



**Ganpat  
University**

॥ विद्यया समाजोत्कर्षः ॥

**Institute of  
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**Sub: CCE(Cloud Computing Essentials)**

**Branch: CBA**

**Batch:71**

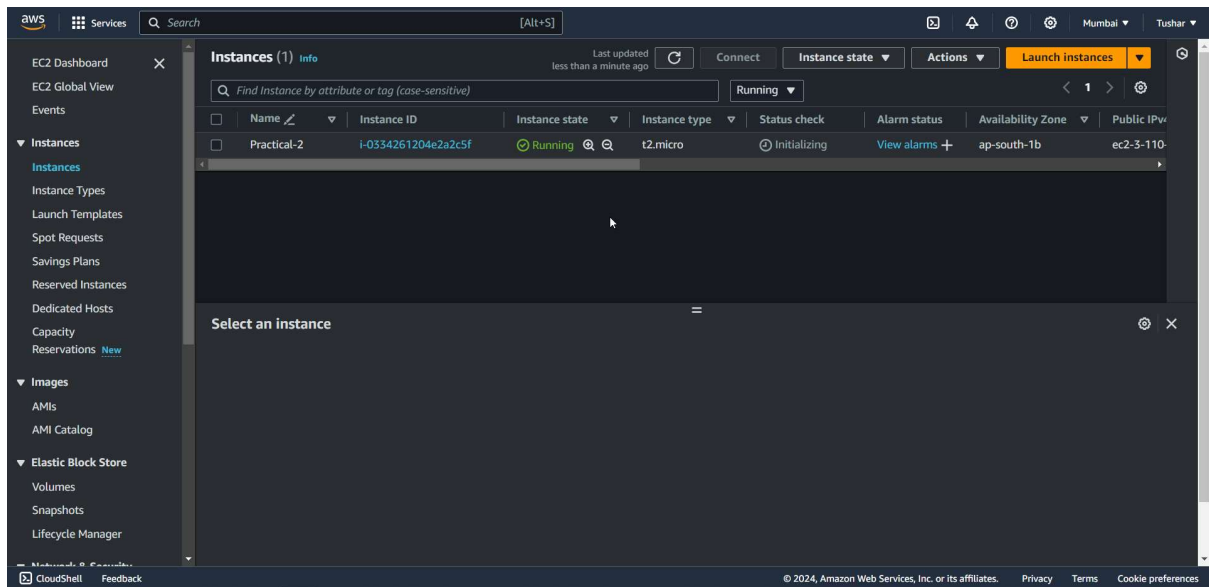
## **-----PRACTICAL 02-----**

Andi is an IT Administrator of Pixel group Pvt limited is organized and wants to be adopted as IAAS using AWS cloud solution. Their majority of clients are e-commerce and OTP service providers. Initially, they want to set up one virtual windows server using Amazon EC2 which can be resizable and provide compute capacity along with a web-scale cloud computing solution. Andi is planning to create IAAS as below for E-Commerce clients.

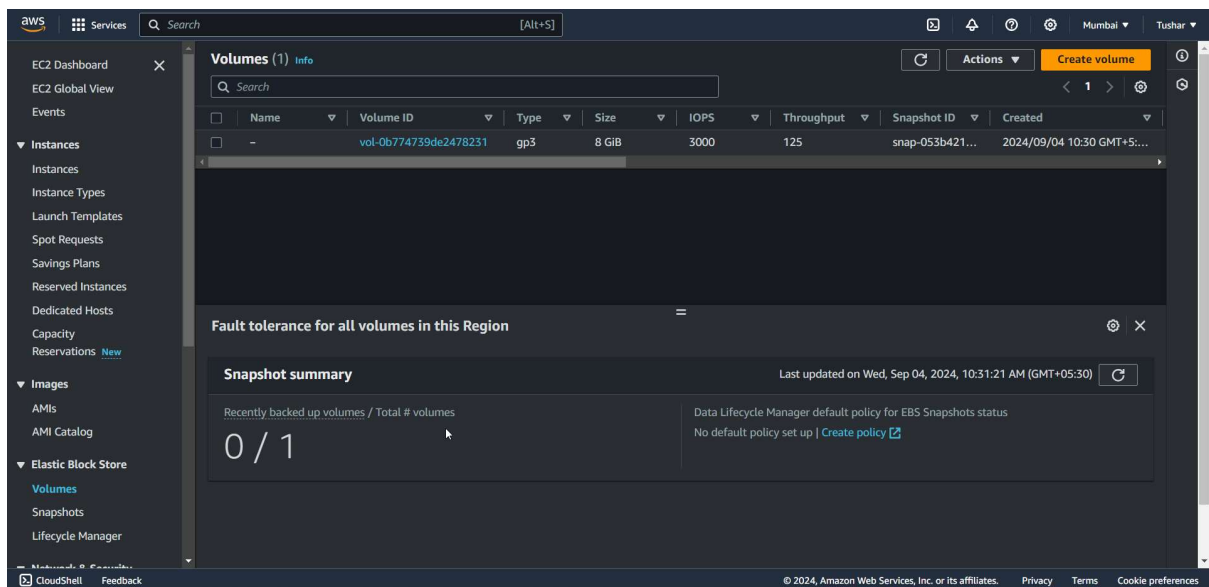
After 6-month Andi realized that they needed more cloud storage with an elastic, high performance block storage service. Design for EC2 machine due you to increase web traffic on their e-commerce client.

- **Create an Amazon EBS volume**
- **Attach and mount your volume to an EC2 instance**
- **Create a snapshot of your volume**
- **Create a new volume from your snapshot**
- **Attach and mount the new volume to your EC2 instance**
- **Copy the snapshot to another region.**
- **How to create AMI from EC2**
- **How to copy AMI into another Account and Recreate EC2**
- **How to Attach Root Volume with another EC2 Instance.**

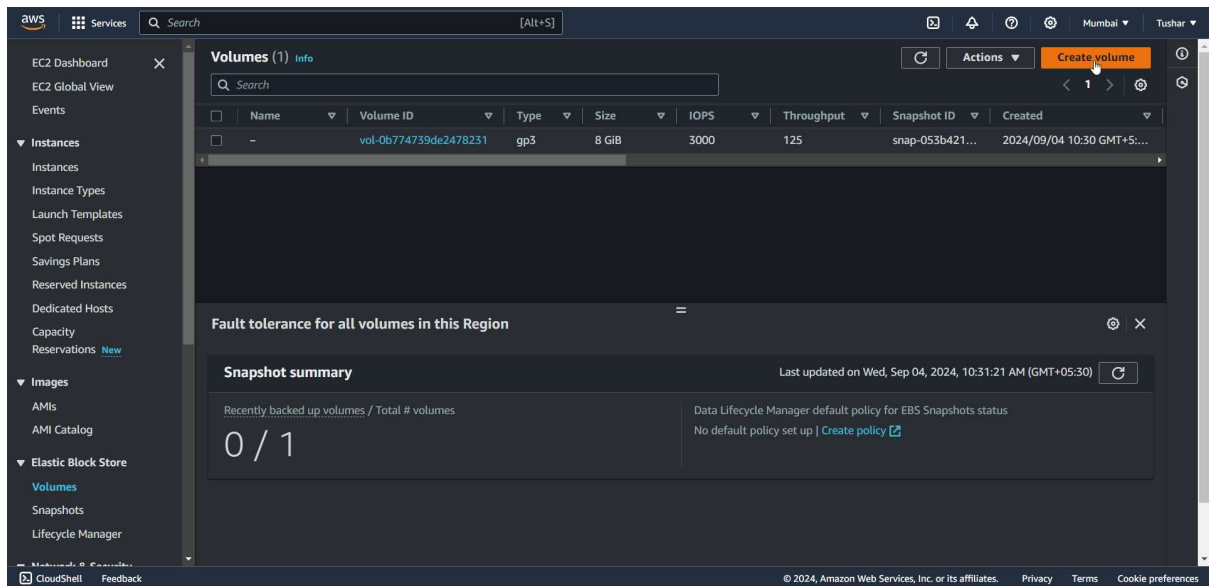
## » Create an Amazon EBS Volume.



