# CREATE AN EBS AND ATTACH IT TO AN EC2 INSTANCE

**By-**

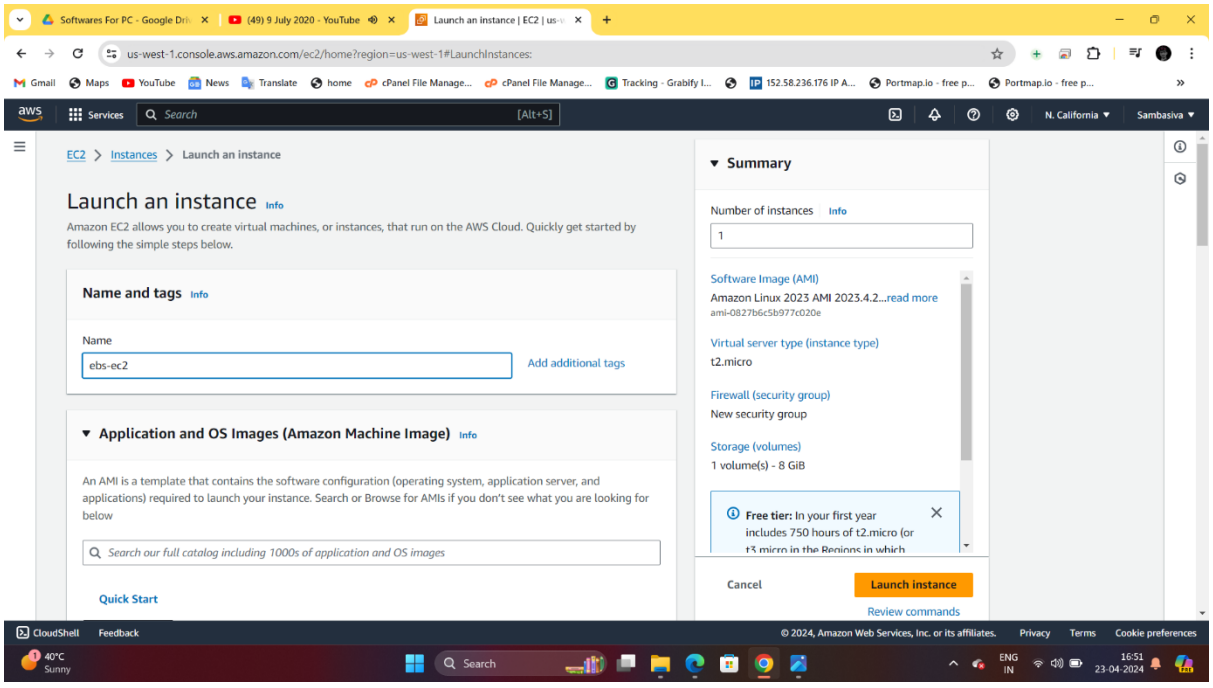
**sambasiva**

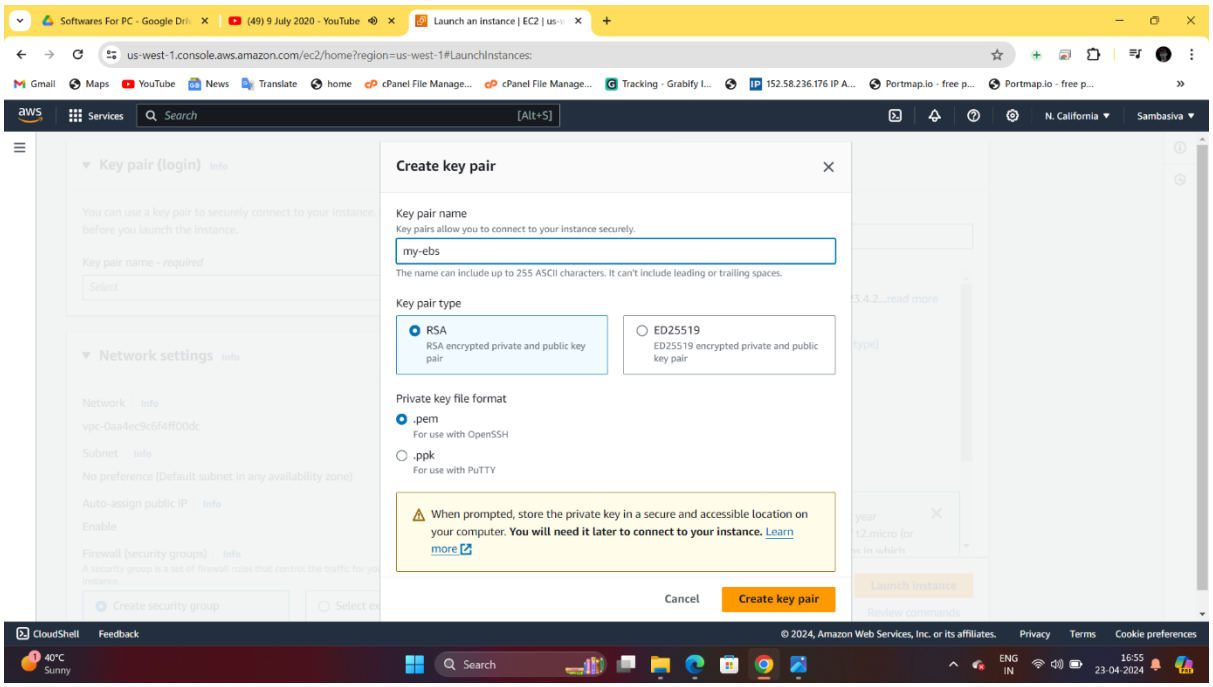
# Elastic Block Store (EBS):

