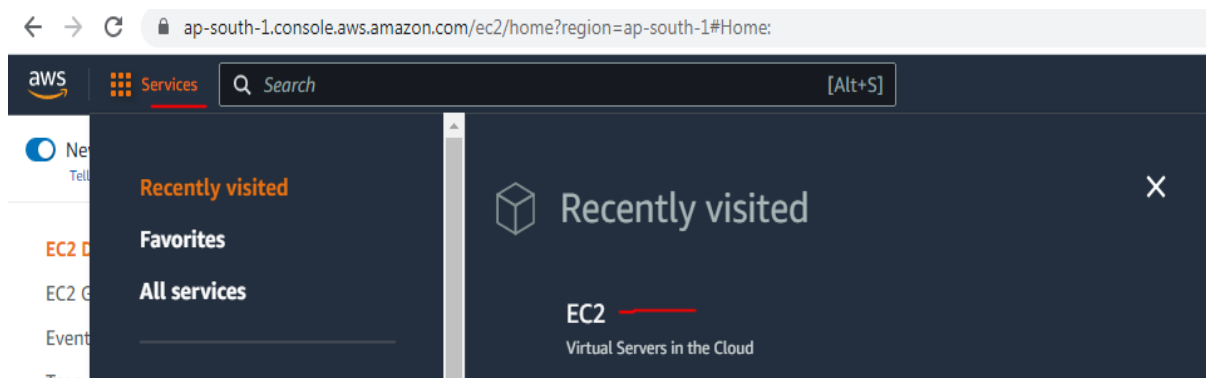


# AWS Assignment 1

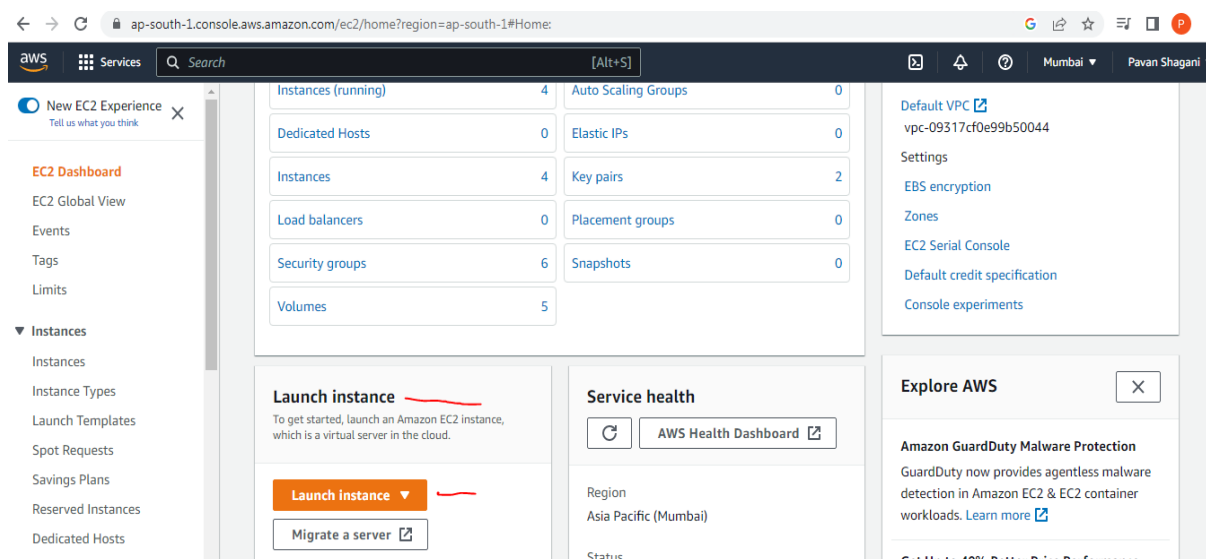
1. Create EC2 instance
2. Create Elastic Block store
3. Snapshot creation
4. AMI Creation
5. Load Balancer Creation

