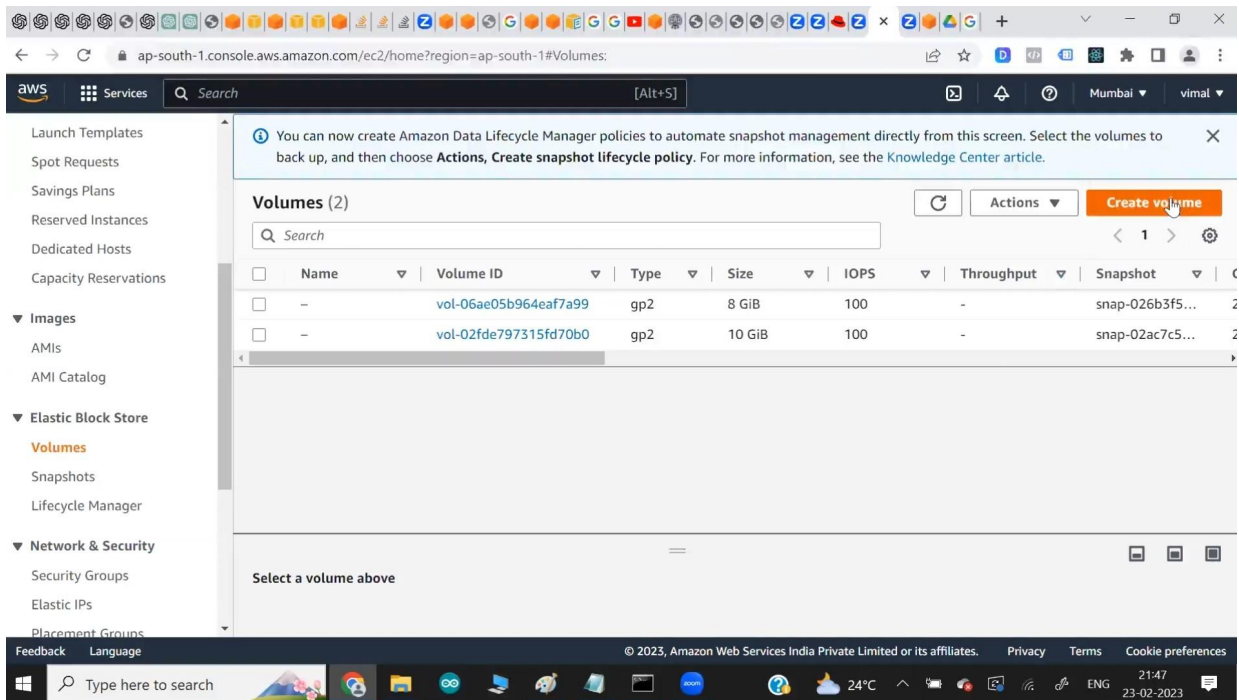


AWS Session 5

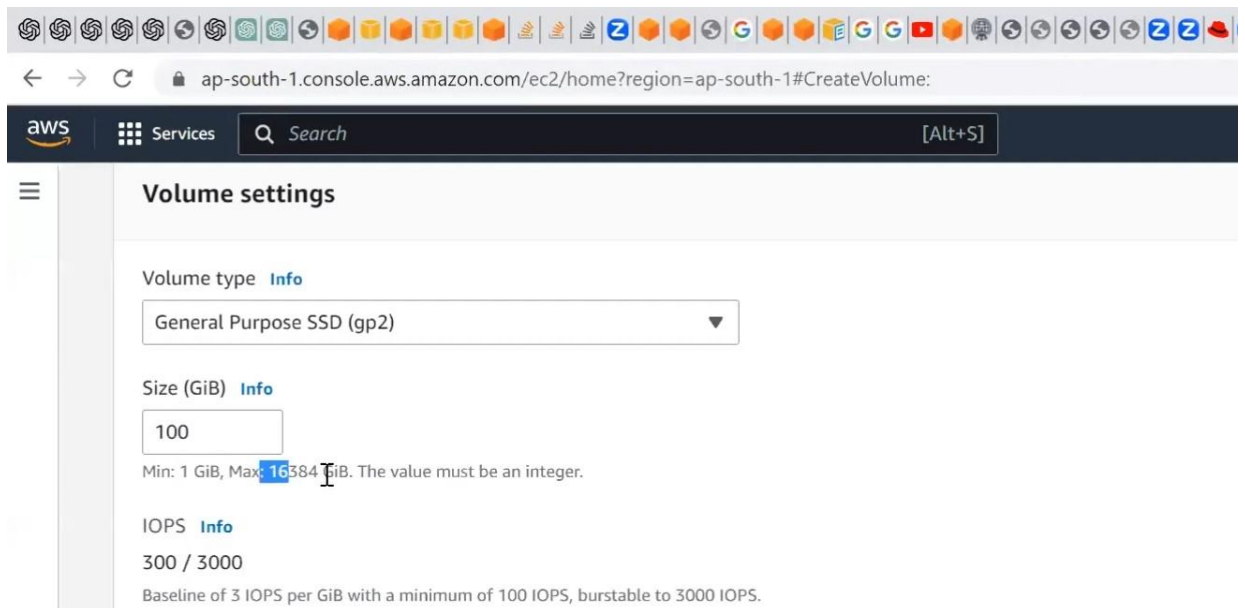
Summary – 23-02-2023



- Data that we need to keep permanent in our device for that we need HARD DISK or PENDRIVES. We can't keep data permanent on top of RAM.
- If you want to keep Data permanent in Cloud then the cloud is giving you services for Storage known as **STAAS(Storage as a service)**.
- There are three storage types available in the market:
 - BLOCK STORAGE
 - FILE STORAGE
 - OBJECT STORAGE
- We can't store data directly on the hard disk to store the data we need to create a file, To create a file we need to create a folder without creating a folder it is impossible to create the file. For making the folder first we need to create a partition, format the partition and then create a drive of it or we can also say it is an amount point.
- Google has given a service known as google cloud in which you don't need to manage the storage you just need to upload and download the file from the storage with the protocol HTTPS here the file is known as an object and this way of providing the service in the storage world is known as **Object Storage**. Example:- **Google Drive**
- AWS cloud also provides object storage known as **S3**.
- When we Launch an instance with Amazon Linux then it gives us the facility to connect through the browser directly.
