These steps are for Ubuntu 14.04 systems with python 2.7. Run everything as root

Install:

1 Mongodb

apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv EA312927

echo "deb http://repo.mongodb.org/apt/ubuntu trusty/mongodb-org/3.2 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-3.2.list

apt-get update

apt-get install -y mongodb-org

2 Apache

apt-get install apache2

3 SUMO

add-apt-repository ppa:sumo/stable  
apt-get update  
apt-get install sumo sumo-tools sumo-doc

4 apt-get install python-pip

5 cherrypy

pip install cherrypy

6

git clone <https://github.com/shekharshank/c2sumo.git>

mv c2sumo/src/C3STEM/ /opt/

7 Change permission

cd /opt/C3STEM/Middleware

mkdir session

mkdir -p /opt/C3STEM/Middleware/log/apache

root@vu-cloudclass:/opt/C3STEM/Middleware# chown -hR www-data session

root@vu-cloudclass:/opt/C3STEM/Middleware# chown -hR www-data log

root@vu-cloudclass:/opt/C3STEM/Middleware# chown -hR www-data static/Data

8 Web config:

cp /opt/C3STEM/webserver-config/etc/apache2/sites-available/\* /etc/apache2/sites-available/

cp /opt/C3STEM/webserver-config/etc/apache2/\* /etc/apache2/

9 mod\_wsgi

apt-get install libapache2-mod-wsgi

10 pymongo

pip install pymongo

11 bcrypt

apt-get install python-bcrypt

12

pip install paramiko

13 g-viz

cd /opt

svn co <https://github.com/google/google-visualization-python>

cd /opt/google-visualization-python/trunk

python setup.py install

14 DB config

vi /opt/C3STEM/Middleware/config/application.conf

edit the file to add ip address of the mongodb host

SAMPLE:

[DB]

ip = 0.0.0.0

[SIMULATION]

# simulation update rate

UPDATE\_RATE = 2

15 DB schema

Cd /opt/C3STEM/DB

python c2sumo\_schema\_nashville.py

python users.py

16 IMPORTANT

edit cloud.py

update the private ip in the file to match the ip of sumo server

and put the correct key name to login to the VM in this case, your localhost

Note that we use root as the ssh user so plz copy your authorized\_keys to /root/ authorized\_keys

Also ensure that the private key that you place at /opt/C3STEM/Middleware/KEY\_NAME.pem

has .pem extension but in the DB entry you don’t put the extension. Also change the owner of the key to www-data

e.g. in sample below, it says key\_name: id\_rsa, however in the file system it should be id\_rsa.pem

chown -hR www-data id\_rsa.pem

SAMPLE:

import pymongo

from pymongo import MongoClient

from bson.objectid import ObjectId

connection = MongoClient()

db = connection.c3stem\_database

ip = "127.0.0.1"

db.virtualmachine.insert({

"\_id": ip,

"flavor": "m1.medium",

"private\_IP": ip,

"public\_IP": ip,

"key\_name": "id\_rsa",

"type": "TRANSIENT",

"status": "AVAIL",

"user": "ALL",

"mode": "GROUP"

});

17

python cloud.py

18

service apache2 restart

19

Now you should be able to login to

<http://localhost>

username and passwords are the ones in the file /opt/C3STEM/DB/users.csv