ACF Lab 4: Working with EBS

COS 20019- Cloud Computing Architecture

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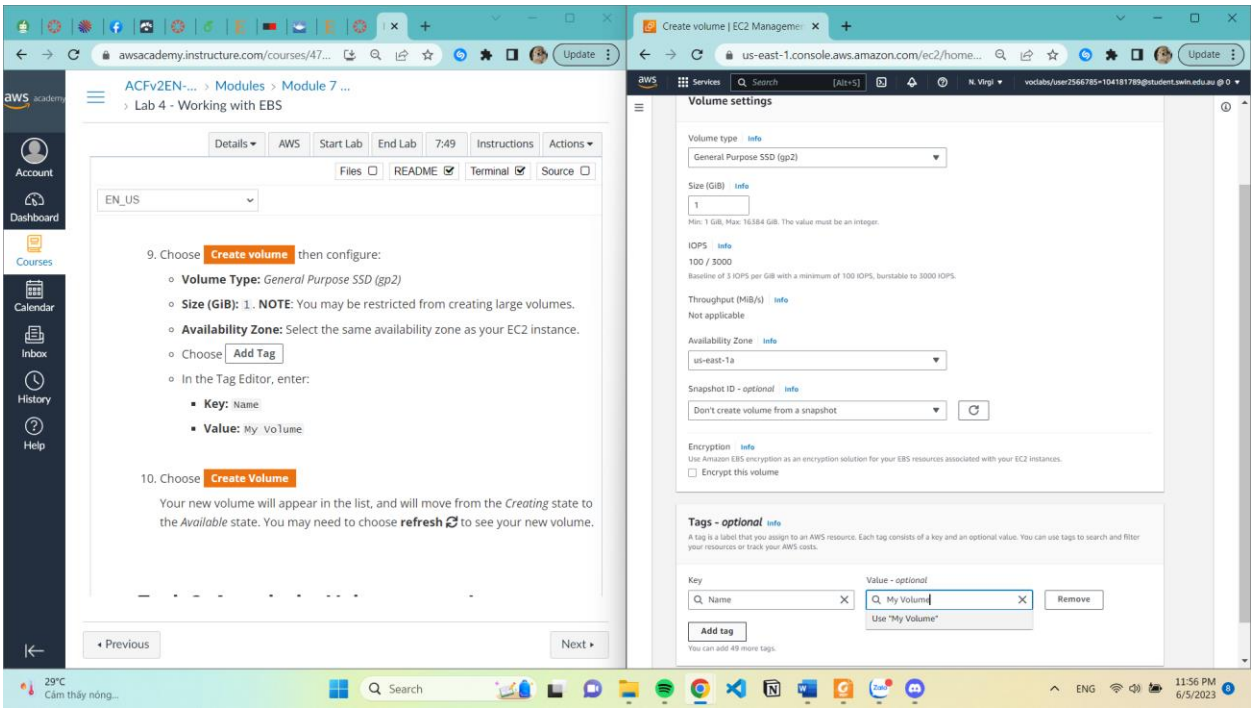
Screenshotted below is all the step I spent to finished ACF Lab 4, belong with detail explanation.

Task 1: Create a New EBS Volume.

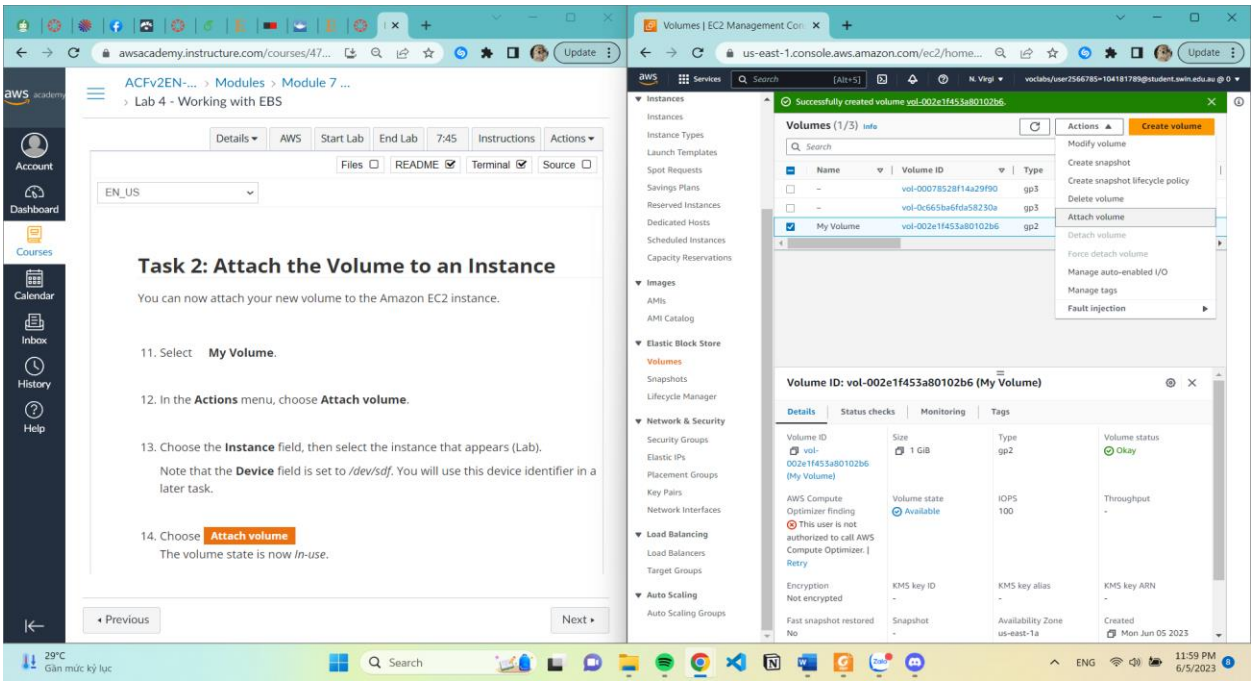
Choose **Create volume** then configure:

- Volume Type: General Purpose SSD (gp2)
- Size (GiB): 1.
- Availability Zone: Select the same availability zone as your EC2 instance.
- Choose Add Tag
- In the Tag Editor, enter:
    - Key: Name
    - Value: My Volume

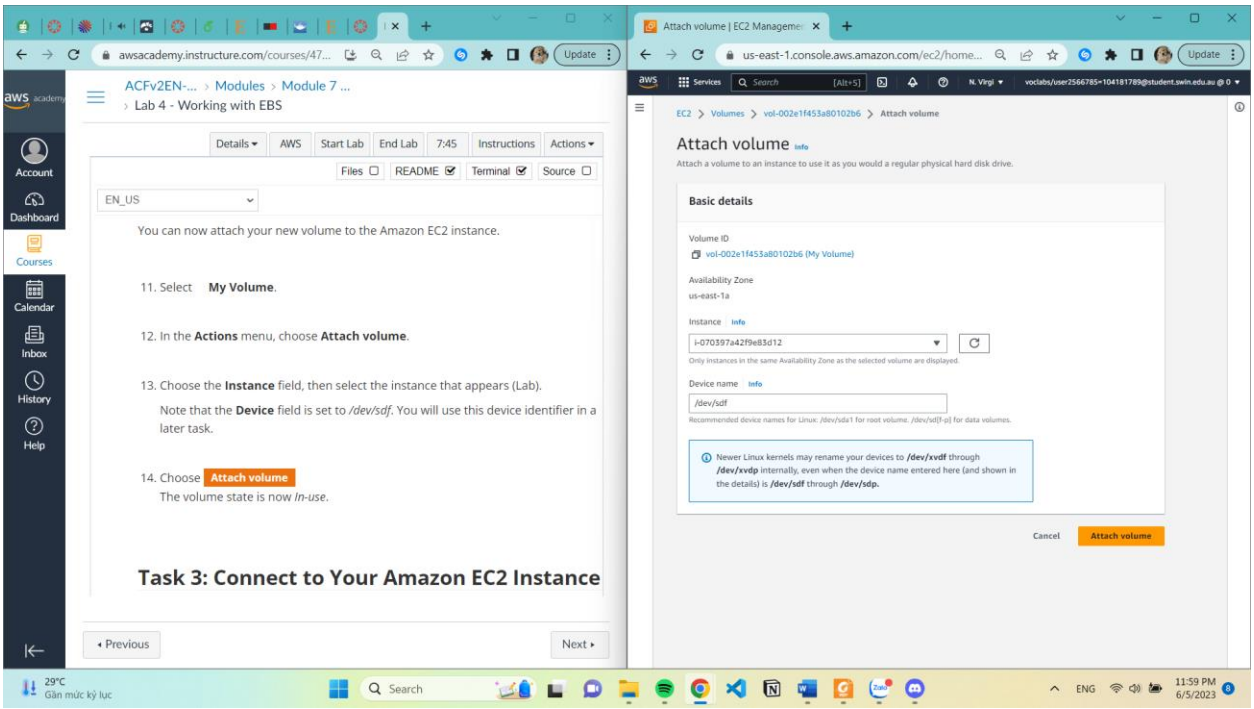


Task 2: Attach the Volume to an Instance

- Select **My Volume.**