- If you want to install any OS on your system you need **RAW HARD DISK**.
You can't install OS on google drive because they have given you pre-created partitions. For installing the OS minimum requirement is we need RAW HARD DISK also known as **BLOCK STORAGE**. Here the service is known as **BLOCK STORAGE AS SERVICE**.
- AWS has a block storage named **EBS(Elastic Block Storage)**. This Service will give you a raw hard disk.
- AWS provides a file Storage service known as **EFS(ELASTIC FILE STORAGE SERVICE)**.
- EBS is a sub-service of the Ec2 instance.
- To create EBS, Click on volume:-
- Click on Create Volume:-



- Enter the size you want (Minimum size 1 GiB and Maximum is 16384 GiB). AWS will charge you per your GiB.



- To use this hard disk you need to connect to the OS. Whenever you launch OS by default in AWS hard disk is created.
- `fdisk -l` this command will list the number of hard disks attached to the OS.

```

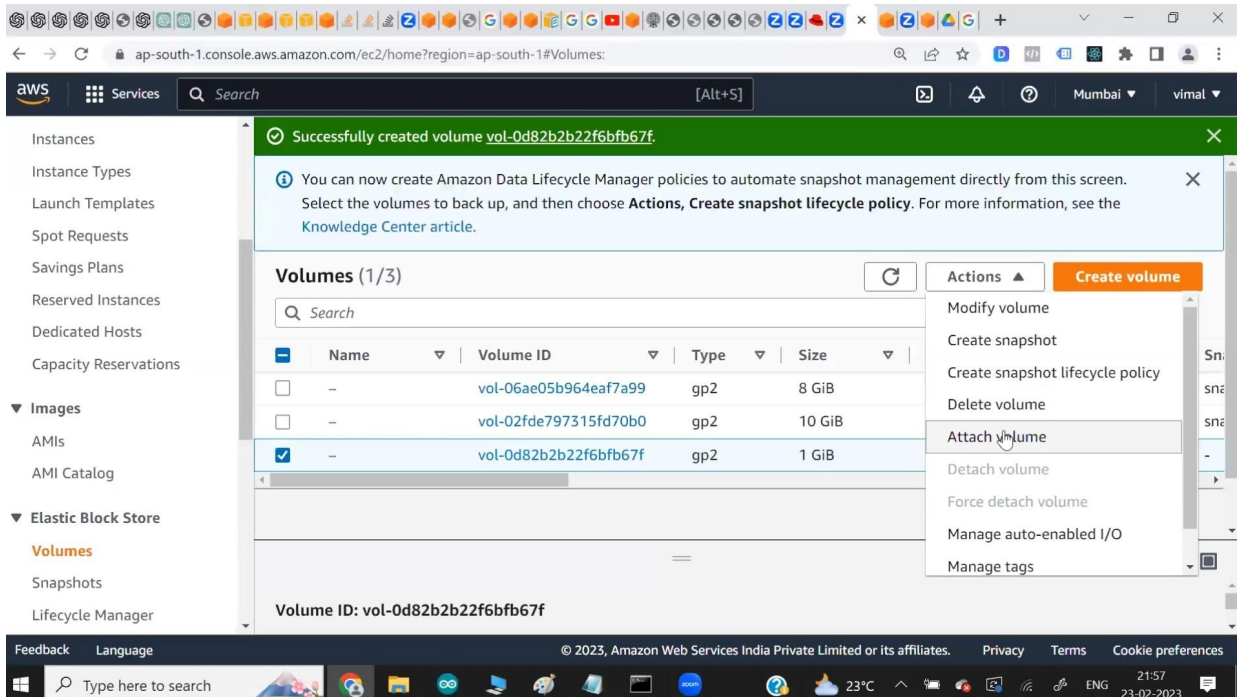
[root@ip-172-31-40-253 ~]# fdisk -l
Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: B23630C7-DB75-4FDA-9D00-2BD0B403F7AC

Device      Start      End  Sectors  Size Type
/dev/xvda1   4096 16777182 16773087   8G Linux filesystem
/dev/xvda128 2048    4095     2048    1M BIOS boot

Partition table entries are not in disk order.
[root@ip-172-31-40-253 ~]#

```

- Click on Attach volume



Successfully created volume **vol-0d82b2b22f6bf67f**.

