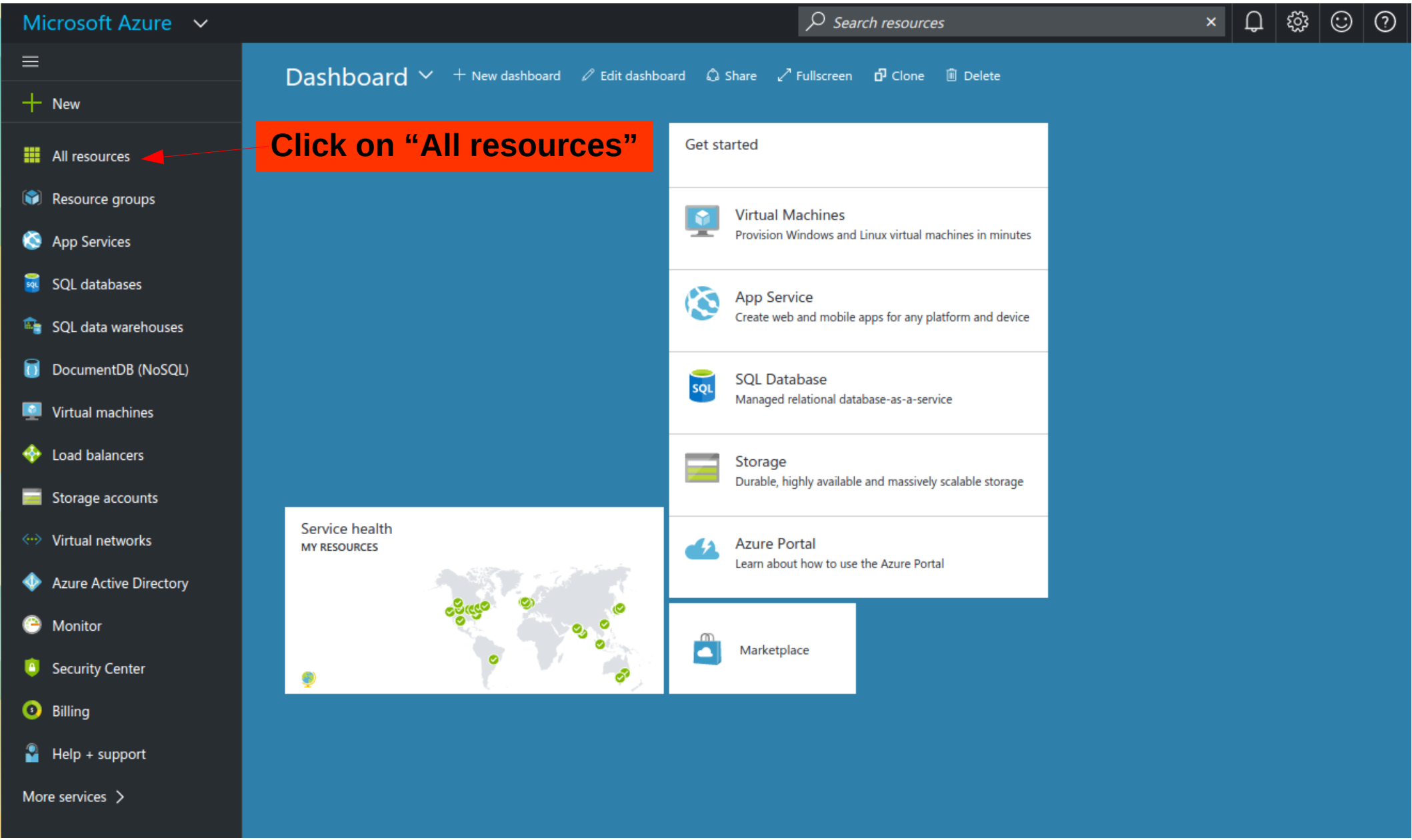
Care and Usage of your Azure VM

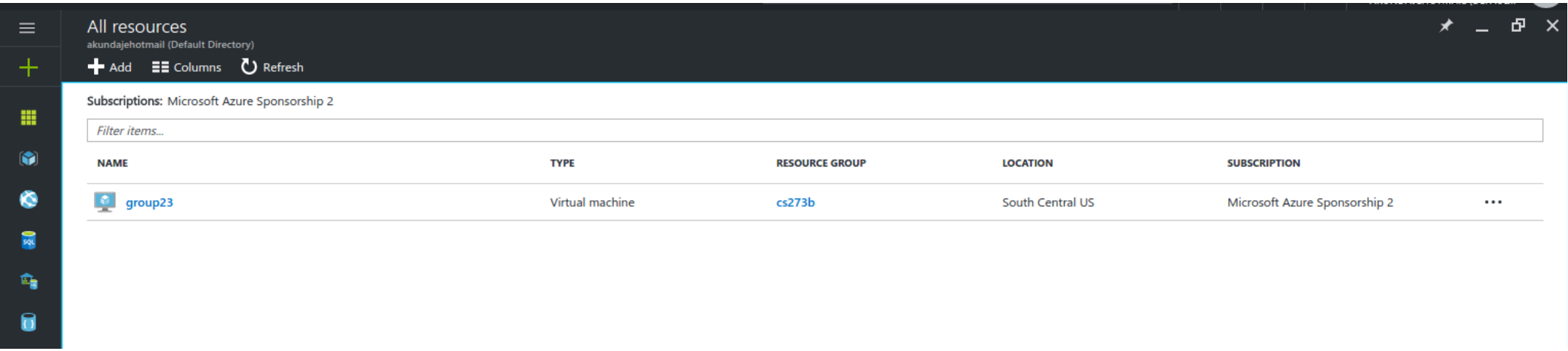
1. go to “http://portal.azure.com”
2. Login with your Stanford e-mail and password

