

AWS

```
ubuntu@ip-172-31-105-33: -
File Edit View Search Terminal Tabs Help
sudo bin/mongod --port 27009 x ubuntu@ip-172-31-105-33: ~ x
fahad@fahad ~/Downloads (master*)
➤ ssh -i "T34aK.pem" ubuntu@ec2-18-205-247-104.compute-1.amazonaws.com
The authenticity of host 'ec2-18-205-247-104.compute-1.amazonaws.com (18.205.247.104)' can't be established.
ECDSA key fingerprint is SHA256:mF3LTBZJ1R0EoM0FFkhSi2jQZB09CdmH7yhBHn10UDs.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-18-205-247-104.compute-1.amazonaws.com,18.205.247.104' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1057-aws x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

System information disabled due to load higher than 2.0

0 packages can be updated.
0 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-105-33:~$
```

2@2

Ques2:-Create AML of the above instance and launch it. (instance B)

Ans2:-First we have to create the EC2 instance Then by clicking on action and selecting image then create Image option

Create Image

Instance ID ⁽ⁱ⁾ i-0e9bfb2ae5dfcd03f

Image name ⁽ⁱ⁾

Image description ⁽ⁱ⁾

No reboot ⁽ⁱ⁾ ☐

Instance Volumes

Volume Type ⁽ⁱ⁾	Device ⁽ⁱ⁾	Snapshot ⁽ⁱ⁾	Size (GiB) ⁽ⁱ⁾	Volume Type ⁽ⁱ⁾	IOPS ⁽ⁱ⁾	Throughput (MB/s) ⁽ⁱ⁾	Delete on Termination ⁽ⁱ⁾	Encrypted ⁽ⁱ⁾
EBS	/dev/sdf	Search (case-insensitive)	12	General Purpose SSD (gp2)	100 / 3000	N/A	<input type="checkbox"/>	Not Encrypted

Add New Volume

Total size of EBS Volumes: 12 GiB
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.

Cancel Create Image

Owned by me

Filter by tags and attributes or search by keyword

Name	AMI Name	AMI ID	Source	Owner	Visibility	Status	Creation Date	Platform
Fahad-AMI	Fahad-Test	ami-0066ec388befcde21	187632318301/...	187632318301	Private	available	February 19, 2020 at 8:27:1...	Other Linux
Ketan-Test-Ins...	ami-0892588ae6f6e781b	187632318301/...	187632318301	Private	available	February 19, 2020 at 8:20:5...	Other Linux	

Details

Permissions

Tags

AMI ID

Owner

Status

Creation date

Architecture

Virtualization type

Root Device Name

RAM disk ID

Product Codes

ami-0066ec388befcde21

187632318301

available

February 19, 2020 at 8:27:16 PM UTC+5:30

x86_64

hvm

/dev/sda1

-

-

AMI Name

Source

State Reason

Platform

Image Type

Description

Root Device Type

Kernel ID

Block Devices

Fahad-Test

187632318301/Fahad-Test

-

Other Linux

machine

First EC2 image

ebs

-

/dev/sda1=snap-0f8e45b03e4327168:8:true:gp2
/dev/sdb=snap-06748bba03c985482:10:false:gp2

Edit

Image will be Created

Instance: i-0ac45881f26ced5af (Fahad-Test) Public DNS: ec2-18-205-247-104.compute-1.amazonaws.com

Description Status Checks Monitoring Tags

Instance ID	i-0ac45881f26ced5af	Public DNS (IPv4)	ec2-18-205-247-104.compute-1.amazonaws.com
Instance state	running	IPv4 Public IP	18.205.247.104
Instance type	t3a.nano	IPv6 IPs	-
Finding	You may not have permission to access AWS Compute Optimizer.	Elastic IPs	-
Private DNS	ip-172-31-105-33.ec2.internal	Availability zone	us-east-1c
Private IPs	172.31.105.33	Security groups	launch-wizard-5. view inbound rules. view outbound rules
Secondary private IPs	-	Scheduled events	No scheduled events
VPC ID	vpc-d38d68b7 (default)	AMI ID	ubuntu/images/hvm-ssd/ubuntu-bionic-18.04-amd64-server-20200112 (ami-07ebfd5b3428b6f4d)

