

Swinburne University of Technology

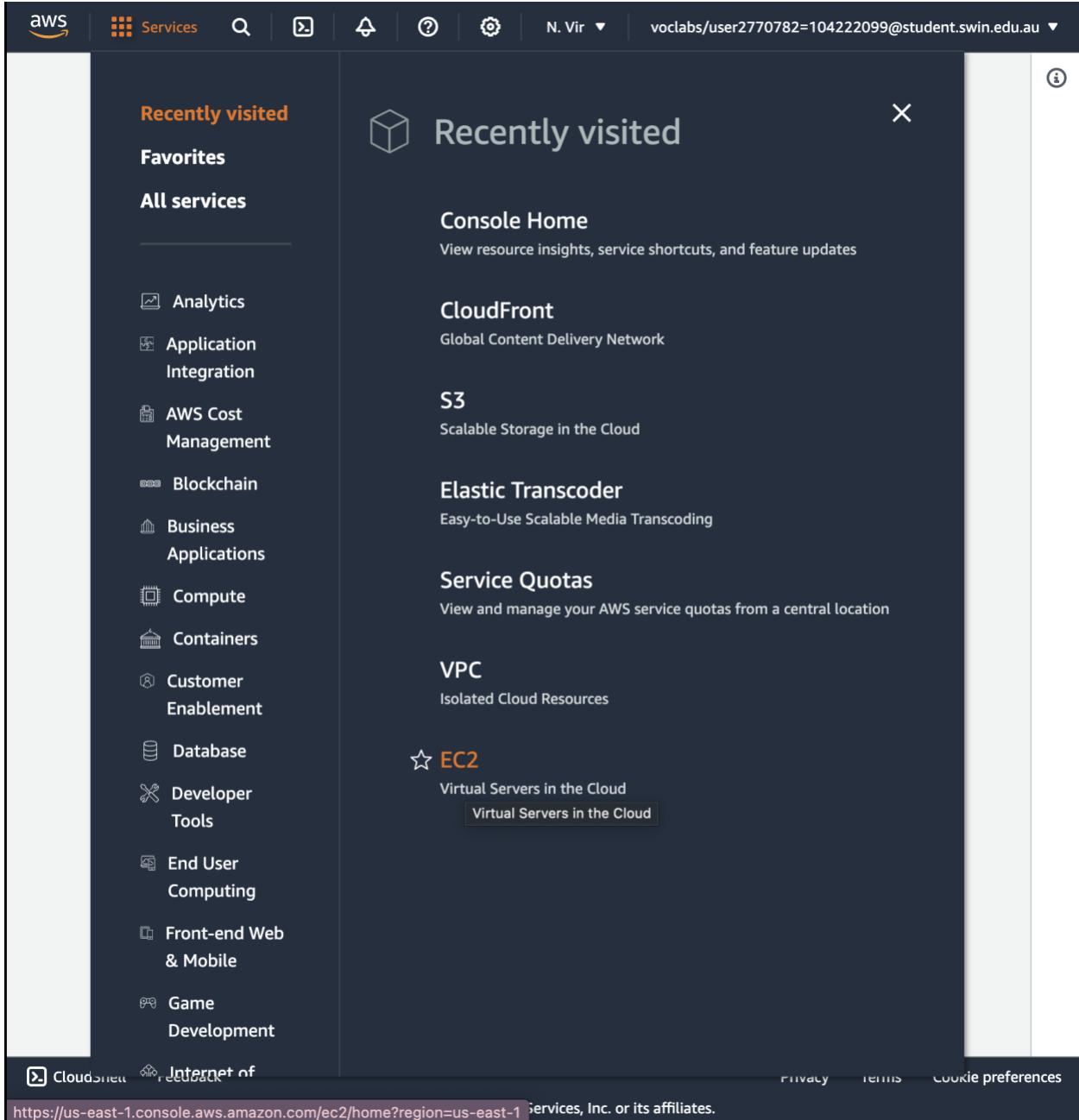
COS20019 Cloud Computing Architecture

ACF Lab 4: Working with EBS

Sunday 30th September, 2023

Task 1: Create a New EBS Volume

5. In the AWS Management Console, on the Services menu, click EC2



6. In the left navigation pane, choose **Instances**.

An Amazon EC2 instance named **Lab** has already been launched for your lab.