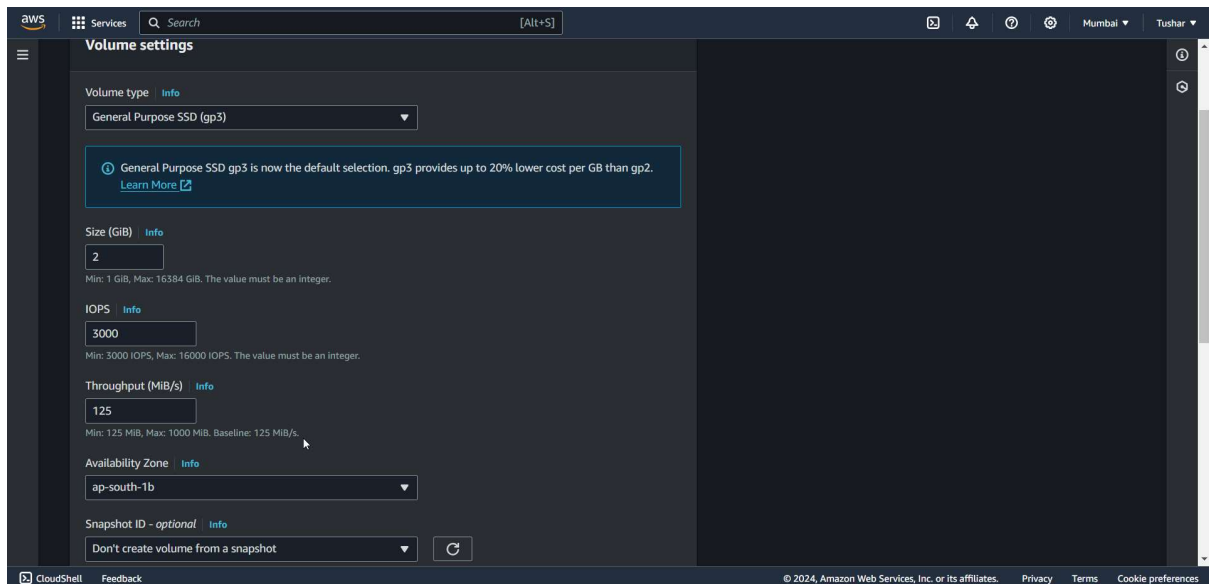
Firstly you have to create a new instance in EC2 as done in Practical-1