You can now create Amazon Data Lifecycle Manager policies to automate snapshot management directly from this screen. Select the volumes to back up, and then choose **Actions**, **Create snapshot lifecycle policy**. For more information, see the [Knowledge Center article](#).

Volumes (1/3)

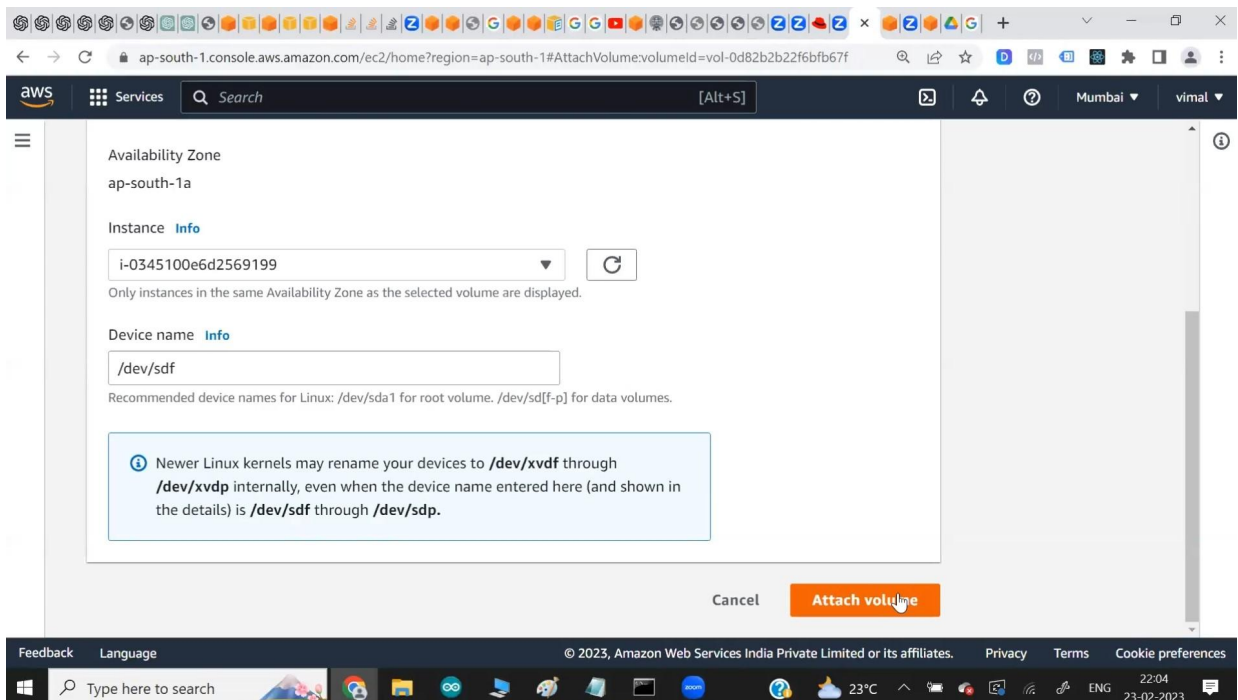
	Name	Volume ID	Type	Size
<input type="checkbox"/>	-	vol-06ae05b964eaf7a99	gp2	8 GiB
<input type="checkbox"/>	-	vol-02fde797315fd70b0	gp2	10 GiB
<input checked="" type="checkbox"/>	-	vol-0d82b2b22f6bf67f	gp2	1 GiB

Actions

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

Volume ID: vol-0d82b2b22f6bf67f

- Select the OS



Availability Zone
ap-south-1a

Instance **Info**
i-0345100e6d2569199

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**

- You can see the Storage attached with **fdisk -l** command

```
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-009dfa70161b03e3b&o...
aws Services Search [Alt+S] Mumbai vimal
/dev/xvda128 2048 4095 2048 1M BIOS boot
Partition table entries are not in disk order.
[root@ip-172-31-40-253 ~]#
[root@ip-172-31-40-253 ~]#
[root@ip-172-31-40-253 ~]# fdisk -l
Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: B23630C7-DB75-4FDA-9D00-2BD0B403F7AC

Device      Start      End  Sectors  Size Type
/dev/xvda1   4096 16777182 16773087  8G Linux filesystem
/dev/xvda128 2048   4095    2048    1M BIOS boot

Partition table entries are not in disk order.

Disk /dev/xvdf: 1 GiB, 1073741824 bytes, 2097152 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@ip-172-31-40-253 ~]#
```

- To create a partition you have to go inside the hard disk with **fdisk /dev/xvdf**

```
Disk /dev/xvdf: 1 GiB, 1073741824 bytes, 2097152 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@ip-172-31-40-253 ~]#
[root@ip-172-31-40-253 ~]#
[root@ip-172-31-40-253 ~]# fdisk /dev/xvdf
```

- Type n for new partition
- type p for primary partition
- partition number 1
- command to specify the Size +100M

```
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-009dfa70161b0

aws Services Search [Alt+S]

Disk /dev/xvdf: 1 GiB, 1073741824 bytes, 2097152 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@ip-172-31-40-253 ~]#
[root@ip-172-31-40-253 ~]#
[root@ip-172-31-40-253 ~]# fdisk /dev/xvdf

Welcome to fdisk (util-linux 2.30.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS disklabel with disk identifier 0x495d4721.

Command (m for help): n
Partition type
   p   primary (0 primary, 0 extended, 4 free)
   e   extended (container for logical partitions)
Select (default p):

Using default response p.
Partition number (1-4, default 1): 1
First sector (2048-2097151, default 2048):
Last sector, +sectors or +size{K,M,G,T,P} (2048-2097151, default 2097151): +100M
```

Feedback Language © 2023, Amazon Web Services India Private

- Type w this command will save the partition
- if you want to remove it, Click on Force detach to remove the hard disk.