- In the **Actions** menu, choose **Attach volume.**



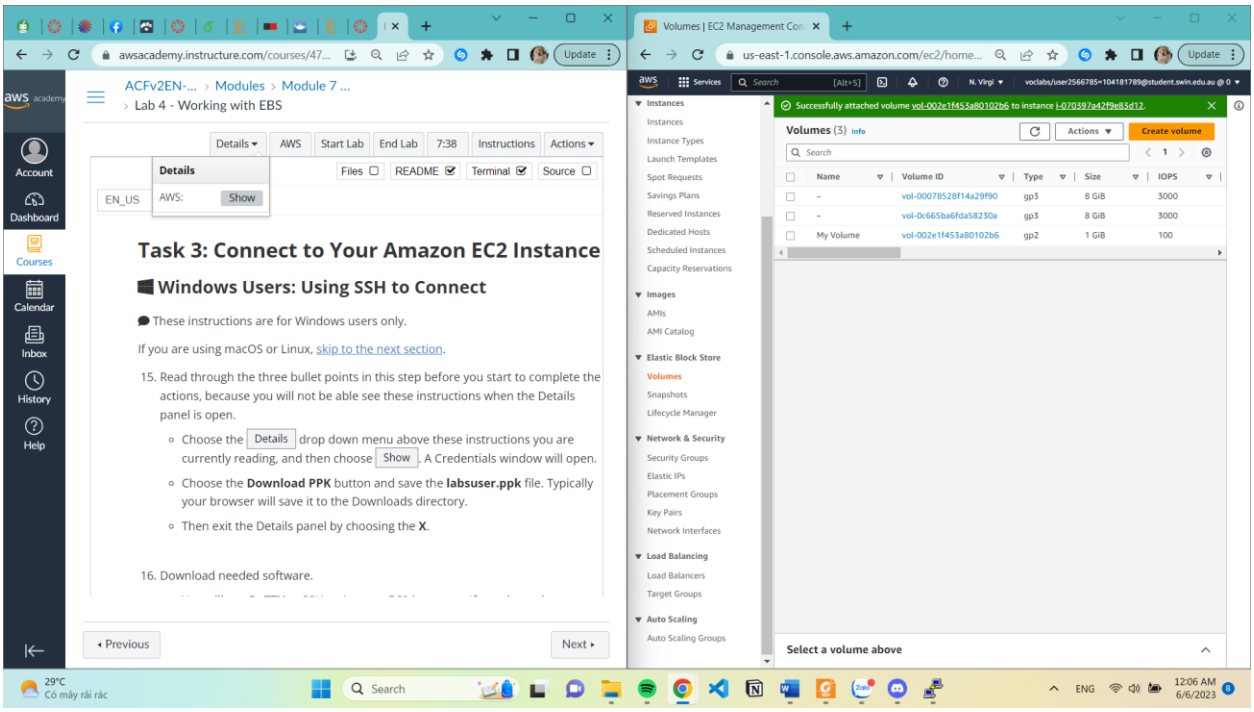
- Choose the **Instance** field, then select the instance that appears (Lab).
- Note that the **Device** field is set to /dev/sdf.

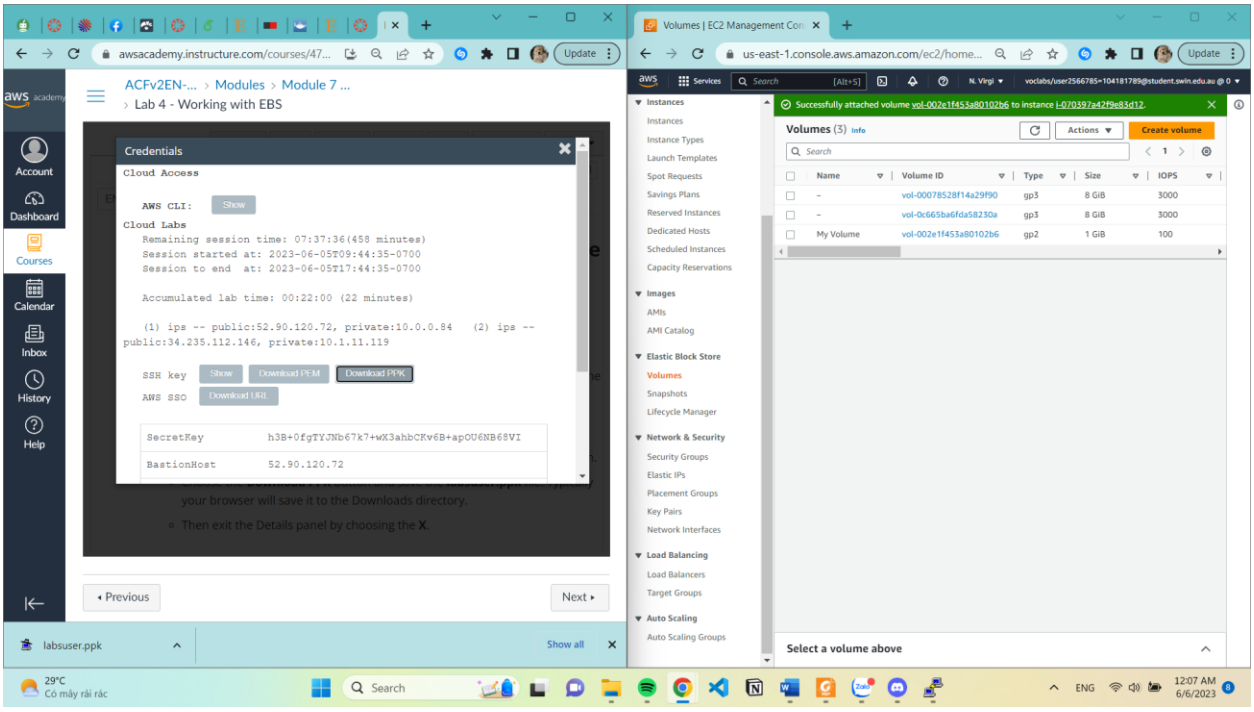


Task 3: Connect to Your Amazon EC2 Instance

Choose the Details drop down menu, and then choose Show.

