

## Module-2: Case Study

Problem Statement: You work for XYZ Corporation. Your company is working on an application, and it requires secured web servers on Linux to launch the application.

You are asked to:

1. Create an instance in the us-east-1 (N. Virginia) region with the Linux OS and manage the requirement of web servers of your company using AMIs
2. Replicate the instance in the us-west-2 (Oregon) region
3. Build two EBS volumes and attach them to the instance in the us-east-1 (N. Virginia) region
4. Delete one volume after detaching it and extend the size of the other volume
5. Take a backup of this EBS volume

**1. Create an instance in the us-east-1 (N. Virginia) region with the Linux OS and manage the requirement of web servers of your company using AMIs:**

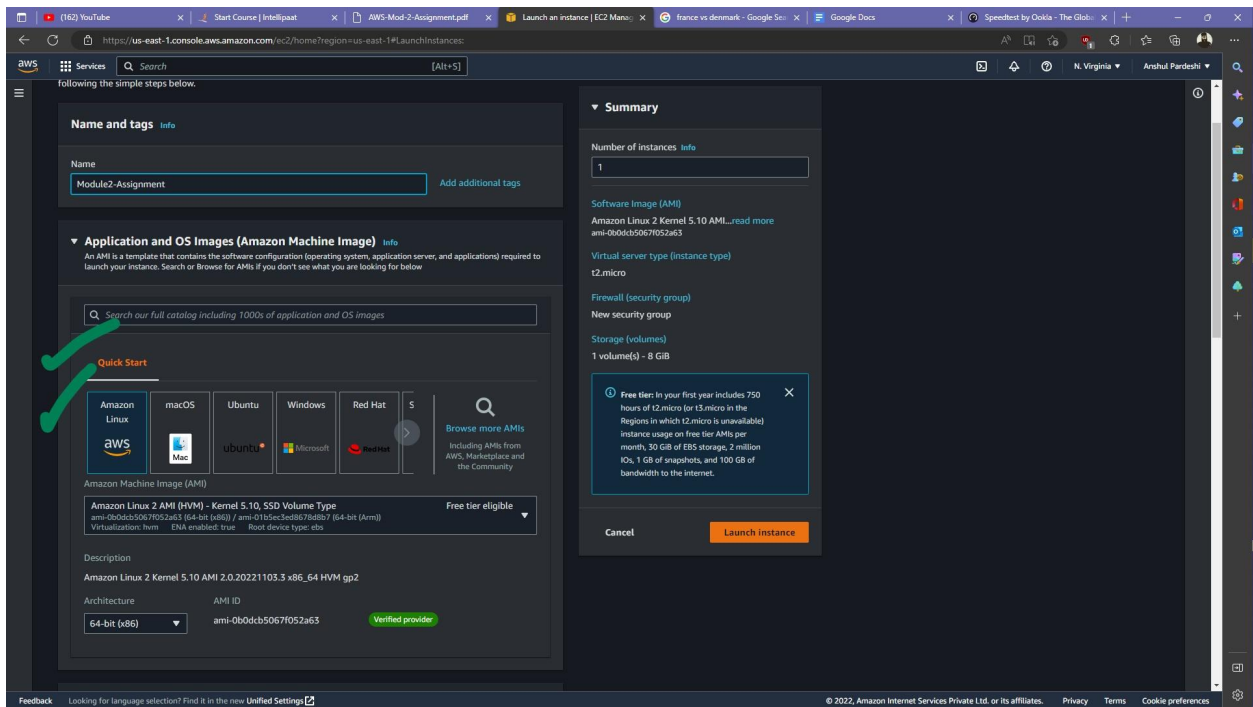
Selected us-east-1 (N. Virginia) region.

The screenshot displays the AWS Management Console's 'Launch Instance' wizard. The 'Summary' tab is active, showing the following configuration:

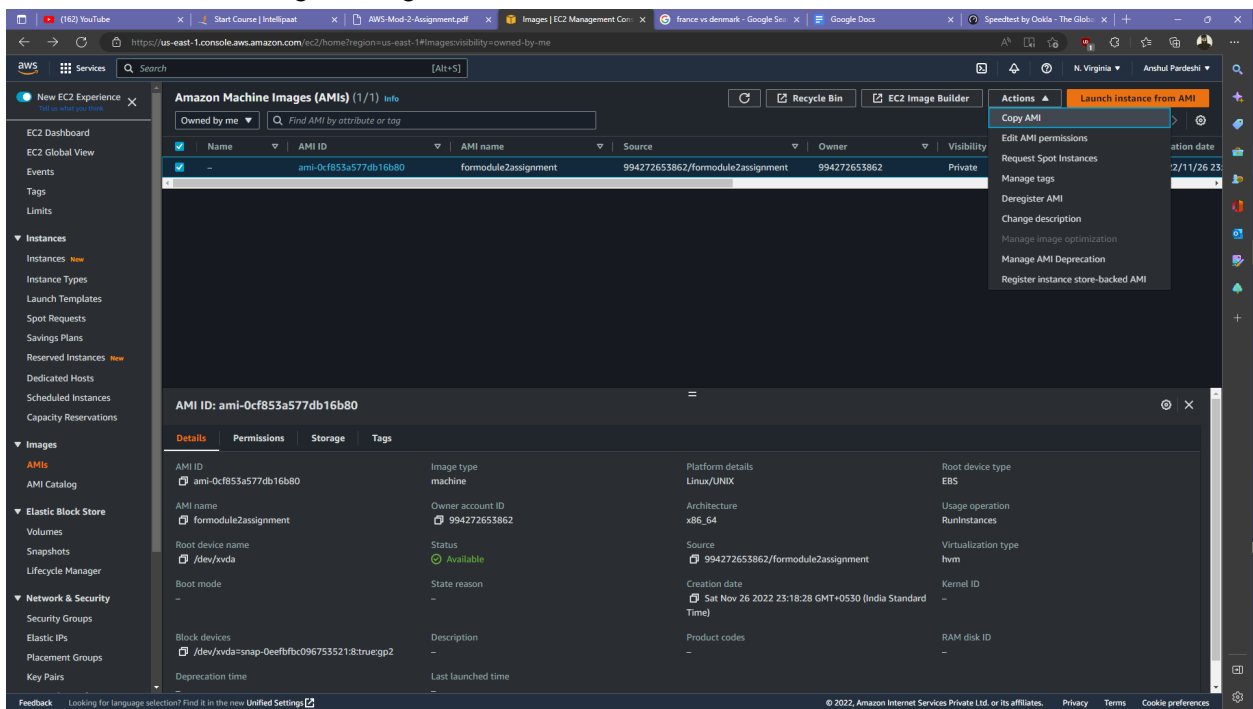
- Name and tags:** Name: Module2-Assignment
- Application and OS Images (Amazon Machine Image):** Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type. AMI ID: ami-0b0dc5067f052a63. Verified provider.
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** New security group
- Storage (volumes):** 1 volume(s) - 8 GiB

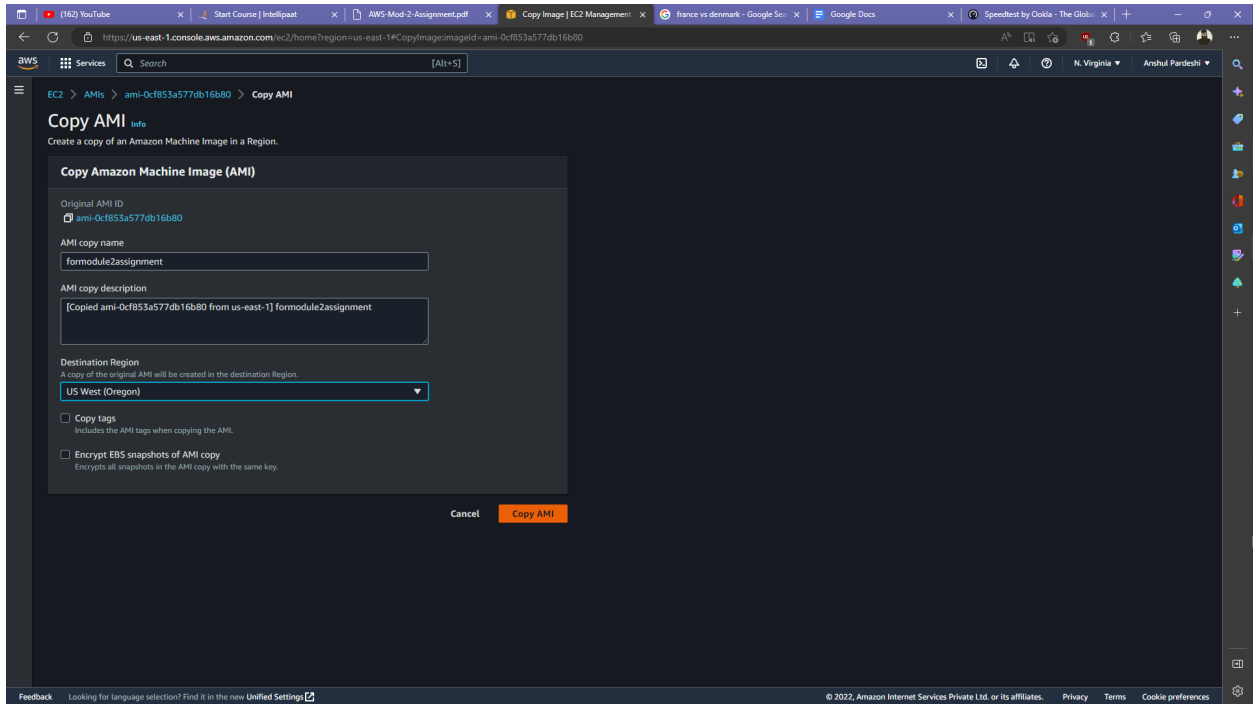
The right-hand pane shows the selected region: **US East (N. Virginia) us-east-1**. A green checkmark is visible next to this region selection. The 'Launch Instance' button is highlighted in orange.

