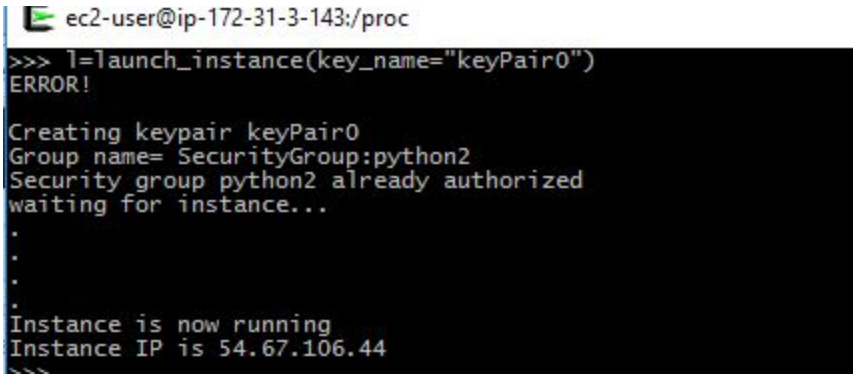
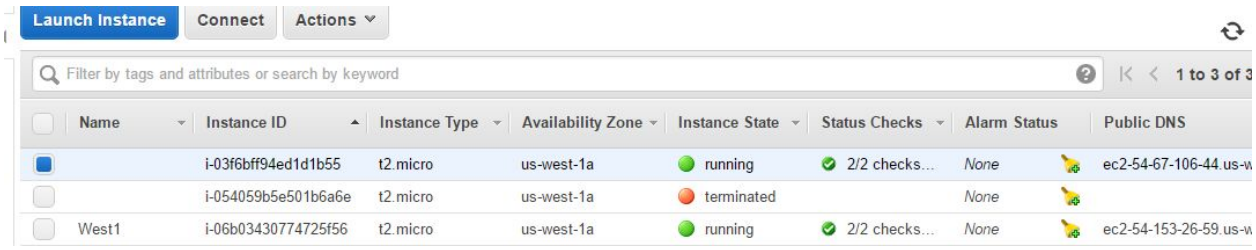
Step 1. Python code will be attached

From python console

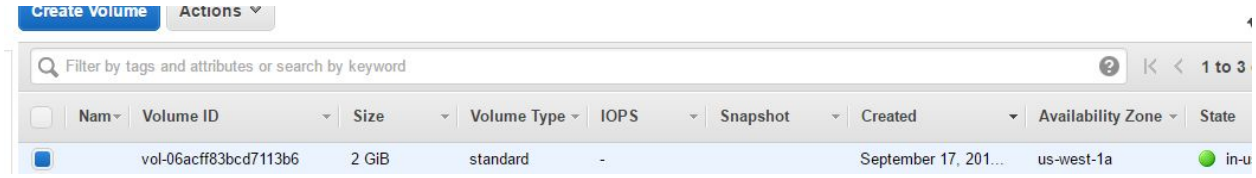


```
siming.meng@USABOS147305L ~/.aws
$ fg
python
inst=l[0]
res=l[1]inst=l[0]
>>> res=l[1]
>>> ec2=inst.connection
>>> azone=inst.placement
>>> azone
u'us-west-1a'
>>> ec2=inst.connection
>>> azone=inst.placement
>>> azone
u'us-west-1a'
>>> vol=ec2.create_volume(2,azone)
>>> vol
Volume:vol-06acff83bcd7113b6
>>> vol.attach(inst.id,'/dev/sdf')
```