Care and Usage of your Azure VM



Care and Usage of your Azure VM

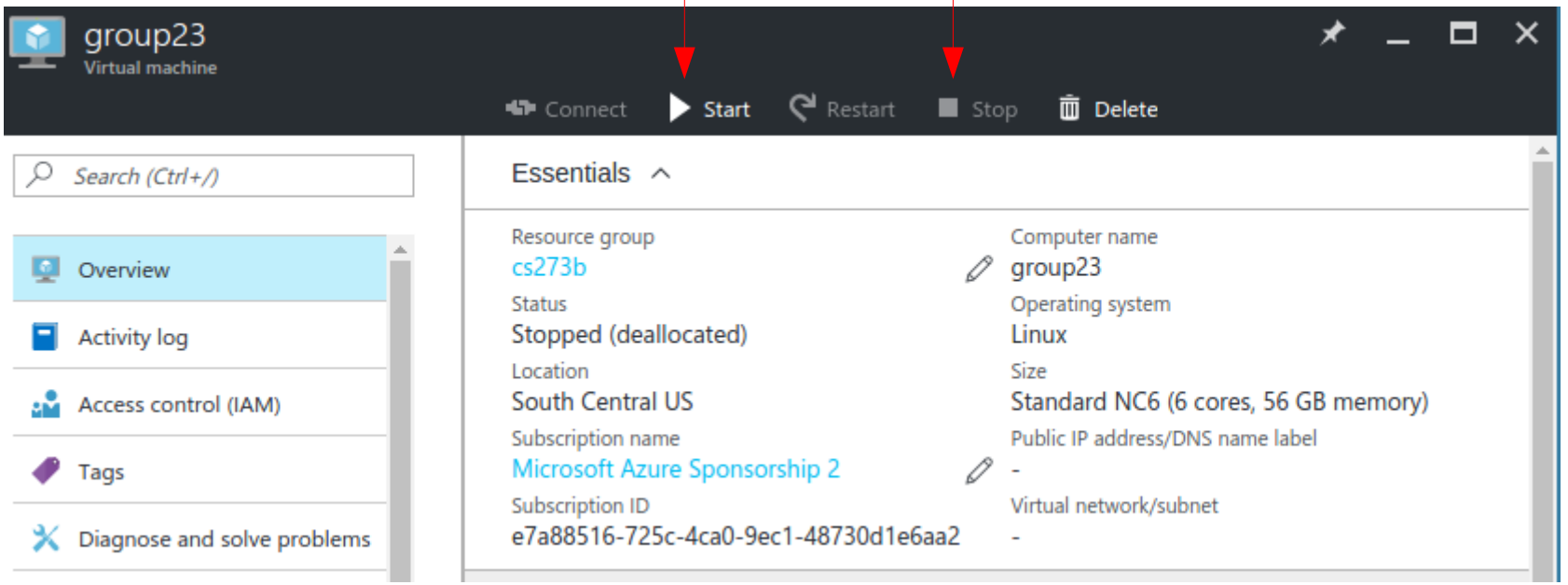
You will see the virtual machine for your group, click on it to look at the specifications.