Used a Linux OS, we chose Amazon Linux here.



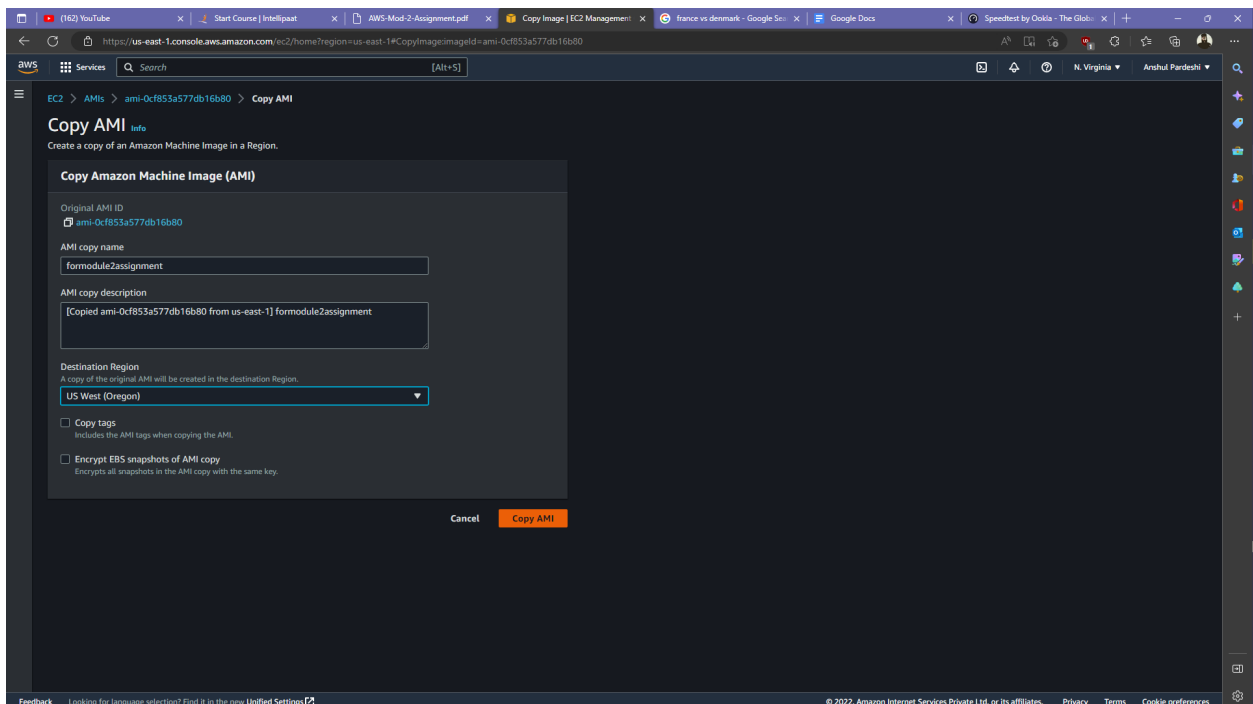
Now we need to manage through AMI so created AMI