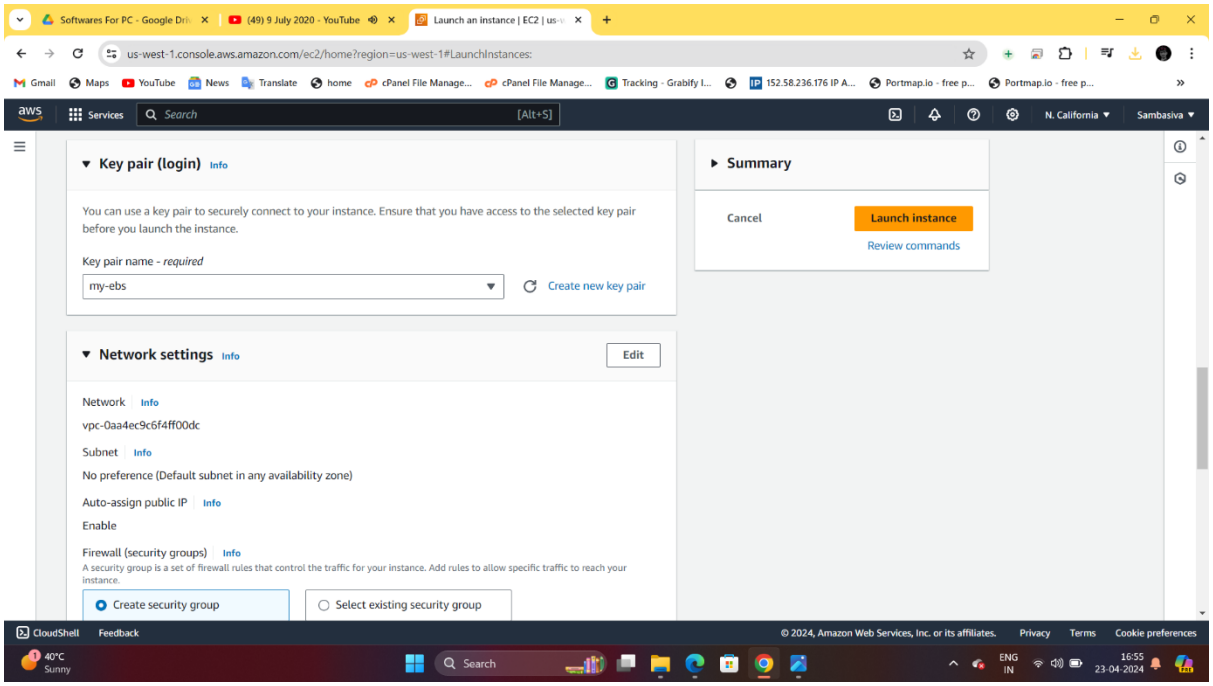
• Elastic block store is a cloud-based block-storage service designed for amazon elastic cloud compute (EC2) that allows user to store large amount of data in blocks, which works like hard drives.

• They have high durability and low latency performance within selected availability zone.