Now we have to Create a new volume From Elastic Block Store

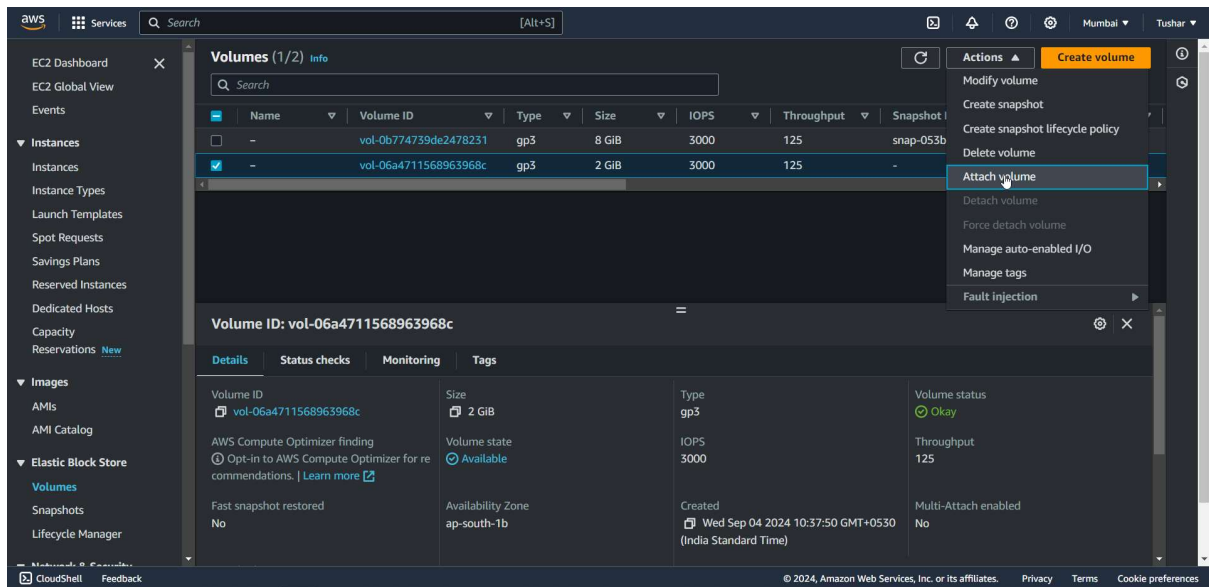


Set the volume size as 2 GB

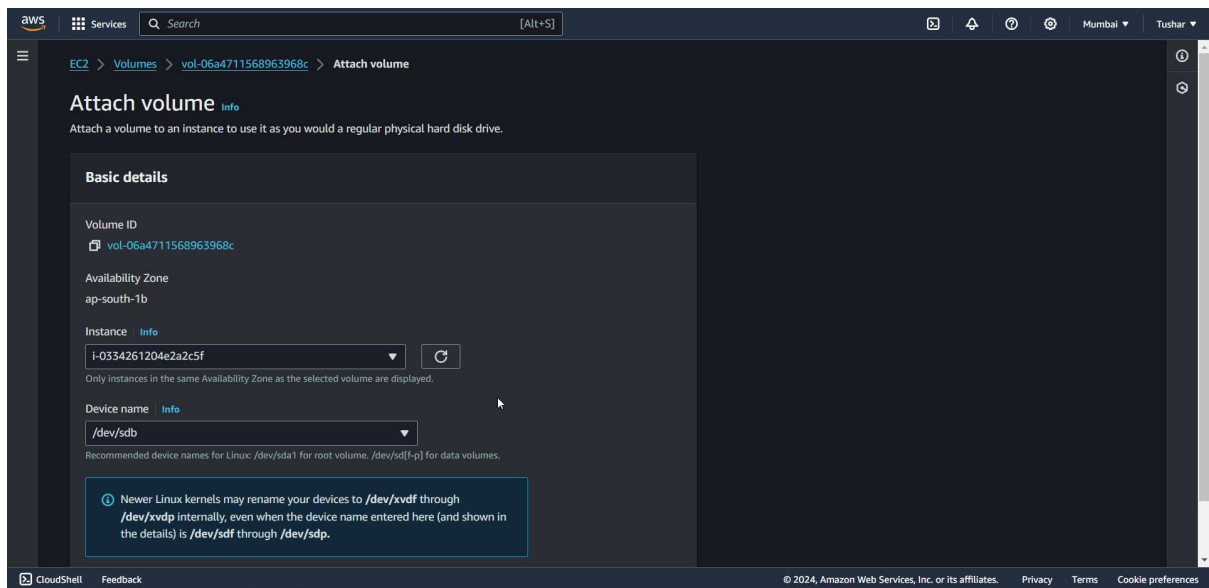


And create the volume

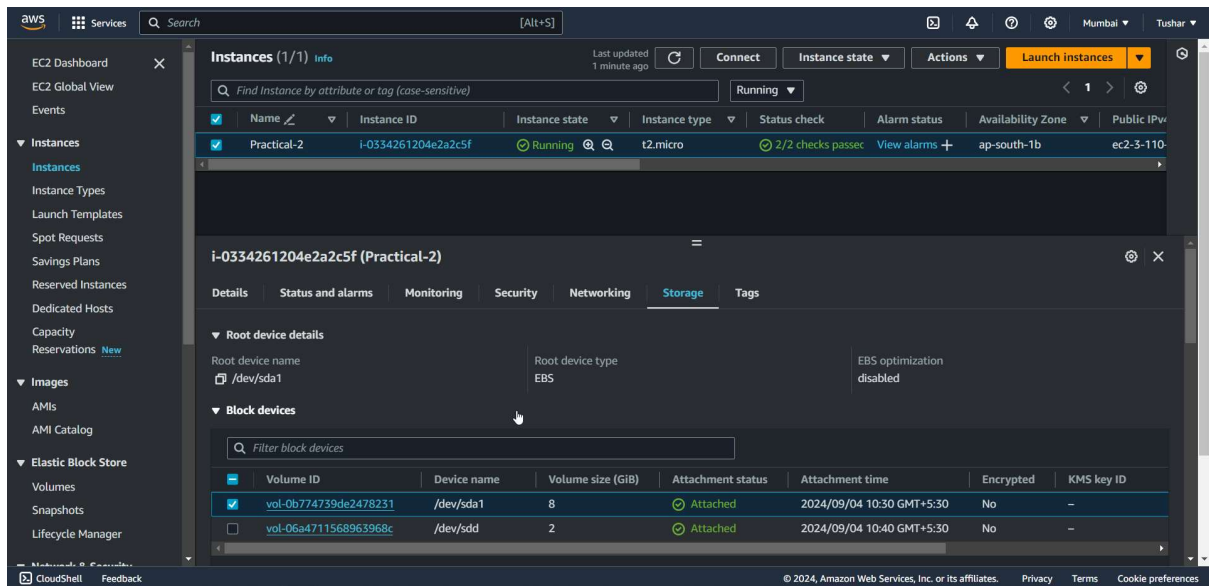
## » Attach and mount your volume to an EC2 instance.



Now the attach the Volume you created

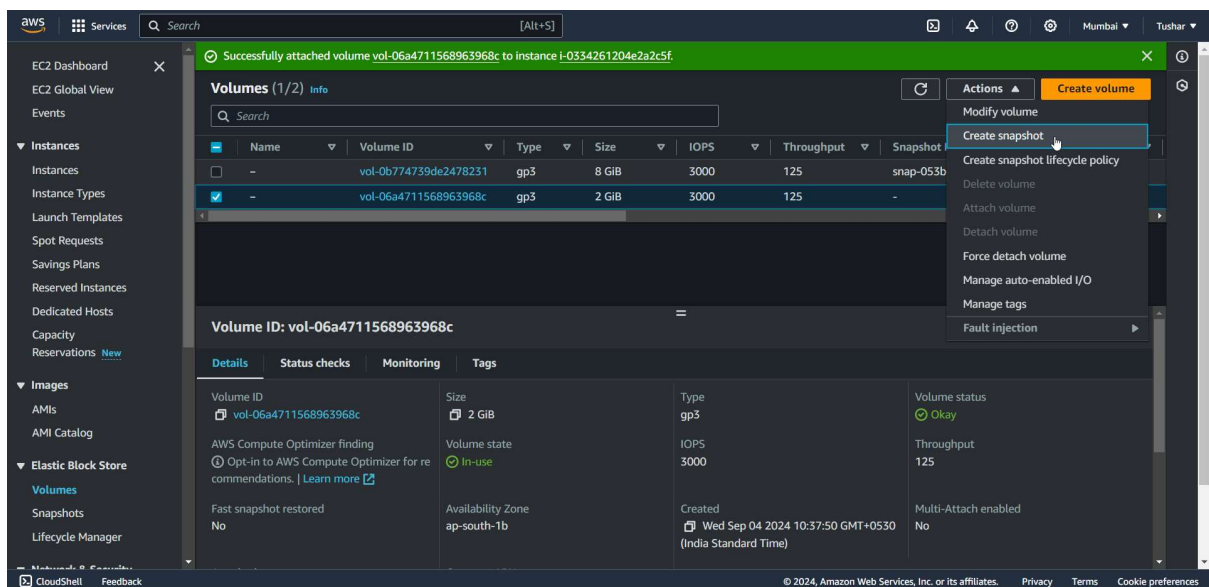


Here you have to select the instance which you have Created in starting and device name as a path and attach it



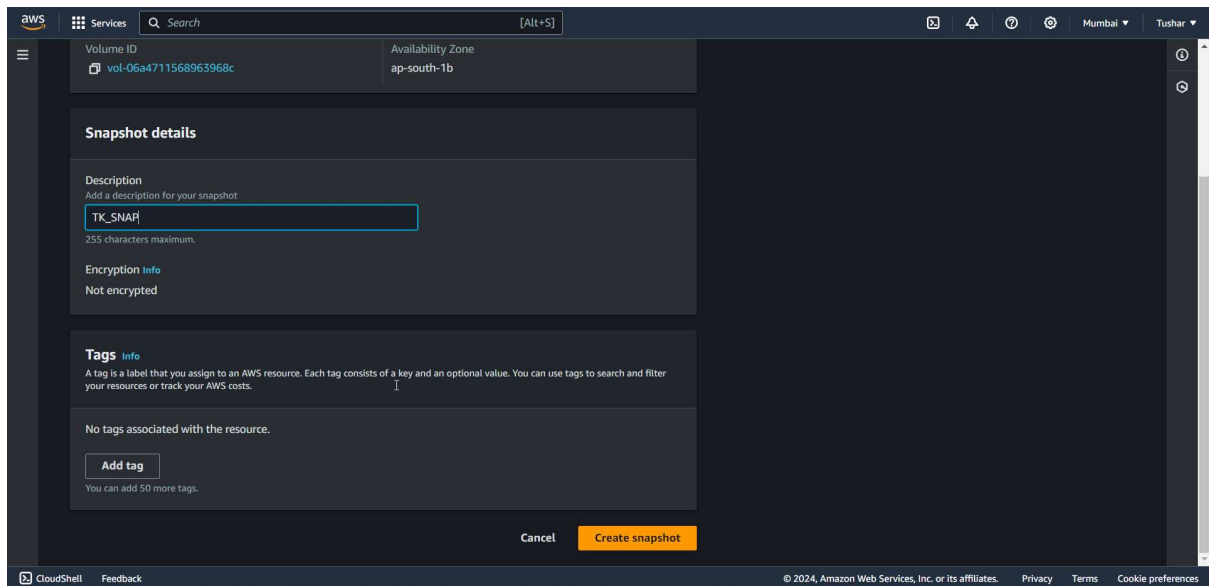
As you can see the attached volume in storage part.