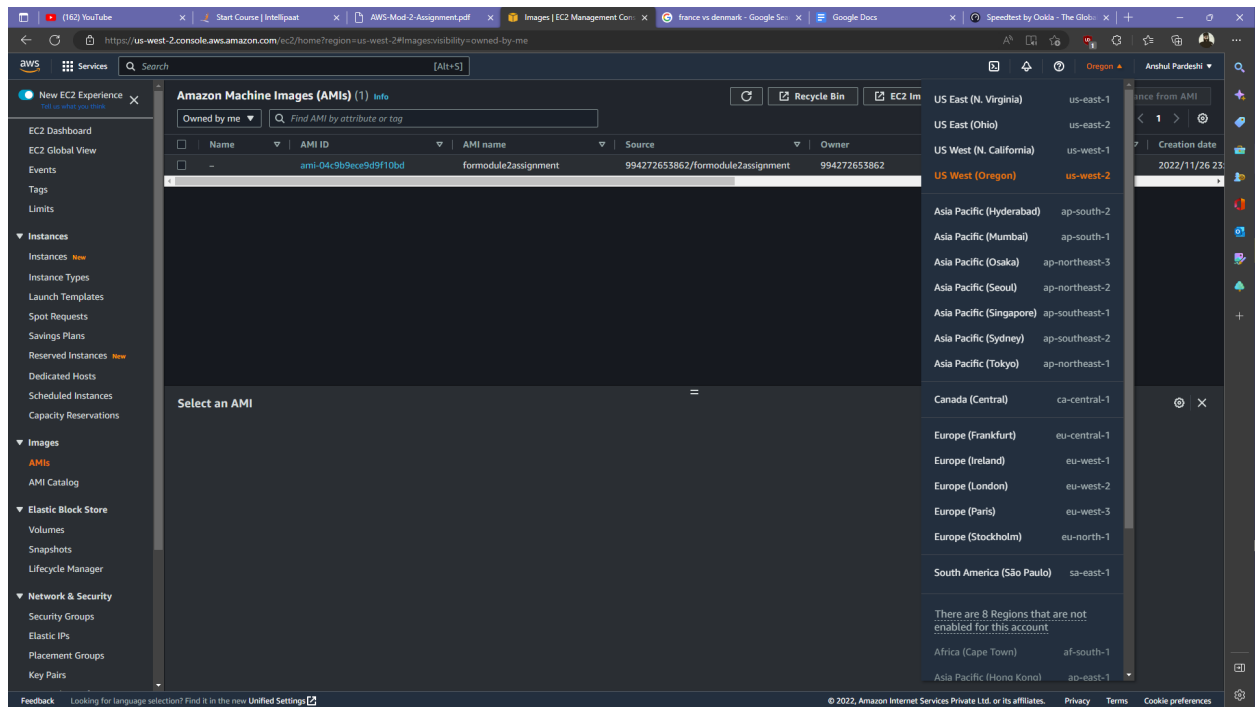


## 2. Replicate the instance in the us-west-2 (Oregon) region

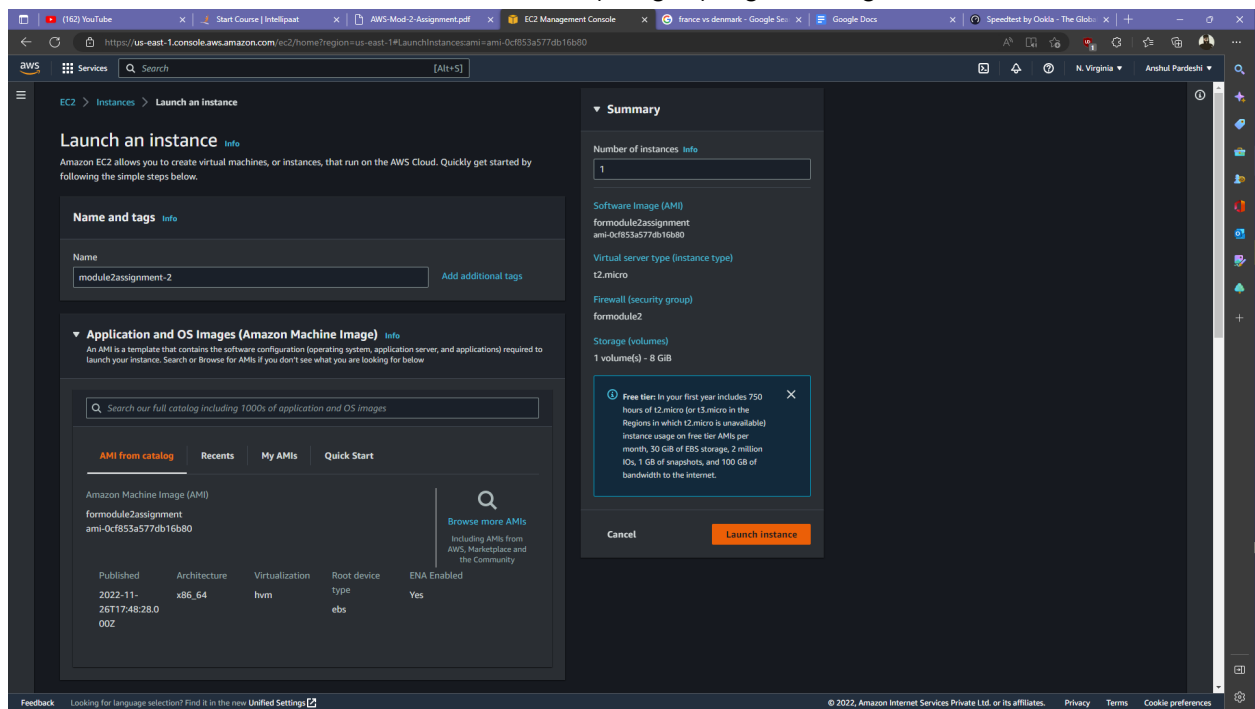
We copy that AMI to us-west-2 (Oregon) region