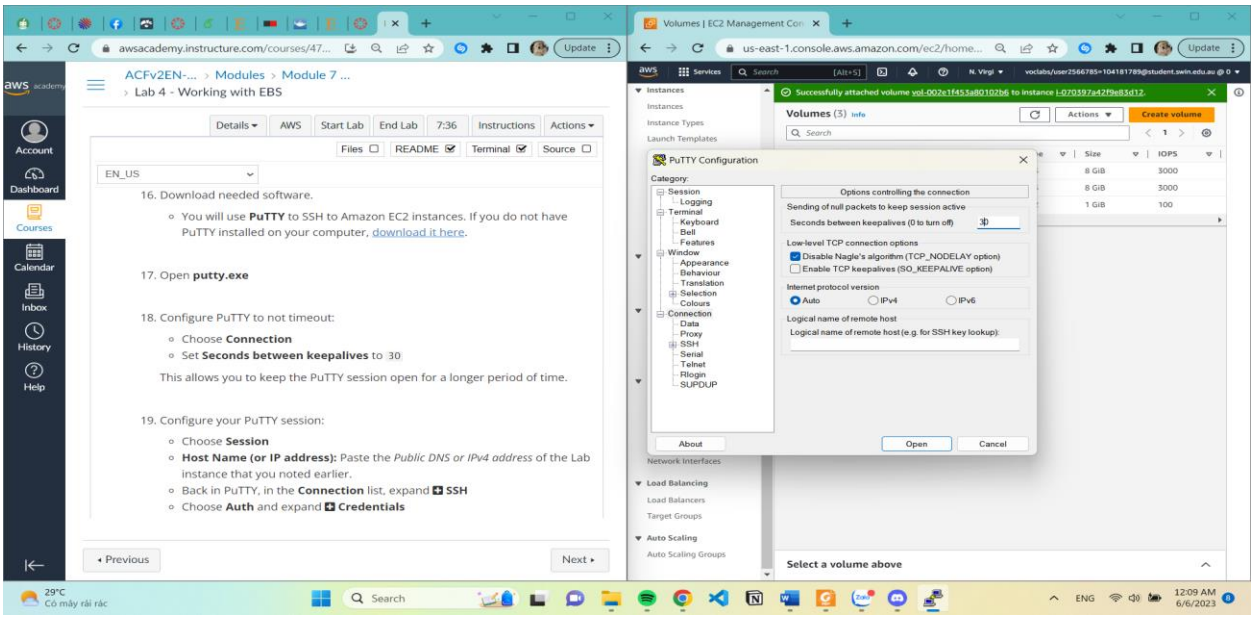
Choose the Download PPK button and save the labsuser.ppk file.





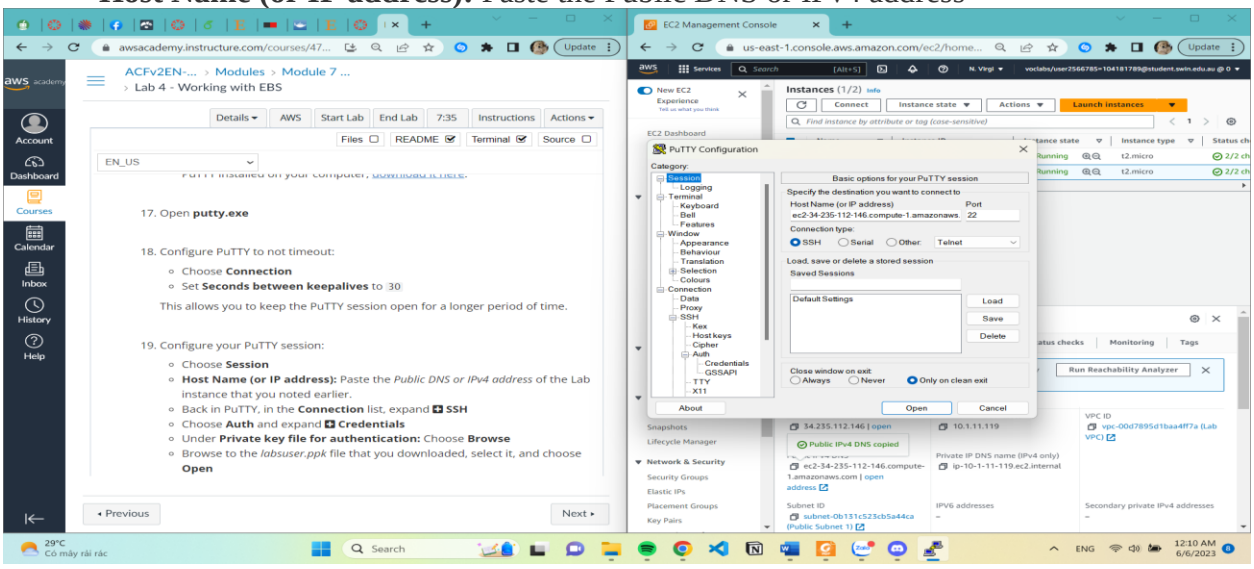
Configure PuTTY to not timeout:

- Choose **Connection**
- Set **Seconds between keepalives** to 30



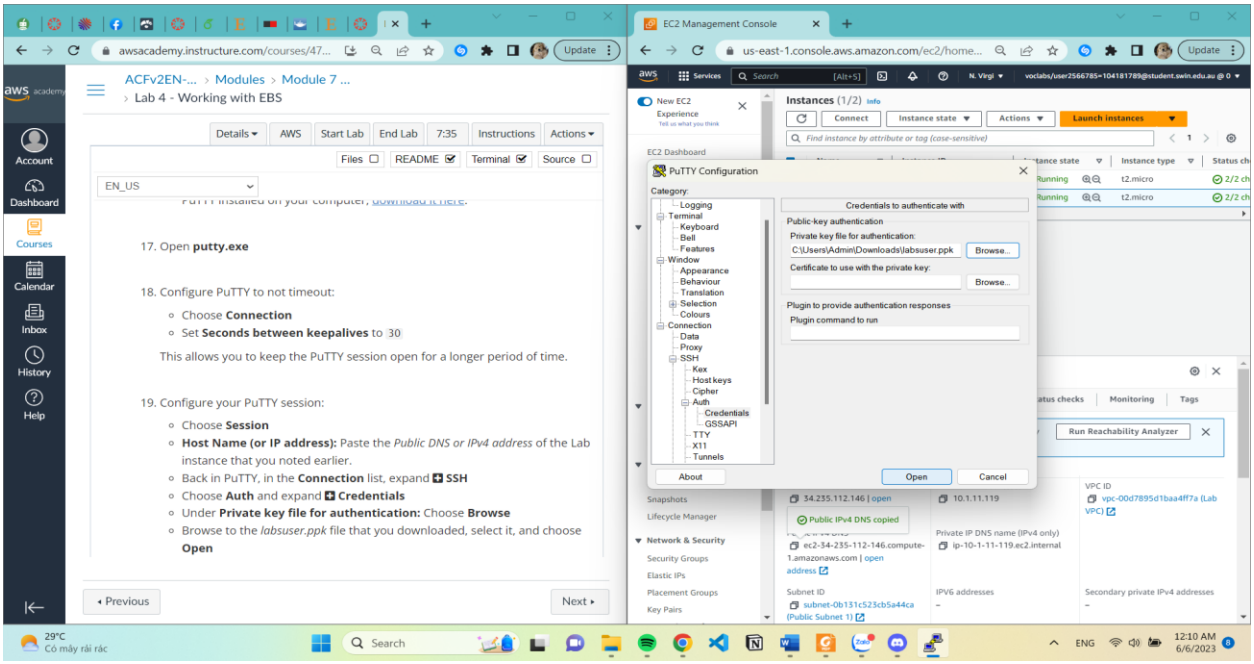
Configure your PuTTY session:

- Choose **Session**
- **Host Name (or IP address):** Paste the Public DNS or IPv4 address



- Choose **Auth** and expand **Credentials**

- Under **Private key file for authentication**: Choose **Browse**
- Browse to the labsuser.ppk



When prompted **login as**, enter: `ec2-user`

Task 4: Create and Configure your file system

df -h to view the storage available on instance.

```
[ec2-user@ip-10-1-11-119 ~]$ 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  2.8M  188M   2% /run
/dev/xvda1      8.0G  1.5G  6.5G  19% /
tmpfs           475M     0  475M   0% /tmp
tmpfs            95M     0   95M   0% /run/user/1000
[ec2-user@ip-10-1-11-119 ~]$
```

- Create an ext3 file system on the new volume:
  - sudo mkfs -t ext3 /dev/sdf
- Create a directory for mounting the new storage volume:
  - sudo mkdir /mnt/data-store
- Mount the new volume:
  - sudo mount /dev/sdf /mnt/data-store
- To configure the Linux instance to mount this volume whenever the instance is started, I need to add a line to /etc/fstab.
  - echo "/dev/sdf   /mnt/data-store ext3 defaults,noatime 1 2" | sudo tee -a /etc/fstab

```
[ec2-user@ip-10-1-11-119 ~]$ sudo mkfs -t ext3 /dev/sdf
mke2fs 1.46.5 (30-Dec-2021)
/dev/sdf contains a ext3 file system
        created on Mon Jun  5 17:14:39 2023
Proceed anyway? (y,N) y
Creating filesystem with 262144 4k blocks and 65536 inodes
Filesystem UUID: 8d9d1cc9-faae-440d-aea0-823e4866c3e5
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

[ec2-user@ip-10-1-11-119 ~]$
[ec2-user@ip-10-1-11-119 ~]$ sudo mkdir /mnt/data-store
mkdir: cannot create directory '/mnt/data-store': File exists
[ec2-user@ip-10-1-11-119 ~]$
echo "/dev/sdf   /mnt/data-store ext3 defaults,noatime 1 2" | sudo tee -a /etc/f
stab
/dev/sdf   /mnt/data-store ext3 defaults,noatime 1 2
```

- On your mounted volume, create a file and add some text to it.

- sudo sh -c "echo some text has been written > /mnt/data-store/file.txt"

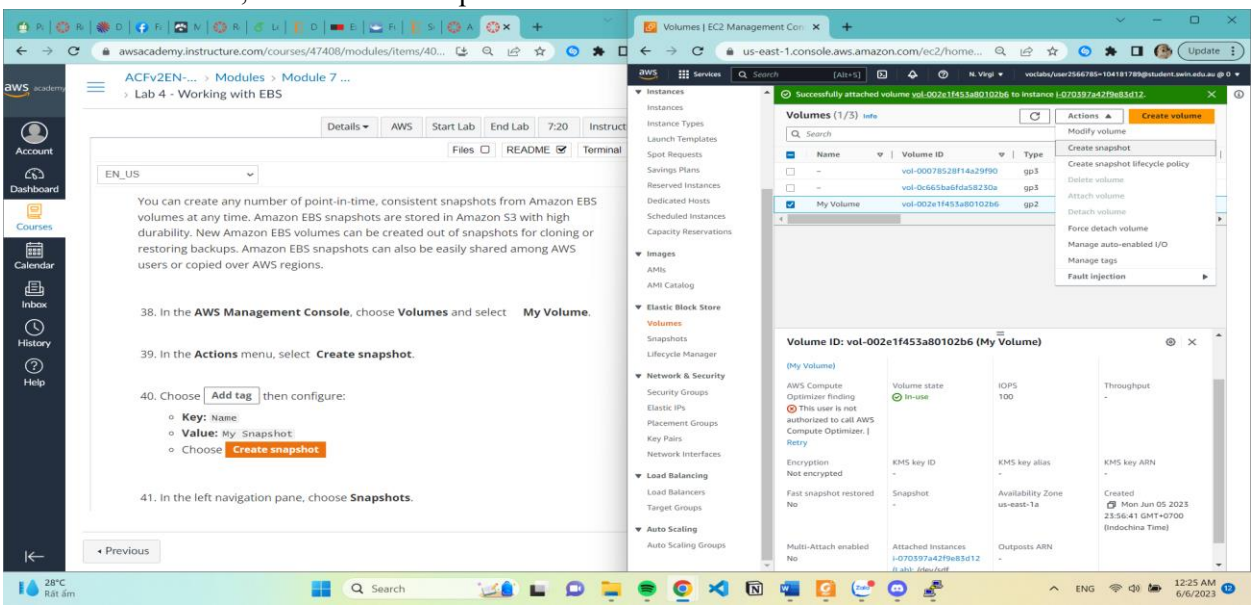
- Verify that the text has been written to your volume.
  - cat /mnt/data-store/file.txt

```
[ec2-user@ip-10-1-11-119 ~]$ sudo sh -c "echo some text has been written > /mnt/
data-store/file.txt"
[ec2-user@ip-10-1-11-119 ~]$ cat /mnt/data-store/file.txt
some text has been written
[ec2-user@ip-10-1-11-119 ~]$
```

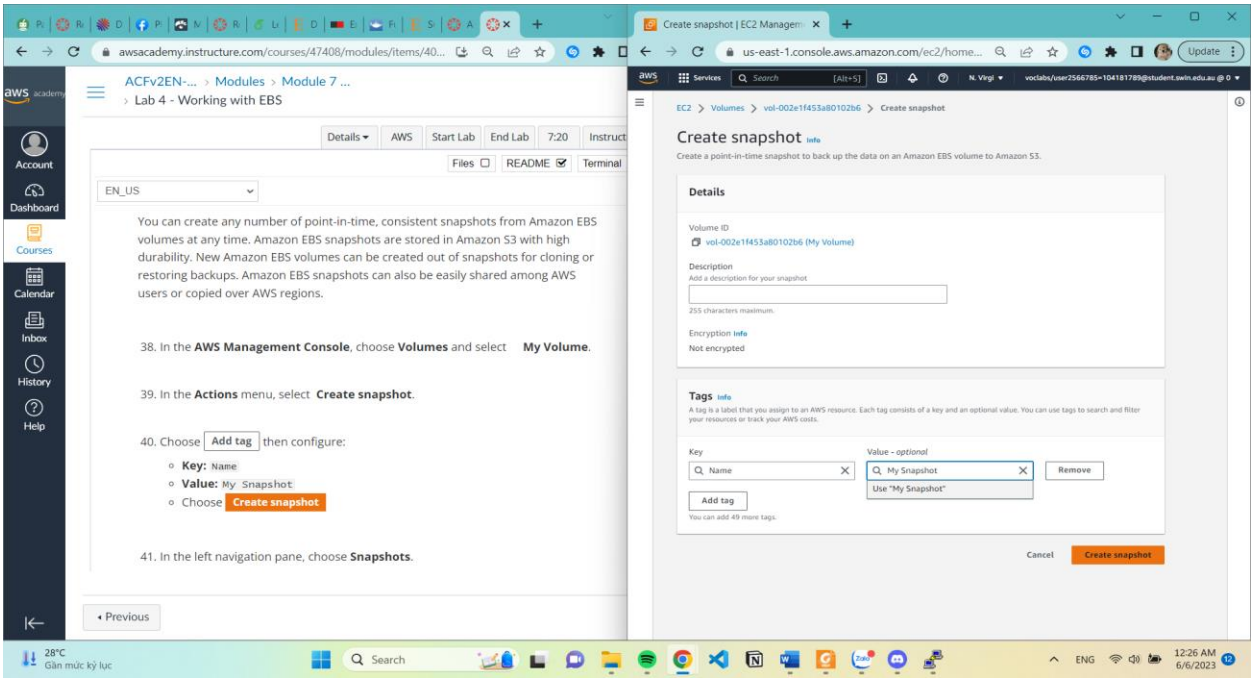
Task 5: Create an Amaxon EBS Snapshot

In the AWS Management Console, choose Volumes and select My Volume.

In the Actions menu, select Create snapshot.



- Choose **Add tag** then configure:
  - **Key**: Name
  - **Value**: My Snapshot
  - Choose **Create snapshot**



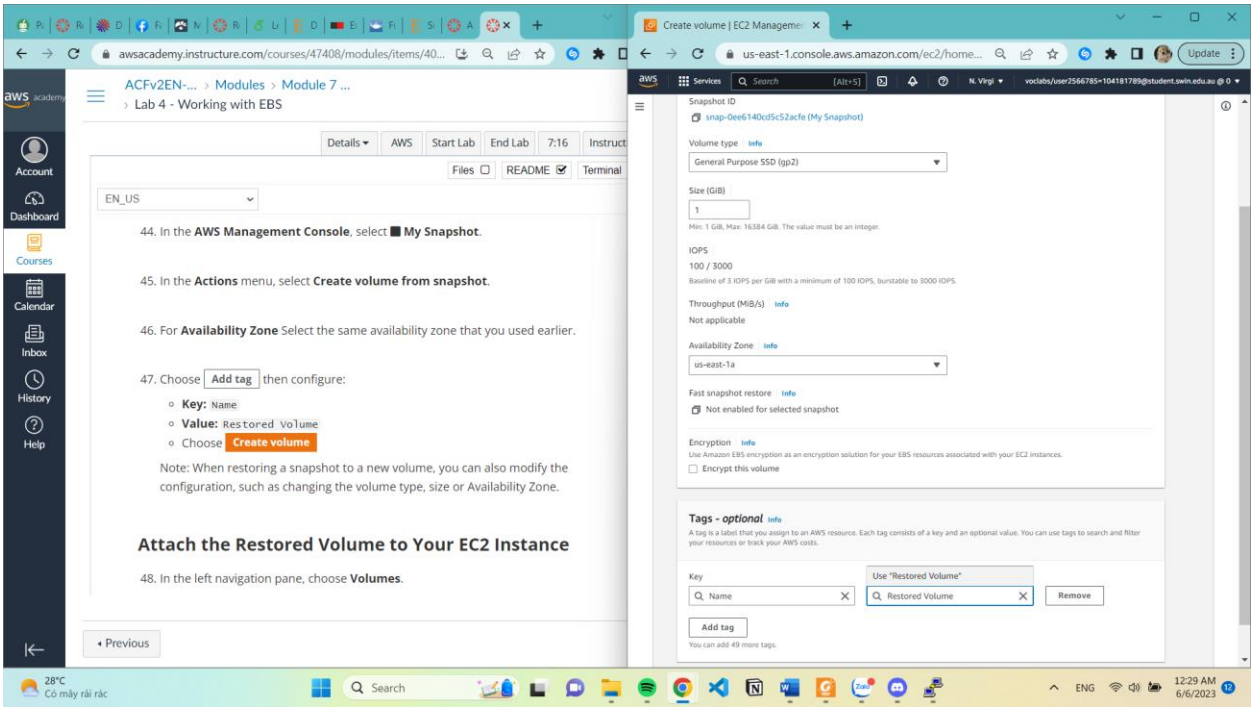
- Delete the file that you created on your volume in SSH.
- sudo rm /mnt/data-store/file.txt
- Verify that the file has been deleted.
- ls /mnt/data-store/

```
[ec2-user@ip-10-1-11-119 ~]$ sudo rm /mnt/data-store/file.txt
[ec2-user@ip-10-1-11-119 ~]$ ls /mnt/data-store
[ec2-user@ip-10-1-11-119 ~]$
```

