Cloud Assignment

Koganti Divya

1. EC2 Instances

Steps:

1. Open AWS and under search box select EC2

2. Click on launch instance

3. Now enter name of your machine (Machine1-Divya)

4. Under AMI select Amazon Linux

5. under instance type select t2.micro

6. Under key pair >> create a new key pair (sydney.pem)

7. Under firewall security group click on create security group

8. And click on launch instance

9. Repeat the same process and create one more instance (Machine2-Koganti)

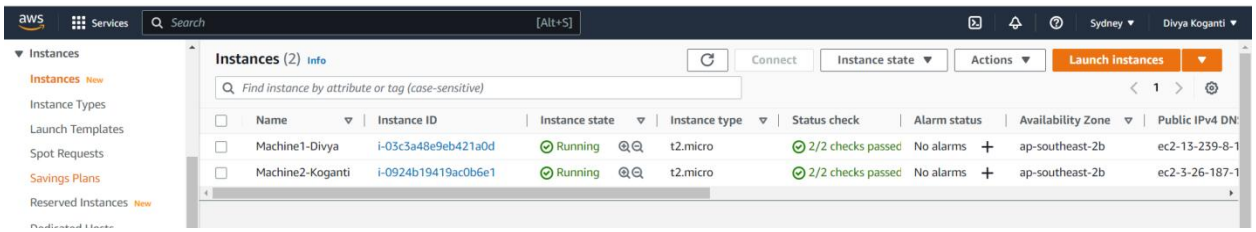


Fig1:Ec2 instances

10. Steps to connect to ec2 machines.

- Select machine1 under instances tab and click on connect.
- Under connect to instance select SSH client
- Now copy the ssh command shown under example
- Now go to the .pem file location directory and open command prompt terminal
- Now paste the ssh command and click on enter
- Type yes to connect and you can see your Machine1-Divya instance running

Cloud Assignment

Koganti Divya

```
root@ip-172-31-47-3:/home/ec2-user
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> cd "C:\Users\Pravalika\Documents\cloud"
PS C:\Users\Pravalika\Documents\cloud> ssh -i "Sydney.pem" ec2-user@ec2-13-239-8-195.ap-southeast-2.compute.amazonaws.com
The authenticity of host 'ec2-13-239-8-195.ap-southeast-2.compute.amazonaws.com (13.239.8.195)' can't be established.
ECDSA key fingerprint is SHA256:BhMqpJdjcFWJYsU6kJzXPTTZ14NXBdCp9ePU/dEbYu0.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-239-8-195.ap-southeast-2.compute.amazonaws.com,13.239.8.195' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
19 package(s) needed for security, out of 31 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-47-3 ~]$ sudo su
[root@ip-172-31-47-3 ec2-user]#
```

Fig2.Machine1-Divya

```
root@ip-172-31-40-9:/home/ec2-user
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> cd "C:\Users\Pravalika\Documents\cloud"
PS C:\Users\Pravalika\Documents\cloud> ssh -i "Sydney.pem" ec2-user@ec2-3-26-187-188.ap-southeast-2.compute.amazonaws.com
The authenticity of host 'ec2-3-26-187-188.ap-southeast-2.compute.amazonaws.com (3.26.187.188)' can't be established.
ECDSA key fingerprint is SHA256:1fbR+cCWRCvw9DsJcmDlkoELgUMpoo8eA5du2vAc3DE.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-26-187-188.ap-southeast-2.compute.amazonaws.com,3.26.187.188' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
19 package(s) needed for security, out of 31 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-40-9 ~]$ sudo su
[root@ip-172-31-40-9 ec2-user]#
```

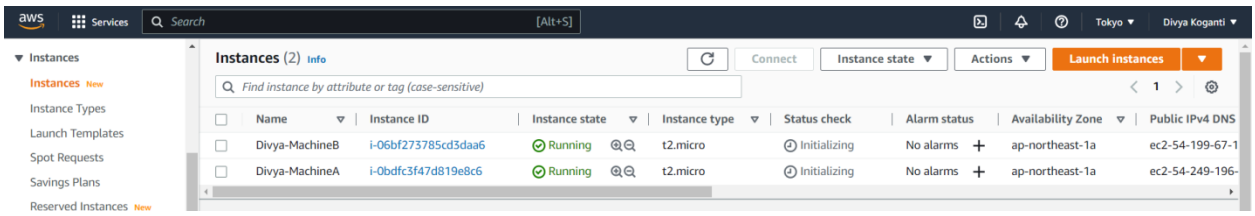
Fig3.Machine2-Koganti

2. EBS volume

Steps:

1. When Ever you want to provide an extra storage to your machine you opt for this Elastic Block store (EBS).

2. Created Two machines Divya-Machine A and Divya-Machine B in Tokyo region.



Cloud Assignment

Koganti Divya

Fig4: Instances for EBS

3.Under EBS select volumes and you can see default storage allocated for your EC2 machines.

