Database Systems
CS312
Tools for Working with Data

Spring 2022

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ClassDocs: All Class Materials

- We will be using GitHub to manage all class material.
- The link below takes you to the main `classDocs/` repository. The second two links are used to pull these files to place them on your local machine.

- `Main:`
  - `https://github.com/Allegheny-ComputerScience-312-S2022/classDocs`

- `Ssh:`
  - `git clone git@github.com:Allegheny-ComputerScience-312-S2022/classDocs.git`

- `https:`
  - `git clone https://github.com/Allegheny-ComputerScience-312-S2022/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.

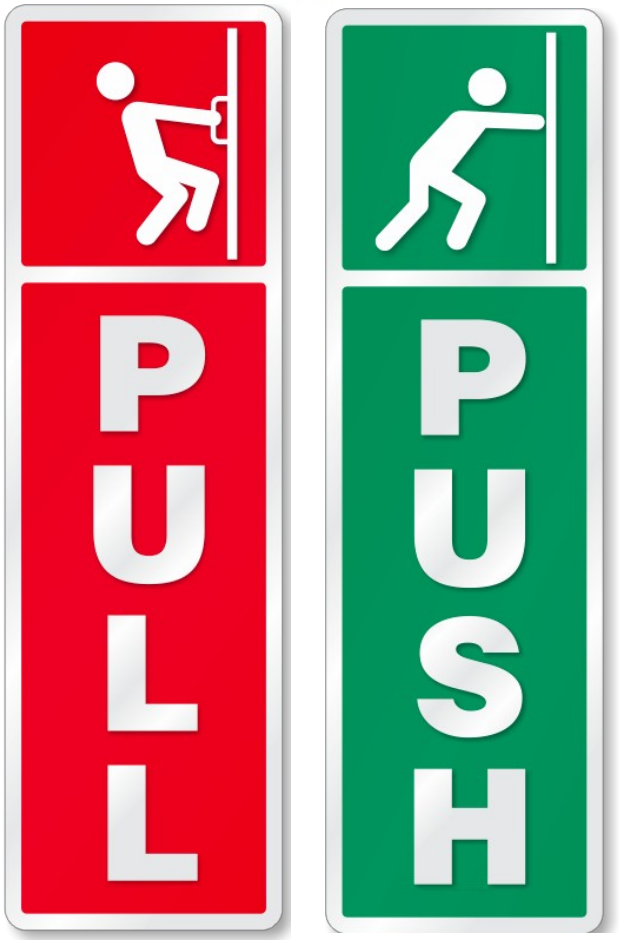
Git and Your Class Repositories

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

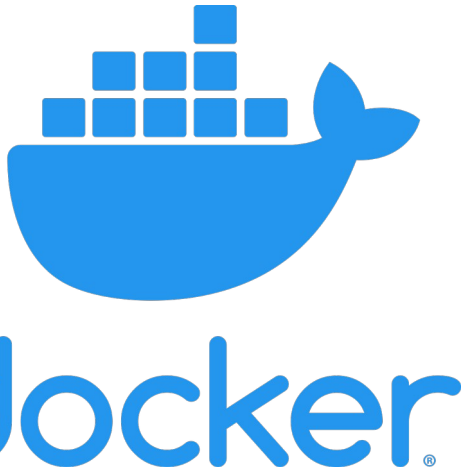
```
git pull
```

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

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



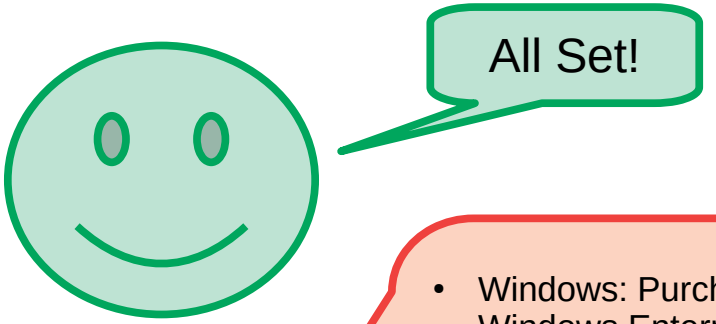
Docker for Running Software



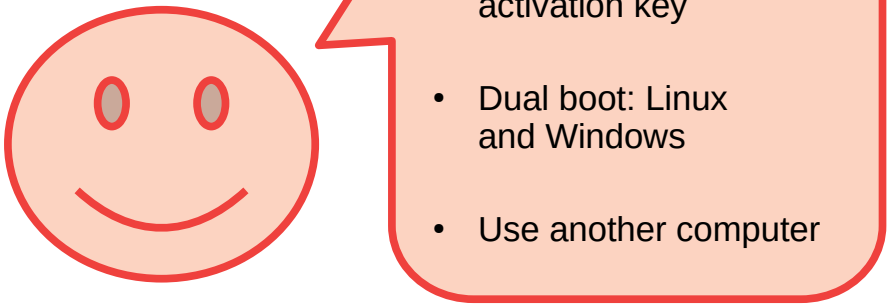
- A container in which to run programs in isolation.
- Please be sure that you machine will work with the regular Docker, **not** Docker ToolBox.
- Verify: www.cs.allegheny.edu/canirundocker

Yes!

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



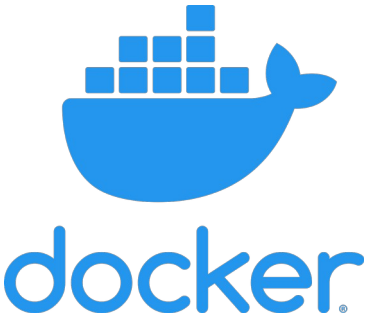
No / Maybe



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

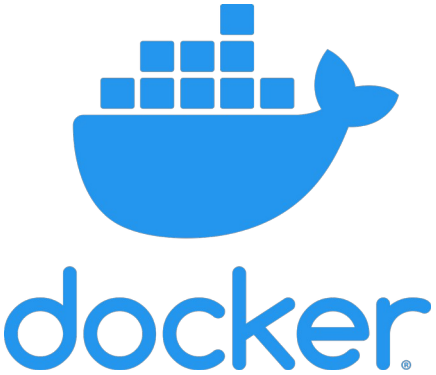
Get Started With Docker

- 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
- Tutorials
  - https://www.docker.com/101-tutorial
  - https://docs.docker.com/desktop/windows/install/



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/

SQLite3

- Lite, portable and *server-less* database system used in class

- Install:
  - https://www.sqlite.org/download.html

- Windows Reference:
  - https://www.sqlitetutorial.net/download-install-sqlite/

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 many 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!