## ➤ Create a snapshot of your volume.

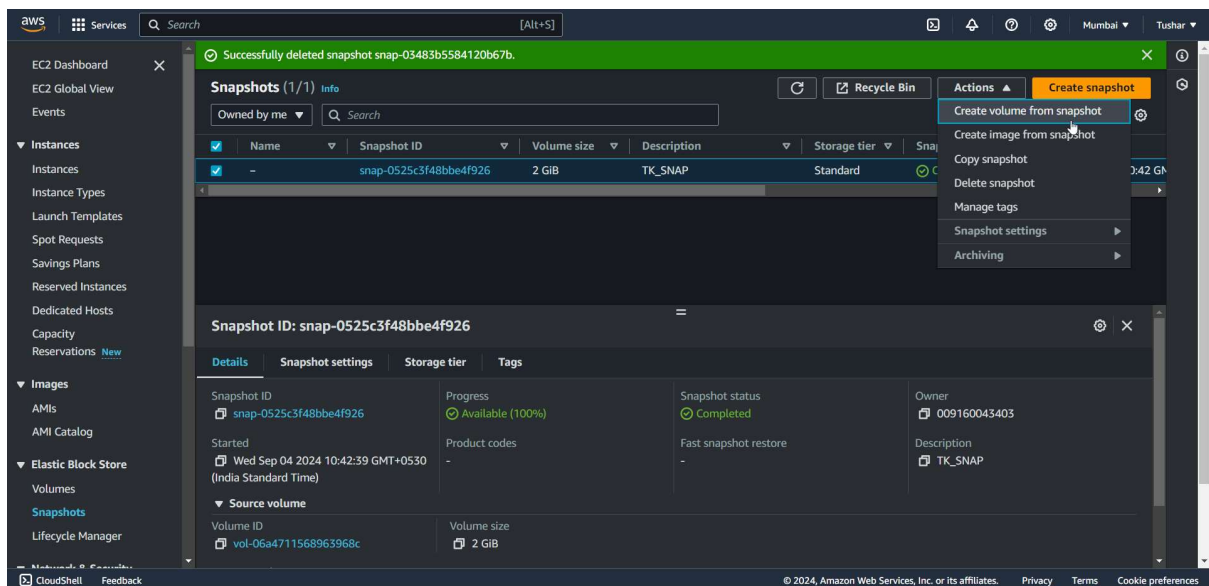


Now we have to Create the snapshot of the volume we have created

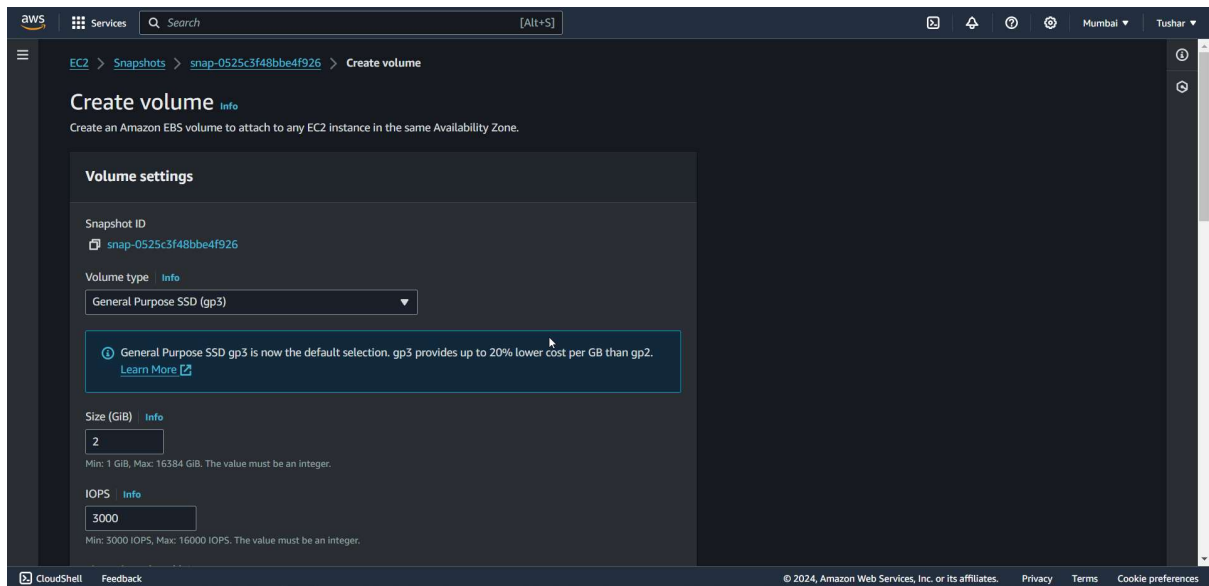
Name it and Create the snapshot



## » Create a new volume from your snapshot.

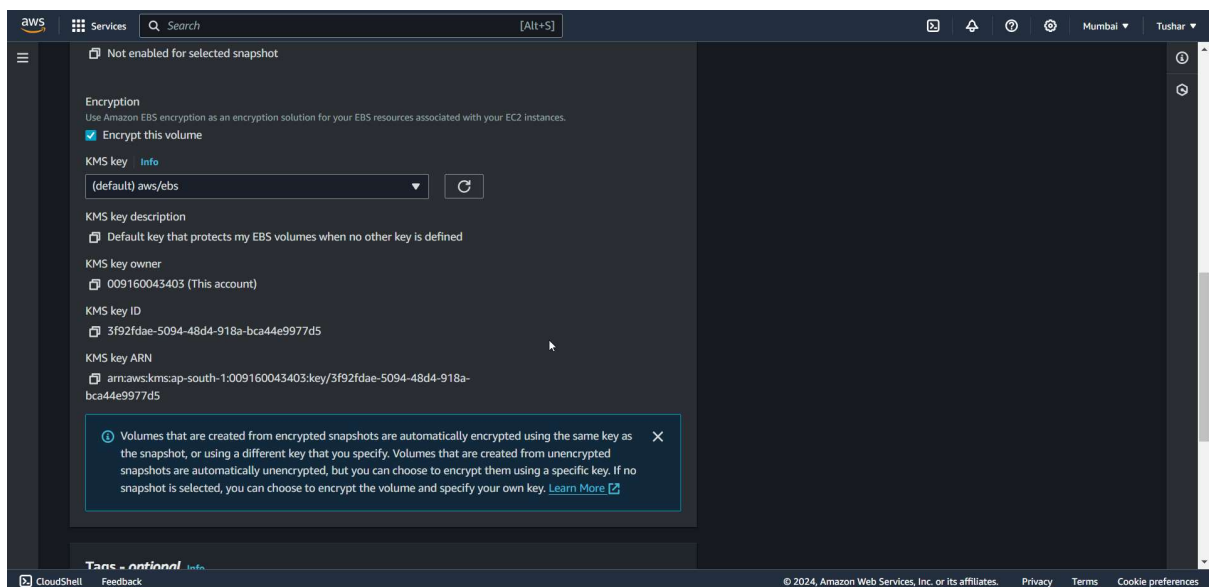


Now we have to Create the volume from the Snapshot you have created

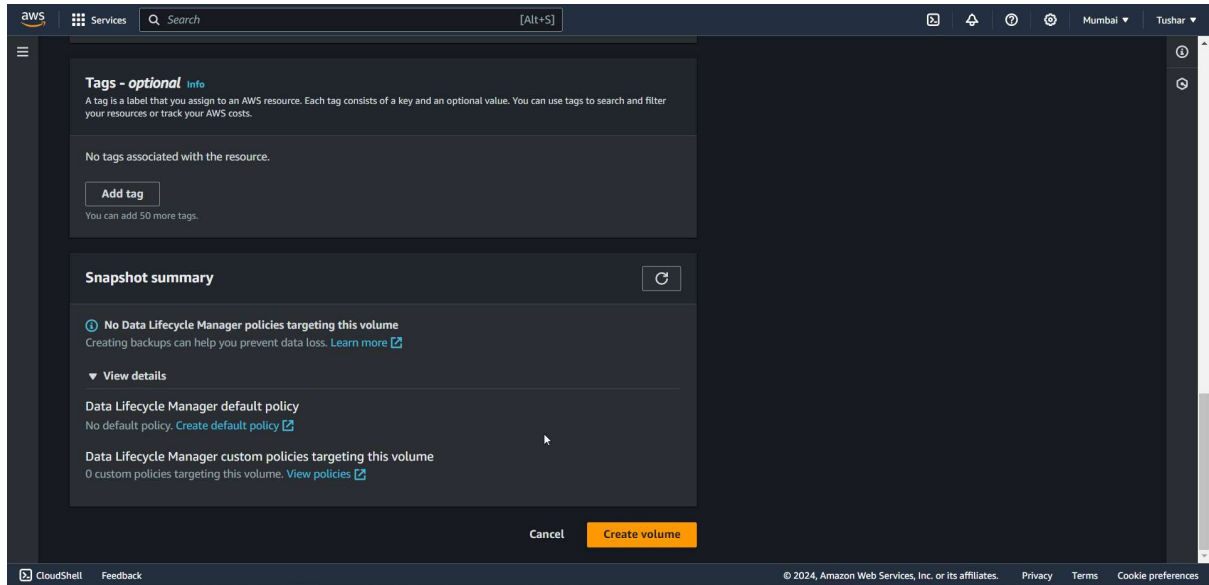


Select the Size as 2Gb

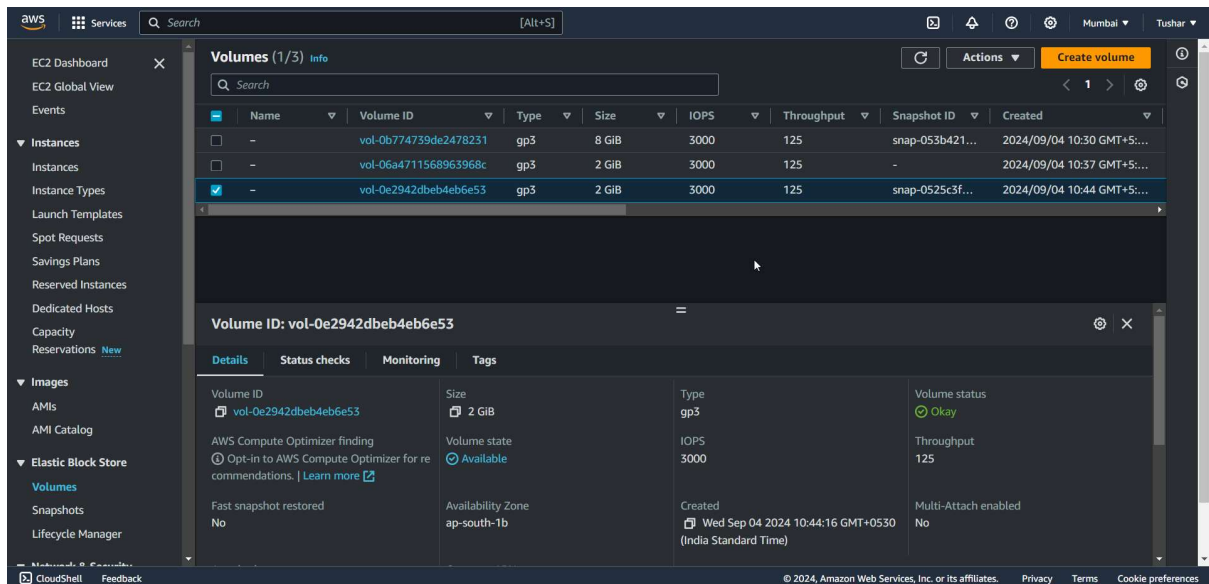
And encrypt the volume







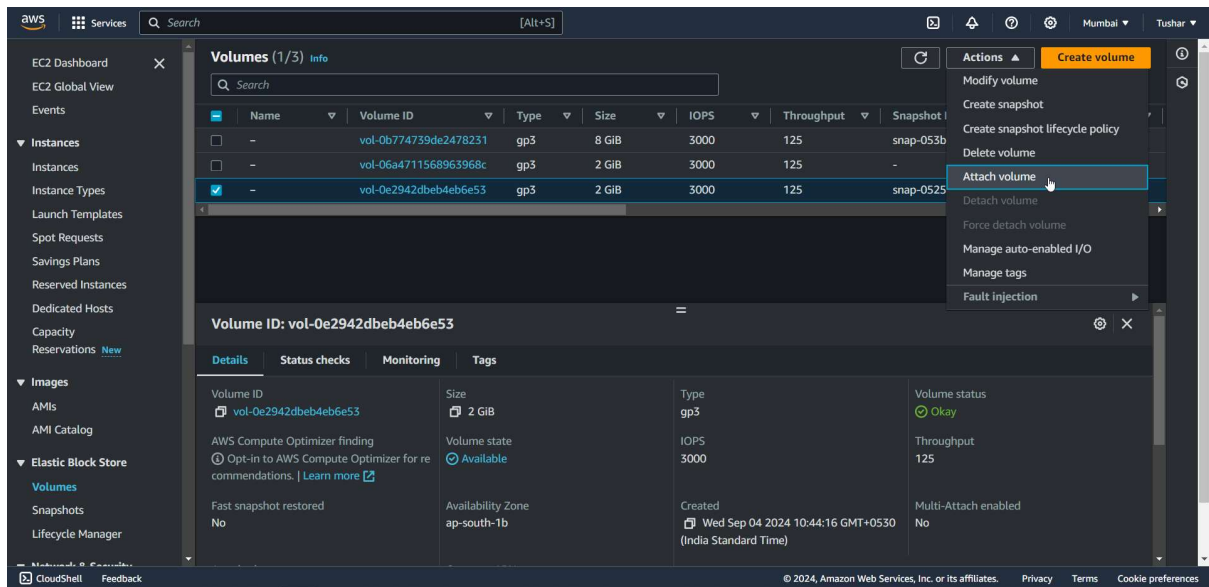
And Create the volume