## 1. Creation of EC2 instance :

Click on EC2 service by browsing the Services



Click on **Launch Instance**



Provide the name of the instance, **name if the instance is given as 'pavan'**

EC2 > Instances > Launch an instance

## 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

 [Add additional tags](#)

### Selected Linux with Free Tier

Recents | **Quick Start**

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

[Browse more AMIs](#)  
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type Free tier eligible

ami-01a4f99c4ac11b03c (64-bit (x86)) / ami-0f3443fa43a3a92d2 (64-bit (Arm))  
Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Amazon Linux 2 Kernel 5.10 AMI 2.0.20230119.1 x86\_64 HVM gp2

Architecture	AMI ID	
64-bit (x86)	ami-01a4f99c4ac11b03c	<span>Verified provider</span>

**t2.micro** which is a free tier is selected as Instance Type

▼ Instance type [Info](#)

Instance type

t2.micro Free tier eligible

Family: t2 1 vCPU 1 GiB Memory

On-Demand Linux pricing: 0.0124 USD per Hour

On-Demand Windows pricing: 0.017 USD per Hour

On-Demand RHEL pricing: 0.0724 USD per Hour

On-Demand SUSE pricing: 0.0124 USD per Hour

[Compare instance types](#)

Create or reuse the existing key pair, here I have created a new key pair with name 'pavan'

▼ 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*

[Create new key pair](#)

### Create key pair ✕

Key pairs allow you to connect to your instance securely.

Enter the name of the key pair below. 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](#)

Key pair name

The name can include upto 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 (Not supported for Windows instances)

Private key file format

.pem  
For use with OpenSSH

.ppk  
For use with PuTTY

[Cancel](#) [Create key pair](#)

Here I created the key pair to use for the connection through Putty.

A PPK file is created in the local machine, which can be used to connect to machine from putty.

### Selected default network settings

**▼ Network settings** [Info](#) Edit

Network [Info](#)  
vpc-09317cf0e99b50044

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

We'll create a new security group called 'launch-wizard-6' with the following rules:

Allow SSH traffic from Anywhere  
0.0.0.0/0  
Helps you connect to your instance

Allow HTTPS traffic from the internet  
To set up an endpoint, for example when creating a web server

Allow HTTP traffic from the internet  
To set up an endpoint, for example when creating a web server

### selected Default Storage settings

**▼ Configure storage** [Info](#) Advanced

1x  GiB  Root volume (Not encrypted)

[i](#) Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage ×

Add new volume

---

0 x File systems Edit

Click on Launch Instance

▼ **Summary**

Number of instances [Info](#)

1

---

**Software Image (AMI)**

Amazon Linux 2 Kernel 5.10 AMI...[read more](#)  
ami-01a4f99c4ac11b03c

**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 ✕

Cancel Launch instance



**Success**

Successfully initiated launch of instance (i-0e9c949a9f45aff48)

▼ **Launch log**

Initializing requests	Succeeded
Creating security groups	Succeeded
Creating security group rules	Succeeded
Launch initiation	Succeeded