After launching through ssh

```
fahad@fahad ~/Downloads <master*>
> ssh -i "T34aK.pem" ubuntu@ec2-100-24-44-179.compute-1.amazonaws.com
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1057-aws x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:        https://ubuntu.com/advantage

System information as of Wed Feb 19 15:25:06 UTC 2020

System load:  0.0          Processes:      92
Usage of /:   13.8% of 7.69GB Users logged in:  0
Memory usage: 33%         IP address for ens5: 172.31.84.91
Swap usage:   0%

0 packages can be updated.
0 updates are security updates.

Last login: Wed Feb 19 14:48:41 2020 from 103.83.127.156
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-84-91:~$
```

Ques 3:-Attach EBS (8 GB) on that running instance.

Ans 3:-

<input type="checkbox"/>	Fahad-AMI-T...	i-0e9bff2a65dfcd03f	t3.nano	us-east-1c	running	2/2 checks ...	None	ec2-100-24-44-179
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For attaching the EBS we first have to create the volume then by clicking on actions and clicking on attach volume it will be attached

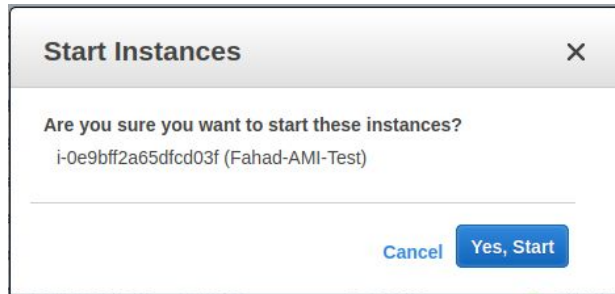
<input type="checkbox"/>	Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created	Availability Zone
<input type="checkbox"/>	Fahad-EBS-...	vol-0d3e5450c0491a478	10 GiB	gp2	100		February 19, 2020 ...	us-east-1c
<input type="checkbox"/>	Fahad-Test-...	vol-0f2f3de94dd8ac4f2	8 GiB	gp2	100	snap-0f8e45b0...	February 19, 2020 ...	us-east-1c

Ques 4:-Stop, Start, Restart that EBS (EBS must be auto-attached).

Ans 4:-

STOP

<input checked="" type="checkbox"/>	Fahad-AMI-T...	i-0e9bff2a65dfcd03f	t3.nano	us-east-1c	stopped	None	
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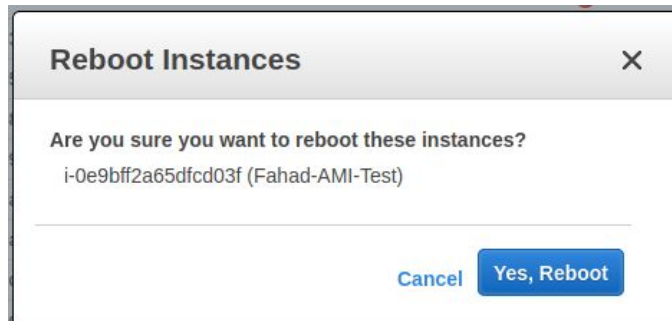
ON-START

<input checked="" type="checkbox"/>	Fahad-AMI-T...	i-0e9bff2a65dfcd03f	t3.nano	us-east-1c	● running	Initializing	None	ec2-54-161-135-25
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ON SEARCHING INSTANCE ID IT IS STILL ATTACHED IN THE EC2

<input type="checkbox"/>	Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created	Availability Zone
<input type="checkbox"/>	Fahad-EBS-...	vol-0d3e5450c0491a478	10 GiB	gp2	100		February 19, 2020 ...	us-east-1c
<input type="checkbox"/>	Fahad-Test-...	vol-0f2f3de94dd8ac4f2	8 GiB	gp2	100	snap-0f8e45b0...	February 19, 2020 ...	us-east-1c

ON-RESTARTING



The Instance is still running

<input checked="" type="checkbox"/>	Fahad-AMI-T...	i-0e9bff2a65dfcd03f	t3.nano	us-east-1c	● running	✔ 2/2 checks ...	None	ec2-54-161-135-25
-------------------------------------	----------------	---------------------	---------	------------	--	---	------	-------------------