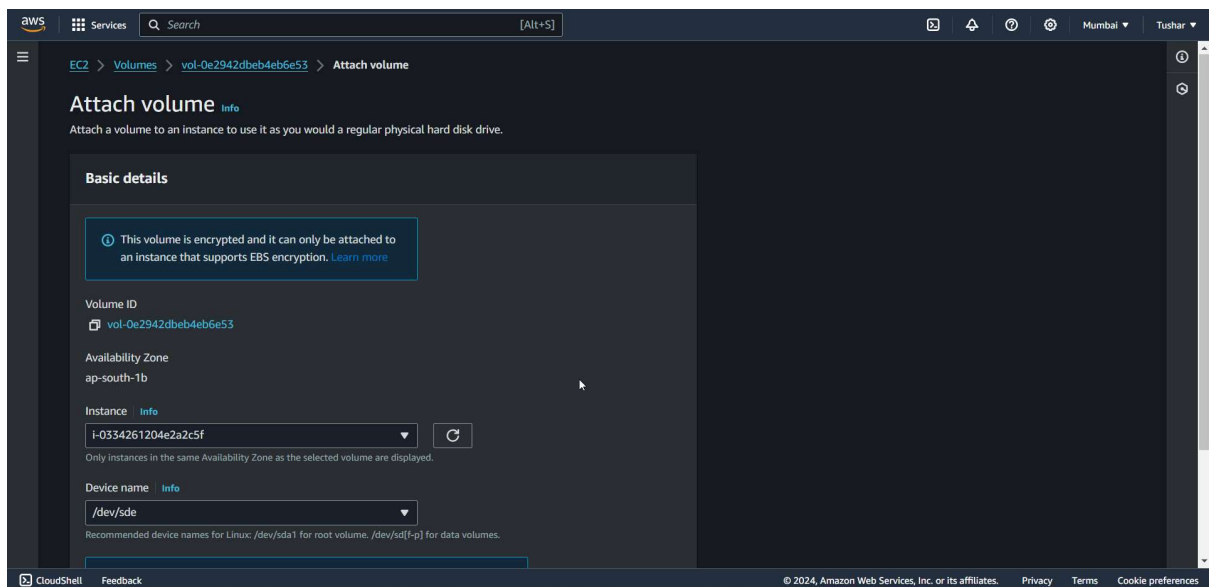
Now you can see the new Volume Created from the snapshot.



## » Attach and mount the new volume to your EC2 instance.



Now we have to attach the volume we have created from the snapshot to the Ec2



You have to attach the volume

**Volumes (3)** Info

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
-	vol-0b774739de2478231	gp3	8 GiB	3000	125	snap-053b421...	2024/09/04 10:30 GMT+5:...
-	vol-06a4711568963968c	gp3	2 GiB	3000	125	-	2024/09/04 10:37 GMT+5:...
-	vol-0e2942db4eb6e53	gp3	2 GiB	3000	125	snap-0525c3f...	2024/09/04 10:44 GMT+5:...