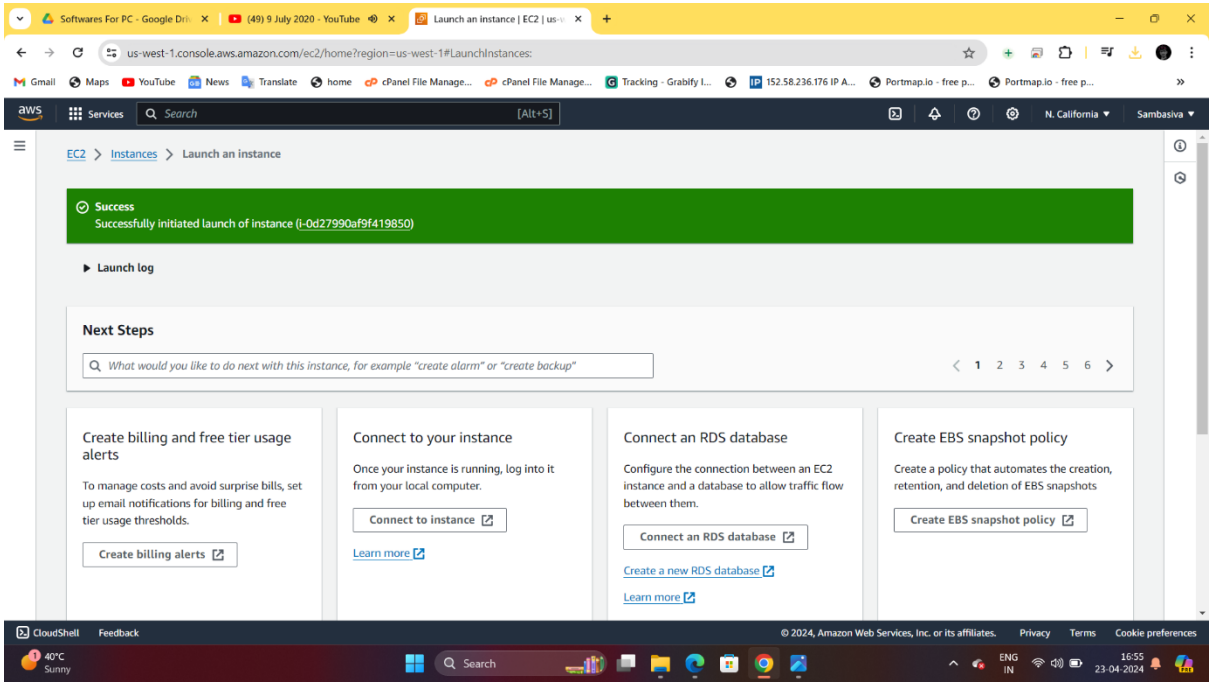
• launch instance and create key pair



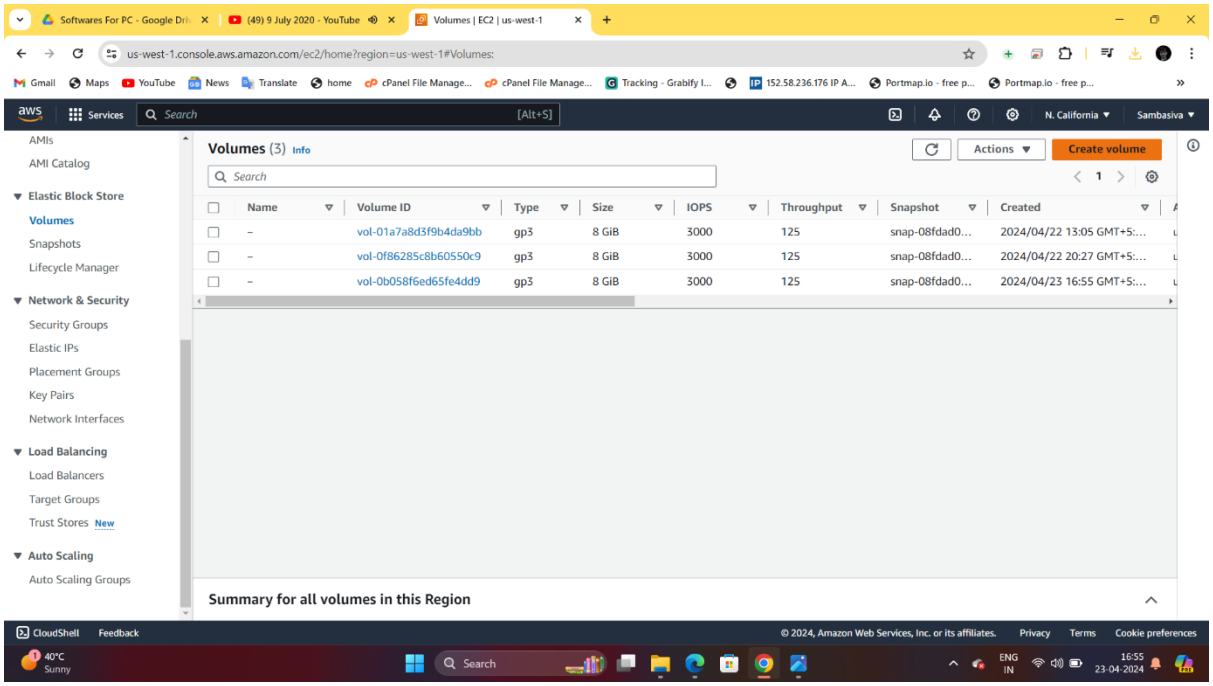

Create key pair
Key pair name
Key pairs allow you to connect to your instance securely.
my-ebs
The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.
Key pair type
RSA
RSA encrypted private and public key pair
ED25519
ED25519 encrypted private and public key pair
Private key file format
.pem
For use with OpenSSH
.ppk
For use with PuTTY
When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. Learn more
Cancel
Create key pair


Key pair (login) Info
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name - required
my-ebs
Create new key pair
Summary
Cancel
Launch instance
Review commands
Network settings Info
Edit
Network Info
vpc-0aa4ec9c6f4ff00dc
Subnet Info
No preference (Default subnet in any availability zone)
Auto-assign public IP Info
Enable
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

click on launch instance and successfully launch instance




- Now go to volume section and click on create volume and go with the storage type required.
- Lets go with default ssd gp3 and select the region you created your instance. If you created your instance in 1b region then your volume also should be in 1b region.
- Select the size of your storage and click on create.
- Now go to the volumes and you can see your created EBS volume and click on actions and select on attach volume.