## We switch Region to Create instance through AMI

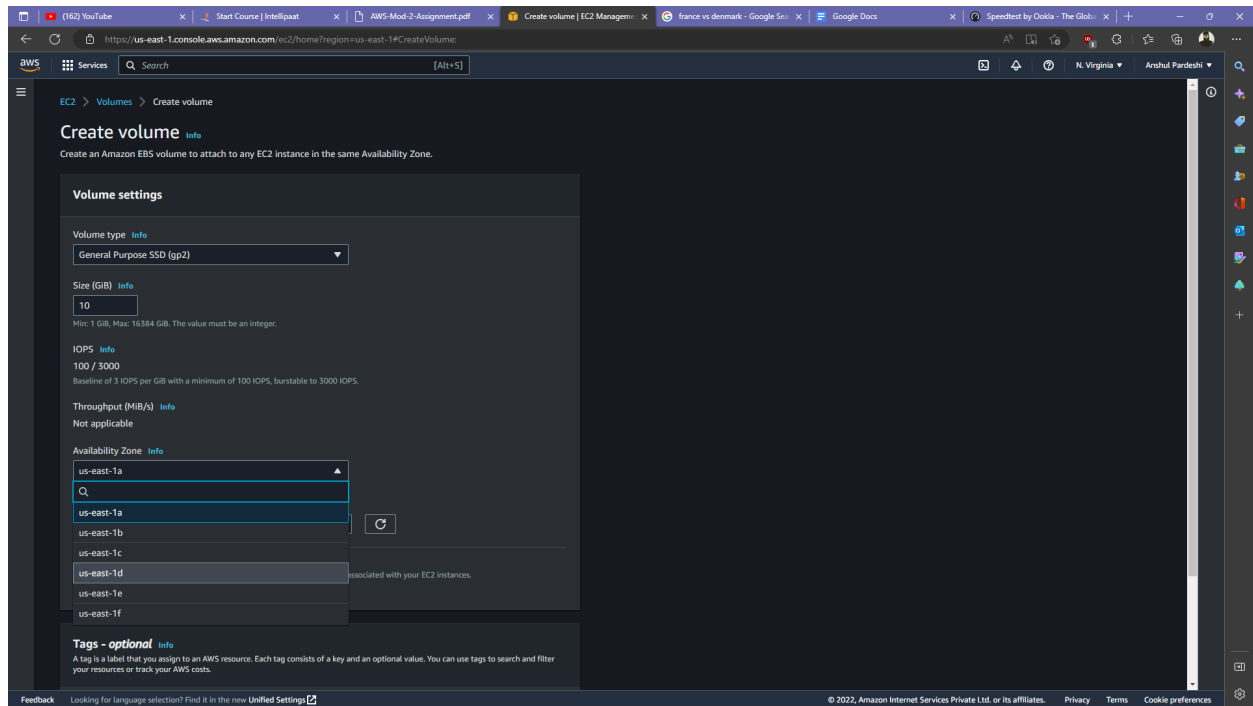


## And another Instance is created in us-west-2 (Oregon) region using AMI

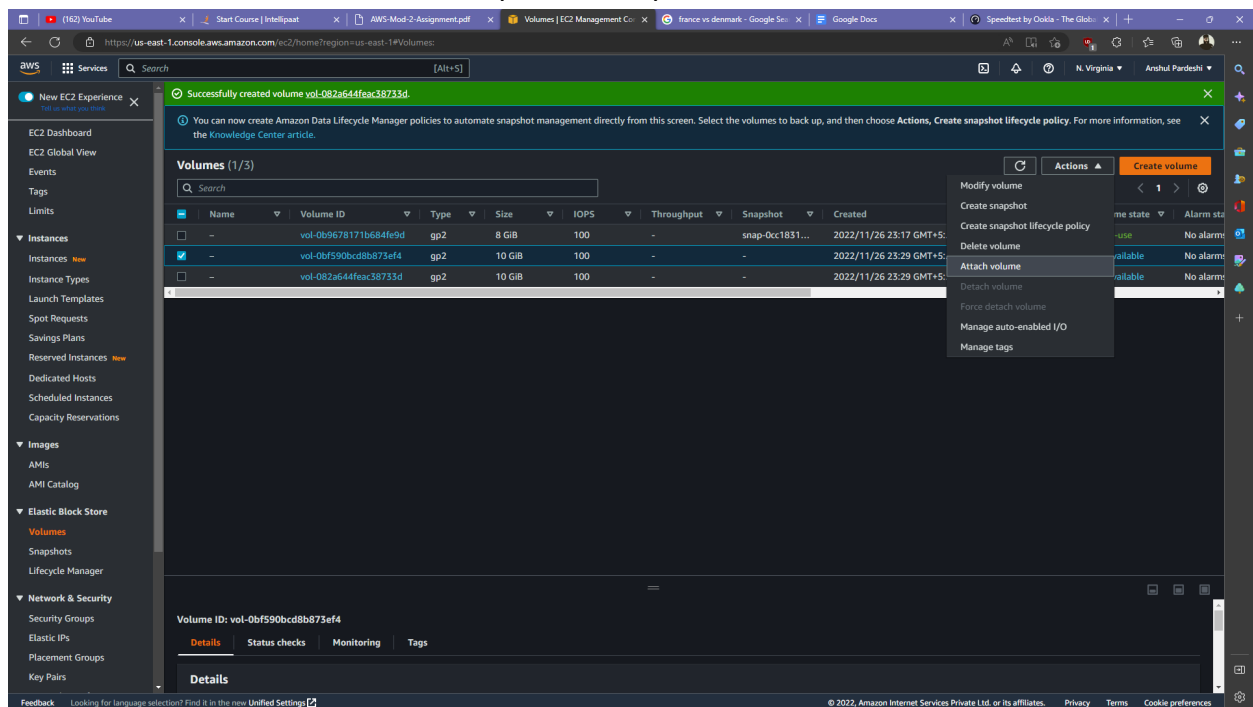


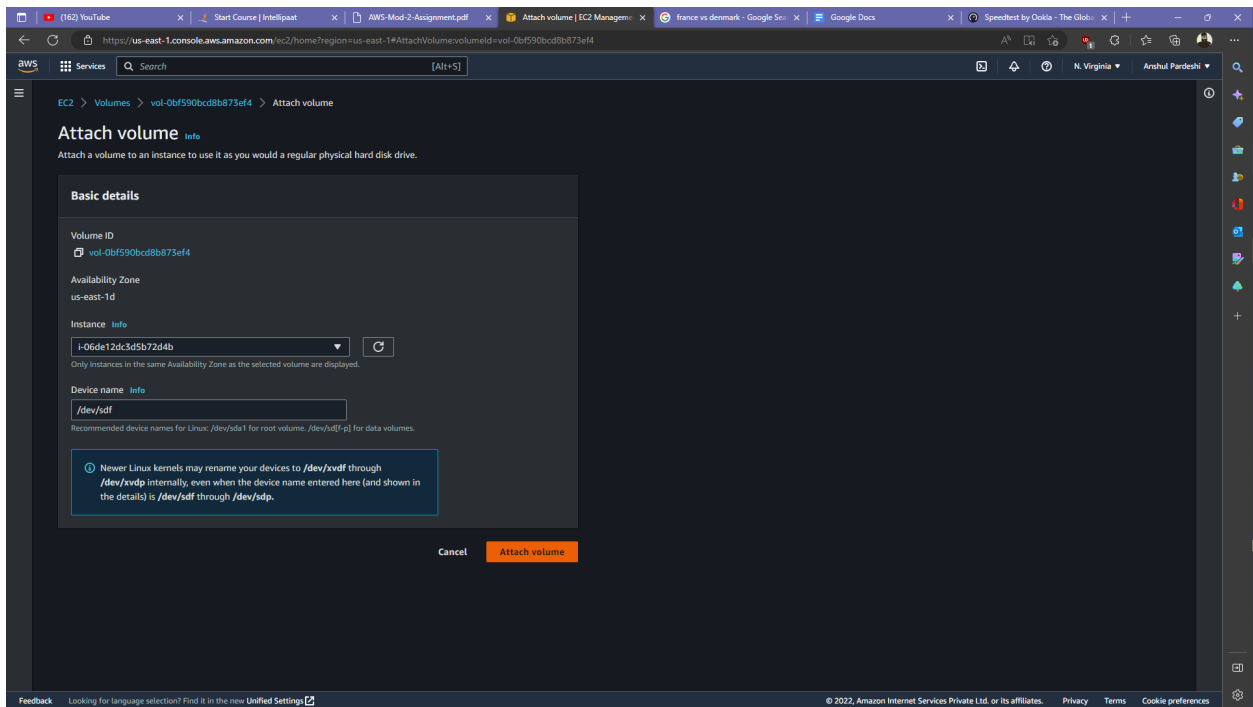
### 3. Build two EBS volumes and attach them