

Accessing/Using BulldogJ

1. We have created accounts for each of you on BulldogJ for the purpose of doing the final project. Your accounts ids are listed in this google doc:

https://docs.google.com/spreadsheets/d/ccc?key=0Aj_sqnu71LdOdE1JR2Zva0dZZmNDTnd2TTBxWEM2MlE&usp=sharing

2. Before accessing the cluster, you must create an ssh public key, which is used by the cluster for authentication. Here are instructions for making a key:

https://hpc.research.yale.edu/hpc_user_wiki/index.php/Create_SSH_Key_Creating_your_SSH_Key

Once you have your public key, please send it to jay.kubeck@yale.edu, and include your name, the name of the course (MBB 452 for these purposes), and your account ID (e.g. student5) in the email. Jay will activate your account, and a green X will appear in the spreadsheet above.

3. To access the cluster, use the command:

```
ssh studentX@bulldogj.wss.yale.edu
```

Where X is your student number.

4. Once you ssh into bulldogJ, you will be on the login node, which is not used for any significant computational tasks. To run jobs interactively, use the command:

```
qsub -q fas_long -I -l HH:MM:SS
```

For example, “qsub -q mbb452 -I -l 01:00:00” will give you one hour to run jobs interactively.

The queues that are available to you are:

mbb452 (This is the recommended queue and almost definitely the one that will give you the highest priority)

fas_low

fas_long

fas_bg

fas_very_long

5. To run a batch job (which may be helpful to run your code on larger files), you can use a run script adapted from the following:

```
#PBS -V
#PBS -l walltime=01:00:00
#PBS -q mbb452
#PBS -l nodes=1:ppn=1

cd $PBS_O_WORKDIR
```

```
# Commands go here...
```

```
echo 'helloworld' > helloworld
```

Notes about the above code:

- Change the walltime to however long you need (HH:MM:SS)
- Change the commands below the comment to whatever you need to run your script

To submit a job, you use the command 'qsub runscript', where runscript is the name of your run script.

6. If you have never used a text editor in a shell, please let me know, and I will help you find a suitable one (e.g. emacs, vi). The easiest editor I know of is called "nano", and can be started by typing the command "nano" in the terminal. Here's a bit of information on how to use nano: <http://mintaka.sdsu.edu/reu/nano.html>. Editors like vi and emacs have much greater capabilities, but are a little bit easier to use.

7. If a lot of this is new to you, email us (michael.rutenbergschoenberg@yale.edu, cong.li@yale.edu) and we will help you!