STILL VOLUMES ARE ATTACHED

<input type="checkbox"/>	Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created	Availability Zone
<input type="checkbox"/>	Fahad-EBS-...	vol-0d3e5450c0491a478	10 GiB	gp2	100		February 19, 2020 ...	us-east-1c
<input type="checkbox"/>	Fahad-Test-...	vol-0f2f3de94dd8ac4f2	8 GiB	gp2	100	snap-0f8e45b0...	February 19, 2020 ...	us-east-1c

Ques 5:-Make some mistake in fstab file, stop and start the instance, then troubleshoot it.

Ans 5:-

Ques 6:-Resize the EBS from 8 to 10GB

	search : i-0e9bff2a65dfcd03f		Add filter				1 to 2 of 2		
<input type="checkbox"/>	Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created	Availability Zone	
<input checked="" type="checkbox"/>	Fahad-EBS-...	vol-0d3e5450c0491a478	10 GiB	gp2	100		February 19, 2020 ...	us-east-1c	
<input type="checkbox"/>	Fahad-Test-...	vol-0f2f3de94dd8ac4f2	8 GiB	gp2	100	snap-0f8e45b0...	February 19, 2020 ...	us-east-1c	

Modify Volume

Are you sure that you want to modify volume vol-0d3e5450c0491a478?

It may take some time for performance changes to take full effect.

You may need to extend the OS file system on the volume to use any newly-allocated space.

Learn more about resizing an EBS volume on [Linux](#) and [Windows](#).

Cancel

No

Yes

Modify Volume

Modify Volume Request Succeeded

Your volume is now being modified.

Close

	search : i-0e9bff2a65dfcd03f		Add filter				1 to 2 of 2		
<input type="checkbox"/>	Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created	Availability Zone	
<input checked="" type="checkbox"/>	Fahad-EBS-...	vol-0d3e5450c0491a478	12 GiB	gp2	100		February 19, 2020 ...	us-east-1c	
<input type="checkbox"/>	Fahad-Test-...	vol-0f2f3de94dd8ac4f2	8 GiB	gp2	100	snap-0f8e45b0...	February 19, 2020 ...	us-east-1c	

Ques 7:-SSH from one instance A to instance B.

Filter by tags and attributes or search by keyword								
	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
	Rishabh	i-05a17c2550813206	t2.nano	us-east-1c	running	2/2 checks ...	None	ec2-18-205-158-22
	Fahad (B-Ins...	i-091ea4c6f387e916c	t3.nano	us-east-1c	running	2/2 checks ...	None	ec2-54-210-132-15
Instance: i-091ea4c6f387e916c (Fahad (B-Instance)) Public DNS: ec2-54-210-132-154.compute-1.amazonaws.com								
Description Status Checks Monitoring Tags								
		Instance ID		i-091ea4c6f387e916c		Public DNS (IPv4)		ec2-54-210-132-154.compute-1.amazonaws.com
		Instance state		running		IPv4 Public IP		54.210.132.154
		Instance type		t3.nano		IPv6 IPs		-
		Finding		You may not have permission to access AWS Compute Optimizer.		Elastic IPs		
		Private DNS		ip-172-31-37-2.ec2.internal		Availability zone		us-east-1c
		Private IPs		172.31.37.2		Security groups		launch-wizard-20, view inbound rules, view outbound rules
		Secondary private IPs				Scheduled events		No scheduled events
		VPC ID		vpc-d39d69b7 (default)		AMI ID		ubuntu/images/hvm-ssd/ubuntu-18.04-lts

```
ubuntu@ip-172-31-84-91:~$ ssh -t "T34aK.pem" ubuntu@ec2-54-210-132-154.compute-1.amazonaws.com
The authenticity of host 'ec2-54-210-132-154.compute-1.amazonaws.com (172.31.37.2)' can't be established.
ECDSA key fingerprint is SHA256:aTXWees+JEQKkC/vZF/KKL0Eu8SaCatB8Dync6RRZM0.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-54-210-132-154.compute-1.amazonaws.com,172.31.37.2' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1057-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Wed Feb 19 16:10:49 UTC 2020

System load:  0.0          Processes:      90
Usage of /:   13.6% of 7.69GB Users logged in: 0
Memory usage: 33%         IP address for ens5: 172.31.37.2
Swap usage:   0%

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individual files in /usr/share/doc/*/copyright.

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applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-37-2:~$
```

```
ubuntu@ip-172-31-37-2:~$ exit
logout
Connection to ec2-54-210-132-154.compute-1.amazonaws.com closed.
ubuntu@ip-172-31-84-91:~$ exit
logout
Connection to ec2-54-161-135-251.compute-1.amazonaws.com closed.
fahad@fahad ~/Downloads (master*)
➤
```