The screenshot shows the AWS EC2 Instances page. The left navigation pane includes links for EC2 Dashboard, EC2 Global View, Events, Instances (with sub-links for Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, and Capacity Reservations), Images (AMIs, AMI Catalog), Elastic Block Store (Volumes, Snapshots, Lifecycle Manager), and Network & Security (Security Groups, Elastic IPs, Placement Groups). The main content area displays 'Instances (1/2)' with two entries:

Name	Instance ID	Instance state	Type
Lab	i-023ea281c775eb0a7	Running	t2.micro
Bastion Host	i-068c5b7de7b2a9961	Running	t2.micro

The 'Details' tab is selected in the instance details view, showing the following information:

Instance ID	Public IPv4 address
i-023ea281c775eb0a7 (Lab)	3.238.6.212 [open address]

Private IPv4 addresses: 10.1.11.25

Instance state: Running

Hostname type: IP name: ip-10-1-11-25.ec2.internal

Public IPv4 DNS: ec2-3-238-6-212.compute-1.amazonaws.com [open address]

Private IP DNS name (IPv4 only): ip-10-1-11-25.ec2.internal

Status check	Alarm status	Availability Zone	Public IPv4 D
2/2 checks passed	No alarms	+ us-east-1a	ec2-3-238-6-2

Note the **Availability Zone** of the instance. It will look similar to *us-east-1a*.

8. In the left navigation pane, choose **Volumes**.

You will see an existing volume that is being used by the Amazon EC2 instance. This volume has a size of 8 GiB, which makes it easy to distinguish from the volume you will create next, which will be 1 GiB in size.

The screenshot shows the AWS Management Console interface. The left sidebar navigation includes:

- Events
- Instances
 - Instances
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances
 - Dedicated Hosts
 - Capacity Reservations
- Images
 - AMIs
 - AMI Catalog
- Elastic Block Store
 - Volumes** (selected)
 - Snapshots
 - Lifecycle Manager
- Network & Security
 - Security Groups
 - Elastic IPs
 - Placement Groups
 - Key Pairs
 - Network Interfaces
- Load Balancing
 - Load Balancers

The main content area is titled "Volumes (2)" and shows a table with the following data:

<input type="checkbox"/>	Name	Volume ID	Type	Size
<input type="checkbox"/>	-	vol-05877dafa7a78041d	gp3	8 GiB
<input type="checkbox"/>	-	vol-0df6376163c5b19ae	gp3	8 GiB

A message "Select a volume above" is displayed below the table. The bottom navigation bar includes links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences, along with a copyright notice: "© 2023, Amazon Web Services, Inc. or its affiliates."

9. Choose **Create volume** then configure:

- **Volume Type:** General Purpose SSD (*gp2*)
- **Size (GiB):** 1. **NOTE:** You may be restricted from creating large volumes.

- **Availability Zone:** Select the same availability zone as your EC2 instance.
- Choose **Add Tag**
- In the Tag Editor, enter:
 - **Key:** Name
 - **Value:** My Volume

The screenshot shows the AWS EBS Create Volume wizard. The configuration steps completed so far are:

- Volume type:** General Purpose SSD (gp2)
- Size (GiB):** 1
- IOPS:** 100 / 3000
- Throughput (MiB/s):** Not applicable
- Availability Zone:** us-east-1a
- Snapshot ID - optional:** Don't create volume from a snapshot
- Encryption:** 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.

Key	Value - optional
<input type="text"/> Name	<input type="text"/> My Volume

Below the form, there are footer links: CloudShell, Feedback, Privacy, Terms, and Cookie preferences. The page also includes a copyright notice: © 2023, Amazon Web Services, Inc. or its affiliates.

10. Choose **Create Volume**

Successfully created volume [vol-09d79701df11df813](#).

Volumes (3) [Info](#)

[Create volume](#)

<input type="checkbox"/>	Name	Volume ID	Type	Size
<input type="checkbox"/>	-	vol-05877dafa7a78041d	gp3	8 GiB
<input type="checkbox"/>	-	vol-0df6376163c5b19ae	gp3	8 GiB
<input checked="" type="checkbox"/>	My Volume	vol-09d79701df11df813	gp2	1 GiB

Successfully created "My Volume"

Task 2: Attach the Volume to an Instance

11. Select My Volume

My Volume

Volumes (1/3) [Info](#)

[Create volume](#)

<input type="checkbox"/>	Name	Volume ID	Type	Size
<input type="checkbox"/>	-	vol-05877dafa7a78041d	gp3	8 GiB
<input type="checkbox"/>	-	vol-0df6376163c5b19ae	gp3	8 GiB
<input checked="" type="checkbox"/>	My Volume	vol-09d79701df11df813	gp2	1 GiB

12. In the Actions menu, choose **Attach volume**.

The screenshot shows the AWS EC2 Volumes page. On the left, there's a sidebar with 'Instances' expanded, showing options like Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, and Dedicated Hosts. The main area displays 'Volumes (1/3)' with a table containing three rows. The first two rows have empty Name and Volume ID fields. The third row, 'My Volume', has a checked checkbox in the first column and 'vol-09d79701d' in the Volume ID column. To the right of the table is an 'Actions' dropdown menu. The 'Attach volume' option is highlighted with a blue selection bar.

11. In the **Actions** menu, choose **Attach volume**.

12. Choose the **Instance** field, then select the instance that appears (Lab).

Note that the **Device** field is set to `/dev/sdf`. You will use this device identifier in a later task.