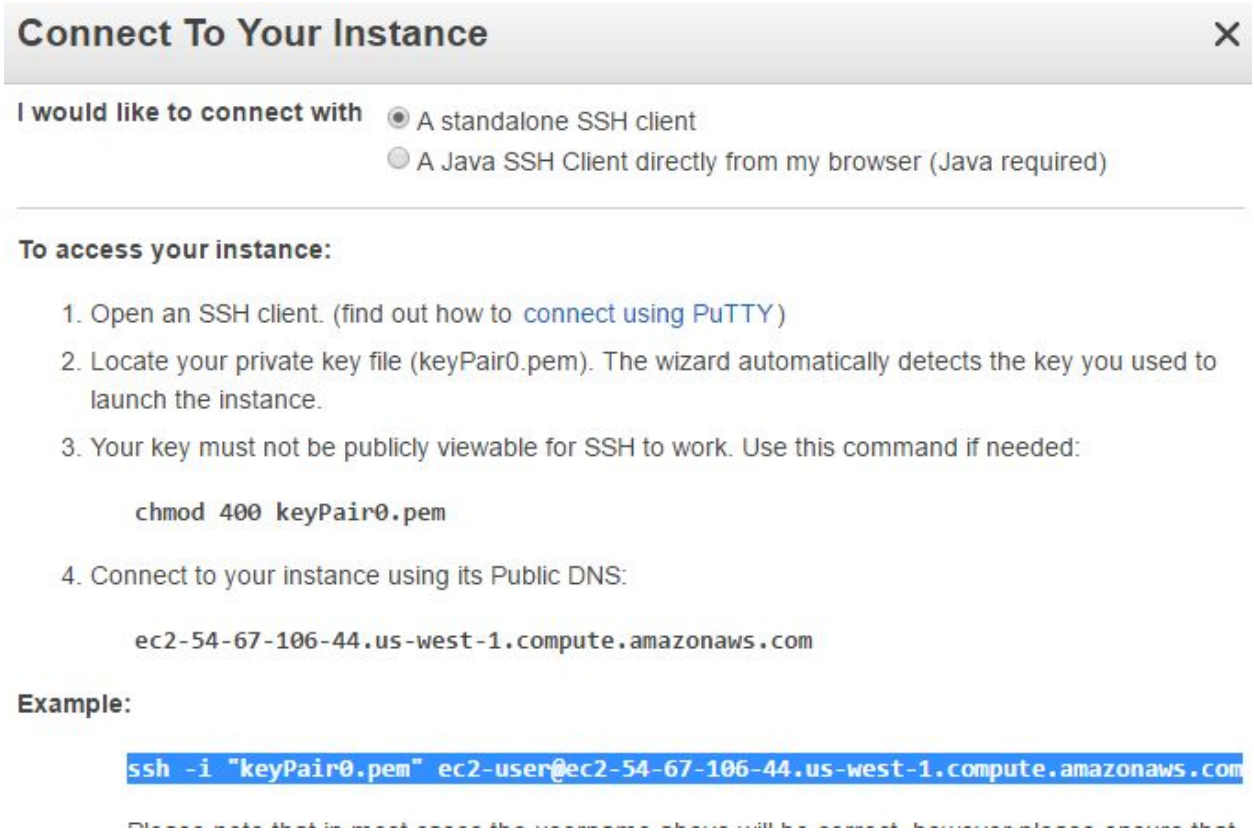
From EC2 Dashboard



From Volumes



SSH connection instruction



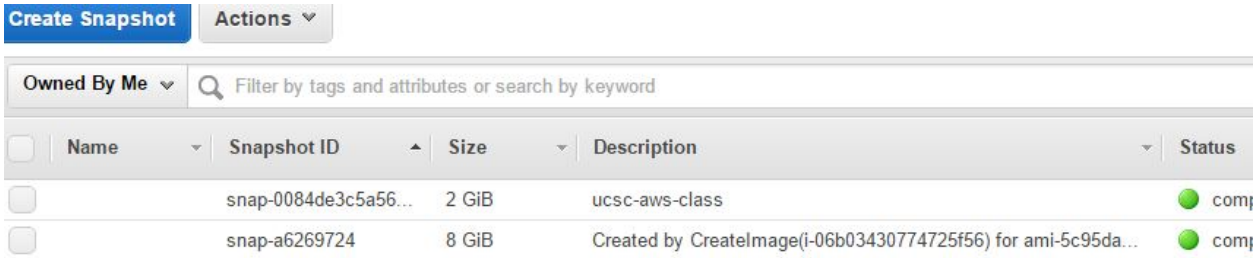
Step 2. SSH access

```
[ec2-user@ip-172-31-3-143 proc]$ sudo !m
sudo mke2fs -F -j /dev/sdf
mke2fs 1.42.12 (29-Aug-2014)
Creating filesystem with 524288 4k blocks and 131072 inodes
Filesystem UUID: cd1e942d-654e-4525-908d-7dbfad5acca5
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done

[ec2-user@ip-172-31-3-143 proc]$ sudo mkdir /mnt/data-store
[ec2-user@ip-172-31-3-143 proc]$ sudo mount /dev/sdf /mnt/data-store
[ec2-user@ip-172-31-3-143 proc]$ df -T
Filesystem     Type     1K-blocks    Used Available Use% Mounted on
/dev/xvda1     ext4       8123812 1222456   6801108  16% /
devtmpfs       devtmpfs    501092      60    501032   1% /dev
tmpfs          tmpfs       509668       0    509668   0% /dev/shm
/dev/xvdf      ext3       1998672    3140   1890676   1% /mnt/data-store
[ec2-user@ip-172-31-3-143 proc]$ cd /mnt/data-store/
[ec2-user@ip-172-31-3-143 data-store]$ chmod 777 .
chmod: changing permissions of '.': Operation not permitted
[ec2-user@ip-172-31-3-143 data-store]$ sudo !ch
sudo chmod 777 .
[ec2-user@ip-172-31-3-143 data-store]$ ls -xap
./  ../  lost+found/
[ec2-user@ip-172-31-3-143 data-store]$ sudo cat > cats.txt
how are you?
[ec2-user@ip-172-31-3-143 data-store]$ ls
cats.txt  lost+found
[ec2-user@ip-172-31-3-143 data-store]$ more cats.txt
how are you?
[ec2-user@ip-172-31-3-143 data-store]$
```