Ques 8:- Copy the EBS in different region(oregon).

Ans 8:- First we have to click on the action button then we have to click on copy to copy this to other location by choosing the other remote location

Ques 9:-Detach the root EBS, create its snapshot, than create the AMI and run it as instance such that nginx should be preinstalled at the boot time of instance.

Ans 9:-

First we have to go in the one instance and install the nginx

```
Last login: Wed Feb 19 17:42:09 2020 from 103.83.127.158
ubuntu@ip-172-31-37-2:~$ sudo service nginx status
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2020-02-19 17:42:41 UTC; 3min 26s ago
     Docs: man:nginx(8)
  Main PID: 1952 (nginx)
    Tasks: 3 (limit: 522)
   CGroup: /system.slice/nginx.service
           └─1952 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
             └─1953 nginx: worker process
              └─1954 nginx: worker process

Feb 19 17:42:41 ip-172-31-37-2 systemd[1]: Starting A high performance web server and a reverse proxy server...
Feb 19 17:42:41 ip-172-31-37-2 systemd[1]: Started A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-37-2:~$ exit
```

Then we have to create the snapshot of the volume

[Volumes](#) > Create Snapshot

Create Snapshot

Volume vol-08d6f38fb6e6294df ⓘ

Description ⓘ

Encrypted ☐ Not Encrypted ⓘ

Then we have to Detach the volume from the console



Then we have to create the Image from that Snapshot

Create Image from EBS Snapshot

Name

Description

Architecture

x86_64

Virtualization type

Hardware-assisted virtualization

Root device name

/dev/sda1

Kernel ID

Use default

RAM disk ID

Use default

Block Device Mappings

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/sda1	snap-0f1df13b045d35efe	8	General Purpose	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

After creating the image we have to launch the instance

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Nginx-Test-fa...	i-02e4f840effbe9d05	t3.nano	us-east-1c	running	2/2 checks ...	None	ec2-100-24-35-69.c

Instance: i-02e4f840effbe9d05 (Nginx-Test-fahad)

Public DNS: ec2-100-24-35-69.compute-1.amazonaws.com

Description

Status Checks

Monitoring

Tags

Instance ID	i-02e4f840effbe9d05	Public DNS (IPv4)	ec2-100-24-35-69.compute-1.amazonaws.com
Instance state	running	IPv4 Public IP	100.24.35.69
Instance type	t3.nano	IPv6 IPs	-
Finding	You may not have permission to access AWS Compute Optimizer.	Elastic IPs	
Private DNS	ip-172-31-235-222.ec2.internal	Availability zone	us-east-1c
Private IPs	172.31.235.222	Security groups	launch-wizard-23. view inbound rules. view outbound rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-d38d68b7 (default)	AMI ID	Fahad-Nginx (ami-0e0ba30b2ad3944ea)

Now just going to ssh to the new Instance created and check for the nginx service and that all were working

```
ubuntu@ip-172-31-235-222:~$
ubuntu@ip-172-31-235-222:~$ sudo service nginx status
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2020-02-19 17:51:29 UTC; 34s ago
     Docs: man:nginx(8)
  Process: 861 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
  Process: 791 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Main PID: 865 (nginx)
    Tasks: 3 (limit: 522)
   CGroup: /system.slice/nginx.service
           └─865 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
             └─866 nginx: worker process
               └─867 nginx: worker process

Feb 19 17:51:29 ip-172-31-235-222 systemd[1]: Starting A high performance web server and a reverse proxy server...
Feb 19 17:51:29 ip-172-31-235-222 systemd[1]: Started A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-235-222:~$
```