Care and Usage of your Azure VM

- Make sure you always “stop” your VM when you are finished using it.
- You will have access to about 1000 compute-hours on your VM.
- We have set alarms that will send you an alert e-mail for every 6 hours you use to avoid any unfortunate situations of forgetting to turn off the VM.
  - As people get familiar with the VM's we can reduce/remove alarm frequency.

- Click “Start” to turn on your VM
- Click “Stop” to turn off your VM



Specifications

These are the hardware specifications for your VM:

	NC6
Cores	6 (E5-2690v3)
GPU	1 x K80 GPU (1/2 Physical Card)
Memory	56 GB
Disk	380 GB SSD

If you find that you require more resources, please e-mail the course staff. We may be able to give you access to more than 1 VM, but the GPU resources for the individual VM's are fixed by Microsoft. Additional VM's will be distributed on a first-come first-serve basis.

Specifications

Your VM comes with the following software/drivers:

- Ubuntu Server 16.04
- Nvidia Driver v. 370
- Cuda toolkit 8.0
- Cudnn 5.1
- Anaconda
  - Conda environments 'py2', 'py3', 'dragonn' → Please use these conda environments rather than the default. They have been set up with the correct versions of the python packages you need to work on your projects.

    For example:
    source activate py3
    source deactivate py3

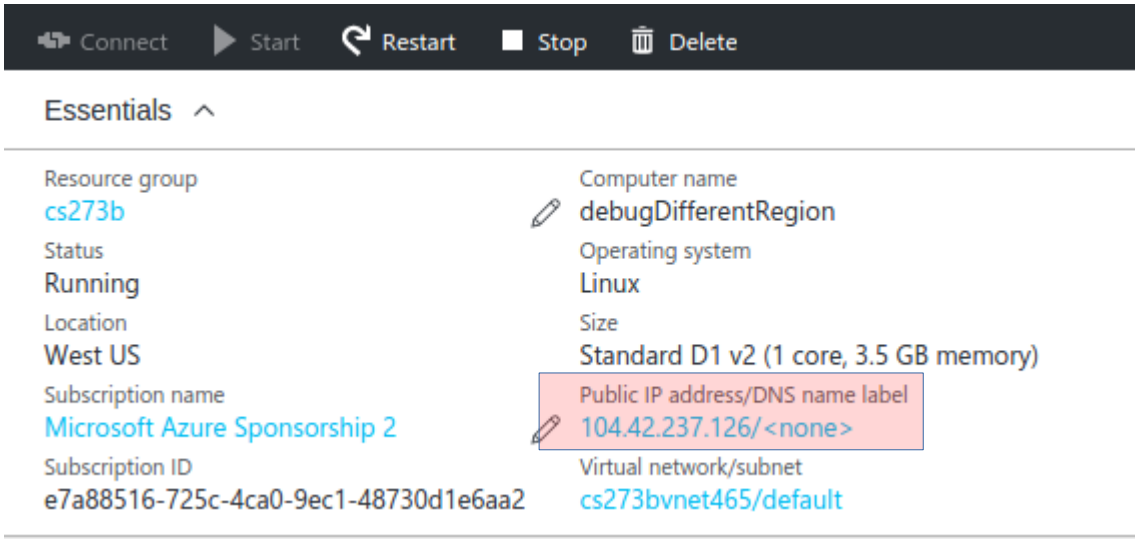
- Keras v. 1.1.0
- Tensorflow r0.11
- Theano 0.9.2

- Jupyterhub (iPython notebook server)

- You have sudo, so feel free to install anything else you want

Logging in to your VM

- When you “Start” your VM, it will reserve a public ip address:



  - The admin username for your vm is **cs273b_admin**
  - The admin password is **cs273b_admin**
  - When you first connect to your vm, ssh in with these credentials:

    ssh cs273b_admin@public_ip_address

Creating your user account

After you have logged in as the “cs273b_admin” user, at the terminal, type the following to create your user account, replace “testuser” with your preferred username

sudo adduser testuser
Adding user `testuser' ...
Adding new group `testuser' (1001) ...
Adding new user `testuser' (1001) with group `testuser' ...
Creating home directory `/home/testuser' ...
Copying files from `/etc/skel' ...

Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for testuser

Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] **Y**

Prep your account

Still logged in as the cs273b_admin user, type:

sudo usermod -aG sudo testuser

(replace testuser with your actual username)

Finally, use the su command to switch to the new user account:

su testuser

To make sure you have root privileges, try listing the contents of the /root directory:

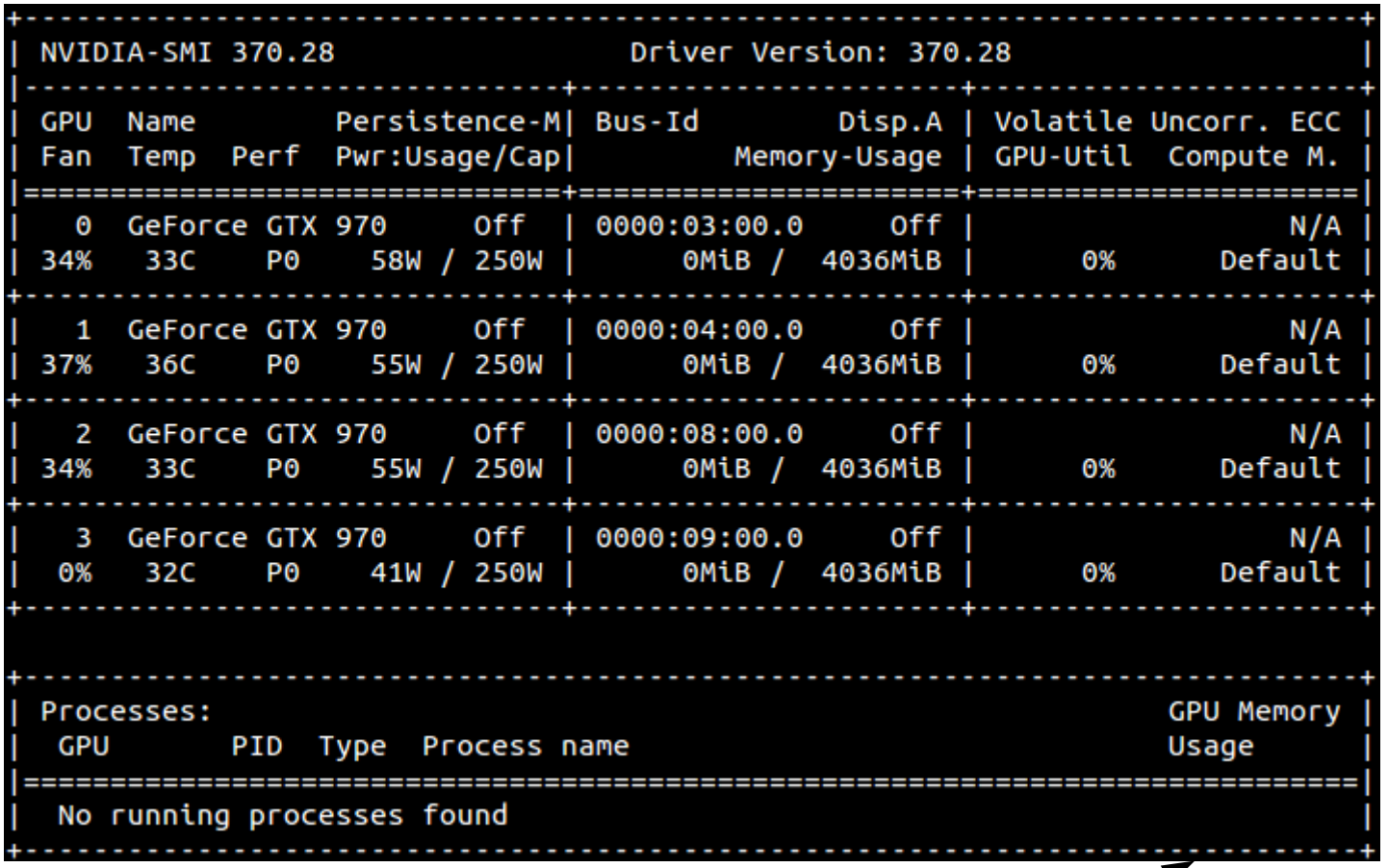
sudo ls -la /root

Copy the file /opt/theanorc to your home directory – this is the theano configuration file for your account, more about it later.

cp /opt/theanorc ~/.theanorc

GPU Sanity Check

nvidia-smi command gives a report of the GPU status:



GPU id

List of all running GPU processes

Percent of memory used by process

Git Clone
Course Materials Repository

cd ~
git clone https://github.com/kundajelab/cs273b.git

cd cs273b
ls

You will see the following files:

- Introduction_to_Jupyter_notebooks.ipynb
  - Go through this on your own if you are new to working with Jupyter and/or iPython notebooks
- keras_tutorial.ipynb
- tensorflow_tutorial.ipynb

We will add future tutorial files to this repository.

