

NAME: Harsha Vardhani Rachagiri

NUID: 002105042

AZURE VM INSTANCE

1. az Login

```
harshavardhani@harshavardhanis-MacBook-Air ~ % az login
A web browser has been opened at https://login.microsoftonline.com/organizations/oauth2/v2.0/authorize. Please continue the login in the web browser. If no web browser is available or if the web browser fails to open, use device code flow with 'az login --use-device-code'.
{
  "cloudName": "AzureCloud",
  "homeTenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
  "id": "0519a2d9-6912-4014-8b11-41c6fd286711",
  "isDefault": true,
  "managedByTenants": [],
  "name": "SPS Shared Services",
  "state": "Enabled",
  "tenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
  "user": {
    "name": "rachagiri.h@northeastern.edu",
    "type": "user"
  }
},
{
  "cloudName": "AzureCloud",
  "homeTenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
  "id": "d08ead7c-dbee-49be-9e6a-017dab53fb9a",
  "isDefault": false,
  "managedByTenants": [],
  "name": "Azure for Students",
  "state": "Enabled",
  "tenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
  "user": {
    "name": "rachagiri.h@northeastern.edu",
    "type": "user"
  }
}
}
```

2. az account List

```
harshavardhani@harshavardhanis-MacBook-Air ~ % az account list
[
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "id": "0519a2d9-6912-4014-8b11-41c6fd286711",
    "isDefault": true,
    "managedByTenants": [],
    "name": "SPS Shared Services",
    "state": "Enabled",
    "tenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "user": {
      "name": "rachagiri.h@northeastern.edu",
      "type": "user"
    }
  },
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "id": "d08ead7c-dbee-49be-9e6a-017dab53fb9a",
    "isDefault": false,
    "managedByTenants": [],
    "name": "Azure for Students",
    "state": "Enabled",
    "tenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "user": {
      "name": "rachagiri.h@northeastern.edu",
      "type": "user"
    }
  }
]
```

3. az ad sp create-for-rbac --role="Contributor"
-- scopes="/subscriptions/632a0501-6e0b-
4b90-9e9e-37a0cc25b62d"

```
harshavardhani@harshavardhanis-MacBook-Air ~ % az ad sp create-for-rbac --role="Contributor" --scopes="/subscriptions/632a0501-6e0b-4b90-9e9e-37a0cc25b62d"
Creating 'Contributor' role assignment under scope '/subscriptions/632a0501-6e0b-4b90-9e9e-37a0cc25b62d'
The output includes credentials that you must protect. Be sure that you do not include these credentials in your code or check the credentials into your source control. For more
ka.ms/azadsp-cli
{
  "appId": "1bc365e7-9a05-4678-a324-ca55c6d4651e",
  "displayName": "azure-cli-2022-09-26-04-31-45",
  "password": "Gr18Q-cI0hrx9KUp2GIFipR7yiNX4evzKaAmXbSz",
  "tenant": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7"
}
harshavardhani@harshavardhanis-MacBook-Air ~ % az login --service-principal -u 1bc365e7-9a05-4678-a324-ca55c6d4651e -p Gr18Q-cI0hrx9KUp2GIFipR7yiNX4evzKaAmXbSz --tenant a8eec281-
7
{
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "id": "d08ead7c-dbee-49be-9e6a-017dab53fb9a",
    "isDefault": true,
    "managedByTenants": [],
    "name": "Azure for Students",
    "state": "Enabled",
    "tenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "user": {
      "name": "1bc365e7-9a05-4678-a324-ca55c6d4651e",
      "type": "servicePrincipal"
    }
  }
}
```

4. az login --service-principal -u CLIENT_ID -p
CLIENT_SECRET --tenant TENANT_ID

```
harshavardhani@harshavardhanis-MacBook-Air ~ % az ad sp create-for-rbac --role="Contributor" --scopes="/subscriptions/632a0501-6e0b-4b90-9e9e-37a0cc25b62d"
Creating 'Contributor' role assignment under scope '/subscriptions/632a0501-6e0b-4b90-9e9e-37a0cc25b62d'
The output includes credentials that you must protect. Be sure that you do not include these credentials in your code or check the credentials into your source control. For more
ka.ms/azadsp-cli
{
  "appId": "1bc365e7-9a05-4678-a324-ca55c6d4651e",
  "displayName": "azure-cli-2022-09-26-04-31-45",
  "password": "Gr18Q-cI0hrx9KUp2GIFipR7yiNX4evzKaAmXbSz",
  "tenant": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7"
}
harshavardhani@harshavardhanis-MacBook-Air ~ % az login --service-principal -u 1bc365e7-9a05-4678-a324-ca55c6d4651e -p Gr18Q-cI0hrx9KUp2GIFipR7yiNX4evzKaAmXbSz --tenant a8eec281-
7
{
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "id": "d08ead7c-dbee-49be-9e6a-017dab53fb9a",
    "isDefault": true,
    "managedByTenants": [],
    "name": "Azure for Students",
    "state": "Enabled",
    "tenantId": "a8eec281-aaa3-4dae-ac9b-9a398b9215e7",
    "user": {
      "name": "1bc365e7-9a05-4678-a324-ca55c6d4651e",
      "type": "servicePrincipal"
    }
  }
}
```