The screenshot shows the AWS Management Console interface. At the top, a green banner indicates that volume **vol-0d82b2b22f6bfb67f** has been successfully attached to instance **i-009dfa70161b03e3b**. Below this, a blue informational box suggests creating Amazon Data Lifecycle Manager policies for automated snapshot management.

The main section displays the **Volumes (1/3)** table:

	Name	Volume ID	Type	Size
<input type="checkbox"/>	-	vol-06ae05b964eaf7a99	gp2	8 GiB
<input type="checkbox"/>	-	vol-02fde797315fd70b0	gp2	10 GiB
<input checked="" type="checkbox"/>	myHD	vol-0d82b2b22f6bfb67f	gp2	1 GiB

An **Actions** dropdown menu is open for the selected volume, showing options: Modify volume, Create snapshot, Create snapshot lifecycle policy, Delete volume, Attach volume, Detach volume, **Force detach volume** (highlighted), Manage auto-enabled I/O, and Manage tags.

A modal dialog titled **Force detach vol-0d82b2b22f6bfb67f?** is displayed. It contains the following text:

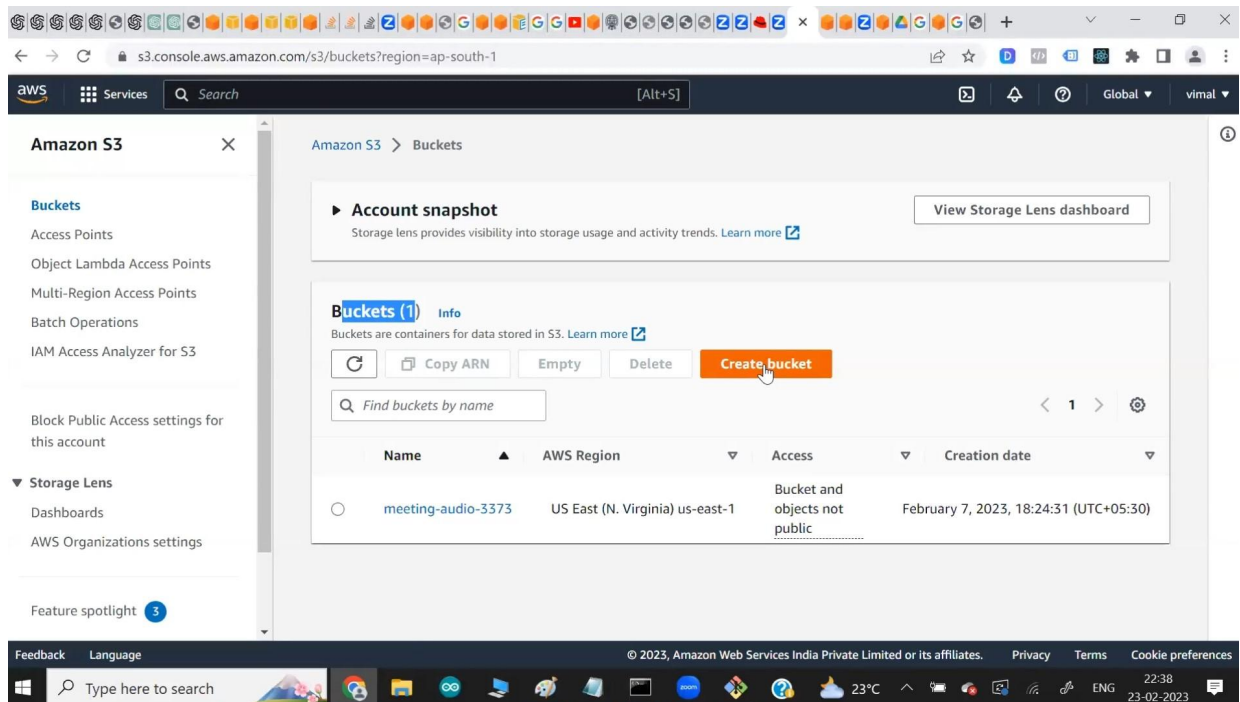
Forced detachment of a stuck volume can cause damage to the file system or the data it contains. Only use this option as a last resort to detach a volume from a failed instance, or if you are detaching a volume with the intention of deleting it.

Are you sure that you want to force detach volume vol-0d82b2b22f6bfb67f?