**EC2 instance created with below details**

Instance ID            i-0e9c949a9f45aff48

Instance Name        pavan

**Instance: i-0e9c949a9f45aff48 (pavan)**

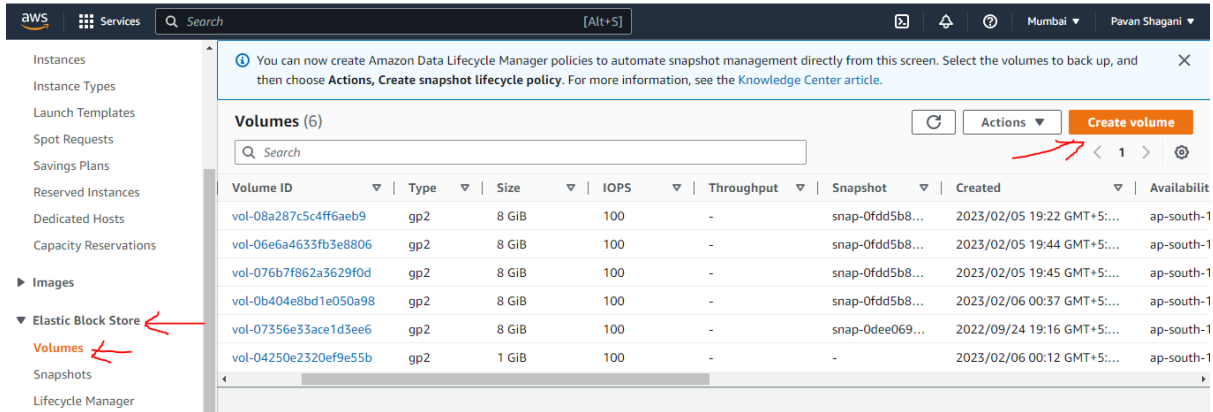
<p>Platform details</p> <p>Linux/UNIX</p>	<p>AMI name</p> <p>amzn2-ami-kernel-5.10-hvm-2.0.20230119.1-x86_64-gp2</p>	<p>Termination protection</p> <p>Disabled</p>
<p>Stop protection</p> <p>Disabled</p>	<p>Launch time</p> <p>Mon Feb 06 2023 00:37:41 GMT+0530 (India Standard Time) (1 minute)</p>	<p>AMI location</p> <p>amazon/amzn2-ami-kernel-5.10-hvm-2.0.20230119.1-x86_64-gp2</p>
<p>Instance auto-recovery</p> <p>Default</p>	<p>Lifecycle</p> <p>normal</p>	<p>Stop-hibernate behavior</p> <p>disabled</p>

**Instance: i-0e9c949a9f45aff48 (pavan)**

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-0b404e8bd1e050a98	/dev/xvda	8	Attached	Mon Feb 06 2023 00:37:42 G...	No	-

## 2. Elastic Block Storage :

click on create volume under Elastic block store -> Volumes



Give the size and select the Availability Zone, here I selected ap-south-1b, as instance is in same zone. Click on create Volume

Volume type [Info](#)

General Purpose SSD (gp2)

Size (GiB) [Info](#)

1

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS [Info](#)

100 / 3000

Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Throughput (MiB/s) [Info](#)

Not applicable

Availability Zone [Info](#)

ap-south-1b

Snapshot ID - optional [Info](#)

Don't create volume from a snapshot

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.

Cancel

Create volume

## New volume is created and Available now

Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created	Availability Zone	Volume state
ja287c5c4ff6aeb9	gp2	8 GiB	100	-	snap-Ofdd5b8...	2023/02/05 19:22 GMT+5:...	ap-south-1b	In-use
je6a4633fb3e8806	gp2	8 GiB	100	-	snap-Ofdd5b8...	2023/02/05 19:44 GMT+5:...	ap-south-1b	In-use
76b7f862a3629f0d	gp2	8 GiB	100	-	snap-Ofdd5b8...	2023/02/05 19:45 GMT+5:...	ap-south-1b	In-use
404e8bd1e050a98	gp2	8 GiB	100	-	snap-Ofdd5b8...	2023/02/06 00:37 GMT+5:...	ap-south-1b	In-use
9965210cf7e5bc7a	gp2	1 GiB	100	-	-	2023/02/06 00:49 GMT+5:...	ap-south-1b	Available
7356e33ace1d3ee6	gp2	8 GiB	100	-	snap-0dee069...	2022/09/24 19:16 GMT+5:...	ap-south-1a	In-use

## Attach the volume to Instance 'Pavan'

Volumes (1/6)