Creating LINUX VM with Azure CLI

1. `az vm create -n <dino>LinuxVM01 -g <dino>ResourceGroup --image UbuntuLTS --admin-username <dino> --admin-password passw0rd12345!`

```
harshavardhani@harshavardhanis-MacBook-Air ~ % az vm create -n harshaLinuxVM01 -g harshaResourceGroup --image UbuntuLTS --admin-username harsha-username --admin-password passw0rd12345!
It is recommended to use parameter "--public-ip-sku Standard" to create new VM with Standard public IP. Please note that the default public IP used for VM creation will be changed from Basic to Standard in the future.
{
  "fqdns": "",
  "id": "/subscriptions/d08ead7c-dbee-49be-9e6a-017dab53fb9a/resourceGroups/harshaResourceGroup/providers/Microsoft.Compute/virtualMachines/harshaLinuxVM01",
  "location": "eastus",
  "macAddress": "00-22-48-25-99-20",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "20.163.239.221",
  "resourceGroup": "harshaResourceGroup",
  "zones": ""
}
```

2. `ssh @Ip-address`

```
harshavardhani@harshavardhanis-MacBook-Air ~ % ssh harsha-username@20.163.239.221
harsha-username@20.163.239.221's password:
Welcome to Ubuntu 18.04.6 LTS (GNU/Linux 5.4.0-1091-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Mon Sep 26 05:39:43 UTC 2022

System load:  0.0               Processes:    108
Usage of /:   4.8% of 28.89GB    Users logged in: 0
Memory usage: 5%               IP address for eth0: 10.0.0.4
Swap usage:   0%

0 updates can be applied immediately.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

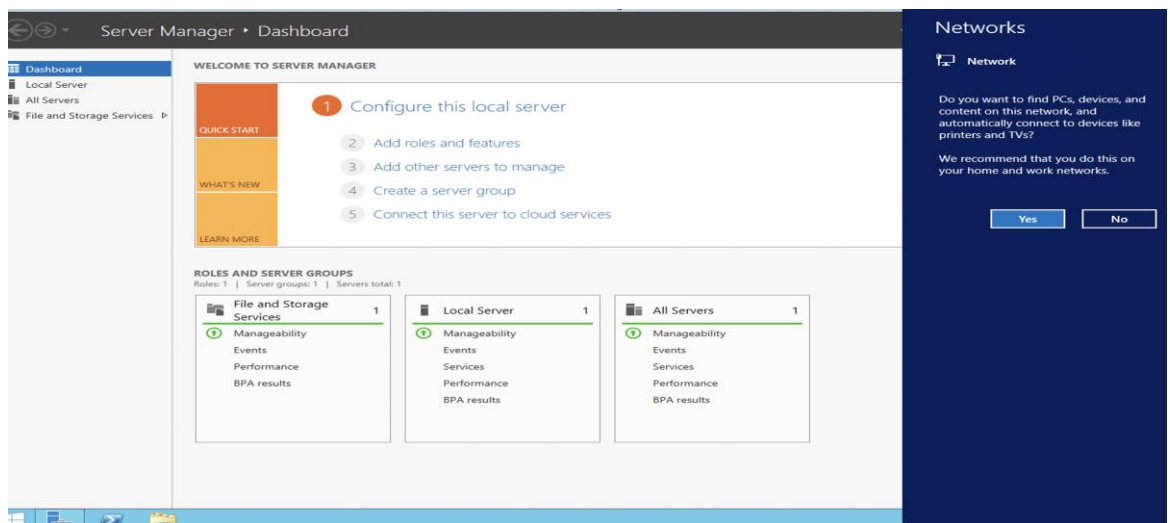
harsha-username@harshaLinuxVM01:~$
```