to the instance in the us-east-1 (N. Virginia) region.

We create 2 EBS volumes in the same Availability zone as the instance to which we need to attach this EBS volume.



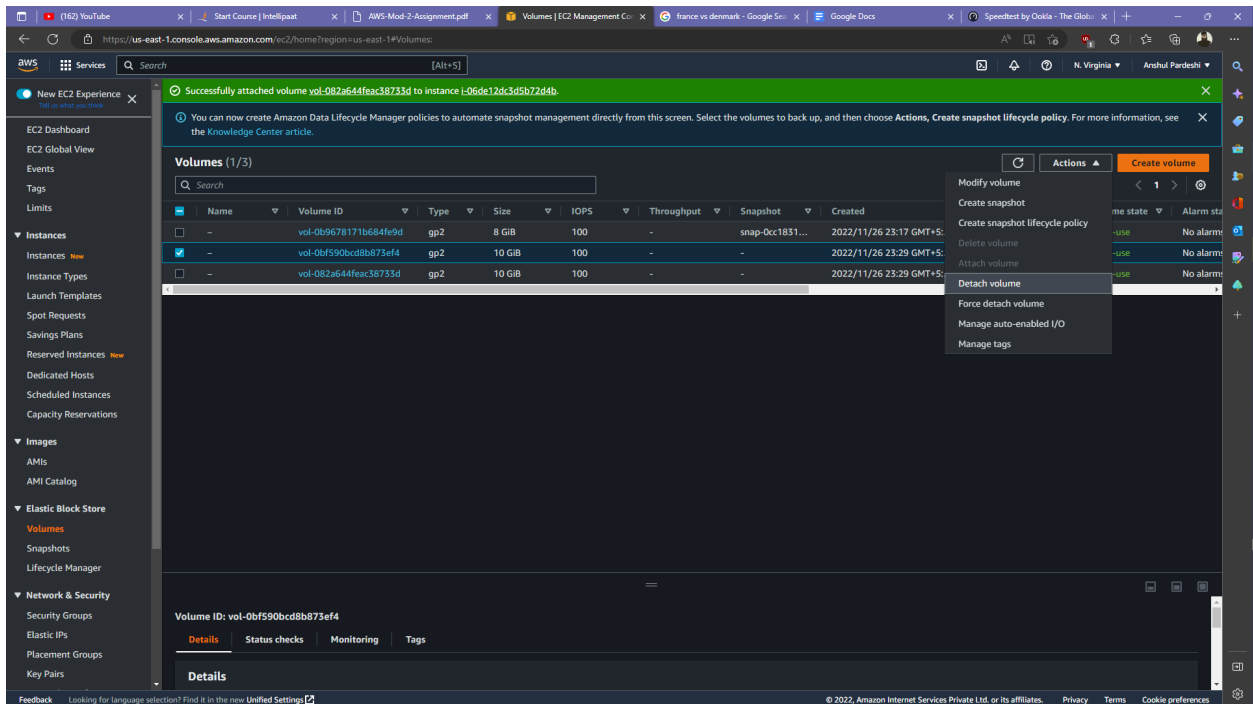
Attach it to the US east 1 instance. Repeat the step for another EBS vol as well