A modal dialog box is shown with the text 'i-023ea281c775eb0a7' and '(Lab) (running)' in the center. A blue checkmark icon is in the top right corner.

13. Choose **Attach volume** The volume state is now *In-use*.

aws Services N. Vir vocabs/user2770782=104222099@student.swin.edu

EC2 > Volumes > vol-09d79701df11df813 > Attach volume

Attach volume

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

Basic details

Volume ID
 [vol-09d79701df11df813 \(My Volume\)](#)

Availability Zone
us-east-1a

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

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

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**.

CloudShell [Feedback](#) [Privacy](#) [Terms](#) [Cookie preferences](#)

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The screenshot shows the AWS EC2 Volumes page. A green success message at the top states: "Successfully attached volume [vol-09d79701df11df813](#) to instance [i-023ea281c775eb0a7](#)". Below this, the "Volumes (3)" table is displayed with the following data:

	Name	Volume ID	Type	Size
<input type="checkbox"/>	-	vol-05877dafa7a78041d	gp3	8 GiB
<input type="checkbox"/>	-	vol-0df6376163c5b19ae	gp3	8 GiB
<input type="checkbox"/>	My Volume	vol-09d79701df11df813	gp2	1 GiB

Below the table, the text "Successfully attached volume" is displayed.

Task 3: Connect to Your Amazon EC2 Instance

23. Read through all the instructions in this one step before you start to complete the actions, because you will not be able see these instructions when the Details panel is open.

- Choose the Details drop down menu above these instructions you are currently reading, and then choose Show. A Credentials window will open.
- Choose the **Download** button and save the **labsuser.pem** file.
- Then exit the Details panel by choosing the X.

Credentials



Cloud Access

AWS CLI:

[Show](#)

Cloud Labs

Remaining session time: 07:39:00 (459 minutes)

Session started at: 2023-09-30T01:48:46-0700

Session to end at: 2023-09-30T09:48:46-0700

Accumulated lab time: 00:32:00 (32 minutes)

```
(1) ips -- public:3.238.6.212,  
private:10.1.11.25      (2) ips -- public:54.82.211.190,  
private:10.0.0.80
```

SSH key

[Show](#)

[Download PEM](#)

[Download PPK](#)

AWS SSO

[Download URL](#)

SecretKey	3aV0dAKtGBZCkWAD9Gz5QOo0ojkcw5FKxG
BastionHost	54.82.211.190
Region	us-east-1
AvailabilityZone	us-east-1a
AccessKey	AKIA5SJQJ72TLJN4DVG7

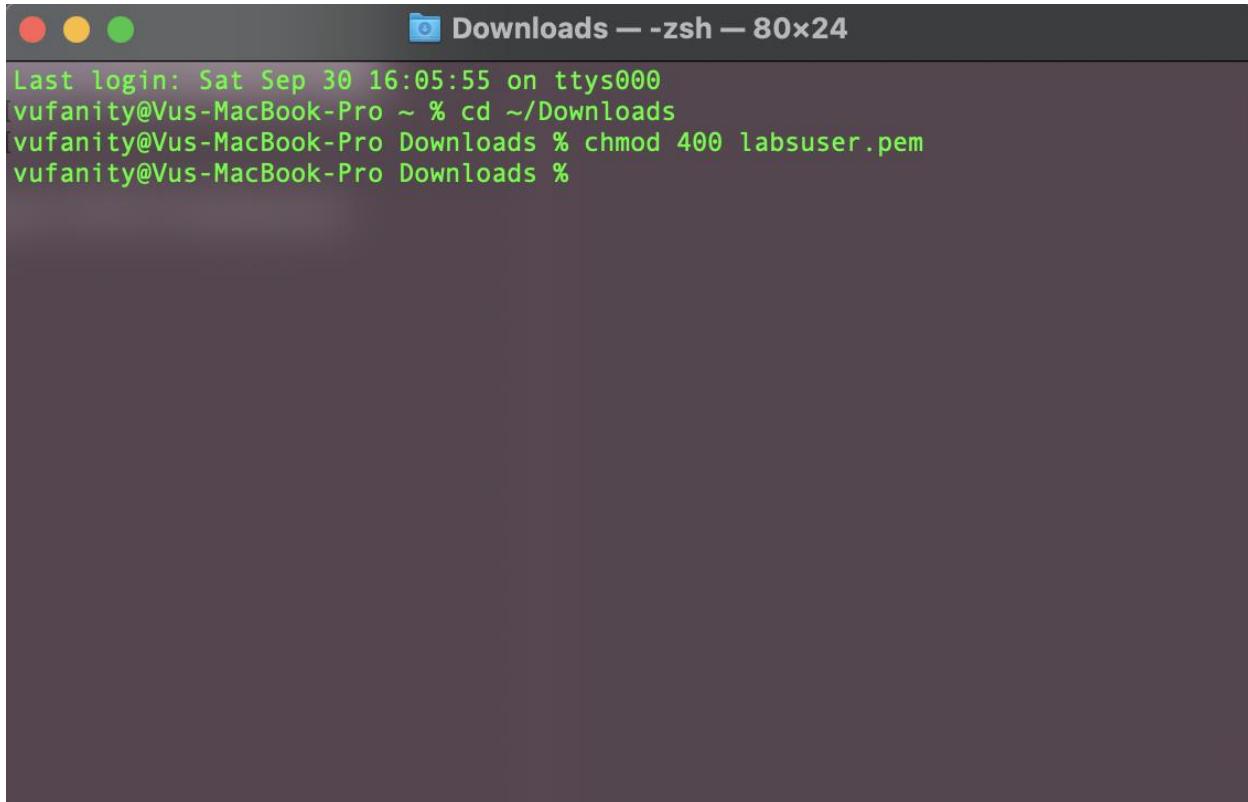
24. Open a terminal window, and change directory cd to the directory where the labsuser.pem file was downloaded.

