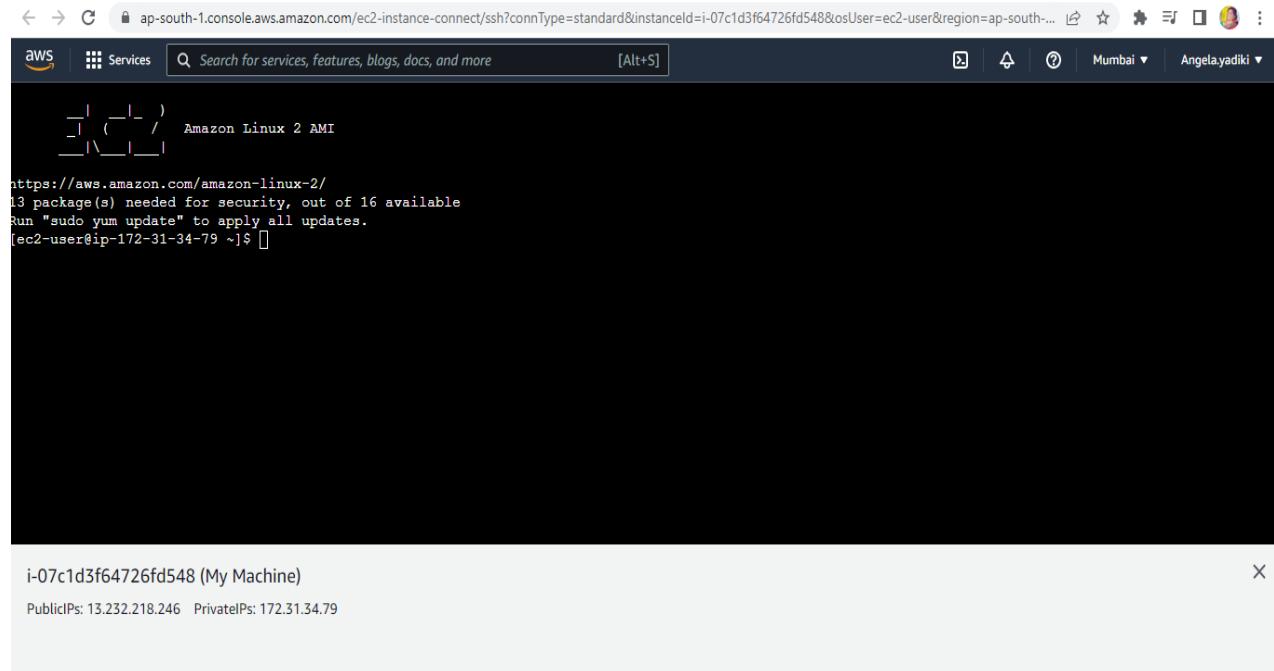


Task 1: Create EC2 Instance:

Created new EC2 instance and opened it in EC2 Instance connect.

