CS 380

Lab 1
Getting Started

Step 1:
if you do not have an account on Bryn Mawr CS then get one. To do so, send email to David Diaz (ddiaz1@brynmawr.edu) requesting an account. cc me: gtowell@brynmawr.edu. Make the subject: account request. Say it is for cs380. Be sure to send this email from your brynmawr/Haverford email address.

If you have simply forgotten your account name / password, do as above but make the subject, account recovery.

Step 2:
(If you have already done this then you are almost done with the lab!)
Create a Public key / Private key pair. Install the private key on your personal device and the public key on your CS account. If you do this correctly you will not have to enter your CS department password ever again!

Important, when you create the pair, do NOT use a passphrase. When asked for the passphrase, just hit return.

Directions for creating the pair:
MAC: https://docs.joyent.com/public-cloud/getting-started/ssh-keys/generating-an-ssh-key-manually/manually-generating-your-ssh-key-in-mac-os-x
Windows 10: https://phoenixnap.com/kb/generate-ssh-key-windows-10 (Use the Open-SSH client instructions
(There are lots of other places you can get similar directions)

Once you have the pair created,
1. open a terminal
2. cd to the location of the pair. (This should be the directory ~/.ssh)
3. You should see two files id_rsa and id_rsa.pub
4. open an ssh session to powerpuff
    1. Confirm that the directory ~/.ssh exists
    2. if that directory does not exist, create it.
    3. If the directory does exist, cd into it and check its contents. In particular, look for a file named “authorized_keys”. If it exists then in step 5, instead of copying your public key into this file (and overwriting it, you should copy your public key to some temp name then append your public key to the end of the authorized keys file)
    4. close this ssh session
5. back on your local machine
    1. scp id_rsa.pub YOU@powerpuff.cs.brynmawr.edu:.ssh/authorized_keys
6. Open a new ssh session to powerpuff. If you have done everything correctly you will not be asked for a password.

Step 3:
(Optional but a good idea) Install Visual Studio Code (VSC) on your personal machine. Almost everything we will do in cs380 (up to but **not** including writing android apps) can be conveniently done from Visual Studio code.
Within VSC install the SFTP extension. This extension allows you to work on files on your local machine and have them upload, on every save, to the CS servers. Once you have this extension set up it will automatically copy files from you local machine to the CS servers every time you save. This you can edit locally and run remotely. You will need to run remotely a lot for this course.(The easiest thing to to — and it is woefully insecure — is to put your CS department password into the SFTP configuration file.) Far better, and much more convenient, is to set up a public key/private key pair. (Read about doing so on the web) Then in your sftp.json file could look something like this

```
{
    "name": "powerpuff",
    "host": “powerpuff.cs.brynmawr.edu”,
    "protocol": "sftp",
    "port": 22,
    "privateKeyPath": "/Users/geoffreytowell/.ssh/id_rsa",
    "username": "gtowell",
    "remotePath": “Public/380-Fall2020“,
    "uploadOnSave": true
}
```

Your privatekey path, username and remote path will differ.
Note that if you do not set up a public/private key pair then you would replace the line

```
    "privateKeyPath": "/Users/geoffreytowell/.ssh/id_rsa",
```

with

```
    "password": “yourpassword",
```

However, you should have set up the private key in the previous step so you should not need to use this totally insecure system.

(Note when using sftp inside of Visual Studio code you will need to create this config file anew for every new directory you create. To create new configs, hit the F1 button then select SFTP:config

What to Hand In:
From part 2, your public key.

How to Hand this in:
Send the file, either as an attachment or just copy and paste it into the body, to
gtowell380@cs.brynmawr.edu