **Windows**: Git does not come with the Windows OS and so it must be installed. Please visit https://gitforwindows.org/ to install and learn more.

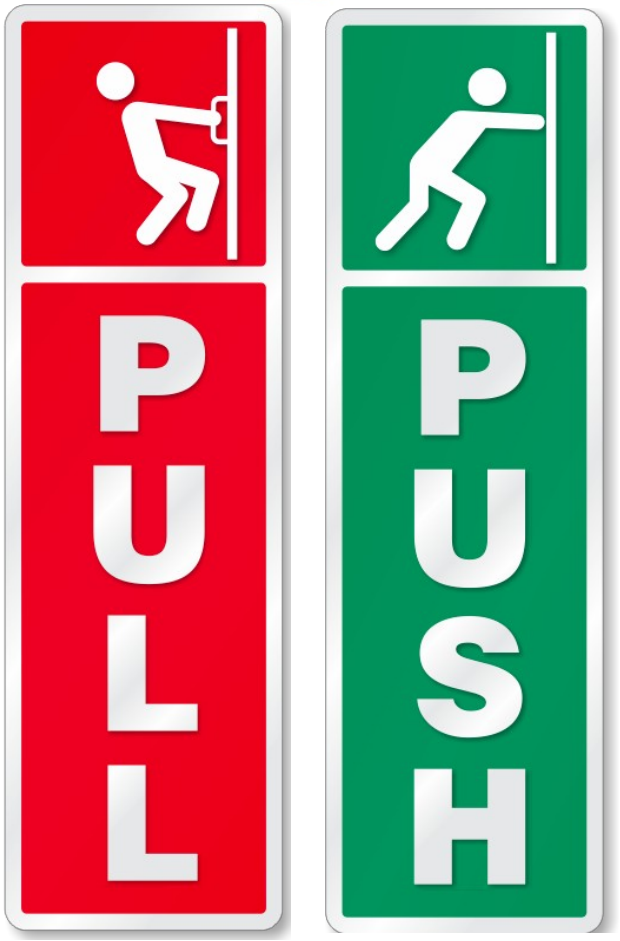
Git and Your Class Repositories

- **PULL** your classDocs before class (cloud data sent to you).

```
git pull
```

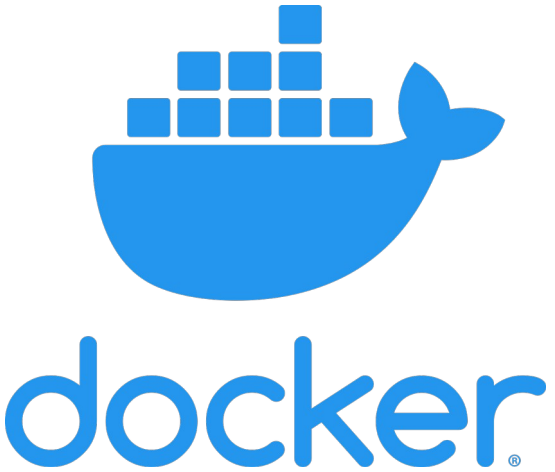
- **PUSH** assignment repos to submit homework (your data sent to the cloud)

```
git add -A
git commit -m “My mesg”
git push
```



Docker for Running Software

- A container in which to run programs in isolation.
- Please be sure that you machine will work with the regular Docker, **not** Docker ToolBox.
- Verify: www.cs.allegheny.edu/canirundocker



Yes!

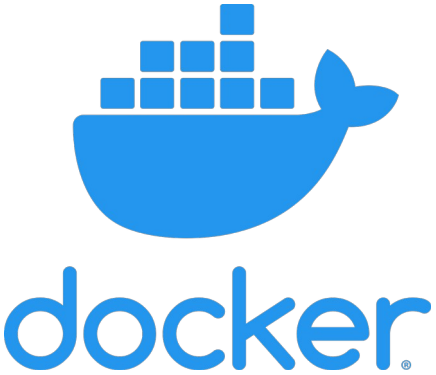
Check the docker docs for more information about the Linux system requirements and installation procedure.

No / Maybe

- Windows: Purchase a Windows Enterprise activation key
- Dual boot: Linux and Windows
- Use another computer

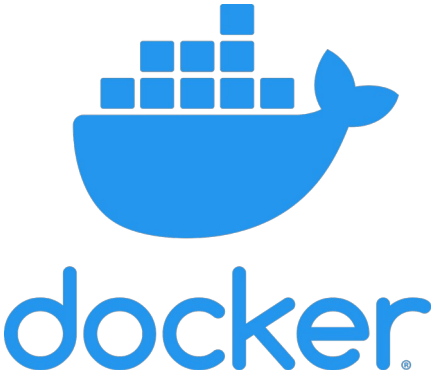
Get Started With Docker

- Dept of CS video (Dr. Jumadinova):
  - https://www.youtube.com/watch?v=iceAgNEORCA
- Main site
  - https://www.docker.com/
- Downloads
  - https://www.docker.com/get-started
- Tutorial
  - https://www.docker.com/101-tutorial



Exploring Docker

- Play-with-Docker
  - https://www.docker.com/play-with-docker
- Once Docker has been installed, you can play with it.
- Build the container:
  - `docker run -dp 80:80 docker/getting-started:pwd`
- Then browser url: http://localhost/



Atom:
Suggested for Programming

- We will be programming and Atom facilitates this task
- If you do not already have it, please download it from: https://atom.io/

Please Install Your Software

- We will be using Git and GitHub. Please setup your account **by next class** at https://github.com/ and also download a Git client software from https://git-scm.com/downloads (All OS's) or https://gitforwindows.org/ (Windows only)
- We will also be using the Atom editor to write code. Please download and install your editor from https://atom.io/
- For most labs, we will be using Docker. Please download and install your Docker Desktop installation (note: not the Docker ToolBox) from https://www.docker.com/. Help: https://hub.docker.com/
- If necessary, please help each other to install this software. Or see the department's Technical Leaders with questions.

Links to download sites are above!