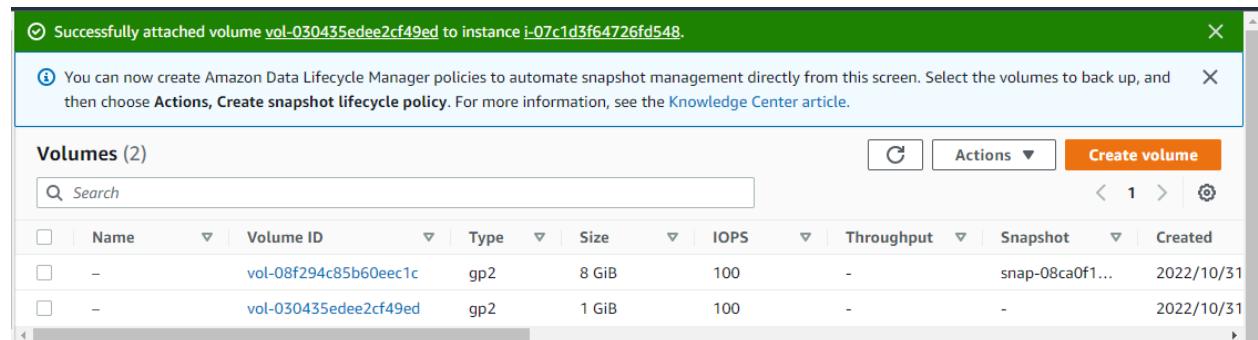


The screenshot shows a terminal window titled "Amazon Linux 2 AMI". The terminal output includes a welcome message from Amazon Linux 2, a yum update check, and a command prompt indicating the user is connected via EC2-User. Below the terminal, a summary bar displays the instance ID (i-07c1d3f64726fd548), its name ("My Machine"), and its public and private IP addresses.

```
Amazon Linux 2 AMI
https://aws.amazon.com/amazon-linux-2/
13 package(s) needed for security, out of 16 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-34-79 ~]$ 
```

i-07c1d3f64726fd548 (My Machine)
PublicIPs: 13.232.218.246 PrivateIPs: 172.31.34.79

Task 2: Create Elastic Block Store:



The screenshot shows the "Volumes" page in the AWS Management Console. A success message at the top indicates that a volume has been successfully attached to an instance. Below the message, a note provides instructions for creating Amazon Data Lifecycle Manager policies. The main table lists two volumes: one named "vol-08f294c85b60eecd1c" and another named "vol-030435edee2cf49ed". Both volumes are of type gp2, have a size of 8 GiB and 1 GiB respectively, and have IOPS values of 100. They were created on 2022/10/31 and have snapshots named "snap-08ca0f1...".

Successfully attached volume vol-030435edee2cf49ed to instance i-07c1d3f64726fd548.

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 (2)										
<input type="button" value="Create volume"/> Actions ▾										
<input type="text" value="Search"/>										
Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created			
vol-08f294c85b60eecd1c	gp2	8 GiB	100	-	-	snap-08ca0f1...	2022/10/31			
vol-030435edee2cf49ed	gp2	1 GiB	100	-	-	-	2022/10/31			

```
aws | Services | Search for services, features, blogs, docs, and more [Alt+S]
Last login: Mon Oct 31 14:39:14 2022 from ec2-13-233-177-4.ap-south-1.compute.amazonaws.com
[ec2-user@ip-172-31-34-79 ~]$ lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0 8G  0 disk
└─xvda1 202:1    0 8G  0 part /
xvdf   202:80   0 1G  0 disk
[ec2-user@ip-172-31-34-79 ~]$ 
```

Mounting :

```
aws | Services | Search for services, features, blogs, docs, and more [Alt+S]
/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-172-31-34-81 ec2-user]# mkdir storage
[root@ip-172-31-34-81 ec2-user]# mkfs -t xfs /dev/xvdf
meta-data=/dev/xvdf              isize=512    agcount=4, agsize=65536 blks
                                =          sectsz=512  attr=2, projid32bit=1
                                =          crc=1    finobt=1, sparse=0
data     =          bsize=4096   blocks=262144, imaxpct=25
          =          sunit=0    swidth=0 blks
naming   =version 2             bsize=4096   ascii-ci=0 ftype=1
log      =internal log          bsize=4096   blocks=2560, version=2
          =          sectsz=512  sunit=0 blks, lazy-count=1
 realtime =none                 extsz=4096   blocks=0, rtextents=0
[root@ip-172-31-34-81 ec2-user]# pwd
/home/ec2-user
[root@ip-172-31-34-81 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/storage/
[root@ip-172-31-34-81 ec2-user]# 
```

```

I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@ip-172-31-34-81 ec2-user]# mkdir storage
[root@ip-172-31-34-81 ec2-user]# mkfs -t xfs /dev/xvdf
meta-data=/dev/xvdf          isize=512   agcount=4, agsize=65536 blks
                           =         sectsz=512  attr=2, projid32bit=1
                           =         crc=1    finobt=1, sparse=0
data             =           bsize=4096  blocks=262144, imaxpct=25
                   =           sunit=0   swidth=0 blks
naming          =version 2   bsize=4096  ascii-ci=0 ftype=1
log             =internal log bsize=4096  blocks=2560, version=2
                   =           sectsz=512  sunit=0 blks, lazy-count=1
realtime        =none        extsz=4096  blocks=0, rtextents=0
[root@ip-172-31-34-81 ec2-user]# pwd
/home/ec2-user
[root@ip-172-31-34-81 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/storage/
[root@ip-172-31-34-81 ec2-user]# df -hT
Filesystem      Type  Size  Used  Avail Use% Mounted on
devtmpfs        devtmpfs 474M   0   474M  0% /dev
tmpfs           tmpfs   483M   0   483M  0% /dev/shm
tmpfs           tmpfs   483M  412K  482M  1% /run
tmpfs           tmpfs   483M   0   483M  0% /sys/fs/cgroup
/dev/xvda1       xfs    8.0G  1.6G  6.5G  20% /
tmpfs           tmpfs   97M   0   97M  0% /run/user/1000
/dev/xvdf        xfs   1014M  34M  981M  4% /home/ec2-user/storage
[root@ip-172-31-34-81 ec2-user]#