Creating Windows VM with Azure CLI

1. az vm image list --all -f elasticsearch -o table

Architecture	Offer Version	Publisher	Sku	Urn
x64	1.0.1	apps-4-rent	elasticsearch-on-centos	apps-4-rent:elasticsearch-on-centos:elasticsearch-on-centos:1.0.1
x64	1.0.1	apps-4-rent	elasticsearch-on-centos7	apps-4-rent:elasticsearch-on-centos7:elasticsearch-on-centos7:1.0.0
x64	1.0.0	apps-4-rent	elasticsearch-on-centos8	apps-4-rent:elasticsearch-on-centos8:elasticsearch-on-centos8:1.0.0
x64	1.0.0	apps-4-rent	elasticsearch-on-win2016	apps-4-rent:elasticsearch-on-win2016:elasticsearch-on-win2016:1.0.0
x64	1.0.0	apps-4-rent	elasticsearch-on-win2019	apps-4-rent:elasticsearch-on-win2019:elasticsearch-on-win2019:1.0.0
x64	1.0.0	apps-4-rent	elasticsearch-on-win2022	apps-4-rent:elasticsearch-on-win2022:elasticsearch-on-win2022:1.0.0
x64	1.0.0	Bitnami	default	Bitnami:elasticsearch-peer-peer-multitier-image:default:8.3.2112078476
x64	8.3.2112078476	Bitnami	default	Bitnami:elasticsearch-peer-peer-multitier-image:default:8.3.2112613485
x64	8.3.2112613485	Bitnami	default	Bitnami:elasticsearch-peer-peer-multitier-image:default:8.3.2112616878
x64	8.3.2112616878	Bitnami	default	Bitnami:elasticsearch-peer-peer-multitier-image:default:8.4.2112663226
x64	8.4.2112663226	cloudmavenolutions	elasticsearch-ubuntu-18-04-lts-cm	cloudmavenolutions:elasticsearch-ubuntu-18-04-lts-cm:elasticsearch-ubuntu-18-04-lts-cm:22.04.07
22.04.07	22.04.07	cognosys	sec1013-elasticsearch-on-ubuntu-1404	cognosys:sec1013-elasticsearch-on-ubuntu-1404:sec1013-elasticsearch-on-ubuntu-1404:22.04.07
x64	22.04.07	cognosys	secured-elasticsearch-on-centos	cognosys:secured-elasticsearch-on-centos:secured-elasticsearch-on-centos:1.0.0
x64	1.0.0	perforce	dam_es_221_ga	perforce:perforce-dam-elasticsearch-offer:dam_es_221_ga:1.0.0
x64	1.0.0	perforce	dam_es_221_ga	perforce:perforce-dam-elasticsearch-offer:dam_es_221_ga:1.0.1

REMOTE DESKTOP CONNECTION



Host Website with IIS on VM

```
harshavardhani@harshavardhani-MacBook-Air ~ % az vm create --resource-group $ResourceGroupName --name myvm --image Win2012R2DataCenter --size Standard_D4s_v3 --storage-sku StandardSSD_LRS --admin-username harsha --admin-password password12345! --location eastus
It is recommended to use parameter "--public-ip-sku Standard" to create new VM with Standard public IP. Please note that the default public IP used for VM creation will be changed from Basic to Standard in the future.
{
  "fqdns": "",
  "id": "/subscriptions/d08ead7c-dbee-49be-9e6a-017dab53fb9a/resourceGroups/CreateVmDemo/providers/Microsoft.Compute/virtualMachines/myvm",
  "location": "eastus",
  "macAddress": "80-BD-3A-1B-39-81",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "52.142.6.162",
  "resourceGroup": "CreateVmDemo",
  "zones": ""
}
```

AWS VM INSTANCE

1. User in IAM

Summary

[Delete user](#)

User ARN arn:aws:iam::339604974571:user/Harsha_user [Copy](#)

Path /

Creation time 2022-09-25 18:02 EDT

Permissions **Groups (1)** **Tags** **Security credentials** **Access Advisor**

▼ Permissions policies (2 policies applied)

[Add permissions](#)[+ Add inline policy](#)

Policy name ▼	Policy type ▼	
Attached directly		
▶ AdministratorAccess	AWS managed policy	✕
Attached from group		

[Show 1 more](#)

2. Key-value pair

aws

Services

Search for services, features, blogs, docs, and more

[Option+S]

N. Virginia

HarshaV02

New EC2 Experience

Tell us what you think

×

EC2 Dashboard

EC2 Global View

Events

Tags

Limits

▼ Instances

Instances New

Instance Types

Launch Templates

Key pairs (2)