**Fault tolerance for all volumes in this Region**

**Snapshot summary** Last updated on Wed, Sep 04, 2024, 10:39:21 AM (GMT+05:30)

Recently backed up volumes / Total # volumes  
0 / 2

Data Lifecycle Manager default policy for EBS Snapshots status  
No default policy set up | [Create policy](#)

As you can see the volume is attached successfully

**Instances (1/5)** Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
Practical-2	i-0334261204e2a2c5f	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	ec2-3-110-
Practical2	i-0ac07a60d5bc15cab	Terminated	t2.micro	-	View alarms +	ap-south-1b	-
Practical_2_TK	i-062cc381021abfe29	Terminated	t2.micro	-	View alarms +	ap-south-1b	-
?	i-0935r5fcrd8a783hd4e	Terminated	t2 micro	-	View alarms +	ap-south-1b	-

**i-0334261204e2a2c5f (Practical-2)**

**Root device details**

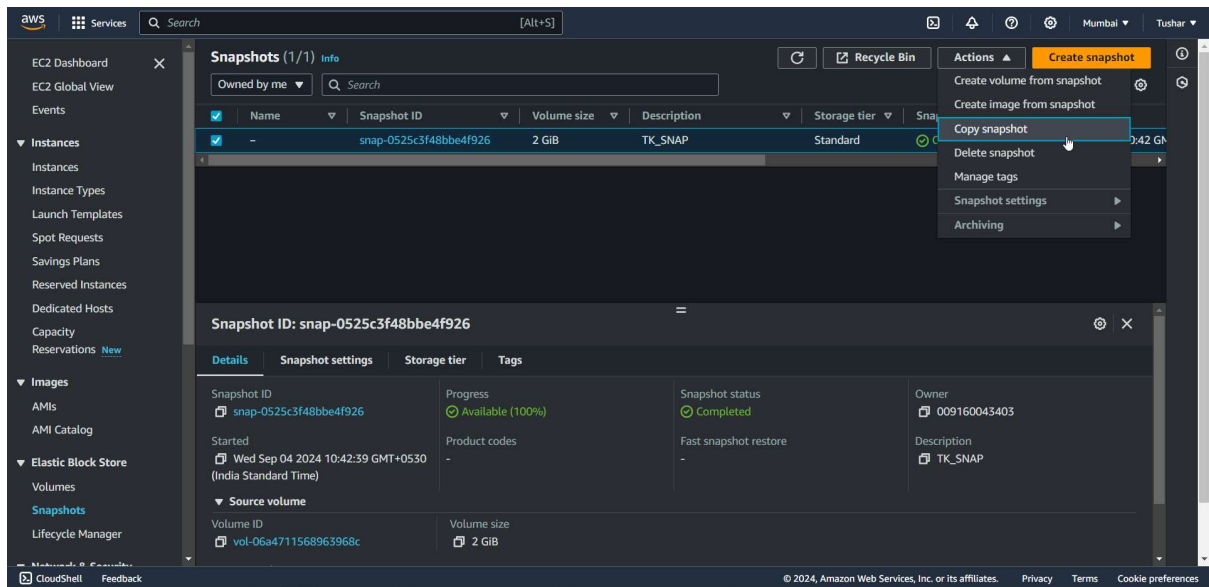
Root device name: /dev/sda1  
Root device type: EBS  
EBS optimization: disabled

**Block devices**

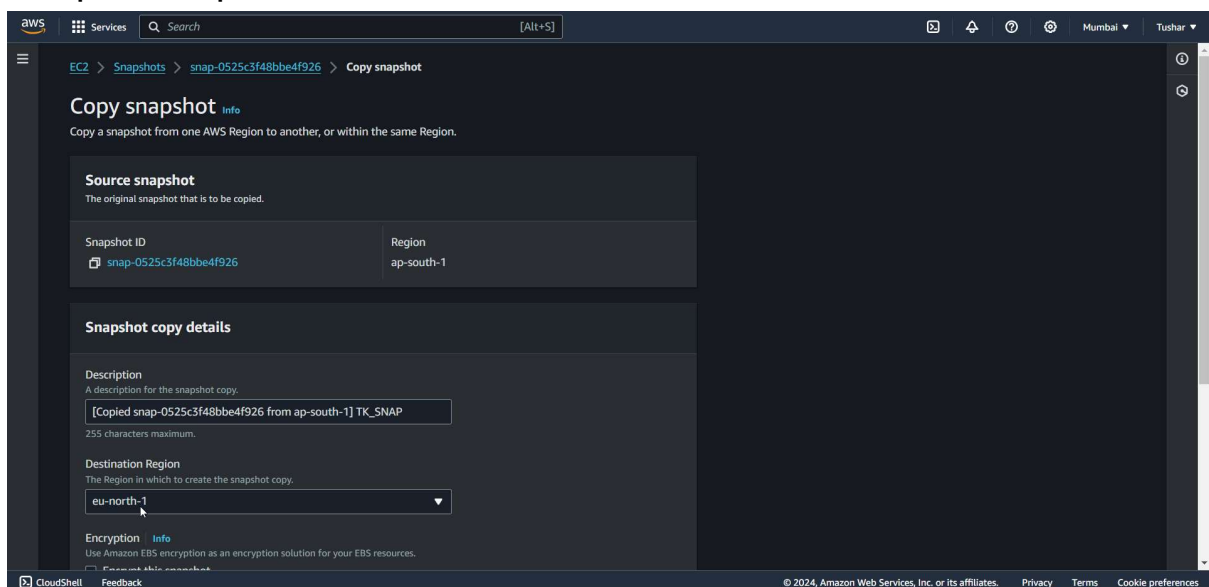
Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-0b774739de2478231	/dev/sda1	8	Attached	2024/09/04 10:30 GMT+5:30	No	-
vol-06a4711568963968c	/dev/sdd	2	Attached	2024/09/04 10:40 GMT+5:30	No	-
vol-0e2942db4eb6e53	/dev/sde	2	Attached	2024/09/04 10:45 GMT+5:30	Yes	3f92fdae-5094-48d