Volumes | EC2 | us-west-1
us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#Volumes:
Services
Search
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AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups
Trust Stores New
Auto Scaling
Auto Scaling Groups
Volumes (3) Info
Actions
Create volume
Name
Volume ID
Type
Size
IOPS
Throughput
Snapshot
Created
vol-01a7a8d3f9b4da9bb gp3 8 GiB 3000 125 snap-08fdad0... 2024/04/22 13:05 GMT+5:...
vol-0f86285c8b60550c9 gp3 8 GiB 3000 125 snap-08fdad0... 2024/04/22 20:27 GMT+5:...
vol-0b058f6ed65fe4dd9 gp3 8 GiB 3000 125 snap-08fdad0... 2024/04/23 16:55 GMT+5:...
Summary for all volumes in this Region
CloudShell
Feedback
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Cookie preferences
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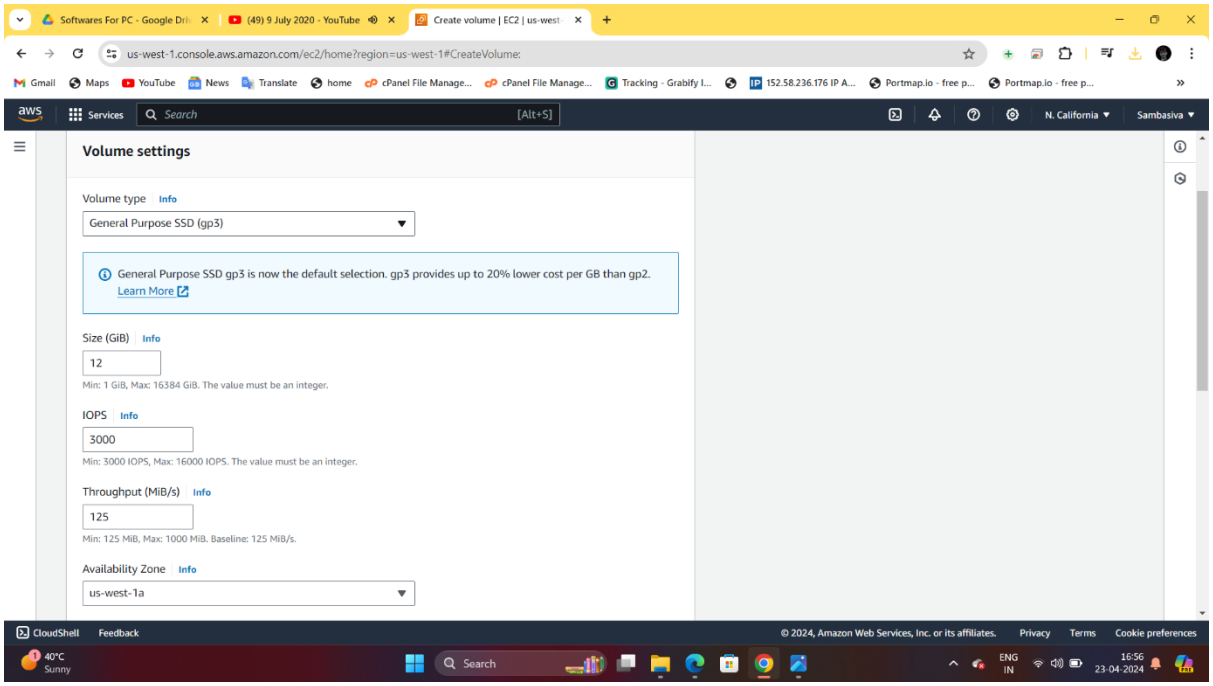
23-04-2024