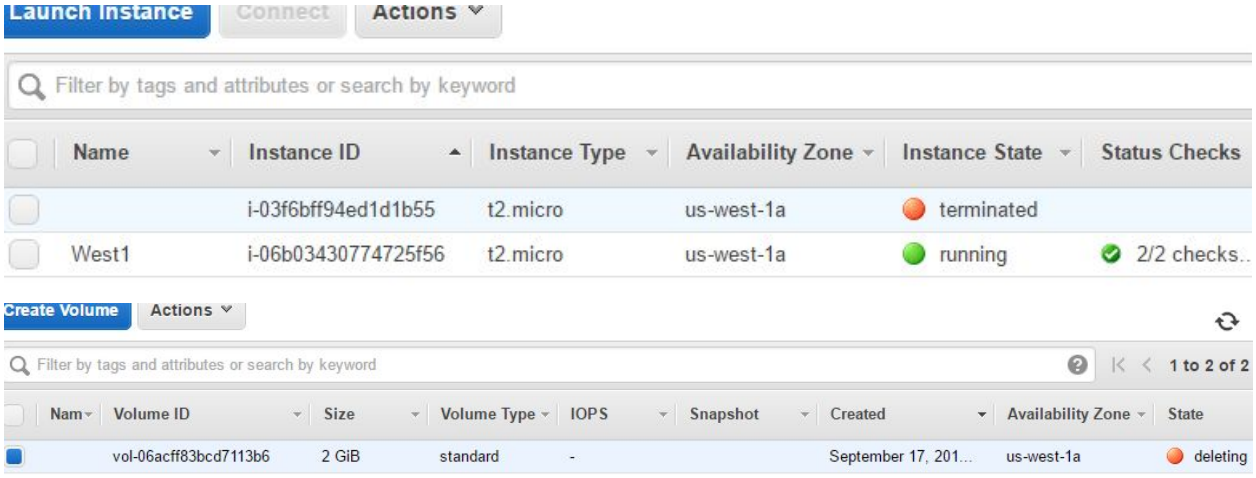
Step 3. Take a snapshot and terminate the first EC2

```
>>> vol.create_snapshot('ucsc-aws-class')
Snapshot:snap-0084de3c5a56e404f
>>>
>>> ec2=boto.connect_ec2()
>>> ec2=boto.ec2.connect_to_region('us-west-1')
>>> ec2
EC2Connection:ec2.us-west-1.amazonaws.com
>>> instlist=ec2.get_all_instances()
>>> instlist
[Reservation:r-0e98e6b8efe5eeab7, Reservation:r-0df772c324dae42f8, Reservation:r-0e4f84733fde9fd5b]
>>> res
Reservation:r-0e4f84733fde9fd5b
>>> inst=res.instances[0]
>>> inst.id
u'i-03f6bff94ed1d1b55'
>>> inst.stop()
>>> inst.terminate()
>>>
```