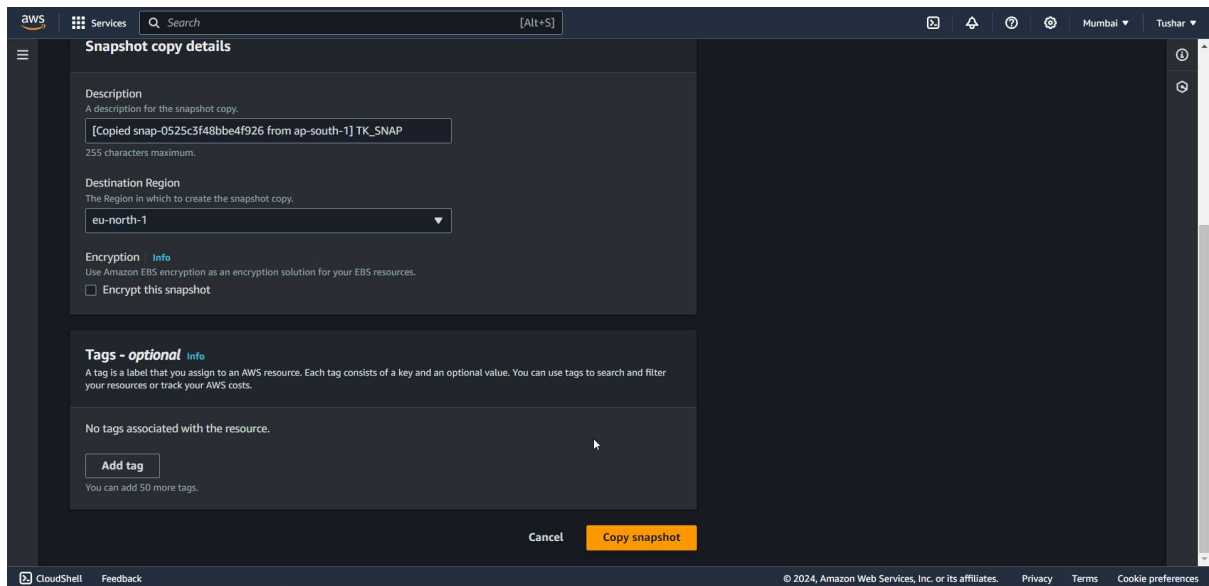
As you can see the volume is created

## » Copy the snapshot to another region.

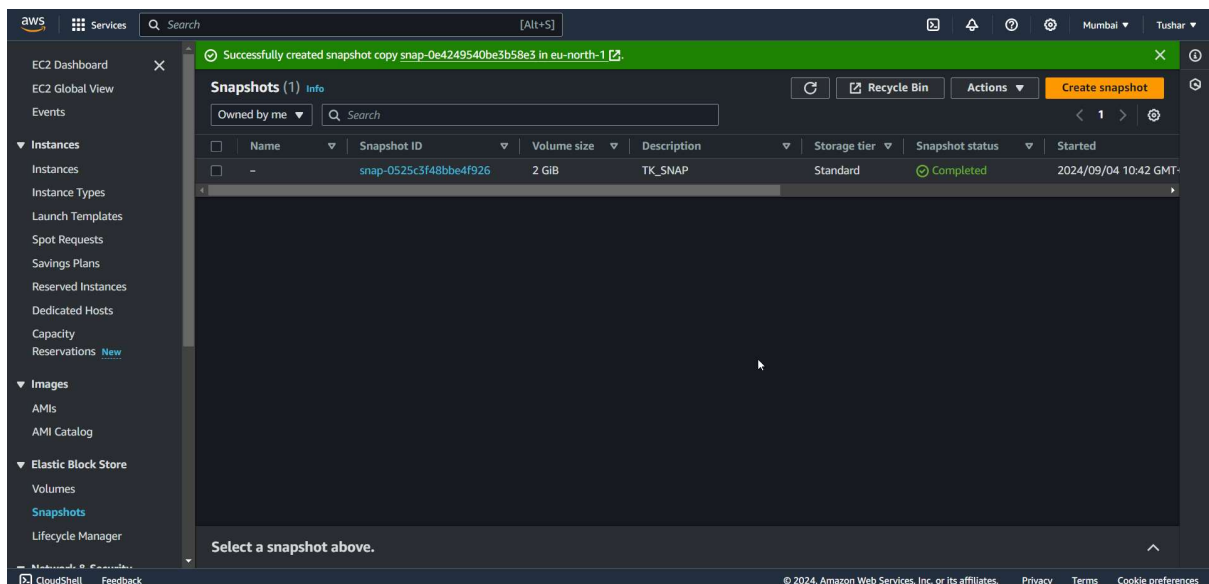


Now we have to copy the snapshot to another region using copy snapshot option.

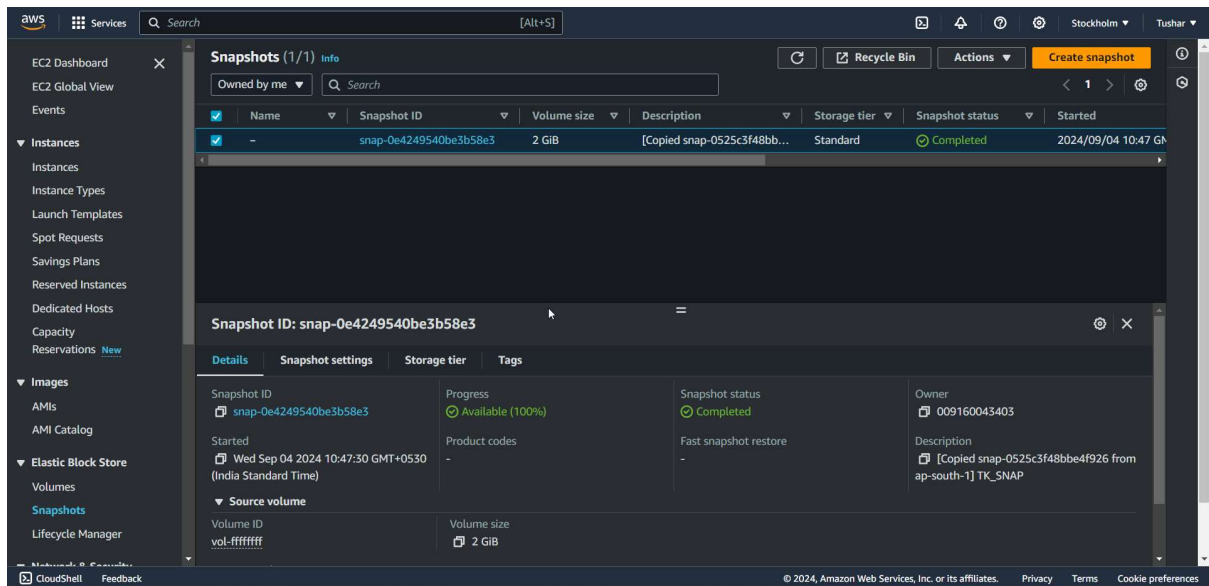




Select the region you have to copy .and copy the snapshot

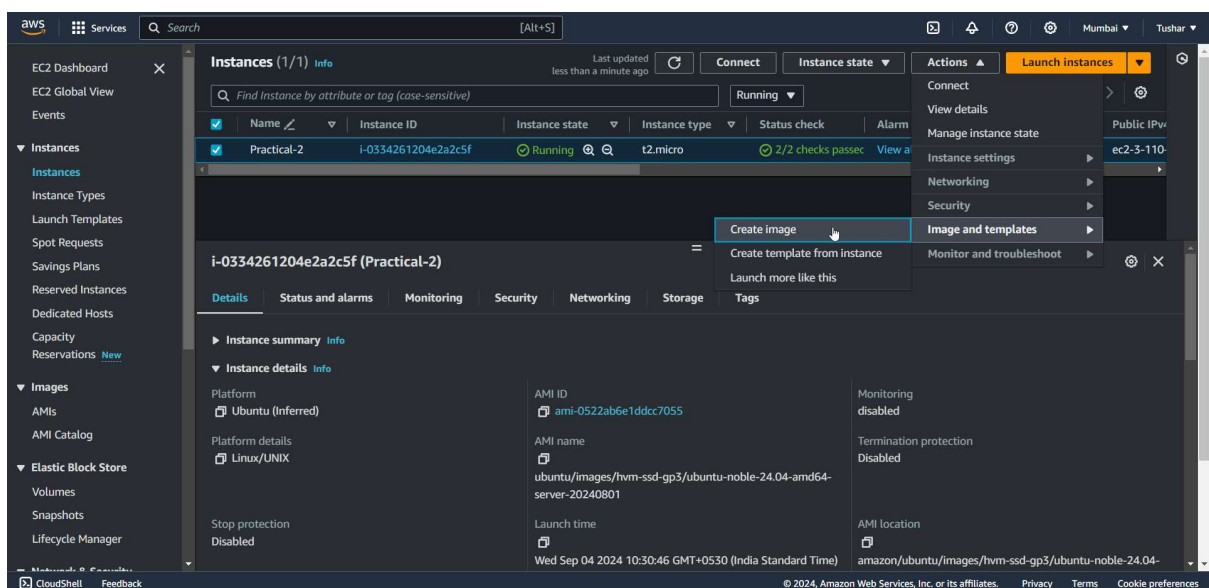


As you can see the success message of snapshot created



Here you can see the snapshot is created in the Stockholm region.

## » How to copy AMI into another Account and Recreate EC2:



Now you have to create the image of the instance.

**Create image** Info

An image (also referred to as an AMI) defines the programs and settings that are applied when you launch an EC2 instance. You can create an image from the configuration of an existing instance.

Instance ID  
i-0334261204e2a2c5f (Practical-2)

Image name

Maximum 127 characters. Can't be modified after creation.

Image description - optional

Maximum 255 characters

☒ Reboot instance  
When selected, Amazon EC2 reboots the instance so that data is at rest when snapshots of the attached volumes are taken. This ensures data consistency.

Instance volumes

Storage type	Device	Snapshot	Size	Volume type	IOPS	Throughput	Delete on termination	Encrypted
EBS	/dev/sda1	Create new snapshot	8	EBS General Purpose	3000	125	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
EBS	/dev/sdb	Create new snapshot	2	EBS General Purpose	3000	125	<input type="checkbox"/>	<input checked="" type="checkbox"/>
EBS	/dev/sdc	Create new snapshot	2	EBS General Purpose	3000	125	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CloudShell Feedback

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Give the name of the image and create it

Storage type Device Snapshot Size Volume type IOPS Throughput Delete on termination Encrypted

EBS	/dev/sda1	Create new snapshot	8	EBS General Purpose	3000	125	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EBS	/dev/sdb	Create new snapshot	2	EBS General Purpose	3000	125	<input type="checkbox"/>	<input type="checkbox"/>
EBS	/dev/sdc	Create new snapshot	2	EBS General Purpose	3000	125	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Add volume

During the image creation process, Amazon EC2 creates a snapshot of each of the above volumes.

Tags - optional  
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.

☒ Tag image and snapshots together  
Tag the image and the snapshots with the same tag.

☐ Tag image and snapshots separately  
Tag the image and the snapshots with different tags.

No tags associated with the resource.

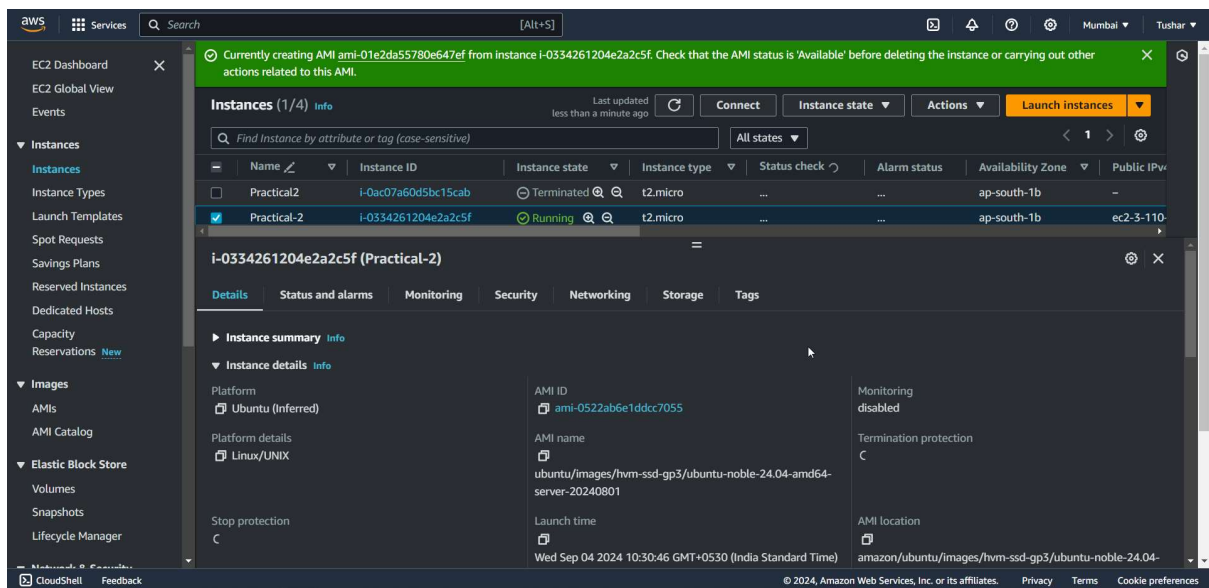
Add new tag  
You can add up to 50 more tags.

Cancel Create image

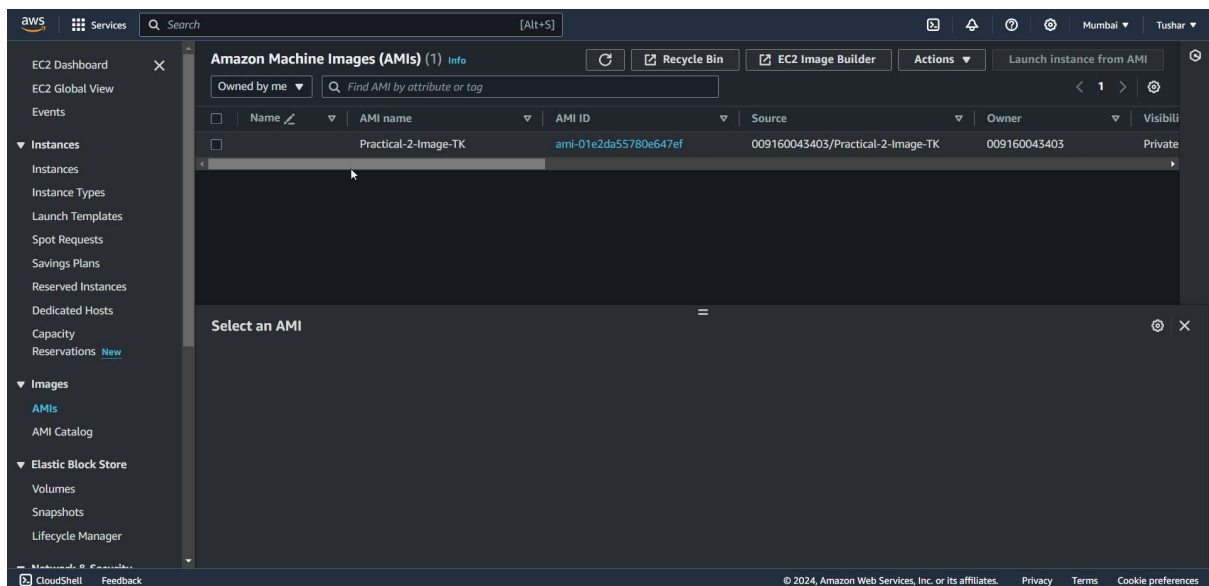
CloudShell Feedback

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Create the image.



Now go to launch the instance from AMI



Now you can launch the image as you can see but Don't launch the instance as it is chargeable



**Launch an instance** [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

**Name and tags** [Info](#)

Name  
Practical-2-TK [Add additional tags](#)

**Application and OS Images (Amazon Machine Image)** [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

AMI from catalog Recents **My AMIs** Quick Start

☒ Owned by me ☐ Shared with me [Browse more AMIs](#)

**Summary**

Number of instances [Info](#)  
1

Software Image (AMI)  
Practical-2-Image-TK  
ami-01e2da55780e647ef

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
3 volume(s) - 12 GiB

[Cancel](#) [Launch instance](#) [Review commands](#)

**Success**  
Successfully initiated launch of instance (i-037371508f946273e)

[Launch log](#)

**Next Steps**

**Create billing and free tier usage alerts**  
To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.  
[Create billing alerts](#)

**Connect to your instance**  
Once your instance is running, log into it from your local computer.  
[Connect to instance](#) [Learn more](#)

**Connect an RDS database**  
Configure the connection between an EC2 instance and a database to allow traffic flow between them.  
[Connect an RDS database](#) [Create a new RDS database](#) [Learn more](#)

**Create EBS snapshot policy**  
Create a policy that automates the creation, retention, and deletion of EBS snapshots.  
[Create EBS snapshot policy](#)

The screenshot displays the AWS Management Console interface for Amazon Machine Images (AMIs). The left sidebar shows navigation options like EC2 Dashboard, Instances, and Images. The main content area shows a list of AMIs, with 'Practical-2-Image-TK' selected. The 'Actions' menu is open, showing options like 'Copy AMI', 'Edit AMI permissions', and 'Launch instance from AMI'. Below the menu, the details of the selected AMI are shown, including its ID, name, and various attributes. At the bottom, the 'Copy Amazon Machine Image (AMI)' form is displayed, allowing users to create a copy of the selected AMI in a different region, with options to copy tags and encrypt snapshots.

This is for To copy the image you the option in action in AMI you can copy the image in any region you want but you don't have to copy the image as it also chargeable.