Create volume | EC2 | us-west
us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#CreateVolume:
Services
Search
[Alt+S]
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Volume settings
Volume type Info
General Purpose SSD (gp3)
General Purpose SSD gp3 is now the default selection. gp3 provides up to 20% lower cost per GB than gp2.
Learn More
Size (GiB) Info
12
Min: 1 GiB, Max: 16384 GiB. The value must be an integer.
IOPS Info
3000
Min: 3000 IOPS, Max: 16000 IOPS. The value must be an integer.
Throughput (MiB/s) Info
125
Min: 125 MiB, Max: 1000 MiB. Baseline: 125 MiB/s.
Availability Zone Info
us-west-1a
CloudShell
Feedback
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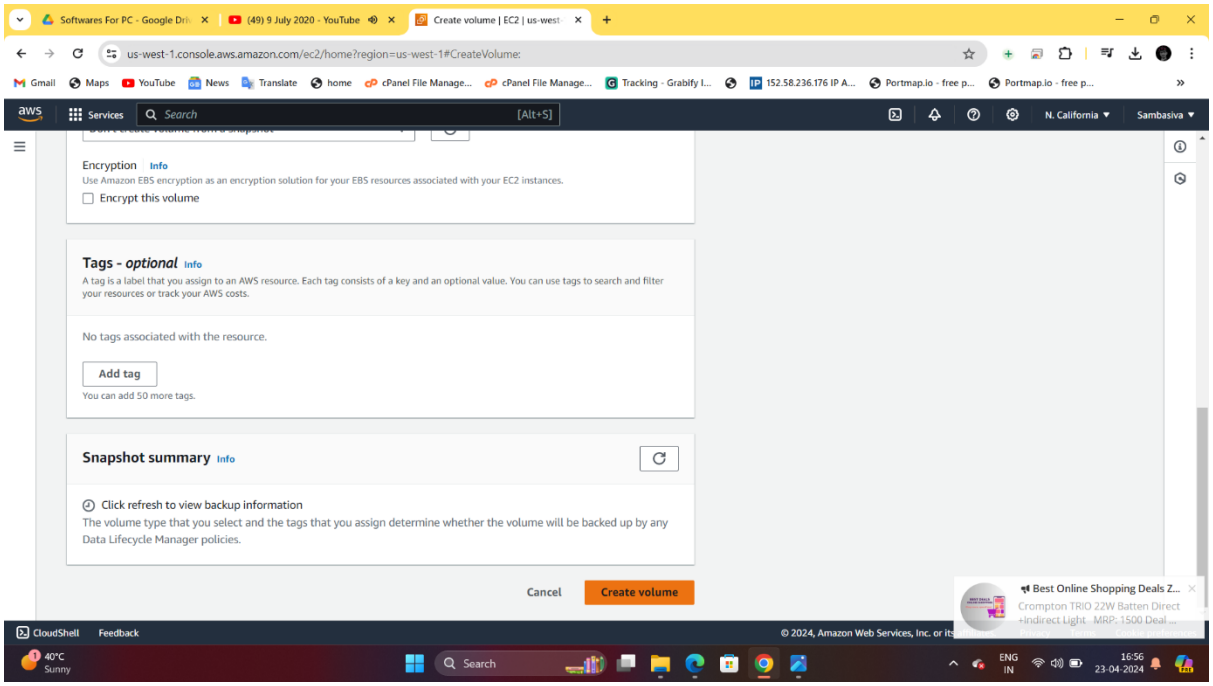
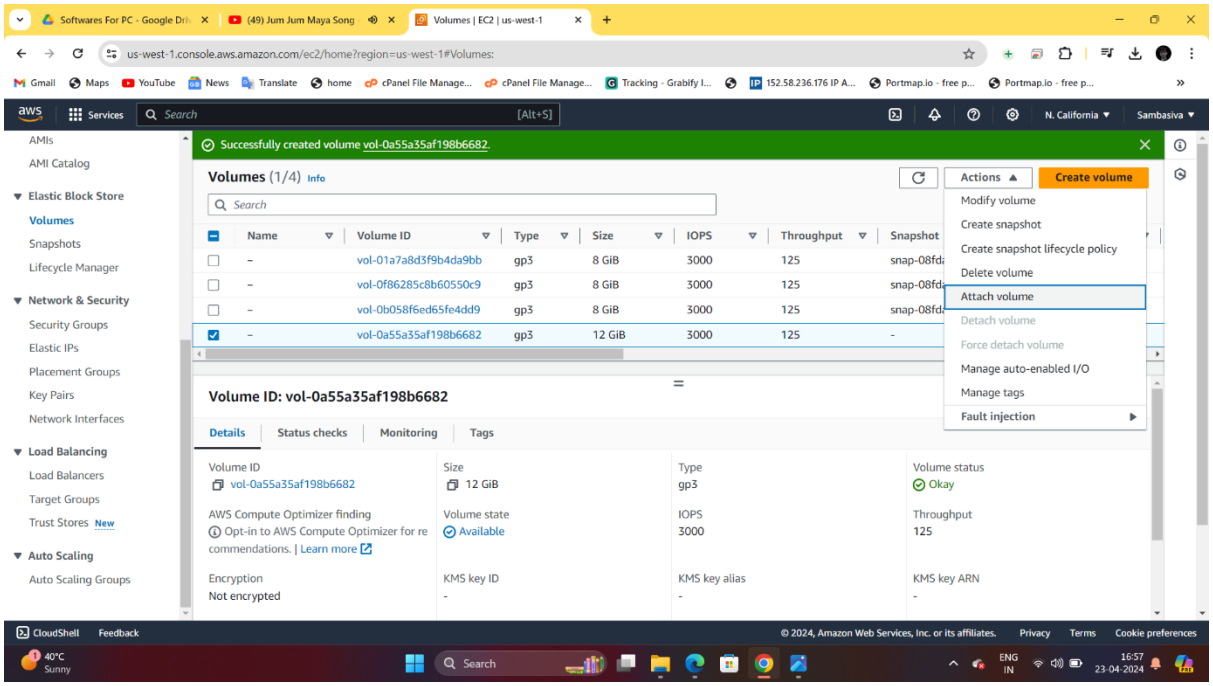