New snapshot

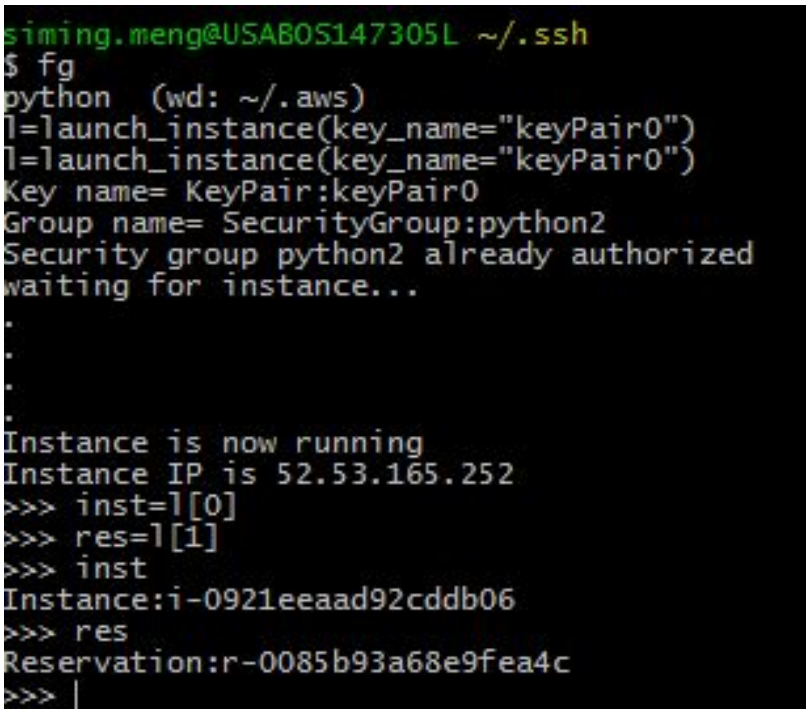


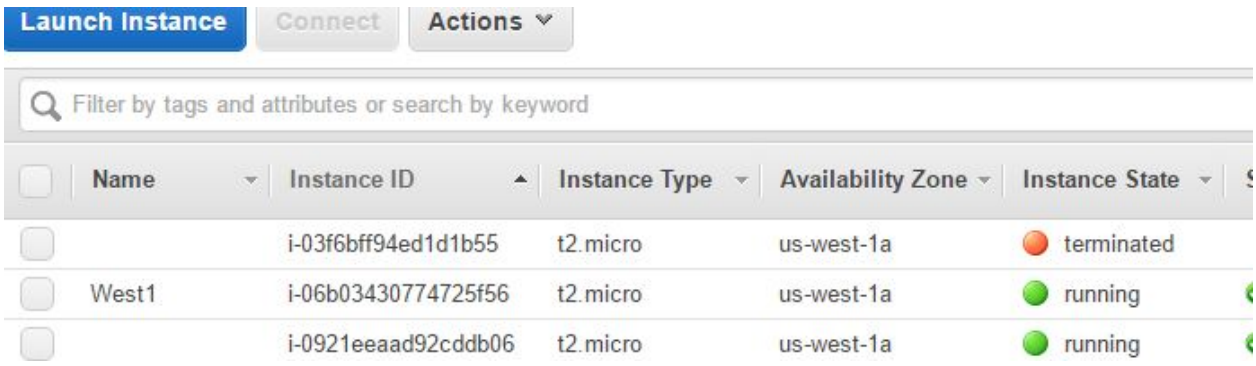
Terminate old EC2



Step 4. Create a new EC2 instance,

Create a new EC2 instance





Create an EBS volume from the snapshot

```
>>> pprint (snapshots)
[Snapshot:snap-0084de3c5a56e404f]
>>> pprint (snapshots[0])
Snapshot:snap-0084de3c5a56e404f
>>> pprint (snapshots[0].name)
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Snapshot' object has no attribute 'name'
>>> dir (snapshots[0])
['AttrName', '__class__', '__delattr__', '__dict__', '__doc__', '__form
'__new__', '__reduce__', '__reduce_ex__', '__repr__', '__setattr__', '_
e', 'add_tag', 'add_tags', 'connection', 'create_volume', 'delete', 'de
item', 'owner_alias', 'owner_id', 'progress', 'region', 'remove_tag', '
t_time', 'status', 'tags', 'unshare', 'update', 'volume_id', 'volume_si
>>> snapshots[0]['volume_id']
  File "<stdin>", line 1
    snapshots[0]['volume_id']
                             ^
SyntaxError: invalid syntax
>>> snapshots[0]['volume_id']
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
TypeError: 'Snapshot' object has no attribute '__getitem__'
>>> snapshots[0].volume_id
u'vol-06acff83bcd7113b6'
>>> snapshots[0].id
u'snap-0084de3c5a56e404f'
>>> snapShotId =  snapshots[0].id
>>> snapShotId
u'snap-0084de3c5a56e404f'
>>> vol=ec2.create_volume(2,azone, snapShotId)
>>> vol
Volume:vol-0d7b3001164277cd6
>>> vol.attach(inst.id,'/dev/sdf')
u'attaching'
>>>
```

Final verification of new EBS mount