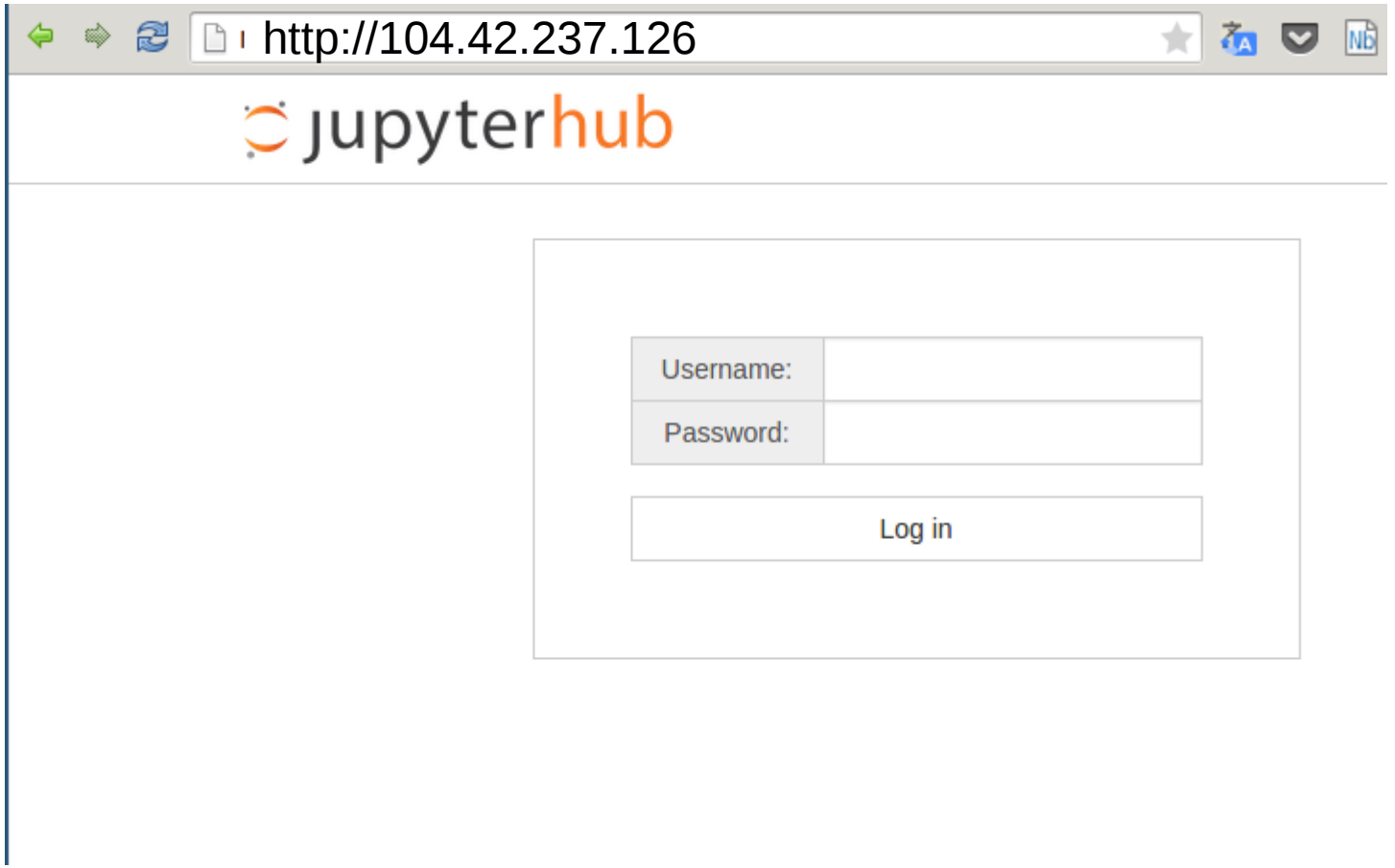
Launching Jupyterhub

cd /opt
sudo su
source activate py3
sh launch.sh &

- These commands launch the Jupyterhub server as a background process
- Make sure you don't skip “sudo su” – the launch command must be run as the root user.
- Jupyterhub provides a way for multiple users to access their iPython notebooks simultaneously.

Launching Jupyterhub

- Once you have launched Jupyterhub, navigate to the Azure VM's public IP in your browser
- Login with your newly-created user account
- You will see a file system rooted in your home directory



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