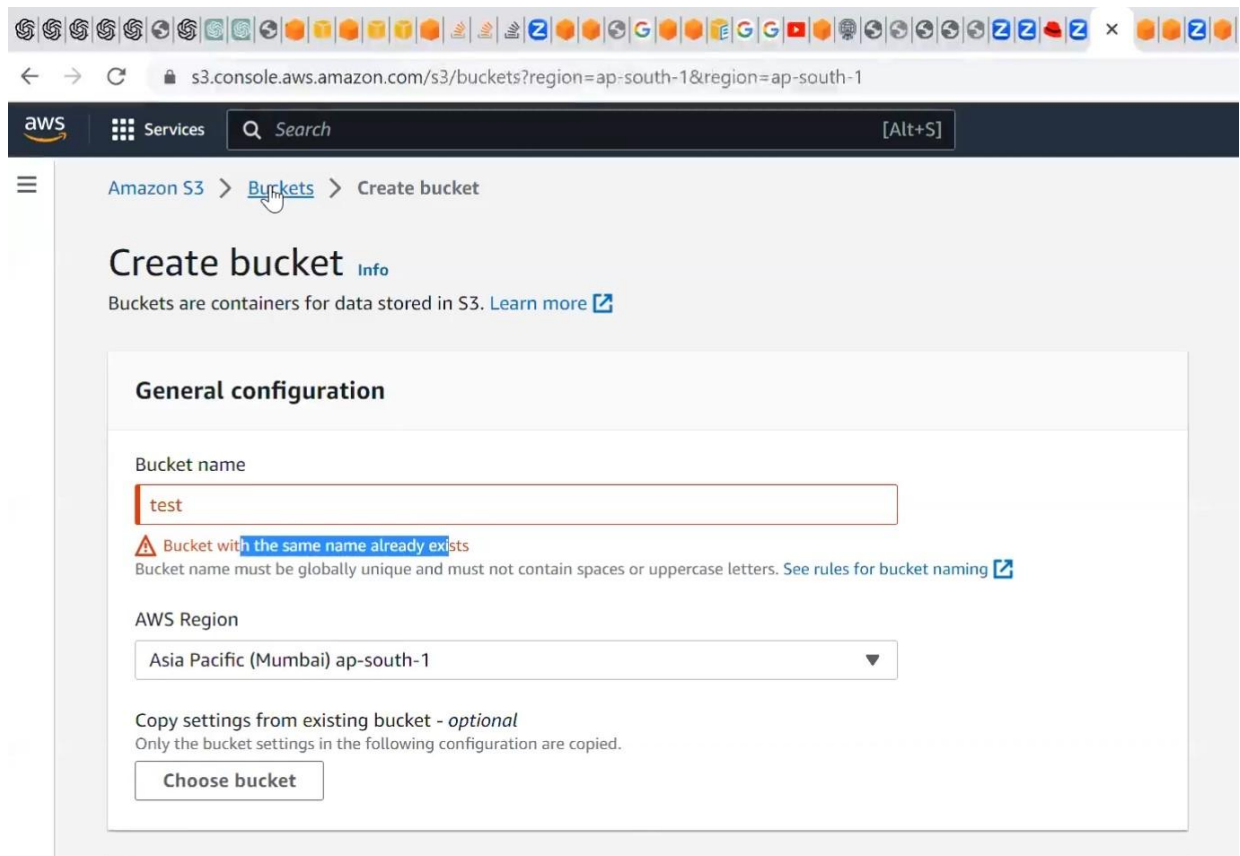
To confirm detachment, type *detach* in this field.

The input field contains the text **detach**. At the bottom of the dialog are **Cancel** and **Force detach** buttons.

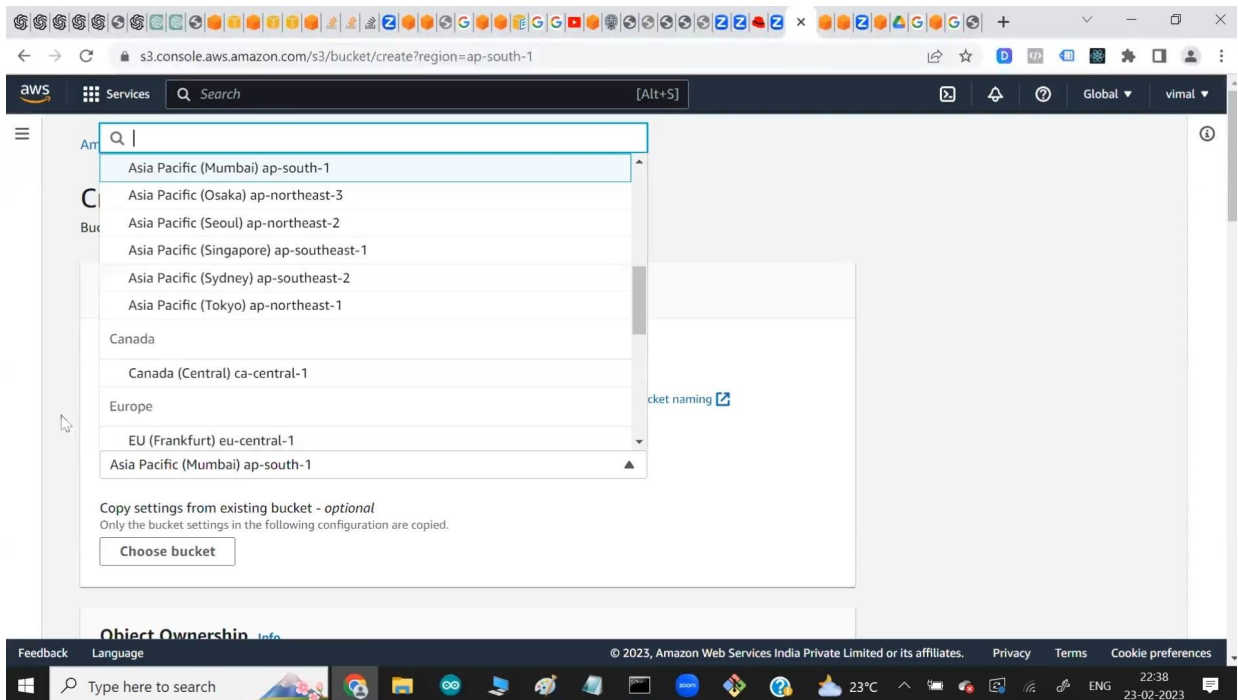
- This hard disk you can Attach to the different instances by clicking on attach volume
- Click on the instance you want to attach. If you want to transfer the data from one VM to another VM this is one of the approach you can use.
- You can Create S3 bucket Click on create bucket.



