CS 7001-03: Report for AWS Lab 2 - AWS Resource Discovery and Instance Setup

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Install `awscli` tool via easy_install `pip` on Mac OS.

1. Create an AWS key pair using `ec2 create-key-pair` command with `--key-name` option set to 'cloud-key':

```
# aws ec2 create-key-pair --key-name cloud-key
```

Delete a key pair using `ec2 delete-key-pair` command with `--key-name` option set to 'cloud-key':

```
# aws ec2 delete-key-pair --key-name cloud-key
```

2. Create a security group in AWS.

Use `ec2 create-security-group` command with options

`--group-name :` set security group name.

`--description :` set security group description.

and adding inbound traffic rule to security group via `ec2 authorize-security-group-ingress` command with options

`--group-name :` security group name.

`--protocol :` IP protocol eg. tcp, udp or icmp.

`--port :` tcp or tcp port range.

`-cidr :` IP range.

```
# aws ec2 create-security-group  \
      --group-name cloud-group   \
      --description "Open ports"
# aws ec2 authorize-security-group-ingress \
      --group-name cloud-group             \
      --protocol tcp                       \
      --port 22                            \
      --cidr 0.0.0.0/0
# aws ec2 authorize-security-group-ingress \
      --group-name cloud-group             \
      --protocol tcp                       \
      --port 22                            \
      --cidr 0.0.0.0/0
# aws ec2 authorize-security-group-ingress \
      --group-name cloud-group             \
      --protocol tcp                       \
      --port 22                            \
      --cidr 0.0.0.0/0
```

Delete security group via `ec2 delete-security-group` command with `--group-name` option set to 'cloud-group'.

```
# aws ec2 delete-security-group --group-name cloud-group
```

3. Enter the commands below and describe in detail the results; you will need an AMI available. Once the command is executed, using aws-cli commands, terminate the instances, delete cloud-key and cloud-group. Include screenshot.
ec2-run-instances ami-xxxxxx –instance-type t1.micro –instance-count 2 –key cloud-key –group cloud-group –region us-east-1

4. Get status information of all instances using aws-cli commands.

```
# aws ec2 describe-instance-status
```

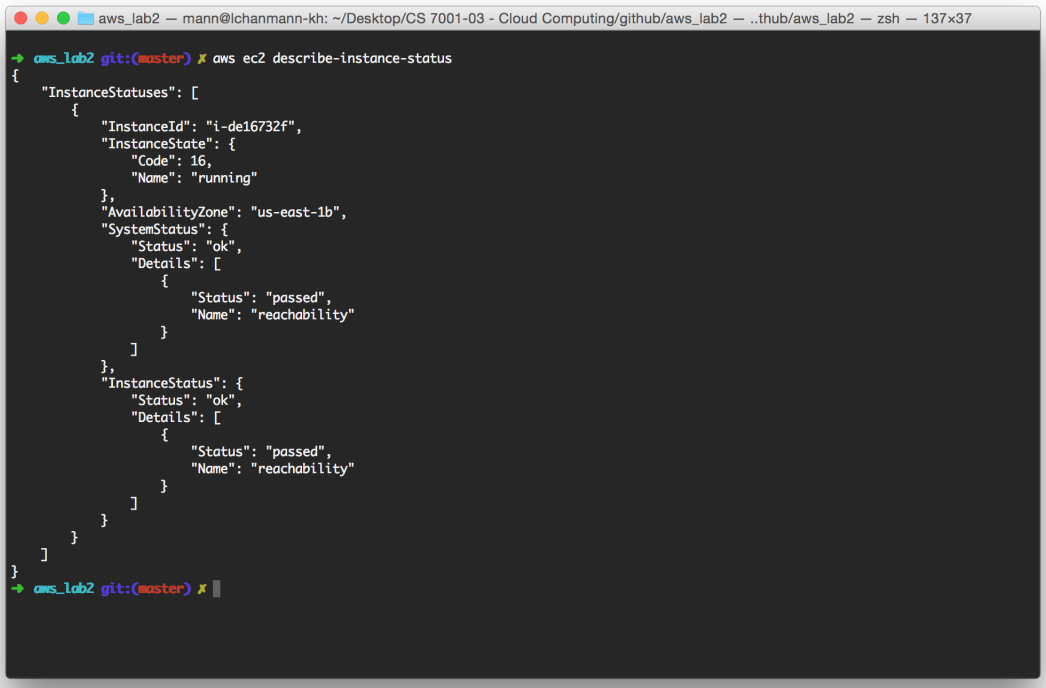

Figure 1: AWS instances status

5. Create snapshot command: `ec2 create-snapshot` with options

`--volume-id :` set EBS volume to be snapshot.

