Hi, I think I managed to get everything running in windows as per the instructions, but it was a bit of a convoluted process, so I thought to share what worked for me. This assumes “C” is the letter of your Hard Drive. Change /mnt/c/… change c to your drive letter.

MPCS_56600-Lab_1 (uchicago.edu)

You will need to enable the Windows Subsystem for Linux (WSL 2) and install a flavour of Linux from the Microsoft App Store (I chose to use Ubuntu)

1, Download and Install Bitcoin Core for Windows from Bitcoin Core :: Download - Bitcoin

2, Run Bitcoin Core and Create A Wallet, close the app.

If you followed the default install you'll have two directories to remember:

1: C:\Program Files\Bitcoin\ - this is where the main client is stored (bitcoin-qt.exe)

C:\Program Files\Bitcoin\daemon - is where bitcoind.exe is stored

2: C:\Users\[YourUsername]\AppData\Roaming\Bitcoin\ - this is where your config data is stored

3. Download the bitcoin.MAINNET.conf file and save it to C:\Users\[YourUsername]\AppData\Roaming\Bitcoin\

4. edit the file in Notepad as per the Lab 1 instructions and save it

5. Download the bitcoin.conf file and save it to the same directory as before

6. Make the edits in Notepad as per the Lab 1 instructions

7. Now switch to either Command Prompt or Windows Powershell (note run these as an administrator)

8. type

cd \Program Files\Bitcoin\daemon (in command prompt) or

cd '\Program Files\Bitcoin\daemon' (in Windows Powershell)

9. type

bitcoind -testnet --printtoconsole (command prompt) or

.\bitcoind.exe -testnet --printtoconsole (Windows Powershell)

Now the fun parts where we use a combination of Powershell and Ubuntu to make everything work in windows

10. in Powershell or Command Prompt type

doskey dir=ls

This will allow you to use "ls" to list a directory

11. let's make the symbolic link in Windows Powershell (run as an administrator) as outlined in the Lab 1 instructions, but working for Windows

type

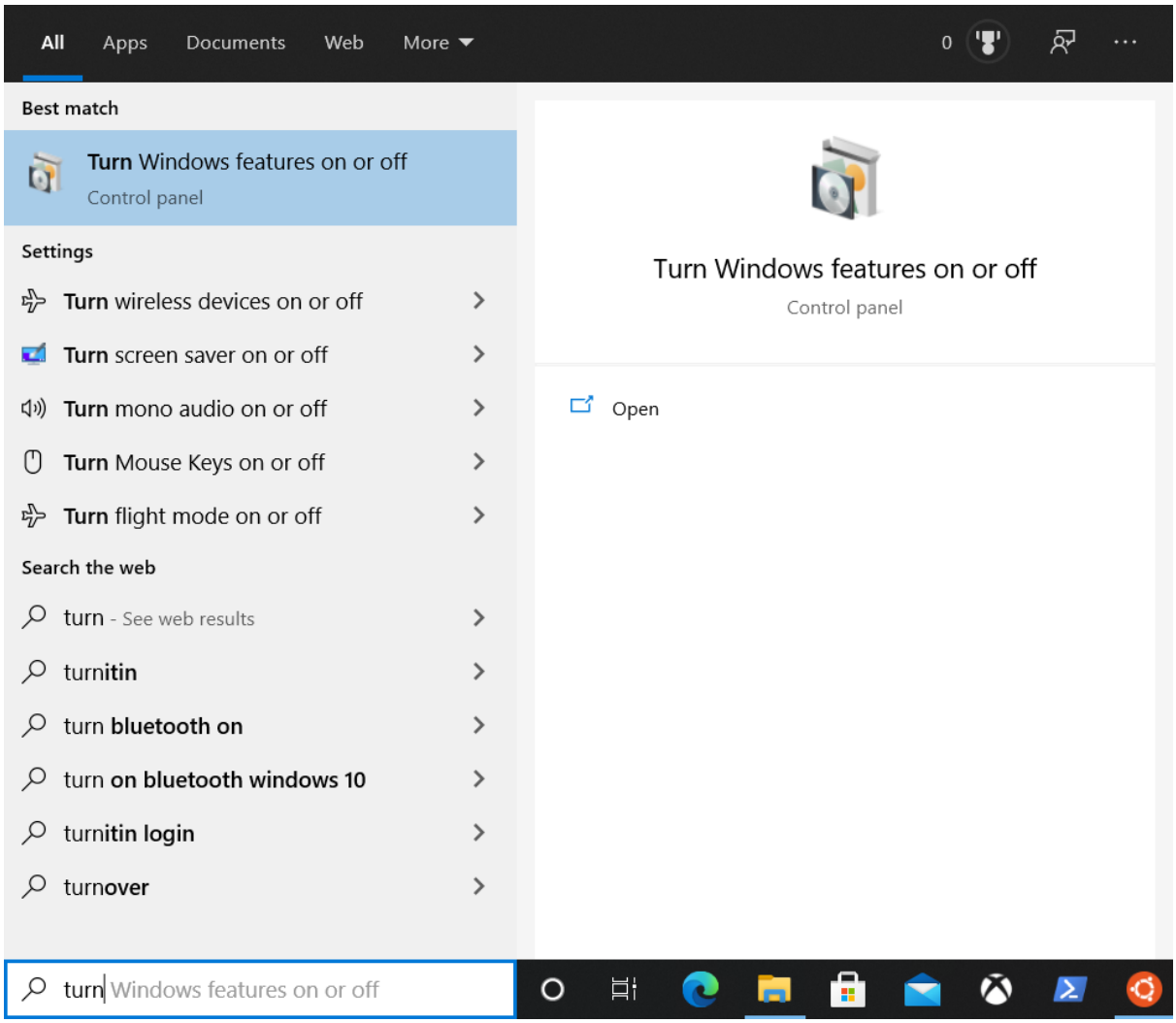
New-Item -ItemType SymbolicLink -Path "c:\Program Files\Bitcoin\daemon\.bitcoin" -Target "c:\Users\[YourUsername]\AppData\Roaming\Bitcoin\"