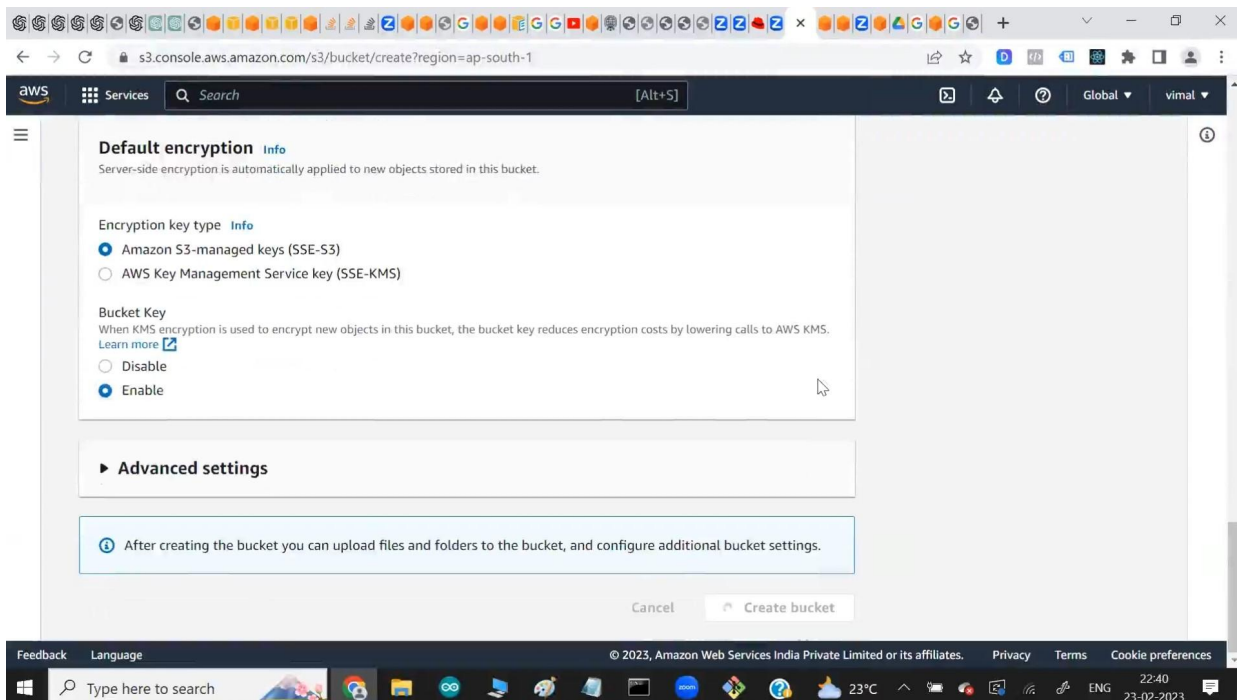
- Enter the name (Remember the name entered should be unique):-