Encryption Info
Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.
Encrypt this volume
Tags - optional Info
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
No tags associated with the resource.
Add tag
You can add 50 more tags.
Snapshot summary Info
Click refresh to view backup information
The volume type that you select and the tags that you assign determine whether the volume will be backed up by any Data Lifecycle Manager policies.
Cancel
Create volume


Successfully created volume vol-0a55a35af198b6682.
Volumes (1/4) Info
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
Volume ID: vol-0a55a35af198b6682
Details
Status checks
Monitoring
Tags

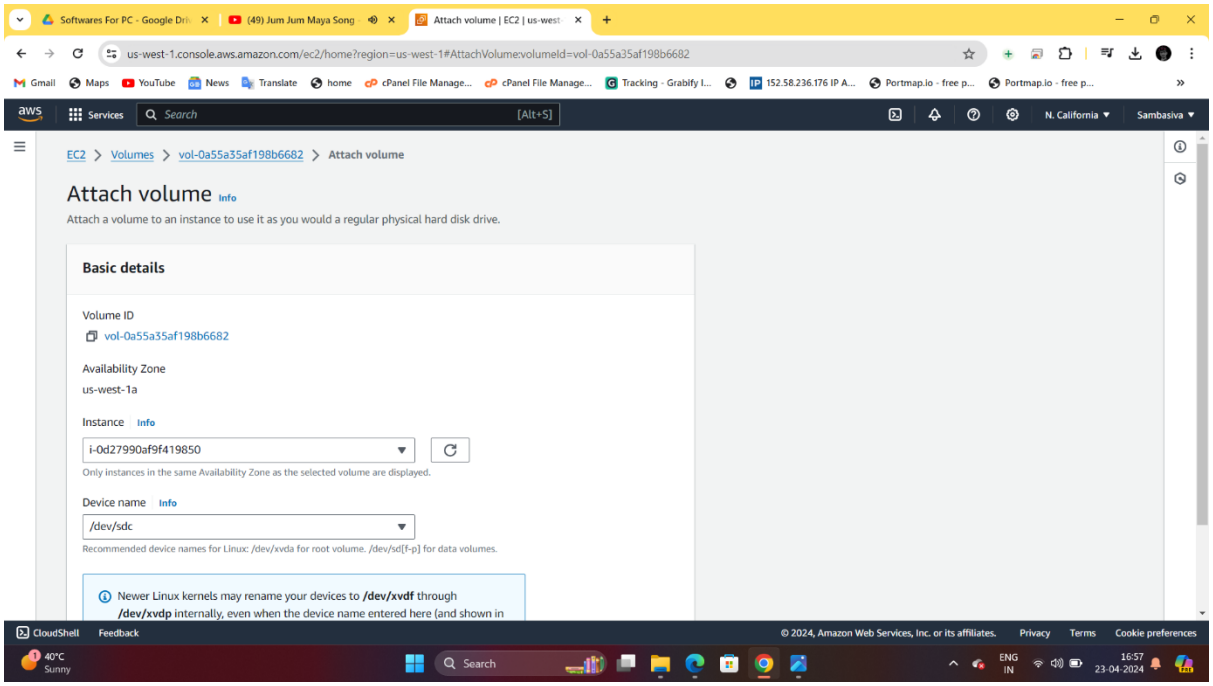
• Now select the instance that you want to attach the EBS and select the device name for the volume.

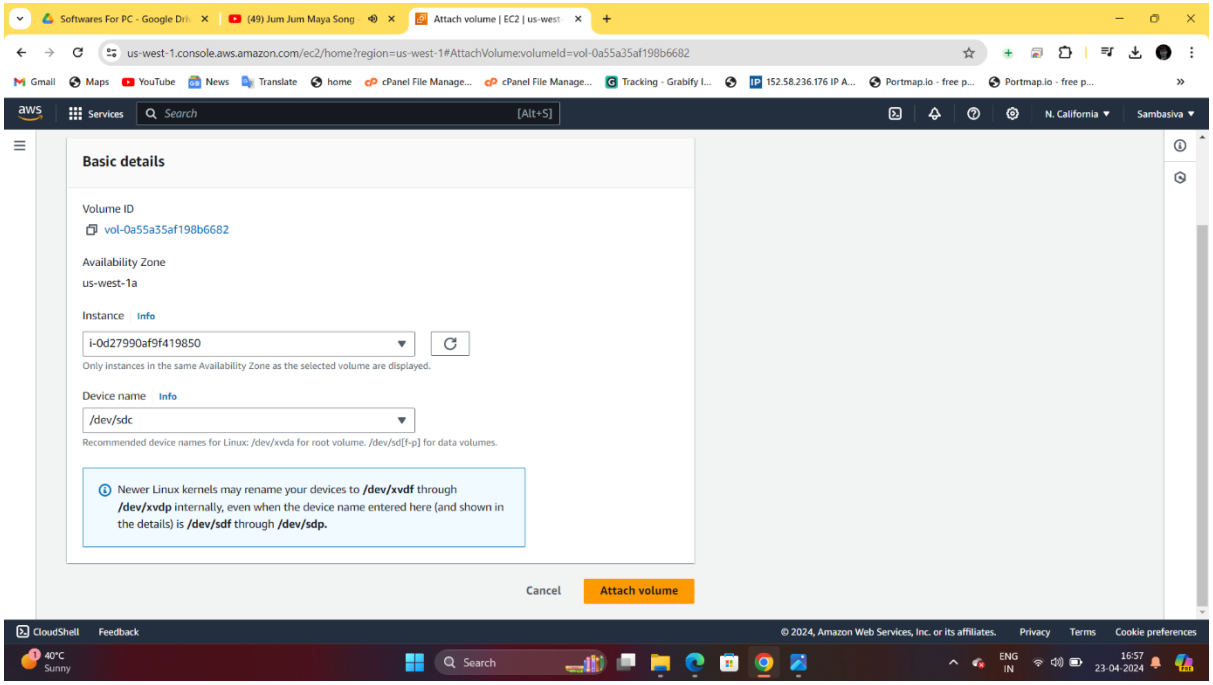
• After attaching the volume to your instance , go to your ec2 instances and connect to the instance.