you should see your Bitcoin AppData directory under the daemon folder in Program Files now as bitcoin, it's not moved there, its just linked there.

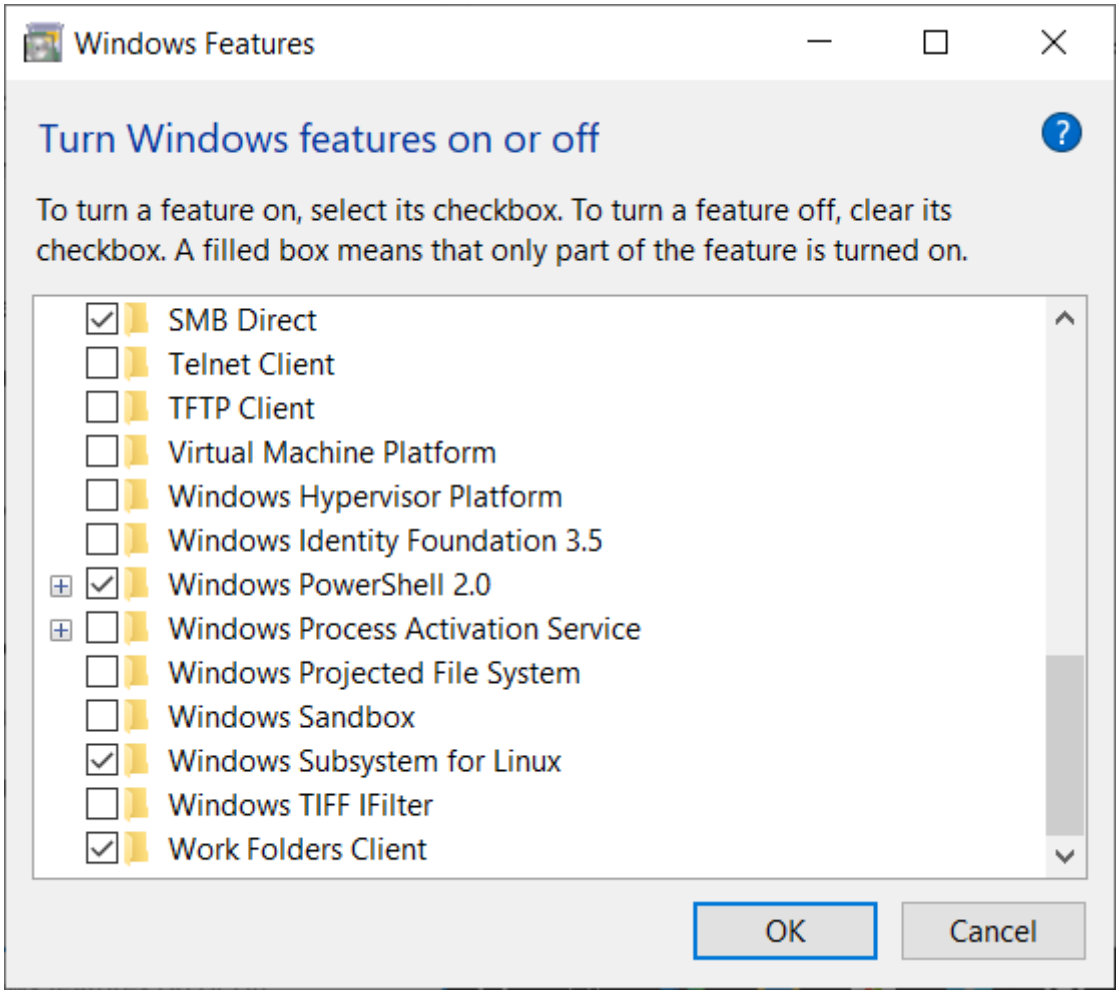
you can go ahead and type cd .bitcoin and then type dir or ls and you'll get the directory listing under your AppData directory - it's not quite the same as type Cd ~/.bitcoin but it does the job within the directory structure. You can do the cd ~/.bitcoin in Ubuntu when its installed.