For example, run this command, if it was saved to your Downloads directory:

```
cd ~/Downloads
```

25. Change the permissions on the key to be read only, by running this command:

```
chmod 400 labsuser.pem
```



A screenshot of a terminal window titled "Downloads -- zsh -- 80x24". The window shows the following text:

```
Last login: Sat Sep 30 16:05:55 on ttys000
vufanity@Vus-MacBook-Pro ~ % cd ~/Downloads
vufanity@Vus-MacBook-Pro Downloads % chmod 400 labsuser.pem
vufanity@Vus-MacBook-Pro Downloads %
```

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with links for EC2 Dashboard, EC2 Global View, Events, Instances (with sub-links for Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations), Images (AMIs, AMI Catalog), Elastic Block Store (Volumes, Snapshots, Lifecycle Manager), and Network & Security (Security Groups, Elastic IPs, Placement Groups). At the top, there's a New EC2 Experience toggle and a search bar. The main area shows 'Instances (1/2)' with a 'Launch instances' button and a search bar. Below that is a table with columns for Name, Instance ID, Instance state, and Type. Two instances are listed: 'Lab' (i-023ea281c775eb0a7, Running, t2.micro) and 'Bastion Host' (i-068c5b7de7b2a9961, Running, t2.micro). The 'Lab' instance is selected. The bottom section shows the 'Details' tab for the selected instance, with tabs for Details, Security, Networking, Storage, and Status checks. The 'Instance summary' section displays the following details:

Attribute	Value
Instance ID	i-023ea281c775eb0a7 (Lab)
Private IPv4 addresses	10.1.11.25
Instance state	Running
Hostname type	IP name: ip-10-1-11-25.ec2.internal
Public IPv4 address	3.238.6.212 open address
Public IPv4 DNS	ec2-3-238-6-212.compute-1.amazonaws.com open address
Private IP DNS name (IPv4 only)	ip-10-1-11-25.ec2.internal

At the bottom, there are links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences, along with the URL https://us-east-1.console.aws.amazon.com/ec2/globalview/home and the note 'Web Services, Inc. or its affiliates.'