`--description :` set snapshot description.

```
# aws ec2 create-snapshot      \
      --volume-id vol-54c4644f \
      --description "Backup"
```

Delete snapshot command: `ec2 delete-snapshot` with `--snapshot-id` option.

```
# aws ec2 delete-snapshot --snapshot-id snap-51cf8cd0
```

6. Add a new EBS volume with `ec2 create-volume` with options:

`--size :` set volume size (in GB).

`--availability-zone :` set availability zone of the volume.

```
#aws ec2 create-volume --size 3 --availability-zone us-east-1b
```

Attach the volume to the running instance (i-de16732f) via `ec2 attach-volume` with options:

`--volume-id :` set volume id to attach.

`--instance-id :` set instance id to be attached to.

`--device :` set device name with which the instance will use to interact.

```
#aws ec2 attach-volume        \
     --volume-id vol-3ae79321 \
     --instance-id i-de16732f \
     --device /dev/sdh
```

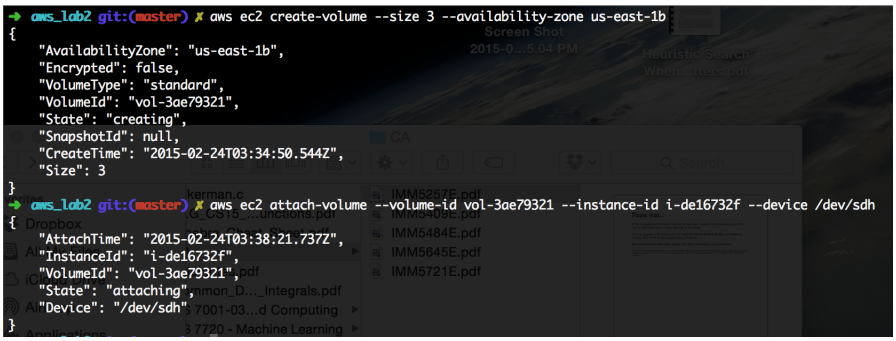

Figure 2: Create and attach volume using aws-cli

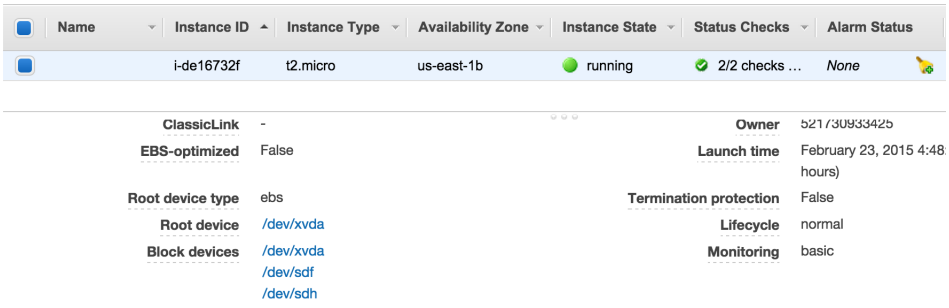

Figure 3: The new volume is attached to /dev/sdh

7. Provide a screenshot taken in Step 3.4.2

`http://ec2-52-1-133-200.compute-1.amazonaws.com/`

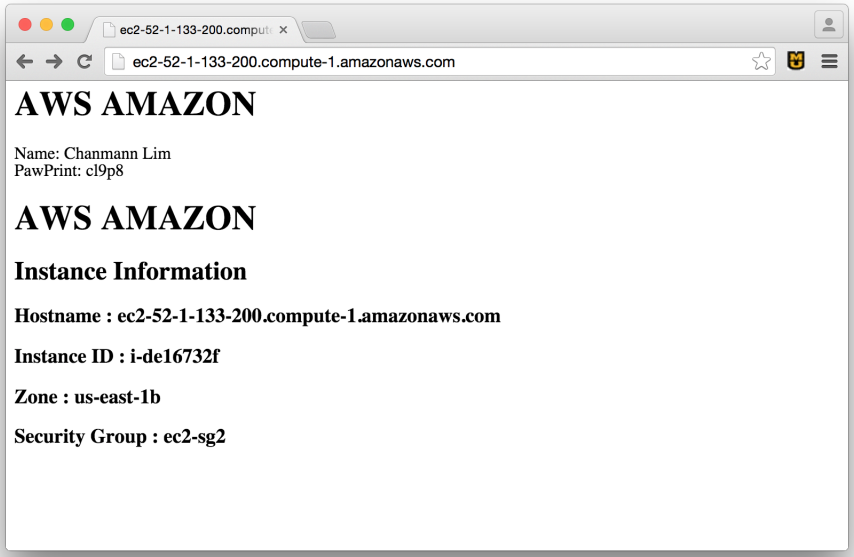

Figure 4: AWS web server

8. Briefly explain the 6 AWS best practices described by Amazon AWS.