• If you give lsblk command you can list out the block storages that are connected to your instances.

• And if you give a command server. df you can see the disks and storage of your

• As you can see the storage which can be seen in lsblk can not be seen in df. So we have to first create a file system for our block storage and mount our storage to a directory.

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Attach volume | EC2 | us-west
us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#AttachVolume:volumeId=vol-0a55a35af198b6682
Gmail
Maps
YouTube
News
Translate
home
cPanel File Manage...
Tracking - Grabify I...
152.58.236.176 IP A...
Portmap.io - free p...
aws
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Basic details
Volume ID
vol-0a55a35af198b6682
Availability Zone
us-west-1a
Instance Info
i-0d27990af9f419850
Only instances in the same Availability Zone as the selected volume are displayed.
Device name Info
/dev/sdc
Recommended device names for Linux: /dev/xvda for root volume. /dev/sd[f-p] for data volumes.
Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.
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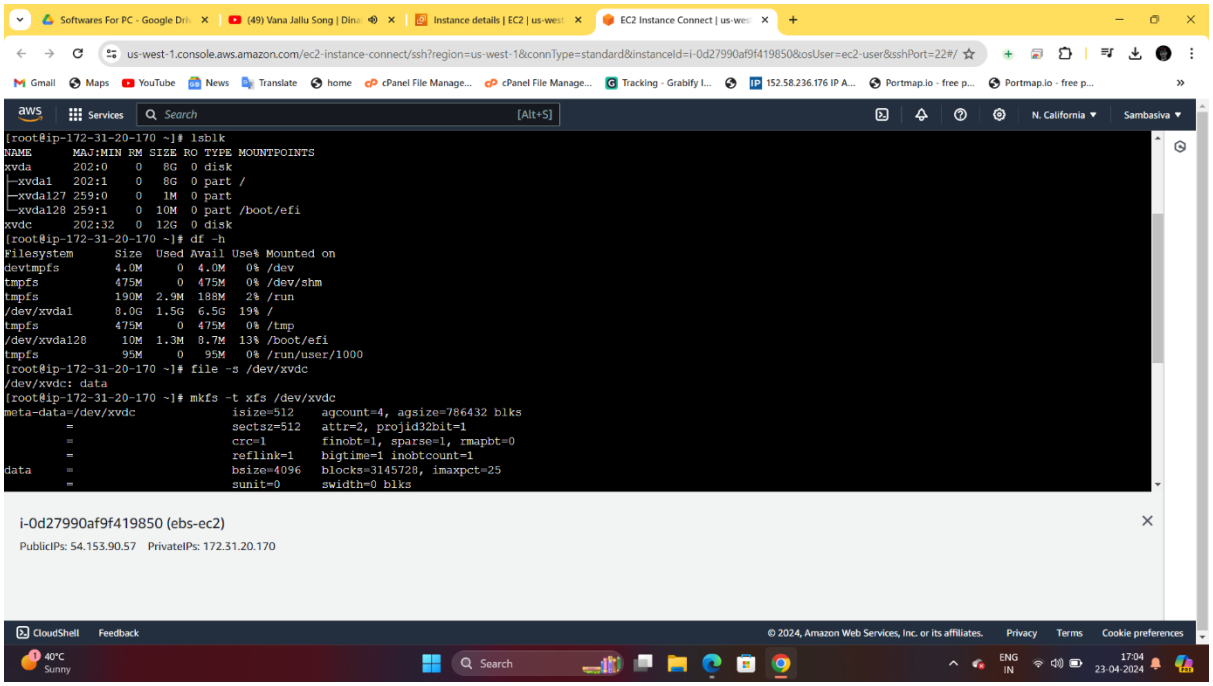
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Instance details | EC2 | us-west
EC2 Instance Connect | us-west
us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-west-1&connType=standard&instanceId=i-0d27990af9f419850&osUser=ec2-user&sshPort=22#/
Gmail
Maps
YouTube
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cPanel File Manage...
Tracking - Grabify I...
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[root@ip-172-31-20-170 ~]# lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
xvda 202:0 0 8G 0 disk
├─xvda1 202:1 0 8G 0 part /
├─xvda127 259:0 0 1M 0 part
└─xvda128 259:1 0 10M 0 part /boot/efi
xvdc 202:32 0 12G 0 disk
[root@ip-172-31-20-170 ~]# df -h
Filesystem Size Used Avail Use% Mounted on
devtmpfs 4.0M 0 4.0M 0% /dev
tmpfs 475M 0 475M 0% /dev/shm
tmpfs 190M 2.9M 188M 2% /run
/dev/xvda1 8.0G 1.5G 6.5G 19% /
tmpfs 475M 0 475M 0% /tmp
/dev/xvda128 10M 1.3M 8.7M 13% /boot/efi
tmpfs 95M 0 95M 0% /run/user/1000
[root@ip-172-31-20-170 ~]# file -s /dev/xvdc
/dev/xvdc: data
[root@ip-172-31-20-170 ~]# mkfs -t xfs /dev/xvdc
meta-data=/dev/xvdc isize=512 agcount=4, agsize=786432 blks
= sectsz=512 attr=2, projid32bit=1
= crc=1 finobt=1, sparse=1, rmapbt=0
= reflink=1 bigtime=1 inobtcount=1
data = bsize=4096 blocks=3145728, imaxpct=25
= sunit=0 swidth=0 blks
i-0d27990af9f419850 (ebs-ec2)
PublicIPs: 54.153.90.57 PrivateIPs: 172.31.20.170
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• To ensure that our block store does not have file system we should give a command