27. In the **Details** tab, copy the **Public IPv4 address** value.

Instance ID

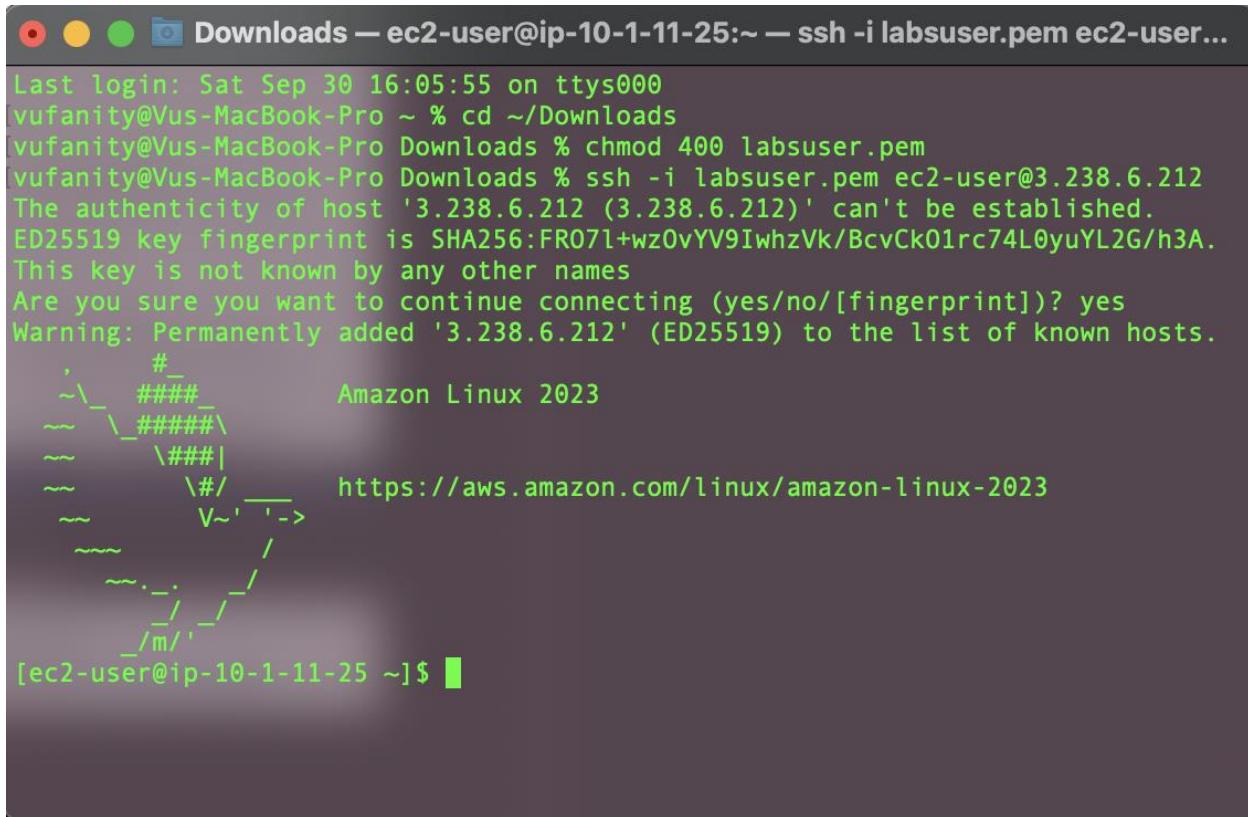
i-023ea281c775eb0a7 (Lab)

Public IPv4 address

3.238.6.212 |open address

28. Return to the terminal window and run this command (replace <public-ip> with the actual public IP address you copied):

```
ssh -i labsuser.pem ec2-user@<public-ip>
```



The screenshot shows a terminal window titled "Downloads — ec2-user@ip-10-1-11-25:~ — ssh -i labsuser.pem ec2-user...". The terminal output is as follows:

```
Last login: Sat Sep 30 16:05:55 on ttys000
vufanity@Vus-MacBook-Pro ~ % cd ~/Downloads
vufanity@Vus-MacBook-Pro Downloads % chmod 400 labsuser.pem
vufanity@Vus-MacBook-Pro Downloads % ssh -i labsuser.pem ec2-user@3.238.6.212
The authenticity of host '3.238.6.212 (3.238.6.212)' can't be established.
ED25519 key fingerprint is SHA256:FR07l+wz0vYV9IwhzVkBcvCk01rc74L0yuYL2G/h3A.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.238.6.212' (ED25519) to the list of known hosts.

,
  #
  ~\_ #####
  ~~ \#####\
  ~~  \###|
  ~~   \#/  https://aws.amazon.com/linux/amazon-linux-2023
  ~~    V~'-'>
  ~~     /
  ~~   ./
  ~~   /m/
[ec2-user@ip-10-1-11-25 ~]$
```

Task 4: Create and Configure Your File System

30. View the storage available on your instance:

```
[ec2-user@ip-10-1-11-25 ~]$ 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  2.9M  188M   2% /run
/dev/xvda1       8.0G  1.5G  6.5G  19% /
tmpfs           475M    0  475M   0% /tmp
/dev/xvda128     10M  1.3M  8.7M  13% /boot/efi
tmpfs            95M    0   95M   0% /run/user/1000
[ec2-user@ip-10-1-11-25 ~]$
```

This is showing the original 8GB disk volume. Your new volume is not yet shown.

31. Create an ext3 file system on the new volume:

```
[ec2-user@ip-10-1-11-25 ~]$ sudo mkfs -t ext3 /dev/sdf
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 262144 4k blocks and 65536 inodes
Filesystem UUID: 38f8727d-e1f3-407a-bba4-06d759e39e5a
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
```

32. Create a directory for mounting the new storage volume:

```
[ec2-user@ip-10-1-11-25 ~]$ sudo mkdir /mnt/data-store
[ec2-user@ip-10-1-11-25 ~]$
```

33. Mount the new volume:

```
[ec2-user@ip-10-1-11-25 ~]$ sudo mount /dev/sdf /mnt/data-store
[ec2-user@ip-10-1-11-25 ~]$
```

To configure the Linux instance to mount this volume whenever the instance is started, you will need to add a line to */etc/fstab*.

```
[ec2-user@ip-10-1-11-25 ~]$ echo "/dev/sdf    /mnt/data-store ext3 defaults,noatime 1 2" | sudo tee -a /etc/fstab
/dev/sdf    /mnt/data-store ext3 defaults,noatime 1 2
[ec2-user@ip-10-1-11-25 ~]$
```