#### 4. Delete one volume after detaching it and extend the size of the other volume

We select and detach any one volume first



Then we select and delete it

Successfully detached volume.

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	IOPS	Throughput	Snapshot	Created
-	vol-0b9678171b684fe9d	gp2	8 GiB	100	-	snap-Occ1831...	2022/11/26 23:17 GMT+5
-	vol-0bf590bcd8b873ef4	gp2	10 GiB	100	-	-	2022/11/26 23:29 GMT+5
-	vol-082a644feac38733d	gp2	10 GiB	100	-	-	2022/11/26 23:29 GMT+5

Volume ID: vol-0bf590bcd8b873ef4

Details Status checks Monitoring Tags

Details

To extend the size we modify the another volume.

Successfully deleted volume vol-0bf590bcd8b873ef4.

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.

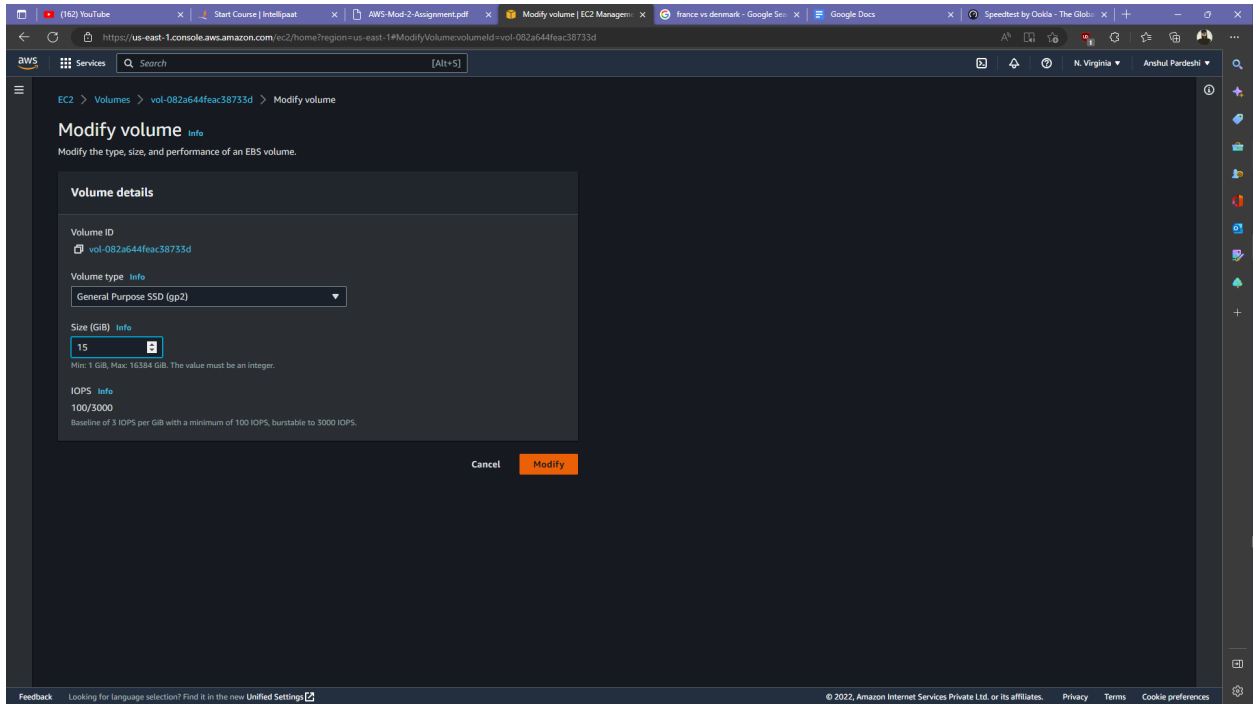
Volumes (1/2)