```

Mounting EC2 instance:

```

[root@ip-172-31-36-175 ec2-user]# 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: 2330ccc2-270B-42AA-8CB6-AB640F80B1B4

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-172-31-36-175 ec2-user]# mkdir attach
[root@ip-172-31-36-175 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/attach
[root@ip-172-31-36-175 ec2-user]# cd attach
[root@ip-172-31-36-175 attach]# ls
10.txt  1.txt  2.txt  3.txt  4.txt  5.txt  6.txt  7.txt  8.txt  9.txt
[root@ip-172-31-36-175 attach]#

```

Task 3: Snapshot Screenshot creation:

Successfully created snapshot snap-03f047d8ec46e39d5 from volume vol-0bd46e8ce5980233a. If you need your snapshot to be immediately available consider using Fast Snapshot Restore.

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 (3)

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
-	vol-0f847579a0b05ac02	gp2	8 GiB	100	-	snap-08ca0f1...	2022/10/31
-	vol-00250f9d36dea3302	gp2	8 GiB	100	-	snap-08ca0f1...	2022/10/31
-	vol-0bd46e8ce5980233a	gp2	1 GiB	100	-	-	2022/11/01

Snapshots (1)

ID	Size	Description	Storage...	Snapshot status	...
cd30800d316ce4	1 GiB	[Copied snap-03f047d8ec46e39d5 from ap-south-1] Storage Snapshot	Standard	Completed	2

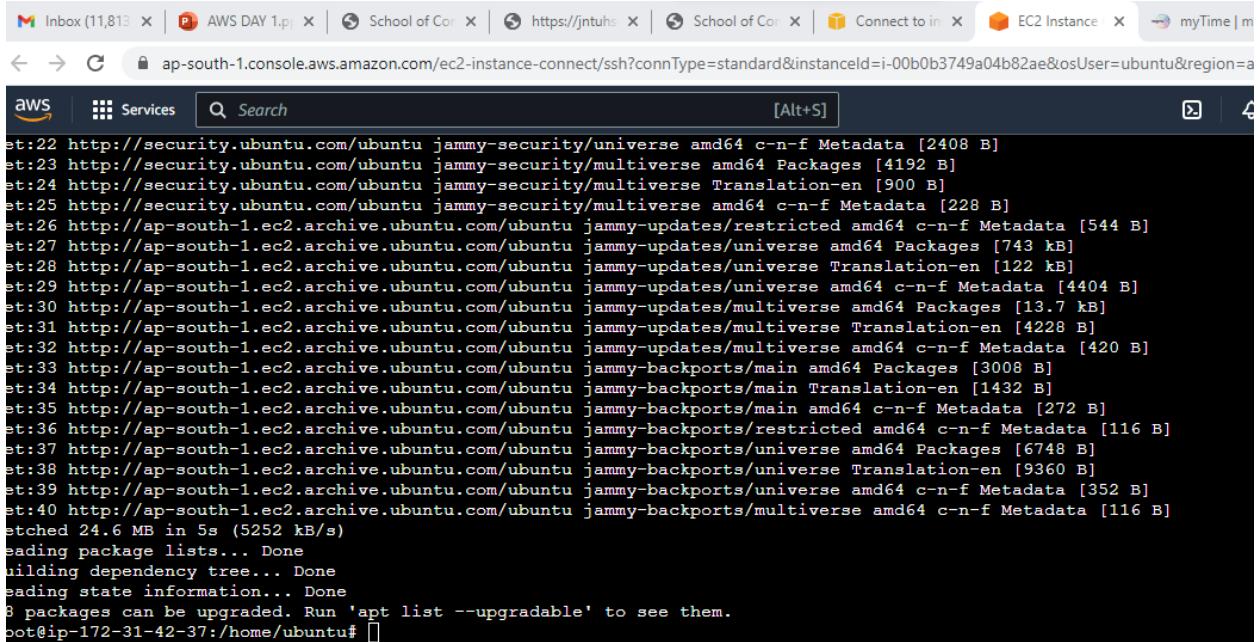
AMI:

Create an EC2 Ubuntu Instance called Angela

Instances (1) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Angela	i-0b6c31a2aa3271886	Running	t2.micro	-	No alarms	us-east-1c

Use apt update command



```
aws Services Search [Alt+S]
et:22 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [2408 B]
et:23 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [4192 B]
et:24 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [900 B]
et:25 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [228 B]
et:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [544 B]
et:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [743 kB]
et:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [122 kB]
et:29 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [4404 B]
et:30 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [13.7 kB]
et:31 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [4228 B]
et:32 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [420 B]
et:33 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [3008 B]
et:34 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [1432 B]
et:35 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [272 B]
et:36 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
et:37 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [6748 B]
et:38 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [9360 B]
et:39 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [352 B]
et:40 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Searched 24.6 MB in 5s (5252 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
8 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-172-31-42-37:/home/ubuntu#
```

Use command ufw allow ssh

```
root@ip-172-31-42-37:/home/ubuntu# ufw allow ssh
Rules updated
Rules updated (v6)
root@ip-172-31-42-37:/home/ubuntu#
```

Enable the ports 80,443 by using below commands :

```
ufw allow 80
ufw allow 443
ufw enable
```

```
8 packages can be upgraded. Run apt list --upgradable to see them.
root@ip-172-31-42-37:/home/ubuntu# ufw allow ssh
Rules updated
Rules updated (v6)
root@ip-172-31-42-37:/home/ubuntu# ufw allow 80
Rules updated
Rules updated (v6)
root@ip-172-31-42-37:/home/ubuntu# ufw allow 443
Rules updated
Rules updated (v6)
root@ip-172-31-42-37:/home/ubuntu# ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? y
Firewall is active and enabled on system startup
root@ip-172-31-42-37:/home/ubuntu#
```

Check whether Apache service is enabled, If not, use the command apt install apache2 to install the service.

```
Inbox | AWS Data | School | School | Connect | EC2 Inst. | https:// | myTime | lamp ut. | How to | +   
 ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-00b0b3749a04b82ae&osUser=ubuntu&region=a...   
 Update  
  
aws Services Search [Alt+S] Mumbai Angela.yadiki  
  
Enabling module retimeout.  
Enabling conf charset.  
Enabling conf localized-error-pages.  
Enabling conf other-vhosts-access-log.  
Enabling conf security.  
Enabling conf serve-cgi-bin.  
Enabling site 000-default.  
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.  
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.  
Processing triggers for ufw (0.36.1-4build1) ...  
Processing triggers for man-db (2.10.2-1) ...  
Processing triggers for libe-bin (2.35-0ubuntu3.1) ...  
Scanning processes...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-42-37:/home/ubuntu#
```

Make sure the service is running.

Take care the service is running.

→ ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-00b0b3749a04b82ae&osUser=

aws | Services | Search [Alt+S]

```
o services need to be restarted.  
o containers need to be restarted.  
o user sessions are running outdated binaries.  
  
o VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-42-37:/home/ubuntu# systemctl status apache2  
● apache2.service - The Apache HTTP Server  
    Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)  
    Active: active (running) since Mon 2022-11-07 07:19:56 UTC; 2min 10s ago  
      Docs: https://httpd.apache.org/docs/2.4/  
    Main PID: 2759 (apache2)  
       Tasks: 55 (limit: 1143)  
     Memory: 4.9M  
        CPU: 34ms  
      CGroup: /system.slice/apache2.service  
              └─2759 /usr/sbin/apache2 -k start  
                  ├─2761 /usr/sbin/apache2 -k start  
                  ├─2762 /usr/sbin/apache2 -k start  
  
Nov 07 07:19:56 ip-172-31-42-37 systemd[1]: Starting The Apache HTTP Server...  
Nov 07 07:19:56 ip-172-31-42-37 systemd[1]: Started The Apache HTTP Server.  
root@ip-172-31-42-37:/home/ubuntu#
```

Modify inbound rules of the EC2 to enable HTTP port 80 and access the public IP of the EC2 instance.

Inbound rules				
Security group rule ID	Port range	Protocol	Source	Security groups
sgr-0e4d63b53017be1c7	22	TCP	0.0.0.0/0	launch-wizard-6
sgr-001c6cf51cd9e4163	80	TCP	0.0.0.0/0	launch-wizard-6

The screenshot shows a web browser window with the URL `13.127.34.29`. The page displayed is the Apache2 Default Page, which includes the Ubuntu logo, the title "Apache2 Default Page", and a red button labeled "It works!". Below the title, there is explanatory text about the default page and configuration. A code block shows the directory structure for Apache2 configuration files.

```
/etc/apache2/
|-- apache2.conf
|   '-- ports.conf
|-- mods-enabled
|   '-- *.load
|   '-- *.conf
|-- conf-enabled
```

Install php 8.1 and restart the php services

```
← → ⌂ ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-00b0b3
aws | Services | Search [Alt+S]
Creating config file /etc/php/8.1/cli/php.ini with new version
Setting up libapache2-mod-php8.1 (8.1.2-1ubuntu2.6) ...

Creating config file /etc/php/8.1/apache2/php.ini with new version
Module mpm_event disabled.
Enabling module mpm_prefork.
apache2_switch_mpm Switch to prefork
apache2_invoke: Enable module php8.1
Setting up php8.1 (8.1.2-1ubuntu2.6) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for php8.1-cli (8.1.2-1ubuntu2.6) ...
Processing triggers for libapache2-mod-php8.1 (8.1.2-1ubuntu2.6) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-42-37:/var/www/html#
```

Create php file

```
M Inb x | AW x | Sch x | Sch x | Inst x | EC2 x | http x | Sign x | G lam x | Hov x | Ap x | Sign x
← → ⌂ ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-00b0b3749a04b82ae&osUser=ubuntu&
aws | Services | Search [Alt+S]

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-42-37:/var/www/html# cd\
cd/
ash: cdcd/: No such file or directory
root@ip-172-31-42-37:/var/www/html# cd /
root@ip-172-31-42-37:/# systemctl restart apache2
root@ip-172-31-42-37:/# php --version
PHP 8.1.2-1ubuntu2.6 (cli) (built: Sep 15 2022 11:30:49) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.1.2, Copyright (c) Zend Technologies
    with Zend OPcache v8.1.2-1ubuntu2.6, Copyright (c), by Zend Technologies
root@ip-172-31-42-37:/# echo '<?php phpinfo(); ?>' | sudo tee -a /var/www/html/phpinfo.php > /dev/null
root@ip-172-31-42-37:/# cd var/www/html
root@ip-172-31-42-37:/var/www/html# ls -l
total 16
-rw-r--r-- 1 root root 10671 Nov  7 07:19 index.html
-rw-r--r-- 1 root root     20 Nov  7 09:48 phpinfo.php
root@ip-172-31-42-37:/var/www/html#
```

Test PHP web page with following command <http://13.127.34.29/phpinfo.php>

PHP Version 8.1.2-1ubuntu2.6

System

Build Date	Sep 15 2022 11:30:49
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d

Additional .ini files parsed

/etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini,
/etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-ctype.ini,
/etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-fil.ini, /etc/php/8.1/apache2/conf.d/20-fileinfo.ini, /etc/php/8.1/apache2/conf.d/20-ftp.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini,
/etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-phar.ini, /etc/php/8.1/apache2/conf.d/20-posix.ini, /etc/php/8.1/apache2/conf.d/20-readline.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini,
/etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.1/apache2/conf.d/20-sysvsem.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini

PHP API

20210902

PHP Extension

20210902

Zend Extension

420210902

Zend Extension Build

API420210902,NTS

PHP Extension Build

API20210902,NTS

Debug Build

no

Thread Safety

disabled

Zend Signal Handling

enabled

Zend Memory Manager

enabled

Create an AMI on Console:

Amazon Machine Images (AMIs) (1) [Info](#)

Actions	Name	AMI ID	AMI name	Source	Owner	Status
Recycle Bin	-	ami-of74e04316c52c...	ANGELAAPACHEPH...	057719554562/AN...	057719554562	P... Available

Launch AMI Instance

Instances (4) [Info](#)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
machine A	i-0c03968d88b31005c	Stopped	t2.micro	-	No alarms
Machine B	i-0dc84acaf9b4d8b30	Stopped	t2.micro	-	No alarms
Angela	i-00b0b3749a04b82ae	Running	t2.micro	2/2 checks passed	No alarms
AngelaAMI Instance	i-0548243a2cf2a136f	Running	t2.micro	Initializing	No alarms

Select an instance

- → C 🔒 ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=ap-south-1&connType=standard&instanceId=i-0548243a2cf2a136f (AngelaAMI Instance)

AWS Services Search [Alt+S]

```

of these updates are standard security updates.
see these additional updates run: apt list --upgradable

st login: Mon Nov  7 10:32:50 2022 from 13.233.177.5
intu@ip-172-31-39-27:~$ systemctl status apache2
apache2.service - The Apache HTTP Server
   Loaded: loaded ('/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: active (running) since Mon 2022-11-07 10:28:11 UTC; 6min ago
       Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 682 (apache2)
      Tasks: 6 (limit: 1143)
     Memory: 21.4M
        CPU: 85ms
      CGroup: /system.slice/apache2.service
              └─682 /usr/sbin/apache2 -k start
                  ├─771 /usr/sbin/apache2 -k start
                  ├─772 /usr/sbin/apache2 -k start
                  ├─773 /usr/sbin/apache2 -k start
                  ├─782 /usr/sbin/apache2 -k start
                  └─783 /usr/sbin/apache2 -k start

Nov 07 10:28:10 ip-172-31-39-27 systemd[1]: Starting The Apache HTTP Server...
Nov 07 10:28:11 ip-172-31-39-27 systemd[1]: Started The Apache HTTP Server.
intu@ip-172-31-39-27:~$ █

```

<http://3.109.4.225/phpinfo.php>

← → C 🔒 Not secure | 3.109.4.225/phpinfo.php

PHP Version 8.1.2-1ubuntu2.6

System	Linux ip-172-31-39-27 5.15.0-1019-aws #23-Ubuntu SMP Wed Aug 17 18:33:13 UTC 2022 x86_64
Build Date	Sep 15 2022 11:30:49
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d
Additional .ini files parsed	/etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini, /etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-ctype.ini, /etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-fil.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini, /etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-phar.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini, /etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.1/apache2/conf.d/20-sysvsem.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini
PHP API	20210902
PHP Extension	20210902
Zend Extension	420210902
Zend Extension Build	API420210902,NTS
PHP Extension Build	API20210902,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	disabled

Load Balancer:

While creating a load balancer, Create a Security group to avoid error with inbound security rules

The screenshot shows the AWS EC2 Security Groups page. A green success message at the top states: "Security group (sg-0ddf7538b7b517850 | AngelaSG) was created successfully". Below this, the security group details are shown: Name: sg-0ddf7538b7b517850 - AngelaSG, Security group ID: sg-0ddf7538b7b517850, Description: AngelaSG, VPC ID: vpc-03f112d35c6005fb. It also shows the Owner (057719554562), Inbound rules count (2 Permission entries), and Outbound rules count (1 Permission entry). The "Inbound rules" tab is selected.