34. View the configuration file to see the setting on the last line:

```
[ec2-user@ip-10-1-11-25 ~]$ cat /etc/fstab
#
UUID=9bbbebd1-cfa0-4f0c-b851-2dacbac7cf3c      /          xfs      defaults,noatime 1 1
UUID=68DE-EC82          /boot/efi        vfat      defaults,noatime,uid=0,gid=0,umask=0077,shortname=winnt,x-systemd.automount 0 2
/dev/sdf    /mnt/data-store ext3 defaults,noatime 1 2
[ec2-user@ip-10-1-11-25 ~]$
```

35. View the available storage again:

```
[ec2-user@ip-10-1-11-25 ~]$ 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   2.9M 188M  2% /run
/dev/xvda1       8.0G  1.5G  6.5G 19% /
tmpfs           475M    0  475M  0% /tmp
/dev/xvda128     10M   1.3M  8.7M 13% /boot/efi
tmpfs            95M    0   95M  0% /run/user/1000
/dev/xvdf       975M   60K  924M  1% /mnt/data-store
[ec2-user@ip-10-1-11-25 ~]$
```

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

```
[ec2-user@ip-10-1-11-25 ~]$ sudo sh -c "echo some text has been written > /mnt/d
ata-store/file.txt"
[ec2-user@ip-10-1-11-25 ~]$
```

37. Verify that the text has been written to your volume.

```
[ec2-user@ip-10-1-11-25 ~]$ cat /mnt/data-store/file.txt
some text has been written
[ec2-user@ip-10-1-11-25 ~]$
```

Task 5: Create an Amazon EBS Snapshot

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

The screenshot shows the AWS EC2 Dashboard with the sidebar expanded. Under the 'Elastic Block Store' section, 'Volumes' is selected. The main pane displays a table of volumes with columns: Name, Volume ID, Type, and Size. Three volumes are listed: 'vol-05877dafa7a78041d' (gp3, 8 GiB), 'vol-0df6376163c5b19ae' (gp3, 8 GiB), and 'My Volume' (gp2, 1 GiB). The 'My Volume' row is highlighted with a blue border. Below the table, a modal window is open for 'Volume ID: vol-09d79701df11df813 (My Volume)'. The modal has tabs for 'Details', 'Status checks', 'Monitoring', and 'Tags', with 'Details' selected. The 'Details' tab shows the following information:

Volume ID	Size
vol-09d79701df11df813 (My Volume)	1 GiB
Type	Volume status
gp2	Okay
AWS Compute Optimizer finding	Volume state
This user is not authorized to call AWS Compute Optimizer. Retry	In-use
IOPS	Throughput
100	-

At the bottom of the modal, there are links for 'Encryption' and 'KMS Key ID'. The footer of the page includes links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences, along with a copyright notice: © 2023, Amazon Web Services, Inc. or its affiliates.

39. In the Actions menu, select **Create snapshot**.

The screenshot shows the AWS EC2 Dashboard with the 'Volumes' section selected. A context menu is open over a volume named 'My Volume'. The menu items are: Actions ▲, Create volume, Modify volume, Create snapshot (which is highlighted with a blue border), Create snapshot lifecycle policy, Delete volume, Attach volume, Detach volume, Force detach volume, Manage auto-enabled I/O, Manage tags, and Fault injection.

Name	Volume ID
-	vol-05877dafa
-	vol-0df637616
<input checked="" type="checkbox"/> My Volume	vol-09d79701d

40. Choose **Add tag** then configure:

- **Key:** Name
- **Value:** My Snapshot
- Choose **Create snapshot**

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Create a point-in-time snapshot to back up the data on an Amazon EBS volume to Amazon S3.

Details

Volume ID
 [vol-09d79701df11df813 \(My Volume\)](#)

Description
Add a description for your snapshot

255 characters maximum.

Encryption Info
Not encrypted

Tags

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.

