CSCI 315: Data Structures
Installing Bash on Ubuntu on Windows

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January 7, 2019

What is it?

- I have always taught this course from a *nix environment.
- Recently, Microsoft has create a Linux Subsystem for Windows.
- With this subsystem we can run *nix commands without needing to virtualize resources

Overview

- There are two main steps to install Bash:
    1. First enable to subsystem for Windows
    2. Install the Ubuntu environment
- Afterwards you can install any software that would work under Ubuntu 16.04.
- Our machines already have the subsystem enabled, but you are in charge of installing bash!
- Keep in mind each part of this can take awhile as Windows enjoys rebooting.

Enabling Bash Part 1 of 3

- First ensure you have Windows 10 with at least the creator's update.
    1. Press Windows key + R
    2. type in winver and press enter
    3. Make sure you have version 1703 or higher
    4. If you don't you will need to install the Creator's update first.

- Warning: If you don't install the Creator's update than Ubuntu will not have the necessary software for this course!

Enabling Bash Part 2 of 3

- Now Enable Developer mode:
    1. Settings->Update and Security->For Developers
    2. Turn on Developer Mode:
    3. You may need to wait for components to install and then reboot.

Enabling Bash Part 3 of 3

- Now Enable the subsystem:
    1. Open Control Panel
    2. Click Programs-> Turn Windows features on and off
    3. Check "Windows Subsystem for Linux (Beta)
    4. Click okay.
    5. You will have wait for components to install and then reboot.

Bash Installation

- Now install Bash:
    1. open up the command line
    2. type in 'bash' and hit enter
       - If you get an "Cannot launch bash because the LX subsystem has an install, uninstall, or servicing operation pending." Get me because you will need to run "sc stop lxssmanager" as administrator first
    3. Press y and enter to download and install
    4. Create a unix username and password for you
    5. Now install some basic packages:
       $ sudo apt install g++ make vim-gtk valgrind gnuplot
- This whole process will take a long time, be ready for it!

SSH over to Zion

- An alternative to all of this is to SSH (putty) over to Zion.
- Zion is a machine running on the CSU network.
- To SSH over:
    - Linux: $ ssh -p 2222 coins.csuniv.edu
    - Windows: Download putty and enter coins.csuniv.edu with port 2222
    - For either OS, use your CS CSU username and password.
- All packages should be installed.
- Keep in mind that the system does go down from time to time, but should remain up.