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
-	vol-0b9678171b684fe9d	gp2	8 GiB	100	-	snap-Occ1831...	2022/11/26 23:17 GMT+5
-	vol-082a644feac38733d	gp2	10 GiB	100	-	-	2022/11/26 23:29 GMT+5

Volume ID: vol-082a644feac38733d

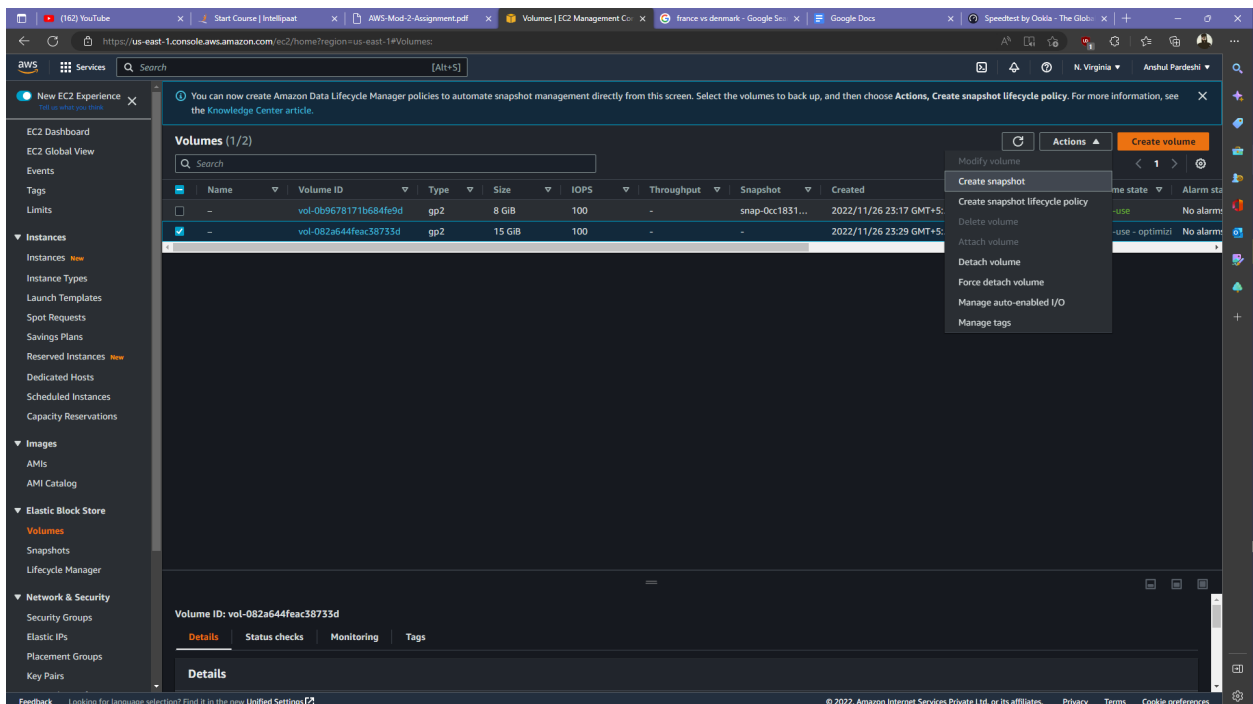
Details Status checks Monitoring Tags

Details



## 5. Take a backup of this EBS volume

For backup, we create snapshot through Actions drop down menu by selecting that volume.





Back of that volume is reflected in 'Snapshots'.

The screenshot displays the AWS Management Console's 'Snapshots' page. The left sidebar shows navigation options like EC2 Dashboard, Instances, Images, Elastic Block Store, and Network & Security. The main content area shows a table of snapshots owned by the user. Two snapshots are listed: 'snap-Oddb2adceca964a8' (15 GiB, backup, Pending) and 'snap-Oeefbfbc096753521' (8 GiB, Created by CreateImage, Completed). Below the table, a detailed view of the first snapshot is shown, including its ID, size (15 GiB), owner (994272653862), volume ID (vol-082a644feac38733d), progress (Unavailable), and status (Pending).

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started	Progress	Encryption	KM
--	snap-Oddb2adceca964a8	15 GiB	backup	Standard	Pending	2022/11/26 23:35 GMT+5...	Unavailable (99%)	Not encrypted	--
--	snap-Oeefbfbc096753521	8 GiB	Created by CreateImage(...	Standard	Completed	2022/11/26 23:19 GMT+5...	Available (100%)	Not encrypted	--

**Snapshot Details:**

- Snapshot ID: snap-Oddb2adceca964a8
- Size: 15 GiB
- Owner: 994272653862
- Volume ID: vol-082a644feac38733d
- Progress: Unavailable
- Snapshot status: Pending
- Started: Sat Nov 26 2022 23:35:07 GMT+0530 (India Standard)
- Product codes: -