12. Now for turning on Windows Subsystem for Linux (WSL)

From Start menu, type “Turn on” and you should see “Turn Windows Features On or Off”

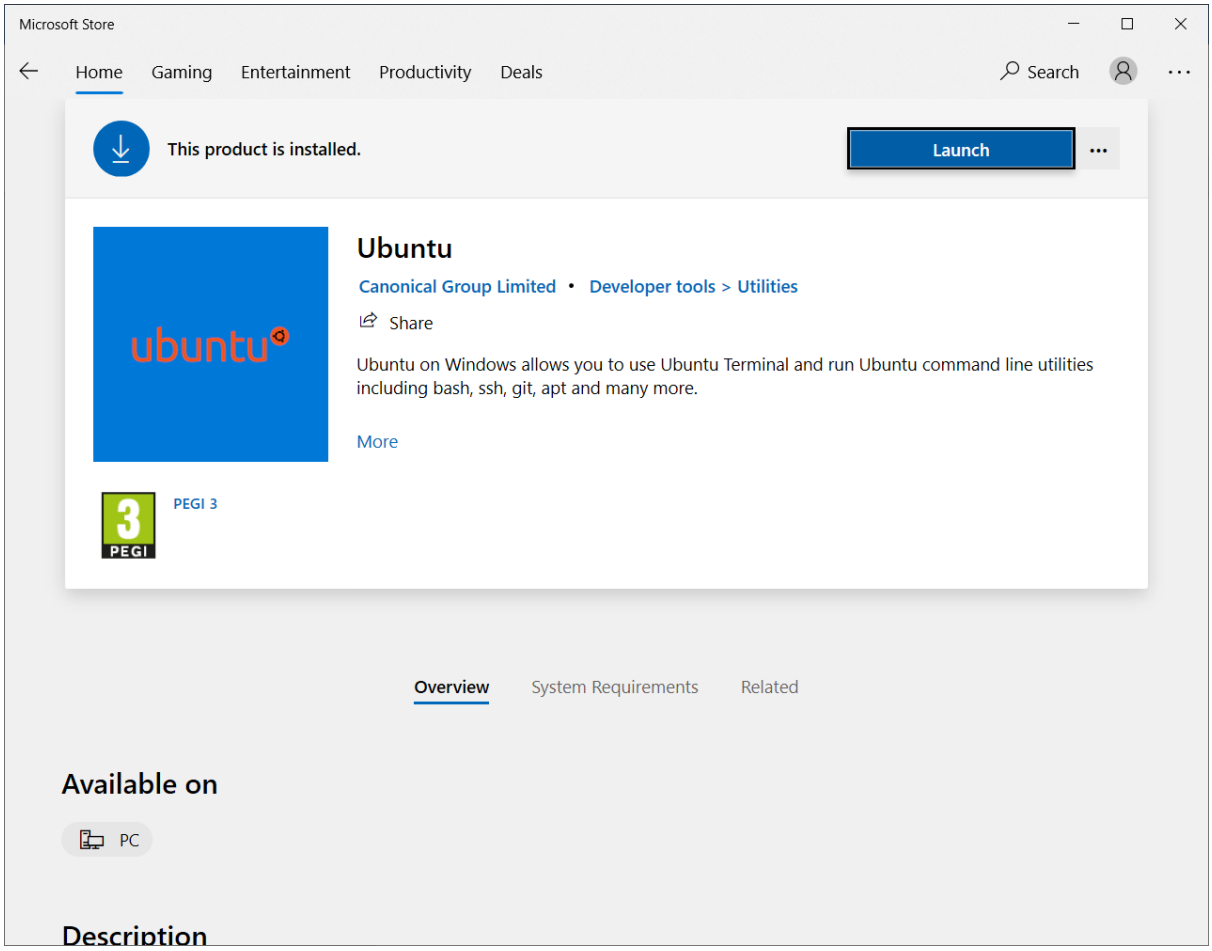


Click on that, scroll down to Windows Subsystem For Linux



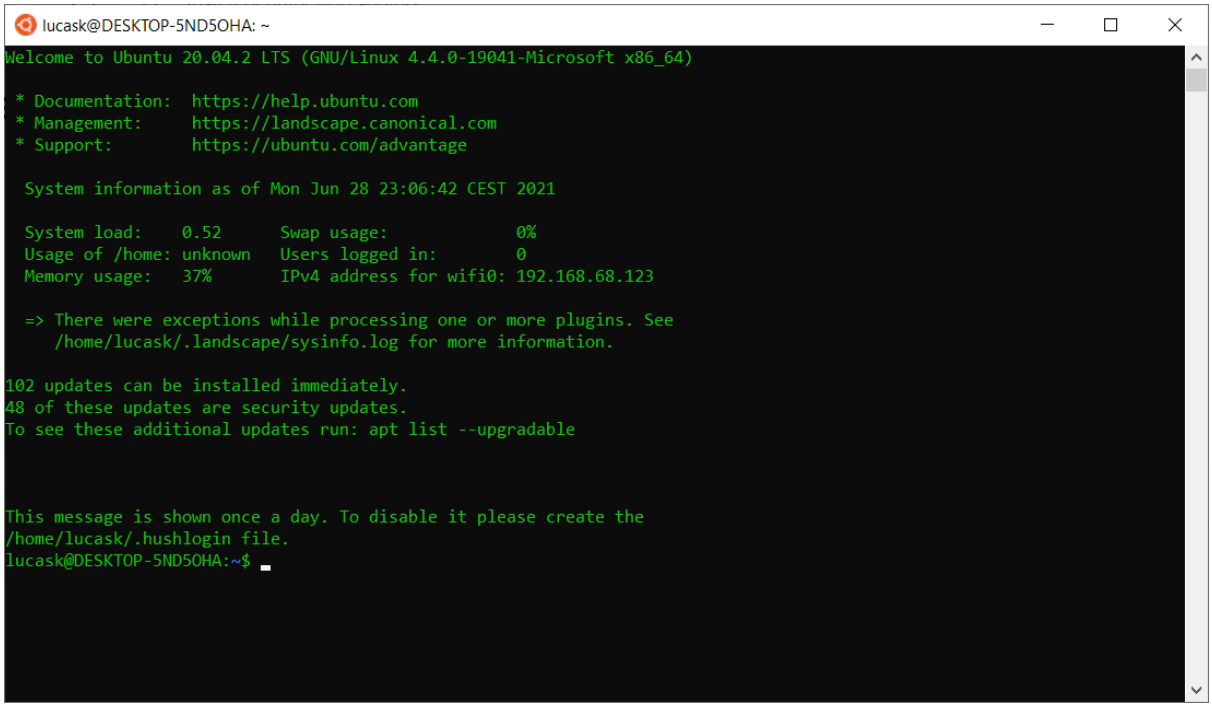
Click OK and reboot your machine.

13. Once logged in, go to Windows Store, and download and install Ubuntu



Once installed, Launch it and create your username and password, don't forget these, as you'll need these throughout the instructions.

14.



15. Lets establish the symbolic link to your AppData

`In Ubuntu type (assuming your User drive is drive C`

`ln -s /mnt/c/Users/[YOUR USERNAME]/AppData/Roaming/Bitcoin/ .bitcoin`

as per the lab instructions

we can simply type (don't forget the '.', it's a hidden directory):

cd ~/.bitcoin

16. now for bashrc.addendum.sh file

As per the lab instructions download the file, to your windows home user directory and now edit in Notepad to look like this