Search

Name	Volume ID	Type	Size	IOPS	Throughput	Created	Availability Zone	Volume state
-	vol-08a287c5c4ff6aeb9	gp2	8 GiB	100	-	19:22 GMT+5:...	ap-sc	In-use
-	vol-06e6a4633fb3e8806	gp2	8 GiB	100	-	19:44 GMT+5:...	ap-sc	In-use
-	vol-076b7f862a3629f0d	gp2	8 GiB	100	-	19:45 GMT+5:...	ap-sc	In-use
-	vol-0b404e8bd1e050a98	gp2	8 GiB	100	-	00:37 GMT+5:...	ap-sc	In-use
<input checked="" type="checkbox"/>	vol-00965210cf7e5bc7a	gp2	1 GiB	100	-	00:49 GMT+5:...	ap-sc	Available
-	vol-07356e33ace1d3ee6	gp2	8 GiB	100	-	19:16 GMT+5:...	ap-sc	In-use

- Modify volume
- Create snapshot
- Create snapshot lifecycle policy
- Delete volume
- Attach volume
- Detach volume
- Force detach volume
- Manage auto-enabled I/O
- Manage tags

### Attach volume Info

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

**Basic details**

Volume ID  
vol-00965210cf7e5bc7a

Availability Zone  
ap-south-1b

Instance Info  
i-0e9c949a9f45aff48

Only instances in the same Availability Zone as the selected volume are displayed.

Device name Info  
/dev/sdf

Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.

**Info** 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.

Cancel **Attach volume**

### Instance: i-0e9c949a9f45aff48 (pavan)

/dev/xvda EBS disabled

Block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-0b404e8bd1e050a98	/dev/xvda	8	Attached	Mon Feb 06 2023 00:37:42 G...	No	-
vol-00965210cf7e5bc7a	/dev/sdf	1	Attached	Mon Feb 06 2023 00:55:11 G...	No	-



Verified by connecting from Putty, using lsblk command

```
ec2-user@ip-172-31-8-87:~
login as: ec2-user
Authenticating with public key "pavan"

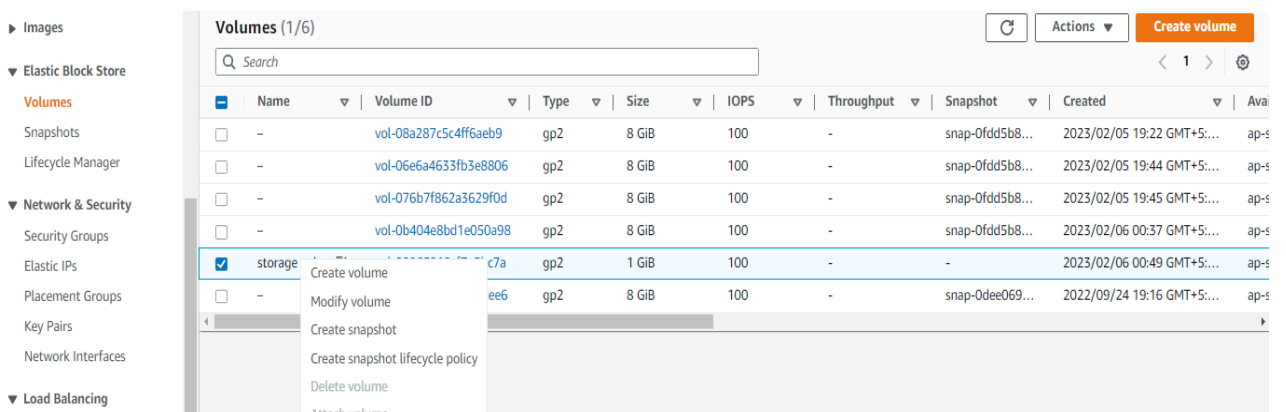
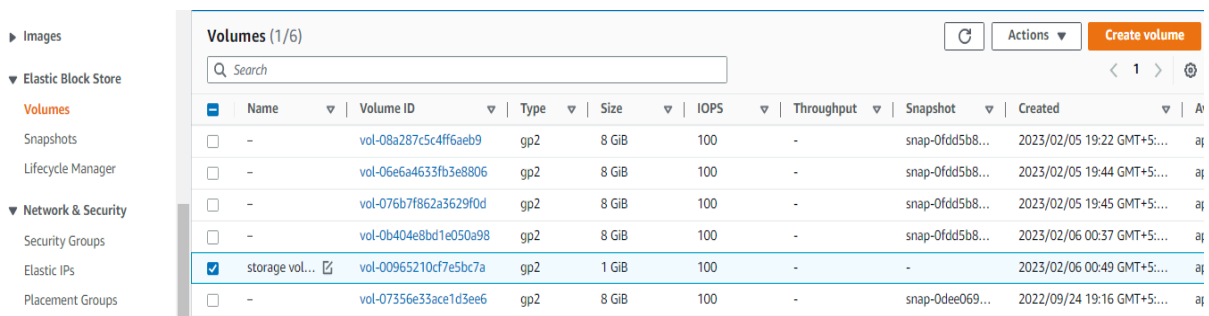
  _ |  _ |  )
  _ | (  /   Amazon Linux 2 AMI
  _ | \  |  |

https://aws.amazon.com/amazon-linux-2/
14 package(s) needed for security, out of 14 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-8-87 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
xvda        202:0    0   8G  0 disk
└─xvda1     202:1    0   8G  0 part /
xvdf        202:80   0   1G  0 disk
[ec2-user@ip-172-31-8-87 ~]$
```