Info

↺

Actions ▼

Create key pair

Q Search

< 1 > ⚙

<input type="checkbox"/>	Name	Type	Created	Fingerprint	ID
<input type="checkbox"/>	Harsha_Key	rsa	2022/09/25 19:04 GMT-4	88:cb:c3:9f:aca7:80:3e:40:dd:64:e7:70:...	key-05c64d3cc2322
<input type="checkbox"/>	Harshauser	rsa	2022/09/19 17:56 GMT-4	c6:80:16:74:08:36:22:c4:57:9d:3d:81:41:...	key-0b5e0c52c0aeb

3. aws Linux

```

new_user_credentials (2).csv
new_user_credentials.csv
nithin
pavan_resume_msft-converted.docx
portal-login-react-master.zip
react-state.pdf
shop_ecommerce-main
shop_ecommerce-main.zip
sop draft.pdf
ss-5.pdf
tickets.pdf
wso_undergrad_resume_templatev7-11pt_font.docx
~$Vos(assignment1) (1).docx
harshavardhani@harshavhanisAir Downloads % cd ..
harshavardhani@harshavhanisAir ~ % cd Documents
harshavardhani@harshavhanisAir Documents % ls
Web D                class2
WebD                 class3
assignment7           class9-1
harshavardhani@harshavhanisAir Documents % cd pemfiles
harshavardhani@harshavhanisAir pemfiles % ls
Harsha_Key.pem
harshavardhani@harshavhanisAir pemfiles % ssh -i "Harsha_Key.pem" ec2-user@18.205.114.69
The authenticity of host '18.205.114.69 (18.205.114.69)' can't be established.
ED25519 key fingerprint is SHA256:1aRmErIF7oy791/g3afuyMrYf/qoHiJQ0bMqYMdk.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '18.205.114.69' (ED25519) to the list of known hosts.

  _ _ | _ _ | _ )
  _ | _ ( _ _ | /
  _ _ | _ _ | _ _ |
                                Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-84-31 ~]$ █

```

4. Launch VM Instance: `aws ec2 run-instances --image-id ami-062f7200baf2fa504 --count 1 -- instance-type t2. micro --key-name key-2020`

```
harshavardhan@harshavhans:~$ aws ec2 run-instances --image-id ami-026b57f3c383c2eec --count 1 --instance-type t2.micro --key-name Harsha_Key
{
  "Groups": [],
  "Instances": [
    {
      "AmiLaunchIndex": 0,
      "ImageId": "ami-026b57f3c383c2eec",
      "InstanceId": "i-0d465095eb69da7ee",
      "InstanceType": "t2.micro",
      "KeyName": "Harsha_Key",
      "LaunchTime": "2022-09-26T00:16:39+00:00",
      "Monitoring": {
        "State": "disabled"
      },
      "Placement": {
        "AvailabilityZone": "us-east-1d",
        "GroupName": "",
        "Tenancy": "default"
      },
      "PrivateDnsName": "ip-172-31-85-163.ec2.internal",
      "PrivateIpAddress": "172.31.85.163",
      "ProductCodes": [],
      "PublicDnsName": "",
      "State": {
        "Code": 0,
        "Name": "pending"
      },
      "StateTransitionReason": "",
      "SubnetId": "subnet-0b239c3a3d0be9c2",
      "VpcId": "vpc-010e592774f9d69f6",
      "Architecture": "x86_64",
      "BlockDeviceMappings": [],
      "ClientToken": "8d08e284-d52d-4970-a6c9-046f8a3a7309",
      "EbsOptimized": false,
      "EnaSupport": true,
      "Hypervisor": "xen"
    }
  ]
}
```

5. Granting Inbound access: aws ec2 authorize-security-group-ingress --group-name \$bastion --protocol tcp --port 22 --cidr \$IP/32

```
harshavardhani@harshavhanisAir pemfiles % aws ec2 authorize-security-group-ingress --group-name launch-wizard-1 --protocol tcp --port 80 --cidr 0.0.0.0/0
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-07995ccda81fc1345",
      "GroupId": "sg-0e447704c500cc50",
      "GroupOwnerId": "339604974571",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 80,
      "ToPort": 80,
      "CidrIpv4": "0.0.0.0/0"
    }
  ]
}
```

6. Inbound rules (after authorization)

Inbound rules (3)

🔄

Manage tags

Edit inbound rules

🔍

Filter security group rules

<

1

>

⚙️

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port rang
<input type="checkbox"/>	–	sgr-07995ccda81fc1345	IPv4	HTTP	TCP	80
<input type="checkbox"/>	–	sgr-0b7d8b2c9f21ac99a	IPv4	SSH	TCP	22
<input type="checkbox"/>	–	sgr-0fcaf585bf4947a71	IPv4	Custom TCP	TCP	21