Create Target Group:

The screenshot shows the AWS EC2 Target groups page. A green success message at the top states: "Successfully created target group: AngelaTG". Below this, the target group details are shown: Name: AngelaTG, ARN: arn:aws:elasticloadbalancing:ap-south-1:123456789012:targetgroup/AngelaTG, Port: 80, Protocol: HTTP, Target type: Instance. The "Create target group" button is visible. Below the table, a message says "0 target groups selected" and "Select a target group above."

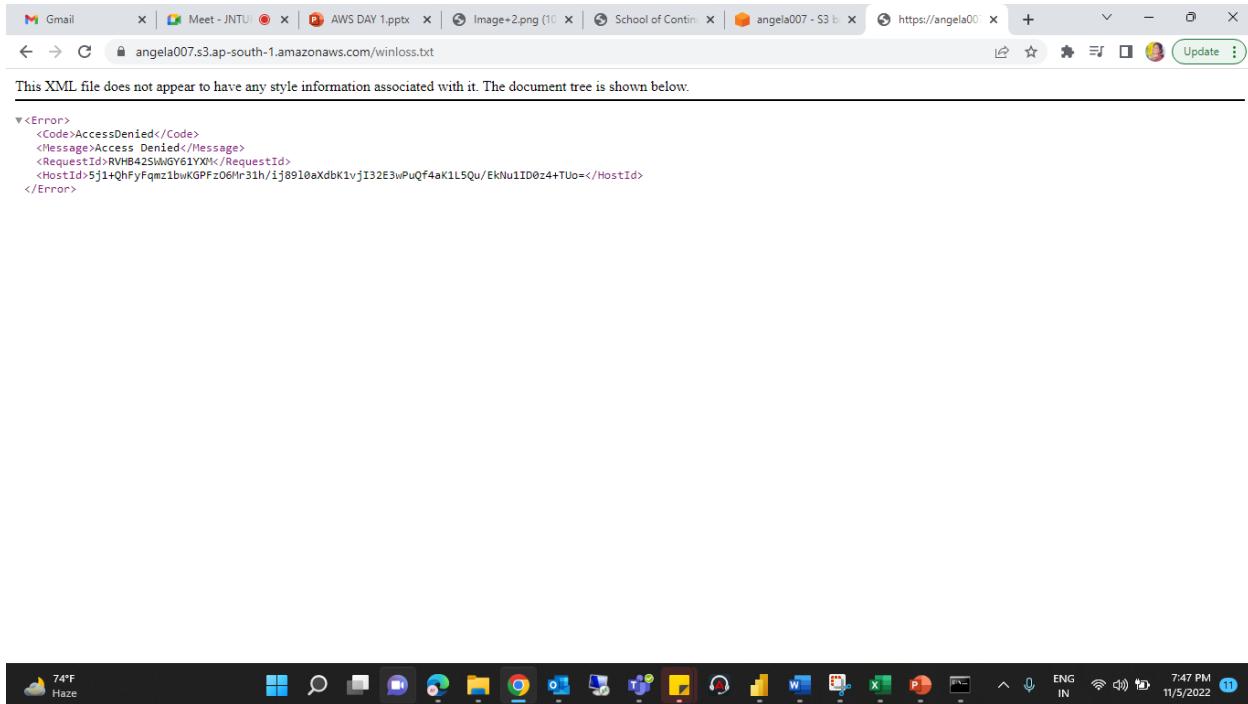
Create Load balancer:

The screenshot shows the AWS CloudWatch Metrics console. At the top, there's a search bar and a navigation menu with 'Services' selected. A success message box is displayed, stating 'Successfully created metric filter: MetricFilterName'. Below it, a note says 'Note: It might take a few minutes for your metric filter to be fully set up and ready to receive metrics. Targets will also take a few minutes to complete the registration process and pass initial health checks.' The main content area shows a table with two rows of data, each with columns for 'Metric Filter Name', 'Metric Namespace', 'Metric Name', and 'Targets'. The first row is for 'MetricFilterName' and the second for 'MetricFilterName2'. At the bottom right, there's a large orange button labeled 'View metric filters'.