Key	Value - optional
<input type="text"/> Name	<input type="text"/> My Snapshot

Remove

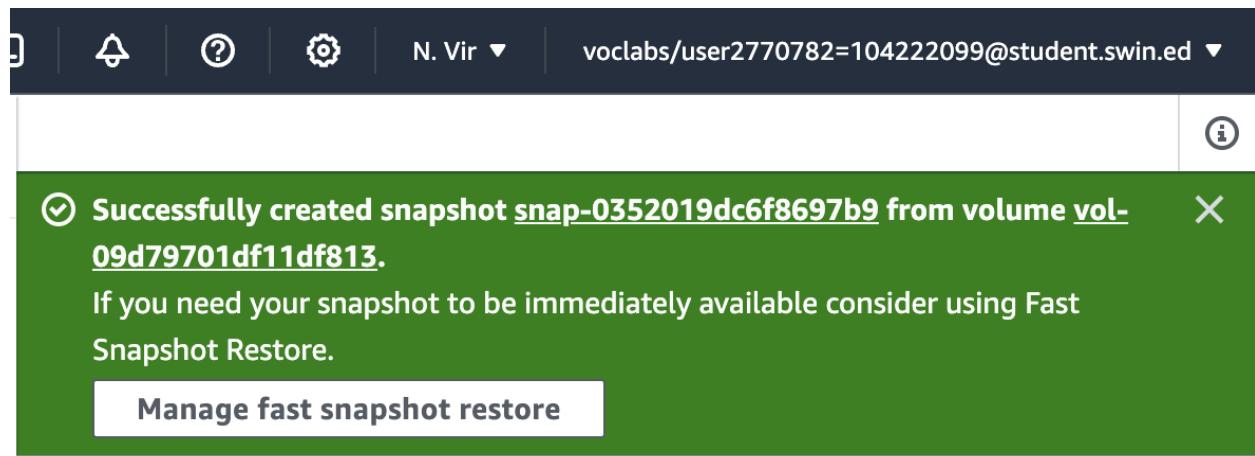
Add tag

You can add 49 more tags.

Cancel Create snapshot

CloudShell [Feedback](#) [Privacy](#) [Terms](#) [Cookie preferences](#)

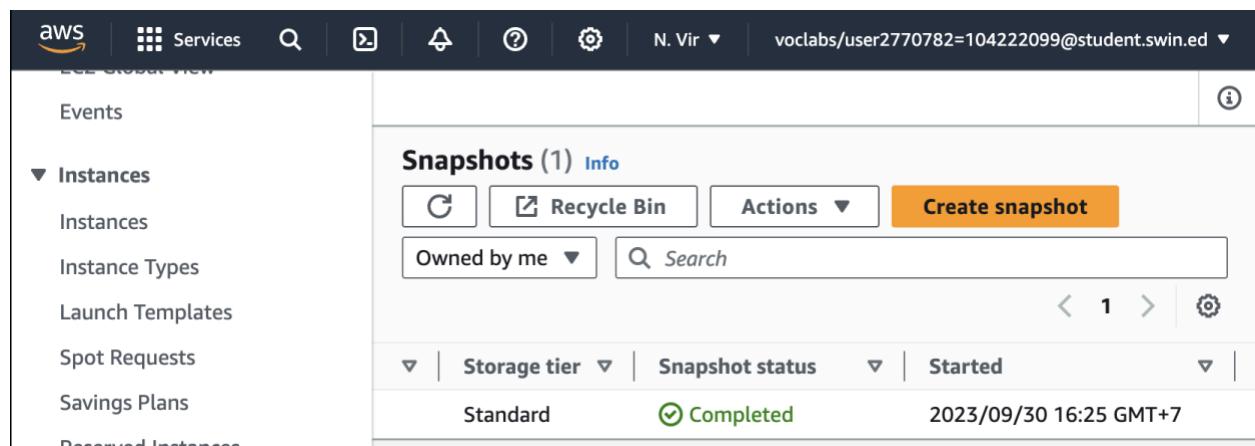
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Successfully created snapshot

41. In the left navigation pane, choose **Snapshots**.

Your snapshot is displayed. The status will first have a state of *Pending*, which means that the snapshot is being created. It will then change to a state of *Completed*.



42. In your remote SSH session, delete the file that you created on your volume.

```
[ec2-user@ip-10-1-11-25 ~]$ sudo rm /mnt/data-store/file.txt  
[ec2-user@ip-10-1-11-25 ~]$
```

43. Verify that the file has been deleted.

```
[ec2-user@ip-10-1-11-25 ~]$ ls /mnt/data-store/  
lost+found  
[ec2-user@ip-10-1-11-25 ~]$
```

Task 6: Restore the Amazon EBS Snapshot

Create a Volume Using Your Snapshot

44. In the AWS Management Console, select **My Snapshot**.

45. In the Actions menu, select **Create volume from snapshot**.

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, services dropdown, search bar, and user information (N. Vir). The left sidebar has sections for Events, Instances (selected), Images, and AMIs. The main content area is titled 'Snapshots (1/1)' and shows one item: 'My Snapshot'. The 'Actions' menu is open, displaying options: Create volume from snapshot (highlighted in orange), Create image from snapshot, Copy snapshot, Modify permissions, Manage fast snapshot restore, Archive snapshot, Restore snapshot from archive, Change restore period, Delete snapshot, and Manage tags.

44. For **Availability Zone** Select the same availability zone that you used earlier.

45. Choose **Add tag** then configure:

- **Key:** Name
- **Value:** Restored Volume
- Choose **Create volume**

aws Services N. Vir vocabs/user2770782=104222099@student.swin.edu

Size (GiB)

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

IOPS
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
us-east-1a

Fast snapshot restore Info
 Not enabled for selected 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.