7. Revoke Inbound access

```
Last login: Sun Sep 25 18:45:10 on ttys000
harshavardhani@harshavardhanis-MacBook-Air ~ % aws ec2 revoke-security-group-ingress --group-name launch-wizard-1 --protocol tcp --port 80 --cidr 0.0.0.0/0
{
  "Return": true
}
harshavardhani@harshavardhanis-MacBook-Air ~ %
```

8. Inbound rules (after revoking)

Inbound rules (2)								Manage tags	Edit inbound rules
<input type="text" value="Filter security group rules"/>								← 1 →	
<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port rang			
<input type="checkbox"/>	-	sgr-0b7d8b2c9f21ac99a	IPv4	SSH	TCP	22			
<input type="checkbox"/>	-	sgr-0fcaf585bf4947a71	IPv4	Custom TCP	TCP	21			

9. Bucket commands

```
harshavardhani@harshavardhanis-MacBook-Air Desktop % cd Today
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 mb s3://Harsha_bucket

Unknown options: //Harsha_bucket
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 mb s3://Harsha_bucket
make_bucket failed: s3://Harsha_bucket An error occurred (InvalidBucketName) when calling the CreateBucket operation: The specified bucket is not valid.
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 mb s3://Vardhani-bucket
make_bucket failed: s3://Vardhani-bucket An error occurred (InvalidBucketName) when calling the CreateBucket operation: The specified bucket is not valid.
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 mb s3://vardhani-bucket
make_bucket failed: s3://vardhani-bucket An error occurred (BucketAlreadyExists) when calling the CreateBucket operation: The requested bucket name is not available. The bucket namespace is shared by all users of the system. Please select a different name and try again.
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 mb s3://vardhanitty-bucket
make_bucket: vardhanitty-bucket
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 ls
2022-09-25 23:28:01 vardhanitty-bucket
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 ls s3://vardhanitty-bucket/harsha.jpeg
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 cp harsha.jpeg s3://vardhanitty-bucket/harsha.jpeg
upload: ./harsha.jpeg to s3://vardhanitty-bucket/harsha.jpeg
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 cp harsha.jpeg s3://vardhanitty-bucket/harsha.jpeg harsha.jpeg

Unknown options: harsha.jpeg
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 cp s3://vardhanitty-bucket/harsha.jpeg harsha.jpeg
download: s3://vardhanitty-bucket/harsha.jpeg to ./harsha.jpeg
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 mb s3://vardhani2-bucket
make_bucket: vardhani2-bucket
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 cp s3://vardhanitty-bucket/harsha.jpeg s3://vardhani2-bucket/harsha.jpeg
copy: s3://vardhanitty-bucket/harsha.jpeg to s3://vardhani2-bucket/harsha.jpeg
harshavardhani@harshavardhanis-MacBook-Air Today % mkdir harshatemp
harshavardhani@harshavardhanis-MacBook-Air Today % ls
harsha.jpeg  harshatemp
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 sync harshatemp s3://vardhanitty-bucket/
harshavardhani@harshavardhanis-MacBook-Air Today % ls
harsha.jpeg  harshatemp
harshavardhani@harshavardhanis-MacBook-Air Today % aws s3 sync . s3://vardhanitty-bucket
upload: ./DS_Store to s3://vardhanitty-bucket/DS_Store
upload: ./harsha2.jpeg to s3://vardhanitty-bucket/harsha2.jpeg
harshavardhani@harshavardhanis-MacBook-Air Today %
```

10. EBS snapshot with AWS cli: aws ec2 create-snapshot --description CLI --volume-id YOUR-VOLUME-ID


```
Last login: Sun Sep 25 23:23:29 on ttys000
harshavardhani@harshavardhanis-MacBook-Air ~ % aws ec2 create-snapshot --description CLI --volume-id vol-0710b4583deee0ba3
{
  "Description": "CLI",
  "Encrypted": false,
  "OwnerId": "339604974571",
  "Progress": " ",
  "SnapshotId": "snap-02c649e0357c1787a",
  "StartTime": "2022-09-26T03:54:41.527000+00:00",
  "State": "pending",
  "VolumeId": "vol-0710b4583deee0ba3",
  "VolumeSize": 8,
  "Tags": []
}
harshavardhani@harshavardhanis-MacBook-Air ~ %
```

Snapshots (1) Refresh Recycle Bin Actions Create snapshot

Owned by me

<input type="checkbox"/>	Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
<input type="checkbox"/>	-	snap-02c649e0357c1787a	8 GiB	CLI	Standard	Pending	2022/09/25 23:54

ROCKSTAR WEBPAGE SCREENSHOT