S3:

The screenshot shows the AWS S3 service page. On the left, a sidebar lists navigation options like 'Buckets', 'Access Points', and 'Storage Lens'. The main area displays a green success message: 'Successfully created bucket "angela007". To upload files and folders, or to configure additional bucket settings choose View details.' Below this, a blue banner promotes 'Replicate data within and between AWS Regions using Amazon S3 Replication.' A central section titled 'Amazon S3 > Buckets' contains an 'Account snapshot' summary and a table listing the single bucket 'angela007'.

Name	AWS Region	Access	Creation date
angela007	Asia Pacific (Mumbai) ap-south-1	Bucket and objects not public	November 5, 2022, 19:45:29 (UTC+05:30)



Create VPC:

Create Internet gateway:

The following internet gateway was created: igw-0ec79965ff738ba6b - VPC-ANGELA-IGW. You can now attach to a VPC to enable the VPC to communicate with the internet.

igw-0ec79965ff738ba6b / VPC-ANGELA-IGW

Internet gateway ID	State	VPC ID	Owner
igw-0ec79965ff738ba6b	Detached	-	057719554562

Tags

Key	Value
Name	VPC-ANGELA-IGW

Attach the VPC to Internet gate way:

The screenshot shows the AWS VPC Management Console. In the top navigation bar, there are tabs for School of Continuing and Distance Learning, JNTUH SCDE Online Class for Clic, Home | myWipro, and VPC Management Console. The main content area displays a success message: "Internet gateway igw-0ec79965ff738ba6b successfully attached to vpc-02232b215586237ce". Below this, the breadcrumb navigation shows VPC > Internet gateways > igw-0ec79965ff738ba6b. The title of the page is "igw-0ec79965ff738ba6b / VPC-ANGELA-IGW". On the left sidebar, under "Virtual private cloud", "Internet gateways" is selected. The main details section shows the Internet gateway ID as igw-0ec79965ff738ba6b, State as Attached, VPC ID as vpc-02232b215586237ce | VPC_ANGELA_1, and Owner as 057719554562. A "Tags" section lists a single tag named "Name" with the value "VPC-ANGELA-IGW". The bottom of the screen shows the AWS navigation bar with various icons and the current date and time (1/23/2023).

Create 4 subnets. 2 private and 2 public subnets

The screenshot shows the AWS VPC Management Console. The main content area displays a success message: "You have successfully created 1 subnet: subnet-0bc1a5296b03bc9a4". Below this, the breadcrumb navigation shows Subnets (7) > Info. The title of the page is "Subnets (7) / VPC Management Console". On the left sidebar, "Subnets" is selected under "Virtual private cloud". The main table lists seven subnets, including two public subnets (ANG-PUB-SN2 and ANG-PUB-SN1) and five private subnets (ANG-PRV-SN1, ANG-PRV-SN2, and three unnamed subnets). The table includes columns for Name, Subnet ID, State, VPC, and IPv4 CIDR. The bottom of the screen shows the AWS navigation bar with various icons and the current date and time (1/23/2023).

Create two route tables. 1 public route table and 1 private route table

	Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
<input type="checkbox"/>	ANG-PUB-RT	rtb-006dd6a623e26f45	-	-	No	vpc-02232b2155862
<input type="checkbox"/>	-	rtb-0dfa77076ccbc7e5a	-	-	Yes	vpc-03f112d35c600
<input type="checkbox"/>	ANG-PRV-RT	rtb-0471fc7b17f732675	-	-	No	vpc-02232b2155862
<input type="checkbox"/>	-	rtb-09be3513386d44b12	-	-	Yes	vpc-02232b2155862

Associate 2 private subnets to private router and 2 public subnets to public router:

	Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
<input type="checkbox"/>	ANG-PUB-RT	rtb-006dd6a623e26f45	2 subnets	-	No	vpc-02232b2155862
<input type="checkbox"/>	-	rtb-0dfa77076ccbc7e5a	-	-	Yes	vpc-03f112d35c600
<input type="checkbox"/>	ANG-PRV-RT	rtb-0471fc7b17f732675	2 subnets	-	No	vpc-02232b2155862
<input type="checkbox"/>	-	rtb-09be3513386d44b12	-	-	Yes	vpc-02232b2155862

Associate the public router to internet gateway:

