



# EFS & EBS

Udaya Bhanu.K

[udayabhanu072@gmail.com](mailto:udayabhanu072@gmail.com)

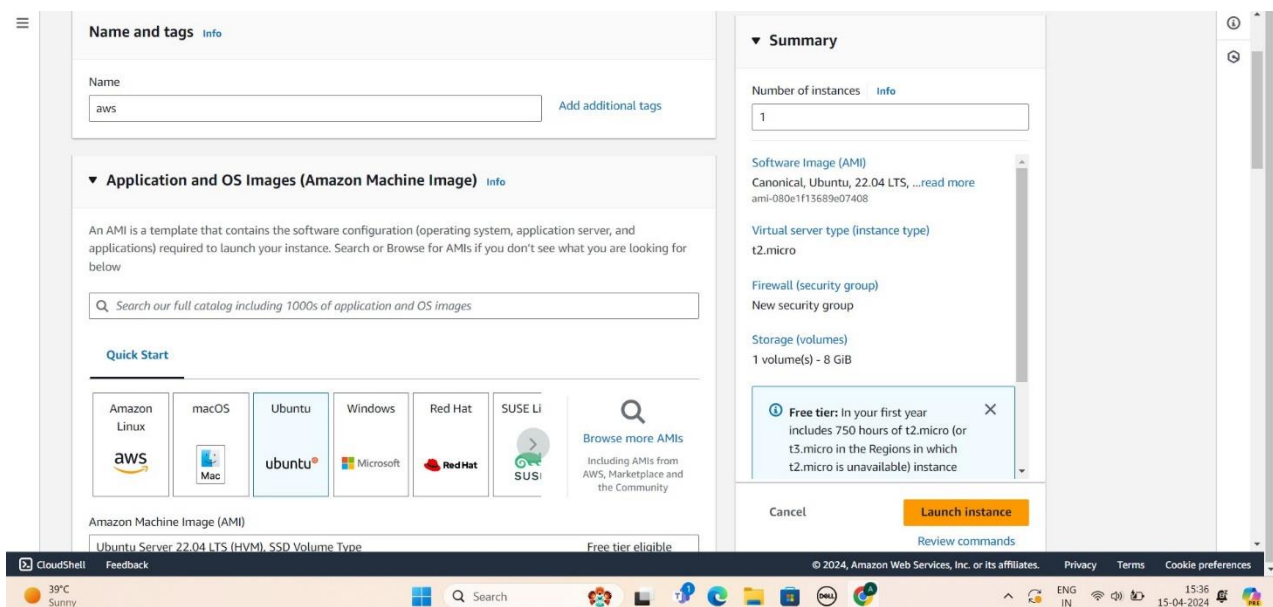
Batch:122

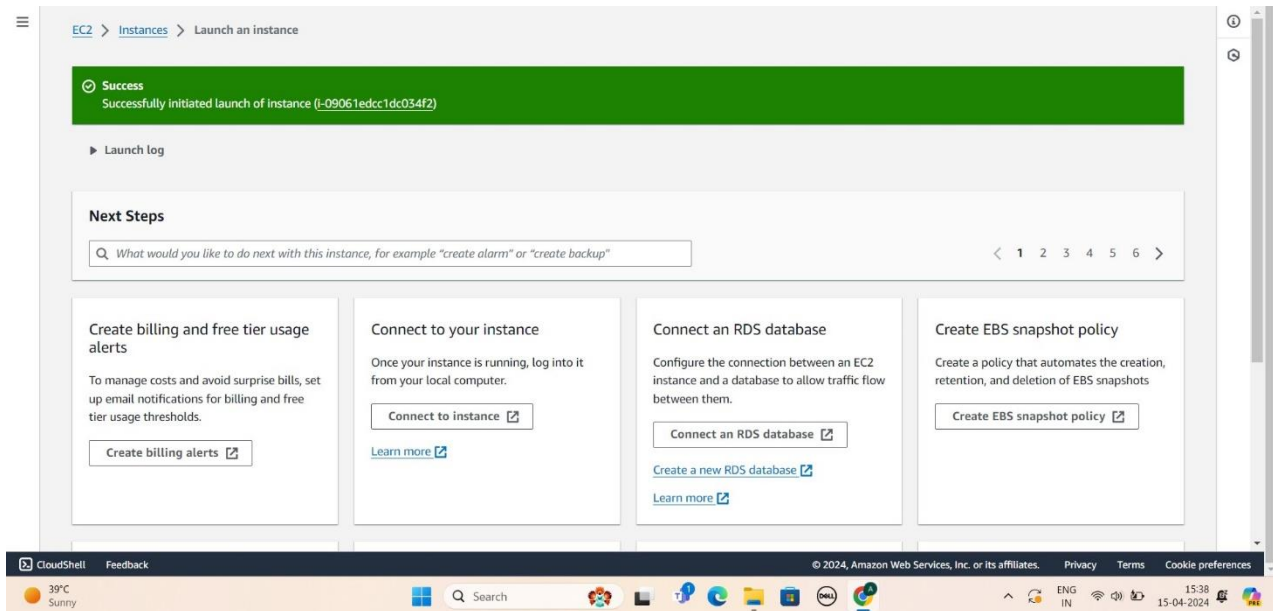
Date:17/03/2023

1. Create an EFS and attach to two EC2 instance. Create an EBS and attach it to two ec2 instances.

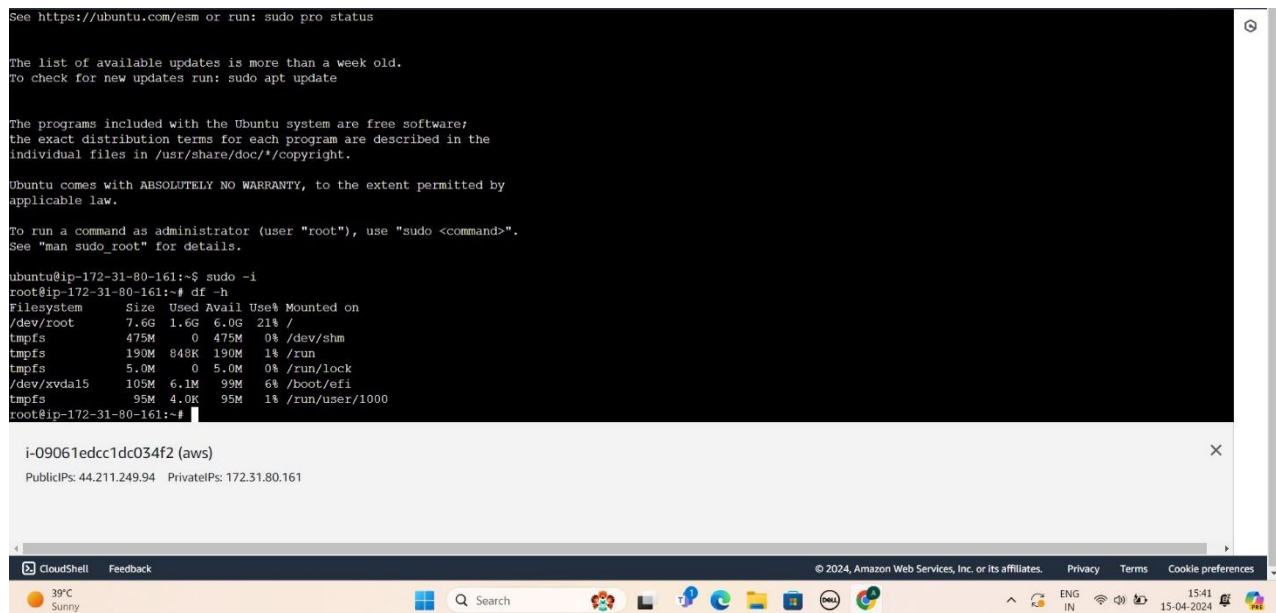
“EBS”

STEP1: create an EC2 instance named ‘aws’ in ubuntu and attach key pairs in your desired region and launch instance

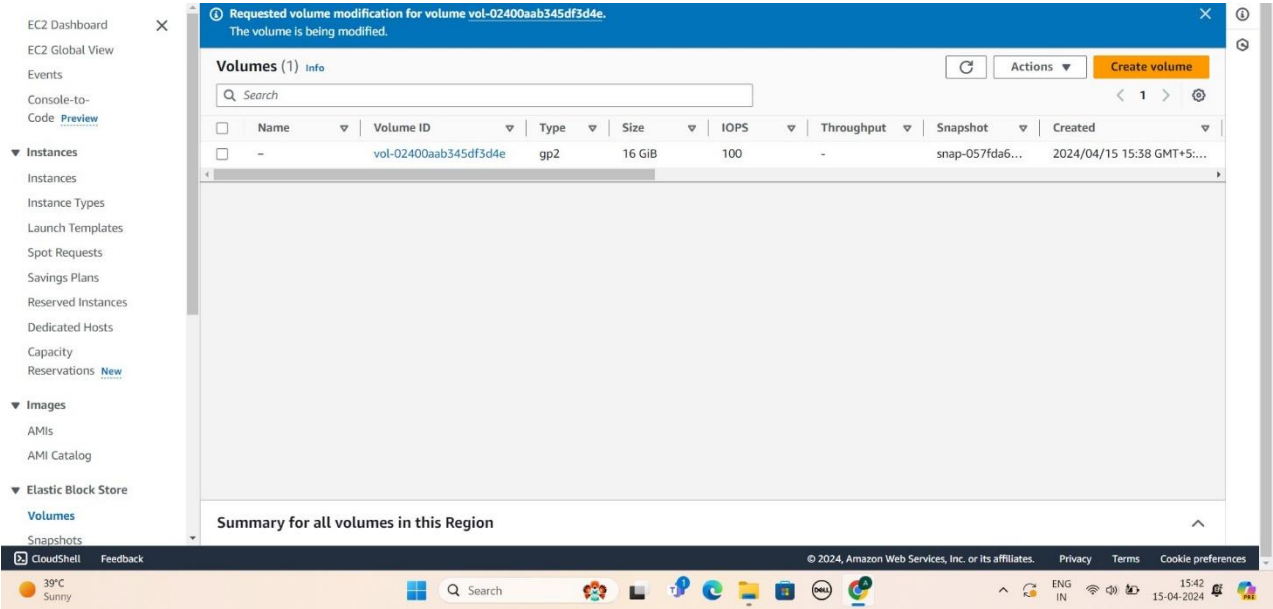
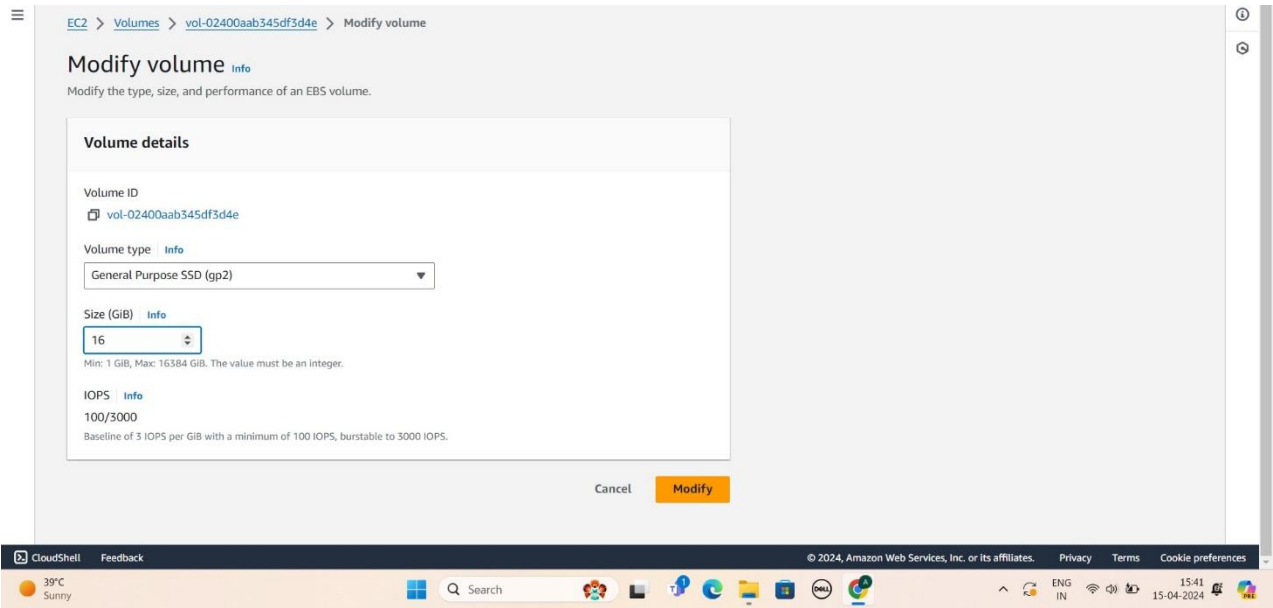




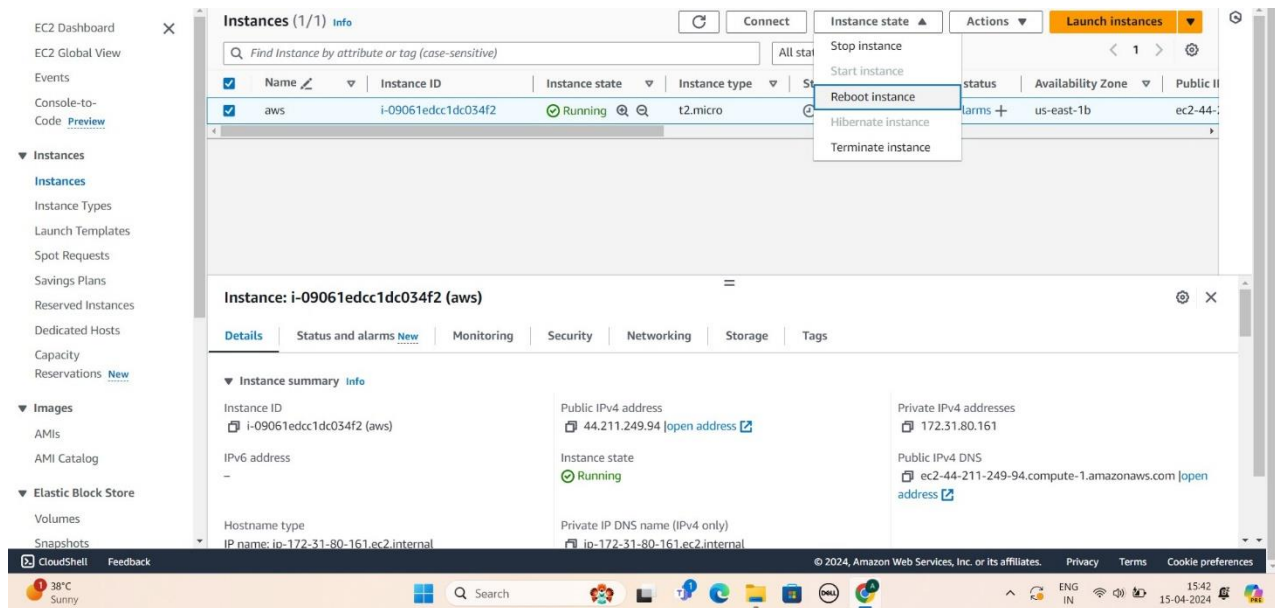
Step2: connect to the instance and we can see that the default storage is '8GB'



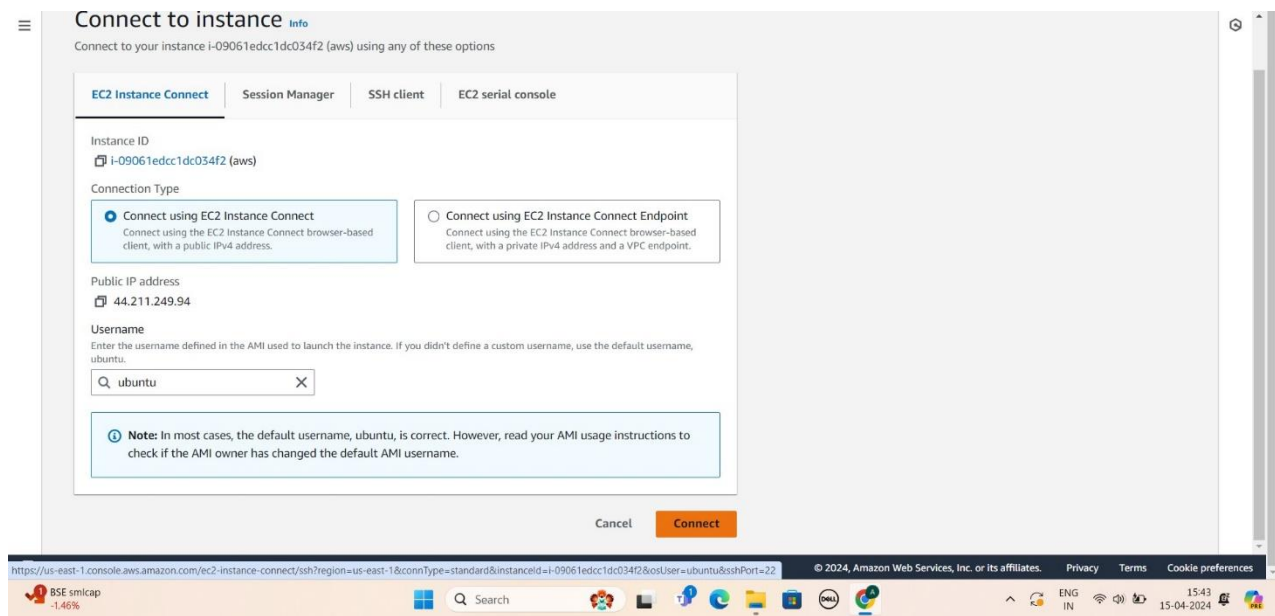
Step3: then to upgrade the storage to '16GB' by editing the volumes



Step4: then reboot the instance to upgrade the storage in the instance



Step5: then reconnect to the instance and we can see that the storage space increases



Usage of /: 20.4% of 7.57GB

Users logged in: 0

Memory usage: 20%

IPv4 address for eth0: 172.31.80.161

Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.

See <https://ubuntu.com/esm> or run: `sudo pro status`

The list of available updates is more than a week old.

To check for new updates run: `sudo apt update`

Last login: Mon Apr 15 10:10:48 2024 from 18.206.107.28

ubuntu@ip-172-31-80-161:~\$ sudo -i

root@ip-172-31-80-161:~# df -h

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/root	16G	1.6G	14G	11%	/
tmpfs	475M	0	475M	0%	/dev/shm
tmpfs	190M	872K	189M	1%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
/dev/xvda15	105M	6.1M	99M	6%	/boot/efi
tmpfs	95M	4.0K	95M	1%	/run/user/1000

root@ip-172-31-80-161:~#

i-09061edcc1dc034f2 (aws)

PublicIPs: 44.211.249.94 PrivateIPs: 172.31.80.161

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

BSE smicap -1.46%

Search

ENG IN 15:44 15-04-2024

EC2 Dashboard

EC2 Global View

Events

Console-to-Code [Preview](#)

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations [New](#)

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Volumes (1) Info

Search

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
<input type="checkbox"/>	-	vol-02400aab345df3d4e	gp2	16 GiB	100	-	snap-057fda6...	2024/04/15 15:38 GMT+5:...

Summary for all volumes in this Region

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

38°C Sunny

Search

ENG IN 16:17 15-04-2024

Step6: create a volume in same zone and try to attach the volumes

Volume settings

Volume type

Provisioned IOPS SSD (io1)

Size (GiB)

10

Min: 4 GiB, Max: 16384 GiB. The value must be an integer.

IOPS

300

Min: 100 IOPS, Max: 500 IOPS (up to 50 IOPS per GiB)

Throughput (MiB/s)

Not applicable

Availability Zone

us-east-1b

Snapshot ID - optional

Don't create volume from a snapshot

Amazon EBS Multi-Attach

Enable Multi-Attach

Encryption

CloudShell

Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

38°C Sunny

Search

ENG IN

16:20 15-04-2024

EC2 Dashboard

EC2 Global View

Events

Console-to-Code

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Successfully created volume vol-0ab3f01d98d7d073d.

Volumes (1/2)

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshots
<input type="checkbox"/>	-	vol-02400aab345df3d4e	gp2	16 GiB	100	-	snap-05
<input checked="" type="checkbox"/>	-	vol-0ab3f01d98d7d073d	io1	10 GiB	300	-	-

Volume ID: vol-0ab3f01d98d7d073d

Details

Status checks

Monitoring

Tags

Volume ID

vol-0ab3f01d98d7d073d

Size

10 GiB

Type

io1

Volume status

Okay

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | Learn more

IOPS

300

Throughput

-

Encryption

Not encrypted

KMS key ID

-

KMS key alias

-

KMS key ARN

-

Fast snapshot restored

Snapshot

Availability Zone

Created

Actions

Create volume

Modify volume

Create snapshot

Create snapshot lifecycle policy

Delete volume

Attach volume

Detach volume

Force detach volume

Manage auto-enabled I/O

Manage tags

Fault injection

CloudShell

Feedback

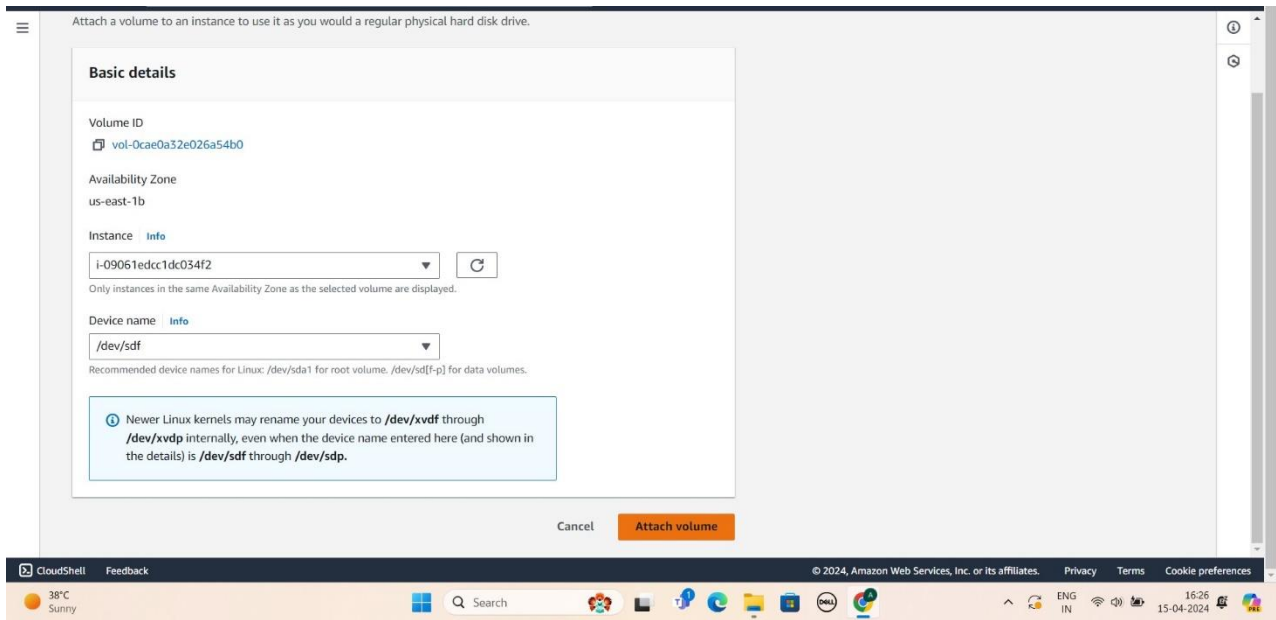
© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

38°C Sunny

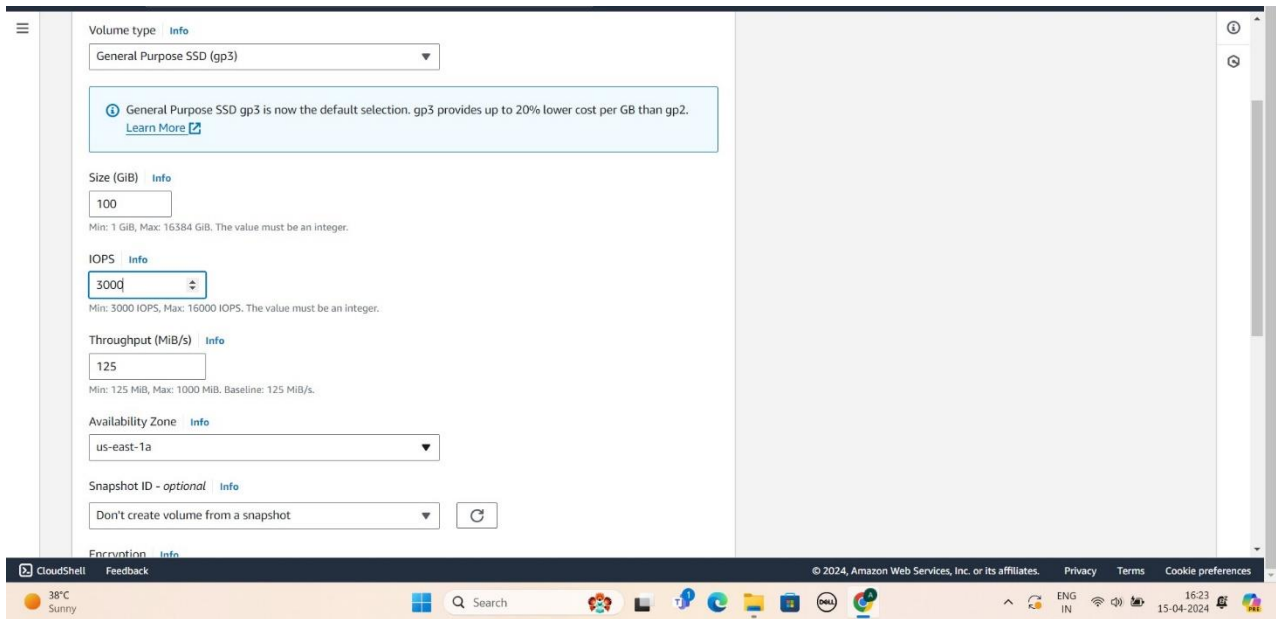
Search

ENG IN

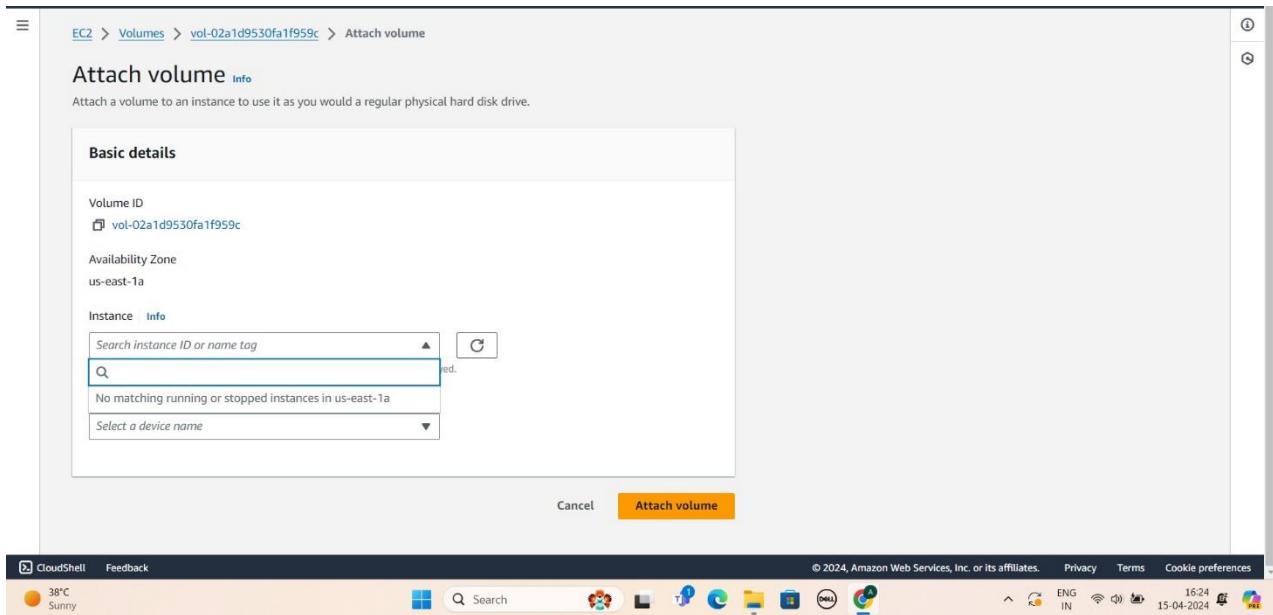
16:21 15-04-2024



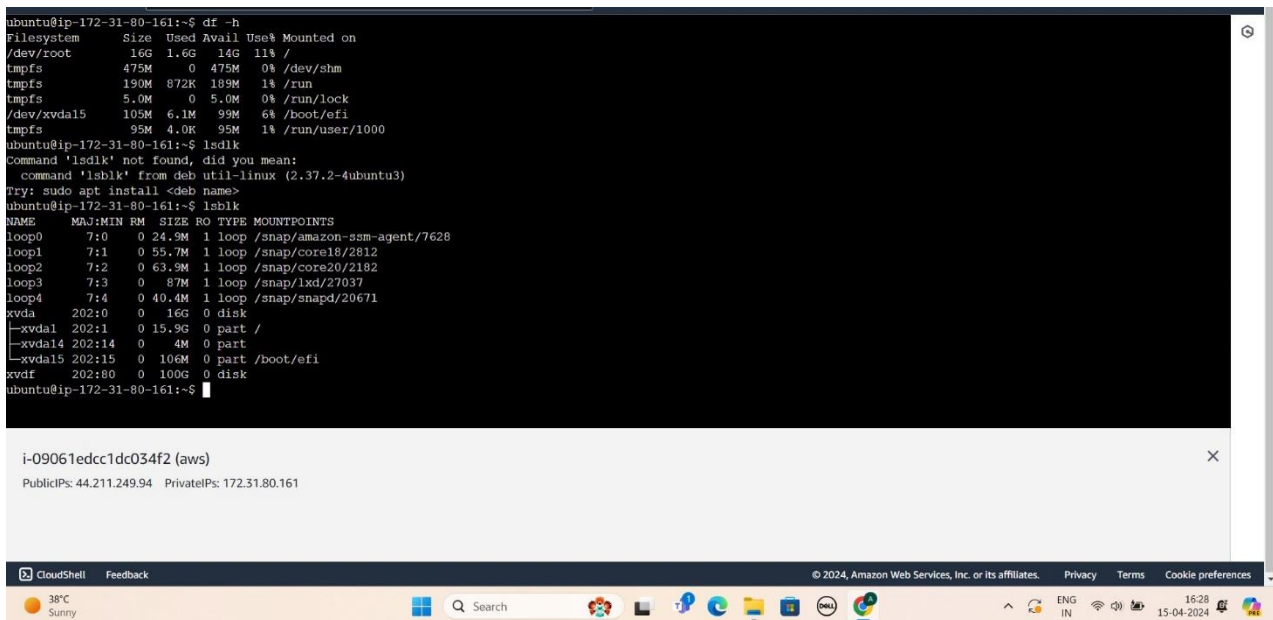
Step7: Then try to attach the volumes in different zone but they didn't attach to each other







Step8:connect to the instance





The list of available updates is more than a week old.  
To check for new updates run: sudo apt update

Last login: Mon Apr 15 10:57:14 2024 from 18.206.107.29

ubuntu@ip-172-31-80-161:~\$ sudo -i

root@ip-172-31-80-161:~# df -h

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/root	16G	1.6G	14G	11%	/
tmpfs	475M	0	475M	0%	/dev/shm
tmpfs	190M	872K	189M	1%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
/dev/xvda15	105M	6.1M	99M	6%	/boot/efi
tmpfs	95M	4.0K	95M	1%	/run/user/1000

root@ip-172-31-80-161:~# mkfs -t xfs /dev/xvdf

```
meta-data=/dev/xvdf          isize=512    agcount=4, agsize=6553600 blks
           =                  sectsz=512    attr=2, projid32bit=1
           =                  crc=1        finobt=1, sparse=1, rmapbt=0
           =                  reflink=1   bigtime=0  inobtcount=0
data      =                  bsize=4096    blocks=26214400, imaxpct=25
           =                  sunit=0      swidth=0 blks
naming    =version 2          bsize=4096    ascii-ci=0, ftype=1
log       =internal log      bsize=4096    blocks=12800, version=2
           =                  sectsz=512    sunit=0 blks, lazy-count=1
realtime  =none              extsz=4096    blocks=0, rtextents=0
```

root@ip-172-31-80-161:~# file -s /dev/xvdf

/dev/xvdf: SGI XFS filesystem data (blksz 4096, inosz 512, v2 dirs)

root@ip-172-31-80-161:~#

i-09061edcc1dc034f2 (aws)

PublicIPs: 44.211.249.94 PrivateIPs: 172.31.80.161

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates.

Privacy

Terms

Cookie preferences

38°C  
Sunny



Search



ENG  
IN



16:34  
15-04-2024



/dev/xvda15 105M 6.1M 99M 6% /boot/efi  
tmpfs 95M 4.0K 95M 1% /run/user/1000

root@ip-172-31-80-161:~# mkfs -t xfs /dev/xvdf

```
meta-data=/dev/xvdf          isize=512    agcount=4, agsize=6553600 blks
           =                  sectsz=512    attr=2, projid32bit=1
           =                  crc=1        finobt=1, sparse=1, rmapbt=0
           =                  reflink=1   bigtime=0  inobtcount=0
data      =                  bsize=4096    blocks=26214400, imaxpct=25
           =                  sunit=0      swidth=0 blks
naming    =version 2          bsize=4096    ascii-ci=0, ftype=1
log       =internal log      bsize=4096    blocks=12800, version=2
           =                  sectsz=512    sunit=0 blks, lazy-count=1
realtime  =none              extsz=4096    blocks=0, rtextents=0
```

root@ip-172-31-80-161:~# file -s /dev/xvdf

/dev/xvdf: SGI XFS filesystem data (blksz 4096, inosz 512, v2 dirs)

root@ip-172-31-80-161:~# mkdir -p ammu/bhanu

root@ip-172-31-80-161:~# mount /dev/xvdf ammu/bhanu

root@ip-172-31-80-161:~# df -h

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/root	16G	1.6G	14G	11%	/
tmpfs	475M	0	475M	0%	/dev/shm
tmpfs	190M	872K	189M	1%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
/dev/xvda15	105M	6.1M	99M	6%	/boot/efi
tmpfs	95M	4.0K	95M	1%	/run/user/1000
/dev/xvdf	100G	746M	100G	1%	/root/ammu/bhanu

root@ip-172-31-80-161:~#

i-09061edcc1dc034f2 (aws)

PublicIPs: 44.211.249.94 PrivateIPs: 172.31.80.161

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates.

Privacy

Terms

Cookie preferences

38°C  
Sunny



Search

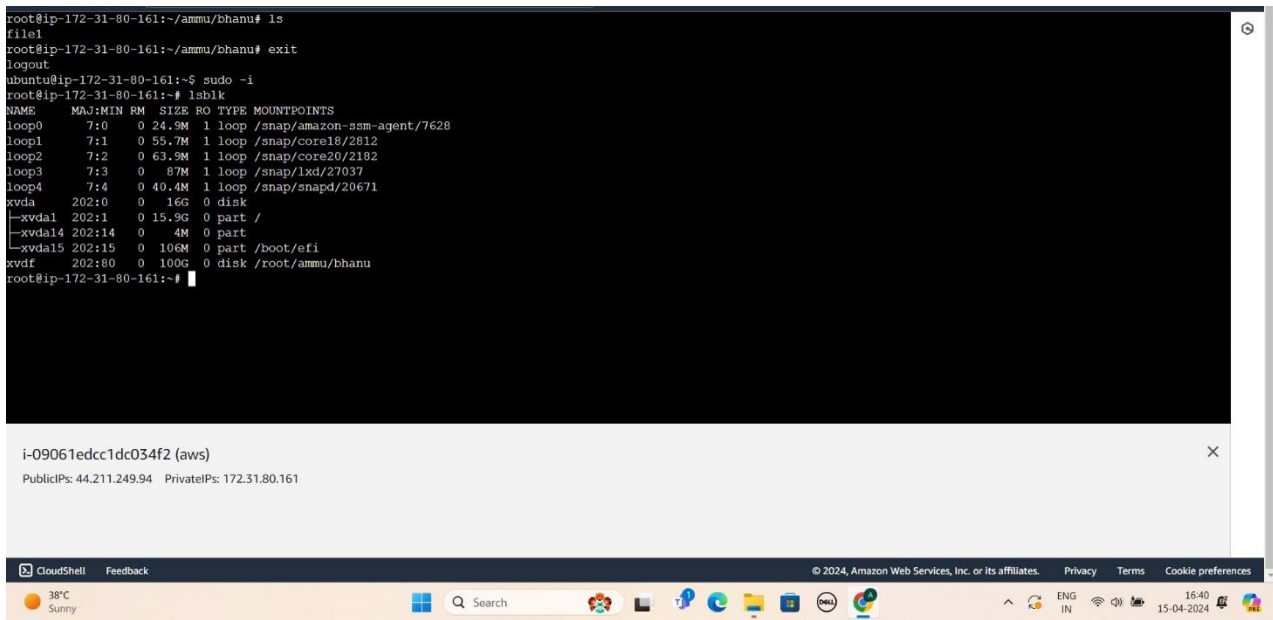


ENG  
IN



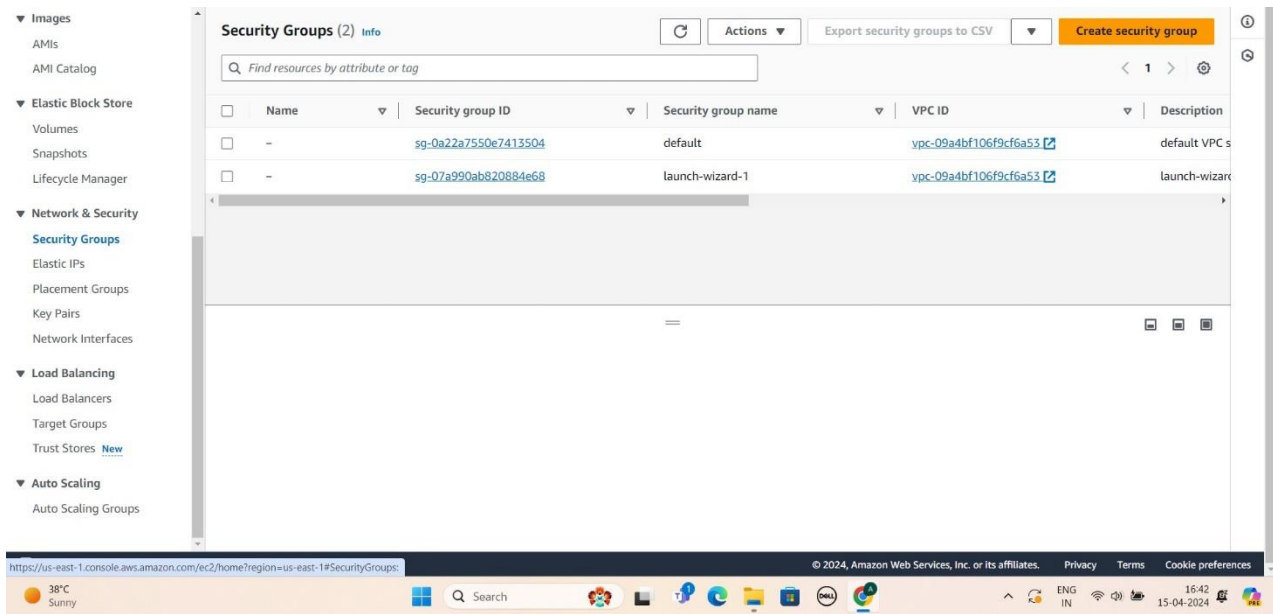
16:35  
15-04-2024





EFS:

step9: create security groups and add inbound rules



# Create security group

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

## Basic details

Security group name

myefs-sg

Name cannot be edited after creation.

Description

nothing

VPC

vpc-09a4bf106f9cf6a53

## Inbound rules

This security group has no inbound rules.

Add rule

CloudShellFeedback

© 2024, Amazon Web Services, Inc. or its affiliates. PrivacyTermsCookie preferences

38°C Sunny

Search

ENG IN

16:43 15-04-2024

## Inbound rules

Type	Protocol	Port range	Source	Description - optional
All traffic	All	All	Custom	
Add rule				

## Outbound rules

Type	Protocol	Port range	Destination
All traffic	All	All	Custom
Add rule			

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setti

CloudShellFeedback

© 2024, Amazon Web Services, Inc. or its affiliates. PrivacyTermsCookie preferences

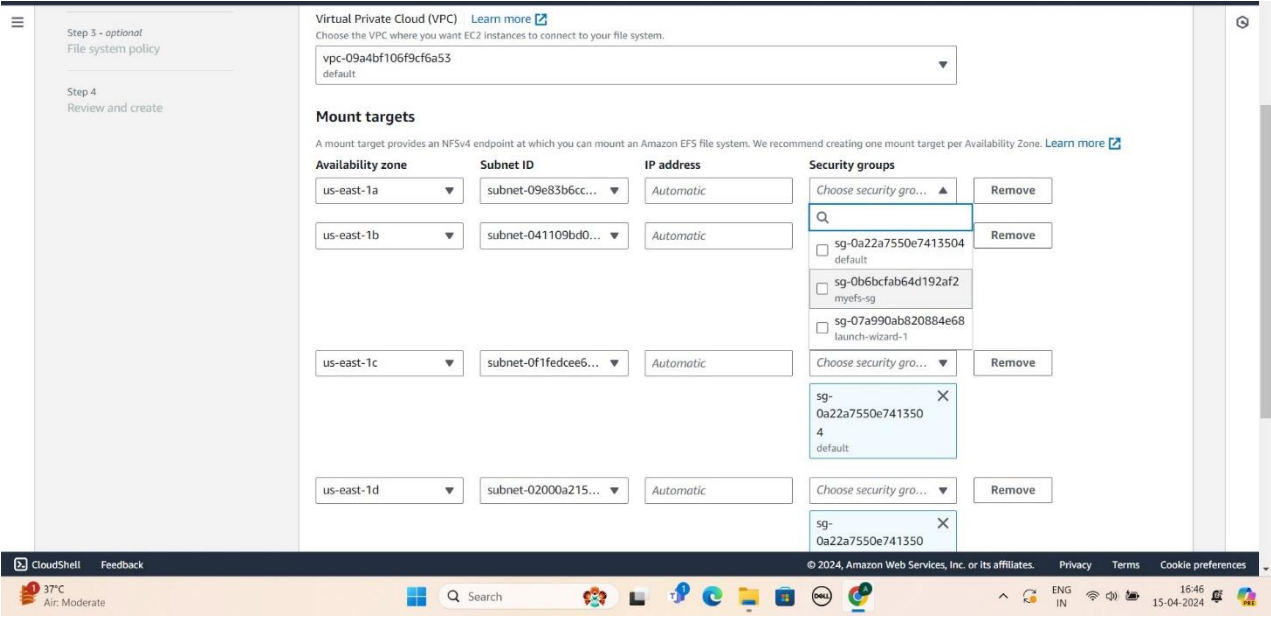
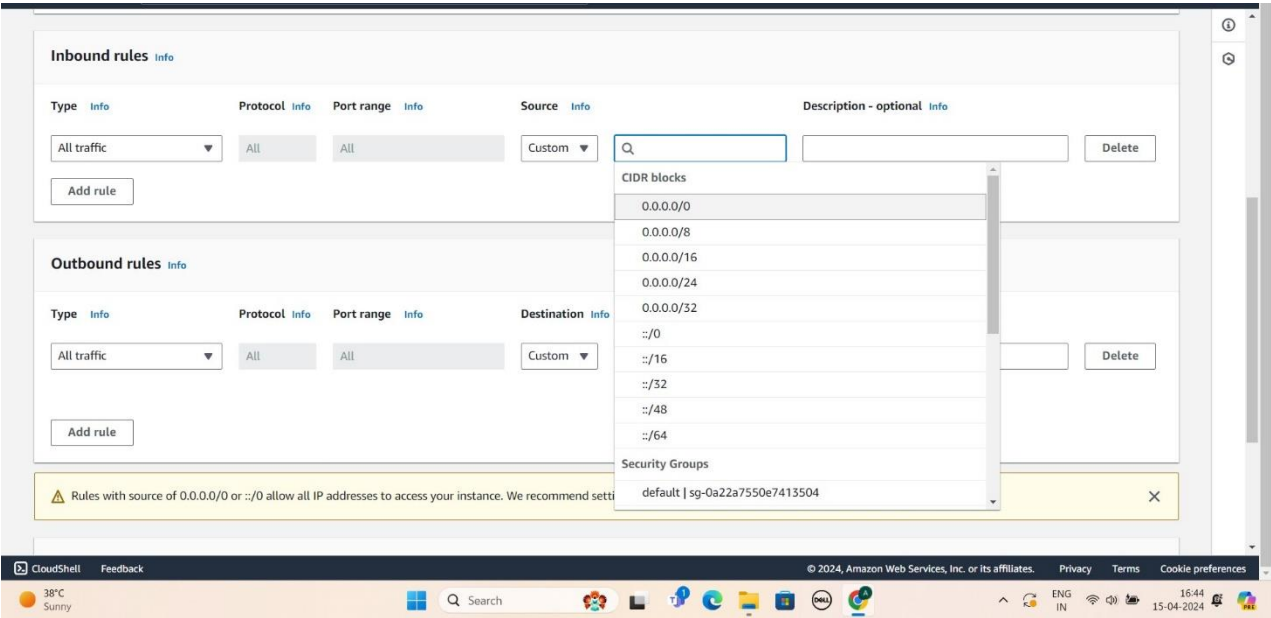
38°C Sunny

Search

ENG IN

16:44 15-04-2024

Step10: create file system and mount targets



**Elastic File System**

File systems  
Access points

AWS Backup [↗](#)  
AWS DataSync [↗](#)  
AWS Transfer [↗](#)

Documentation [↗](#)

**Success!**  
File system (fs-03e8dc3a72325350b) is available.

View file system

Notifications 0 0 1 1 0

Amazon EFS > File systems

File systems (1)

Filter by property values

Name	File system ID	Encrypte d	Total size	Size in Standard	Size in IA	Size in Archive	Provisioned Throughput (MiB/s)
<a href="#">vcube-efs</a>	<a href="#">fs-03e8dc3a72325350b</a>	Encrypte d	6.00 KiB	6.00 KiB	0 Bytes	0 Bytes	-

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

37°C Air: Moderate

Step11: create an instance here we created 'EC1' instance and add subnets & security groups & file system

**EC2 Dashboard**

EC2 Global View  
Events  
Console-to-Code [Preview](#)

▼ Instances  
Instances  
Instance Types  
Launch Templates  
Spot Requests  
Savings Plans  
Reserved Instances  
Dedicated Hosts  
Capacity Reservations [New](#)

▼ Images  
AMIs  
AMI Catalog

▼ Elastic Block Store  
Volumes  
Snapshots

**Instances (1) Info**

Find Instance by attribute or tag (case-sensitive)

Instance state = running Clear filters

Connect Instance state Actions Launch instances

All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
aws	i-09061edcc1dc034f2	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a>	us-east-1b	ec2-44-211-249-

Select an instance

CloudShell Feedback

Upcoming Earnings

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

15-04-2024 15:49

peerimg

Create new key pair

▼ Network settings Info

VPC - required Info

vpc-09a4bf106f9cf6a53 (default)

172.31.0.0/16

Subnet Info

subnet-09e83b6cce96b28f4

VPC: vpc-09a4bf106f9cf6a53 Owner: 851725646919 Availability Zone: us-east-1a IP addresses available: 4090 CIDR: 172.31.0.0/20 [Create new subnet](#)

Auto-assign public IP Info

Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

Security group name - required

launch-wizard-2

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and \_~:/@.[!+=&|!]\*\$

▼ Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.4.2...read more  
ami-051f8a213df6bc089

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance

Cancel [Launch instance](#)

Review commands

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group

Select existing security group

Common security groups Info

Select security groups

myefs-sg sg-0b6bcfab64d192af2 X  
VPC: vpc-09a4bf106f9cf6a53

Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

Advanced network configuration

Configure storage Info

Advanced

1x 8 GiB gp3 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GiB of EBS General Purpose (SSD) or Magnetic storage X

Add new volume

Click refresh to view backup information

Summary

Number of instances Info  
1

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.4.2...read more  
ami-051f8a213df8bc089

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
myefs-sg

Storage (volumes)  
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance X

Cancel Launch instance

Review commands

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

37°C Sunny

Search

ENG IN

16:51 15-04-2024

Free tier eligible customers can get up to 30 GiB of EBS General Purpose (SSD) or Magnetic storage X

Add new volume

Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

File systems Hide details

EFS

FSx

Shared file system 1

Remove

File system Info

Mount point Info

fs-03e8dc3a72325350b  
Name: vcube-efs Availability: Regional

/mnt/efs/fs1

Add shared file system Create new shared file system

4 remaining (up to 5 file systems maximum).

Automatically create and attach security groups

To enable access to the file system, the required security groups will be automatically created and attached to this instance and the selected file system. To manually manage the security groups, clear the checkbox. Learn more.

Automatically mount shared file system by attaching required user data script

Automatically mount shared file system by attaching required user data to install software. If you would like to manually mount your file

Summary

Number of instances Info  
1

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.4.2...read more  
ami-051f8a213df8bc089

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
myefs-sg

Storage (volumes)  
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance X

Cancel Launch instance

Review commands

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

37°C Sunny

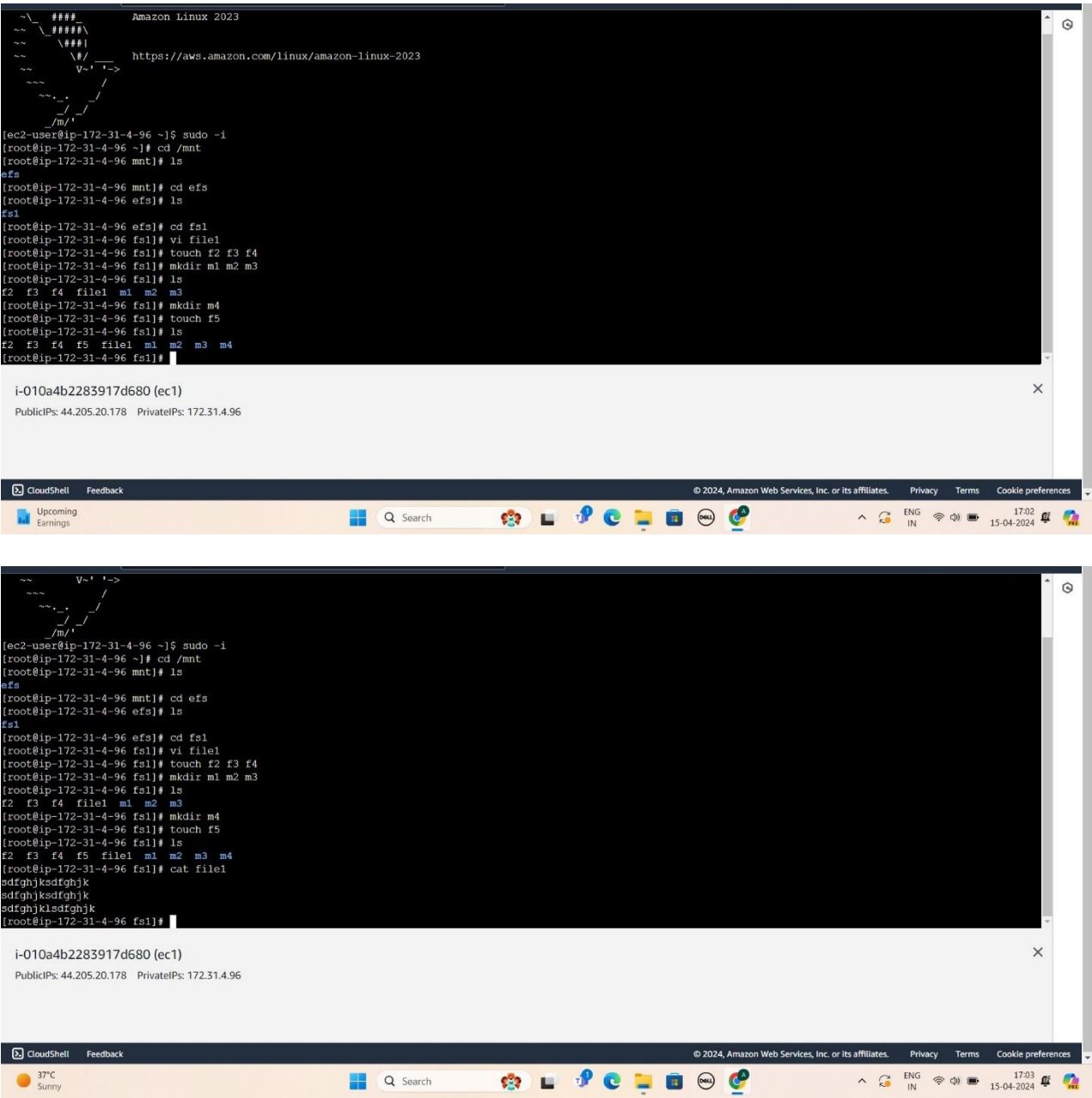
Search

ENG IN

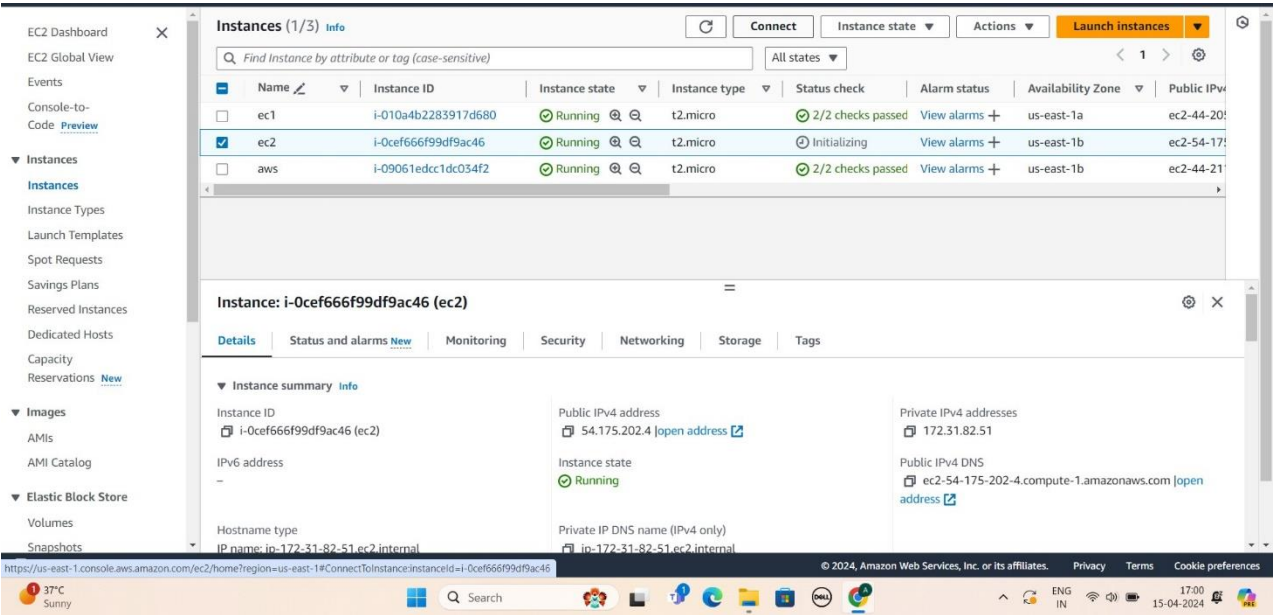
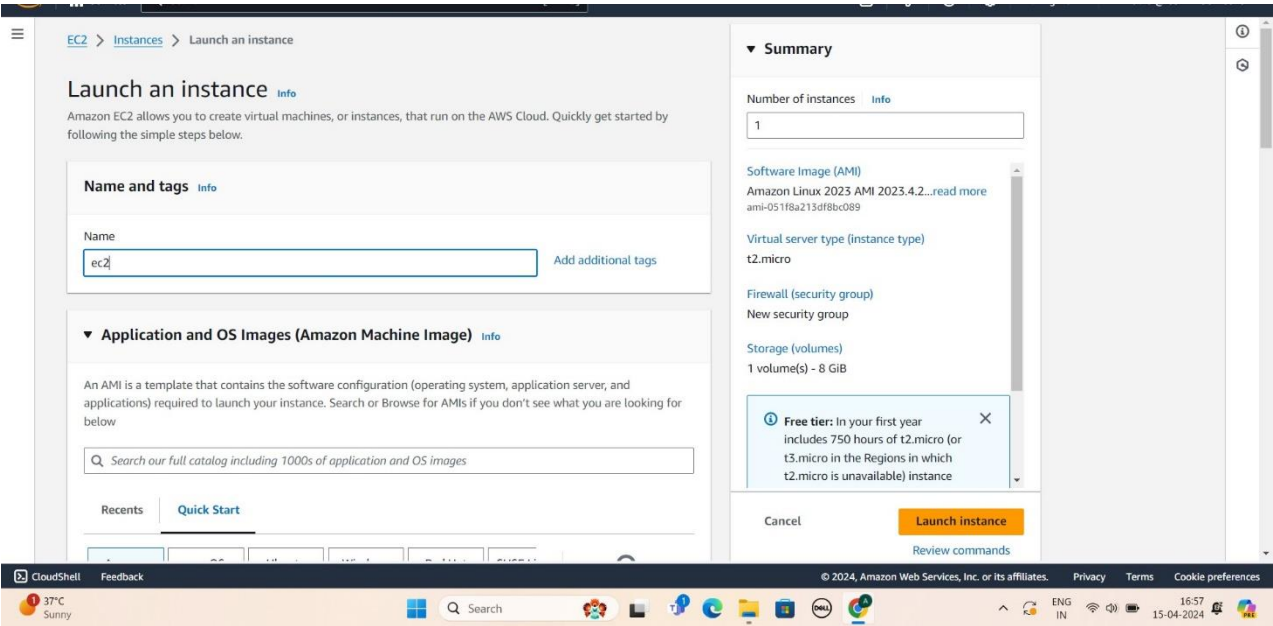
16:52 15-04-2024



Step12: connect to the instance and store the files



Step13:then launch another instance ‘EC2’



```
[root@ip-172-31-82-51 ~]# ls
fs1
[root@ip-172-31-82-51 ~]# cd fs1
[root@ip-172-31-82-51 fs1]# ls
f2 f3 f4 file1 m1 m2 m3
[root@ip-172-31-82-51 fs1]#
```

i-0cef666f99df9ac46 (ec2)  
PublicIPs: 54.175.202.4 PrivateIPs: 172.31.82.51

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Upcoming Earnings Search 17:01 15-04-2024

Step14: we can see the files in ec1 in ec2 instance

```
[root@ip-172-31-82-51 ~]# ls
fs1
[root@ip-172-31-82-51 ~]# cd fs1
[root@ip-172-31-82-51 fs1]# ls
f2 f3 f4 file1 m1 m2 m3
[root@ip-172-31-82-51 fs1]# ls
f2 f3 f4 f5 file1 m1 m2 m3 m4
[root@ip-172-31-82-51 fs1]# cat file1
abcdefghijklmnopqrstuvwxyz
abcdefghijklmnopqrstuvwxyz
abcdefghijklmnopqrstuvwxyz
[root@ip-172-31-82-51 fs1]#
```

i-0cef666f99df9ac46 (ec2)  
PublicIPs: 54.175.202.4 PrivateIPs: 172.31.82.51

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Upcoming Earnings Search 17:03 15-04-2024