Key	Value - optional
<input type="text" value="Name"/> <input type="button"/>	<input type="text" value="Restored Volume"/> <input type="button"/>

Remove

Add tag

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N. Vir vocabs/user2770782=104222099@student.swin.edu

Successfully created volume vol-0694ef4b4bca35ce1.

Successfully created volume from snapshot

Attach the Restored Volume to Your EC2 Instance

48. In the left navigation pane, choose **Volumes**.

49. Select Restored Volume.

The screenshot shows the AWS EC2 Volumes page. On the left, there's a navigation pane with various links like EC2 Dashboard, Instances, and Launch Templates. The 'Instances' section is expanded, showing sub-links for Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, and Dedicated Hosts. The main content area is titled 'Volumes (1/4)' and contains a table with four rows. The first three rows have empty names. The fourth row has a checked checkbox next to it, and its name is 'Restored Volu...', with the Volume ID 'vol-0694ef4b4bca35ce1'. The table also includes columns for Volume ID, Type (gp3 or gp2), and Size (8 GiB or 1 GiB). At the top right of the table, there are 'Actions' and 'Create volume' buttons, along with a search bar and pagination controls.

Name	Volume ID	Type	Size
-	vol-05877dafa7a78041d	gp3	8 GiB
-	vol-0df6376163c5b19ae	gp3	8 GiB
My Volume	vol-09d79701df11df813	gp2	1 GiB
Restored Volu...	vol-0694ef4b4bca35ce1	gp2	1 GiB

50. In the Actions menu, select **Attach volume**

The screenshot shows the same AWS EC2 Volumes page as before, but now the 'Actions' menu is open over the 'Restored Volu...' volume. The menu options listed are: Modify volume, Create snapshot, Create snapshot lifecycle policy, Delete volume, Attach volume, Detach volume, Force detach volume, Manage auto-enabled I/O, Manage tags, and Fault injection. The 'Attach volume' option is highlighted with a blue selection bar.

51. Choose the **Instance** field, then select the (Lab) instance that appears.

Note that the **Device** field is set to `/dev/sdg`. You will use this device identifier in a later task.

52. Choose Attach volume

The volume state is now in-use.

The screenshot shows the AWS EC2 Attach volume interface. At the top, the navigation bar includes the AWS logo, Services (with a dropdown arrow), a search icon, a refresh icon, a question mark icon, a gear icon, and user information (N. Vir ▾). The URL in the address bar is `voclabs/user2770782=104222099@student.swin.edu`.

The main content area has a breadcrumb trail: [EC2](#) > [Volumes](#) > [vol-0694ef4b4bca35ce1](#) > [Attach volume](#). To the right of the breadcrumb is an info icon (i).

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-0694ef4b4bca35ce1 \(Restored Volume\)](#)

Availability Zone: us-east-1a

Instance: [i-023ea281c775eb0a7](#) (▼) (C)

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

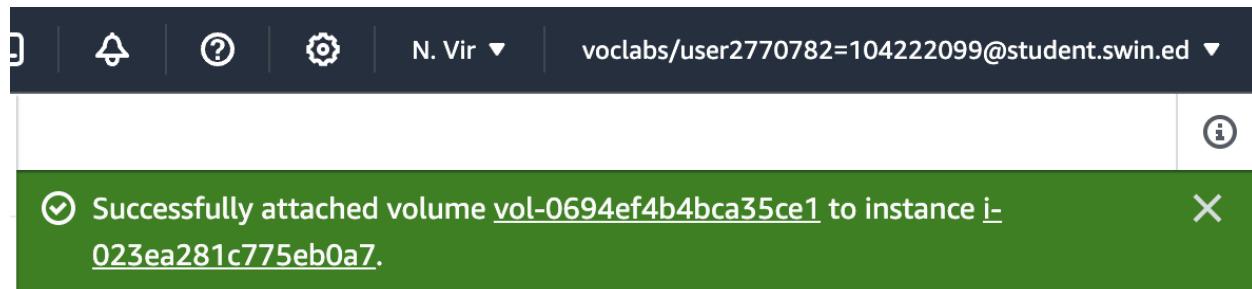
Device name: [/dev/sdg](#)

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

i 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`.

Buttons at the bottom: [Cancel](#) and a prominent [Attach volume](#) button.

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Mount the Restored Volume

53. Create a directory for mounting the new storage volume:

```
[ec2-user@ip-10-1-11-25 ~]$ sudo mkdir /mnt/data-store2  
[ec2-user@ip-10-1-11-25 ~]$ █
```

54. Mount the new volume:

```
[ec2-user@ip-10-1-11-25 ~]$ sudo mount /dev/sdg /mnt/data-store2  
[ec2-user@ip-10-1-11-25 ~]$ █
```

55. Verify that volume you mounted has the file that you created earlier.

```
[ec2-user@ip-10-1-11-25 ~]$ ls /mnt/data-store2/  
file.txt  lost+found  
[ec2-user@ip-10-1-11-25 ~]$ █
```

END LAB.