TO ADD TO STUDENTS BASHRC

export BLOCKCHAIN='testnet'
export BX_CONFIG=/home/linuxbrew/.linuxbrew/etc/libbitcoin/bx.testnet.cfg

alias btcdir="cd /mnt/c/Program\ Files/Bitcoin/daemon/.bitcoin/" #linux default bitcoind path

alias bitc='/mnt/c/Program\ Files/Bitcoin/daemon/bitcoin-cli.exe -${BLOCKCHAIN}'
alias bitd='/mnt/c/Program\ Files/Bitcoin/daemon/bitcoind.exe -${BLOCKCHAIN} -printtoconsole'

alias bitd-MAINNET='/mnt/c/Program\ Files/Bitcoin/daemon/bitcoind.exe -conf=bitcoin.MAINNET.conf -printtoconsole'

alias bitc-MAINNET='/mnt/c/Program\ Files/Bitcoin/daemon/bitcoin-cli.exe -conf=bitcoin.MAINNET.conf'

alias btcinfo='bitcoin-cli -${BLOCKCHAIN} getwalletinfo | egrep "\"balance\""; bitcoin-cli -${BLOCKCHAIN} getnetworkinfo | egrep "\"version\"|connections"; bitcoin-cli -${BLOCKCHAIN} getmininginfo | egrep "\"blocks\"|errors"'

#alias btcblockjson="echo \`wget --no-check-certificate -O - https://testnet.blockexplorer.com/api/status?q=getBlockCount 2> /dev/null\`"

alias btcblockjson="echo \`curl -s https://testnet.blockexplorer.com/api/status?q=getBlockCount\`"

alias btcblocksofar='echo `bitcoin-cli -testnet getblockcount 2>&1`'

alias btcblocktotal='echo `btcblockjson` | sed "s/.*blocks.:\([0-9]*\).*/\1/"'

alias btcblock='echo `btcblocksofar`/`btcblocktotal`'

alias btcinfo-MAINNET='bitcoin-cli -conf=bitcoin.MAINNET.conf getwalletinfo | egrep "\"balance\""; bitcoin-cli -${BLOCKCHAIN} getnetworkinfo | egrep "\"version\"|connections"; bitcoin-cli -${BLOCKCHAIN} getmininginfo | egrep "\"blocks\"|errors"'

alias btcblock-MAINNET='echo `bitcoin-cli -conf=bitcoin.MAINNET.conf getblockcount 2>&1`/`wget -O - https://blockexplorer.com/api/status?q=getBlockCount 2> /dev/null | cut -d : -f2 | rev | cut -c 2- | rev`'

17.

In ubuntu type

cp /mnt/c/Users/[Your Username]/bashrc.addendum.sh ~/

this will copy that addendum file to your Ubuntu home directory

then in Ubuntu type

cd
cat bashrc.addendum.sh >> .bashrc

as per the lab 1 instructions

18. type exit in Ubuntu, and then relaunch it

19. Now for bitcoin explorer

Install Linuxbrew, in Ubuntu type

```
/bin/bash -c "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

When that's done, you can follow the bitcoin explorer install, but before you do, install a C++ compiler

Type

Brew install g++

When that's finished

Then type brew install gcc

Type

brew install automake berkeley-db4 libtool boost miniupnpc openssl pkg-config protobuf libevent python3

Notice I removed c++11 and qt. Don't bother installing those, they don't work.

brew install jq

Then, install some more:

brew install zmq
brew install wget

Don't bother with the X-Code tools

20.

Install Bitcoin Explorer

Download Bitcoin Explorer from the github site here. Scroll down in the web page until you come to instructions on installing. Note there are several ways to install, one, building from scratch (instructions are there for Mac, Linux, and Windoze), second, using brew to install (on Mac). Let's use brew to install Bitcoin Explorer. (Linux/Windoze users simply follow the instructions on the web page for your OS). Mac users, execute:

brew install bx

If all goes well, type the following:

bx | head

You should see the following:

Usage: bx COMMAND [--help]

Version: 4.0.0

and a list of the bx commands. That's all good.

21. Now for the Subversion

In Ubuntu type, this will install Subversion

sudo apt-get install subversion

22.

In Ubuntu

```
cd ~
svn co https://phoenixforge.cs.uchicago.edu/svn/CNetUID-mpcs56600-sum-21
mpcs56600-work
```

23
type

ls -laF ~/.bitcoin/* > ~/mpcs56600-work/Lab1/lab.1.out.txt

cd ~/mpcs56600-work/Lab1/
svn add lab.1.out.txt
svn ci -m "Write something describing wht youre doing here"

24. If you want the cluster files in Command Prompt (not Ubuntu) type

scp YOURCNETID@linux.cs.uchicago.edu:/home/mark/pub/56600/pdfs/*.pdf
c:\Users\USERNAME\DIRECTORY\