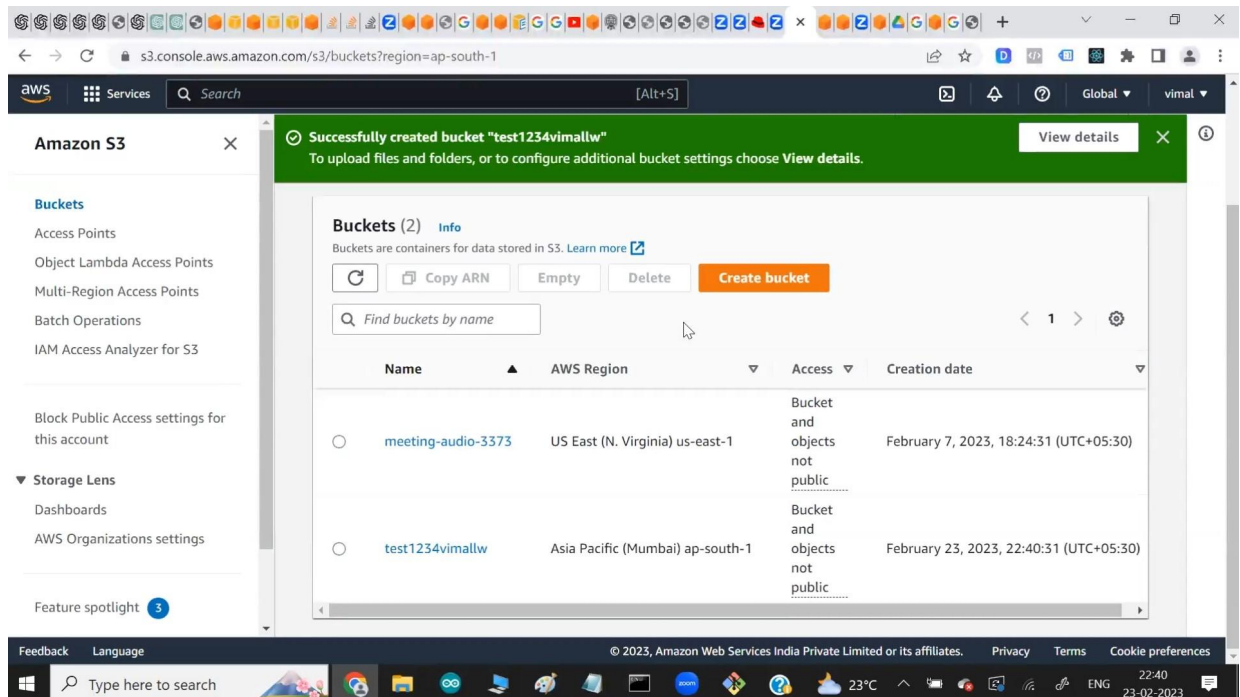


- Select the AWS region

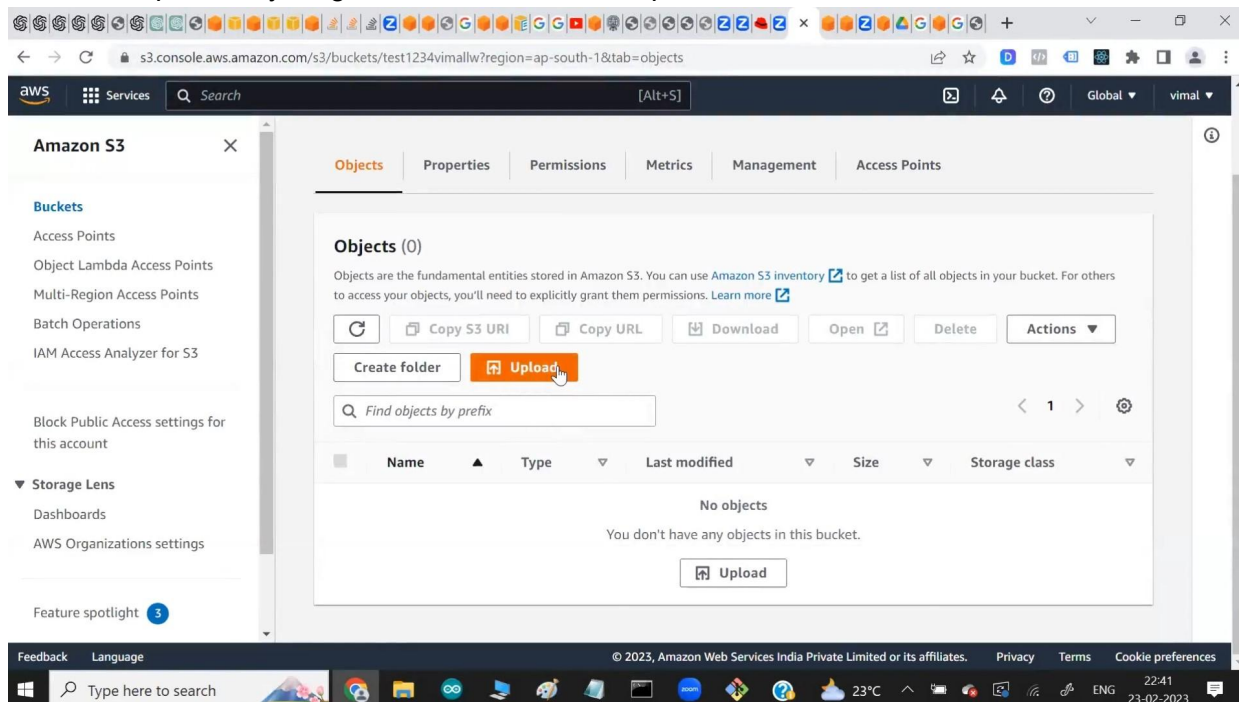


- Click on create a
- bucket and your bucket will be created.