Task 6: Restore the Amazon EBS Snapshot

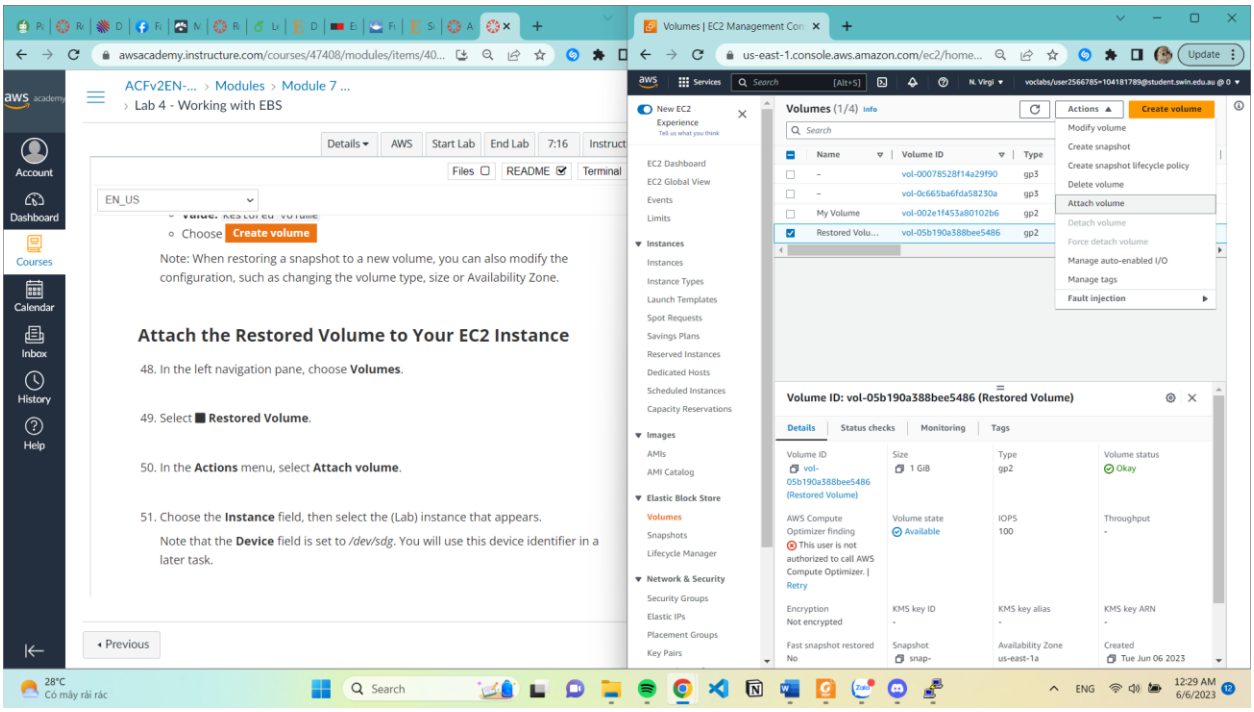
Create a Volume Using Your Snapshot

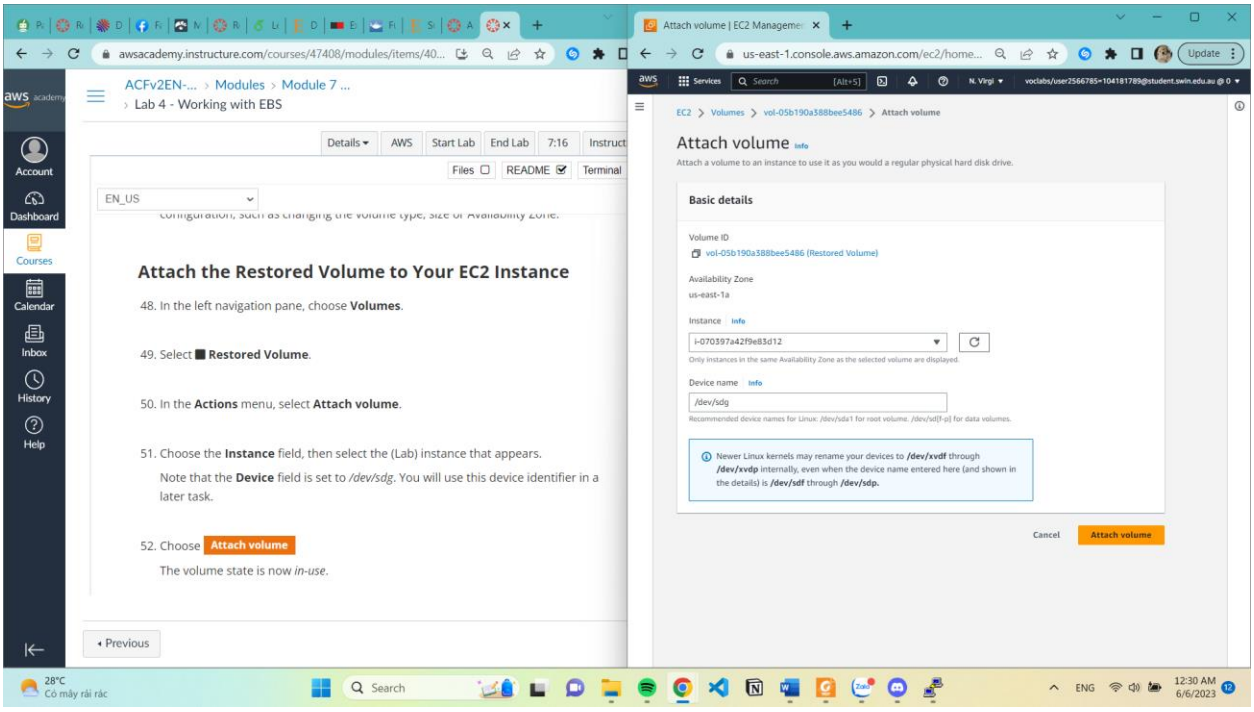
- Choose Add tag then configure:
- **Key**: Name
- **Value**: Restored Volume
- Choose **Create volume**



Attach the Restored Volume to Your EC2 Instance.

- In the left navigation pane, choose **Volumes**.
- Select **Restored Volume**
- In the **Actions** menu, select **Attach volume.**





Mount the Restored Volume

- Create a directory for mounting the new storage volume:
    - sudo mkdir /mnt/data-store
- Mount the new volume:
    - sudo mount /dev/sdg /mnt/data-store2
- Verify that volume mounted has the file that you created earlier.
    - ls /mnt/data-store2/