### 3.Snapshot Creation :

we can create in two ways

1. From Elastic Block store -> snapshot -> create snapshot
2. create from existing storage volume. **Here I create the snapshot from existing volume**



### Details

Volume ID  
 vol-00965210cf7e5bc7a (storage volume)

Description  
 Add a description for your snapshot  
  
 255 characters maximum.

Encryption [Info](#)  
 Not encrypted

---

### Tags [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.

You can add 50 more tags.

## Snapshot created

Dedicated Hosts

Capacity Reservations

Images

Elastic Block Store

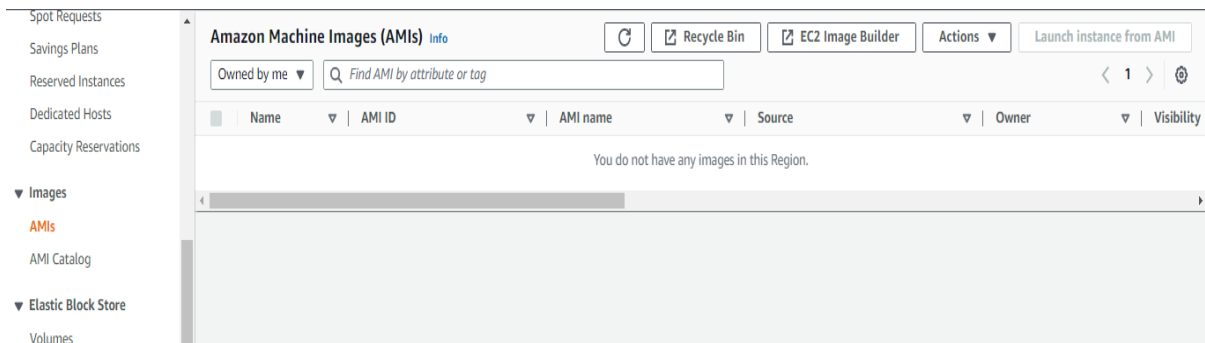
Volumes

**Snapshots**

Snapshots (1)							
Owned by me		Search					
Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started	Pr
-	snap-06de19043e0e2333e	1 GiB	snapshot from existing stor...	Standard	Completed	2023/02/06 01:11 GMT+5:...	✓

## AMI Creation :

go to Images -> AMIs



select public Images from the drop down to choose the available Images for AMI creation

Check the checkbox for the required Image from market place

Click on Launch Instance from AMI