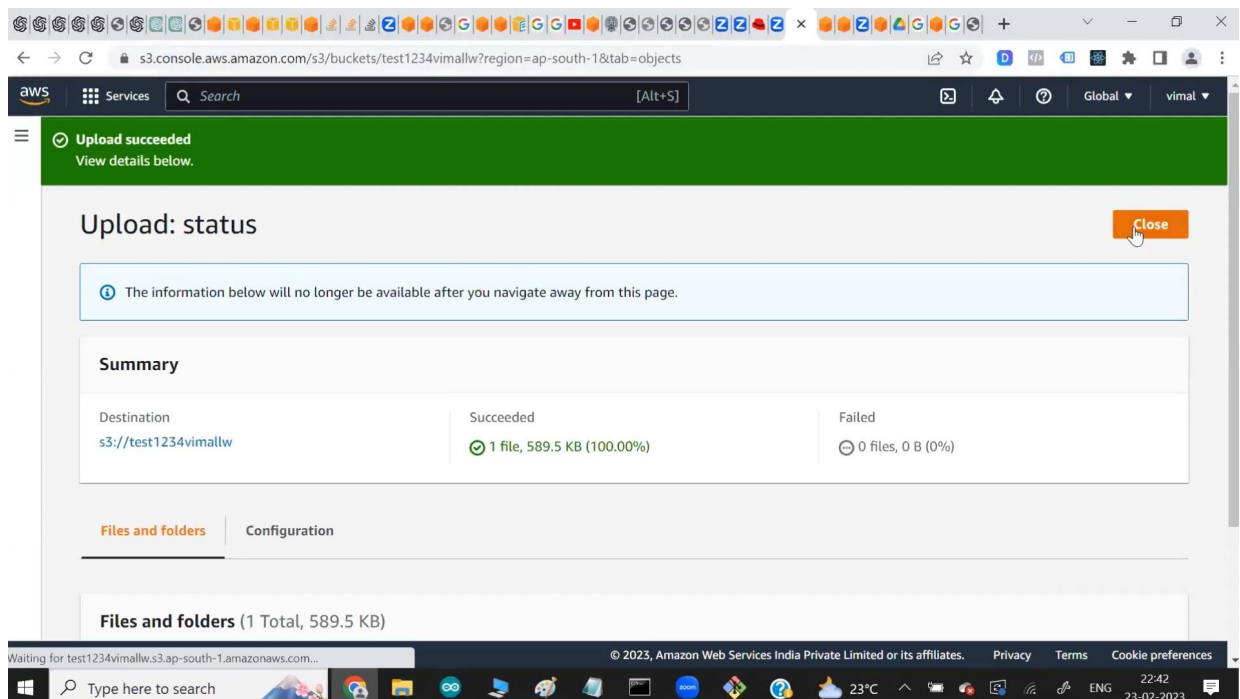
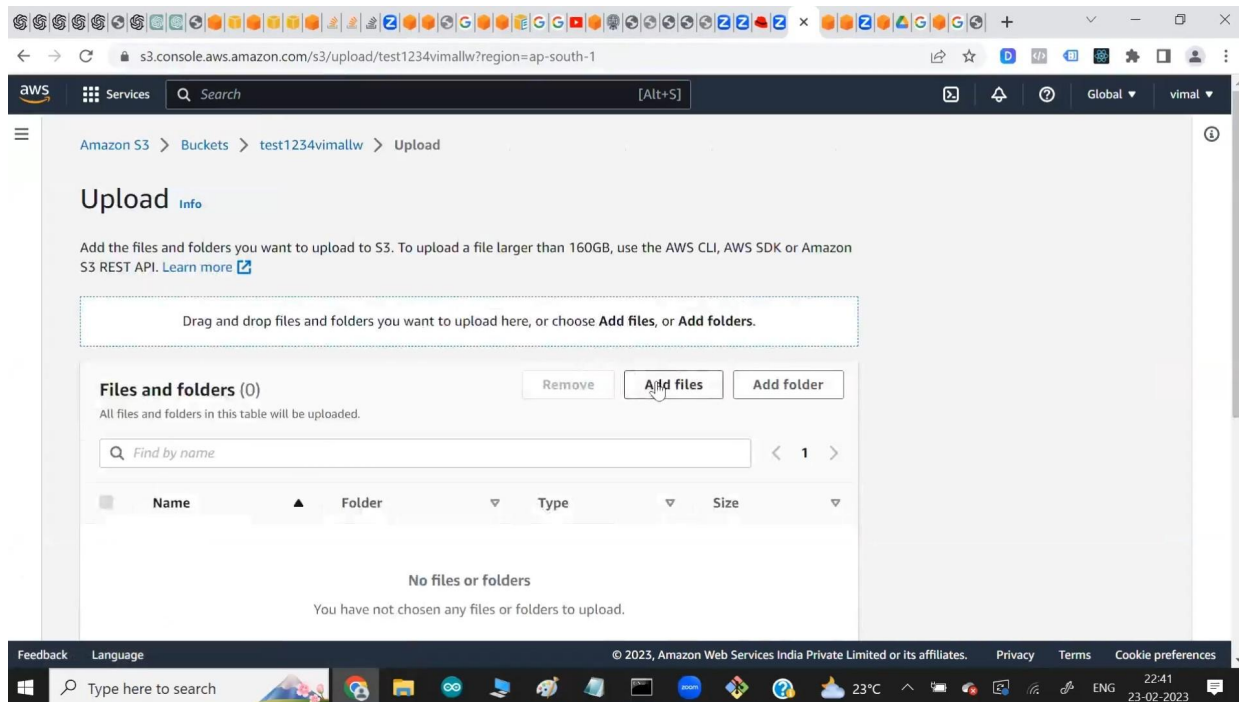




- To upload anything in the bucket click on upload



- Click on the add files and select the file you want to upload in the bucket.



- You can see the file uploaded by simply downloading it or you can also open it through URL, if you want to share this file to someone you can share the URL.
- But before making it public remember to enable the ACL permission otherwise AWS won't allow the client to access the file.