file -s /dev/xvdc

• If the output you get is ‘data’ you should create a filesystem to manage the storage with this command

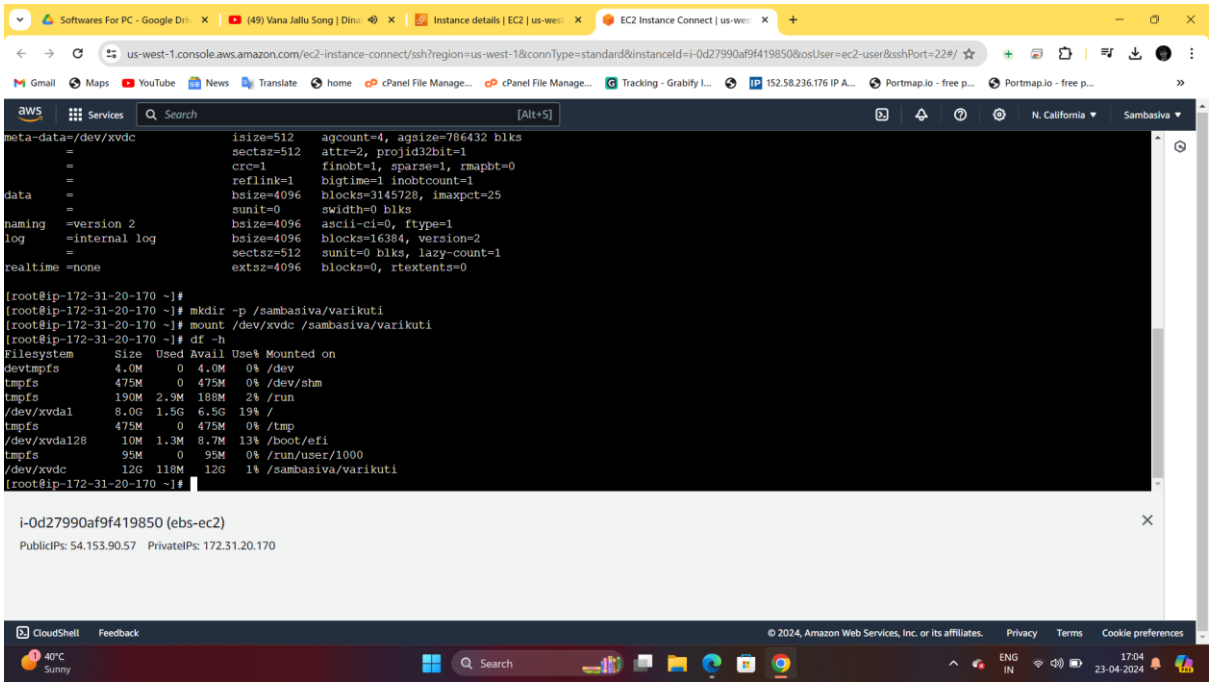
mkfs -t xfs /dev/xvdc

• You can give any filesystem which are recognised by linux namely ext4, reiserFS, XFS, BtrFS, FtFS.

• Here I selected XFS filesystem for my storage.

• Now we should create a directory and mount the storage to that directory with this command

mount /dev/xvdf apps/volume




• If you give lsblk and df commands now you can clearly see the storage EBS in your instance.