4.Now click on create volume

- Under volume type select any type you want (General purpose SSD (gp2))
- Under size select the amount of GB (1GB)
- Under Availability zone you can select available zone in which your instance got created.
- Now click on create volume.
- Now click on volumes and you can see all volumes and newly created EBS.
- Now select the EBS and click on actions and click on attach volume.
- Under Basic details select your instance and click on attach volume

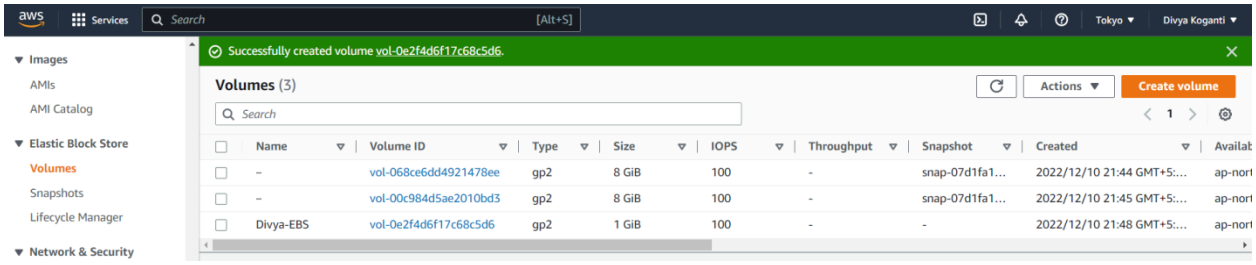


Fig5: EBS volume of 1GB

6.Now log on to Divya-MachineA and make a file system and mount it.

- lsblk – to list all file systems
- mkdir to create a storage directory
- mkfs -t xfs /dev/sdf
- mount -t xfs /dev/sdf storage
- created a storage directory named Divya-Storage
- mounted it to file system and created ten .txt files in it
- umounted the file system.

Cloud Assignment

Koganti Divya

root@ip-172-31-32-56:~

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> cd "C:\Users\Pravalika\Documents\Cloud2"
PS C:\Users\Pravalika\Documents\Cloud2> ssh -i "Tokyo.pem" ec2-user@ec2-54-249-196-242.ap-northeast-1.compute.amazonaws.com
Last login: Sat Dec 10 16:21:25 2022 from 157.48.160.173

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
19 package(s) needed for security, out of 31 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-56 ~]$ sudo su
[root@ip-172-31-32-56 ec2-user]# 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
[root@ip-172-31-32-56 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  483M   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
[root@ip-172-31-32-56 ec2-user]# mkdir divya-Storage
[root@ip-172-31-32-56 ec2-user]# ls
divya-Storage
[root@ip-172-31-32-56 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-172-31-32-56 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/divya-Storage
```

Fig 6: File system created for Divya-MachineA and mounted it

Cloud Assignment

Koganti Divya

root@ip-172-31-32-56:~

```
[root@ip-172-31-32-56 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/divya-Storage
[root@ip-172-31-32-56 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  483M   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/divya-Storage
[root@ip-172-31-32-56 ec2-user]# pwd
/home/ec2-user
[root@ip-172-31-32-56 ec2-user]# ls
divya-Storage
[root@ip-172-31-32-56 ec2-user]# cd divya-Storage/
[root@ip-172-31-32-56 divya-Storage]# touch {1..10}.txt
[root@ip-172-31-32-56 divya-Storage]# ls
10.txt  1.txt  2.txt  3.txt  4.txt  5.txt  6.txt  7.txt  8.txt  9.txt
[root@ip-172-31-32-56 divya-Storage]# umount -t xfs /dev/xvdf /home/ec2-user/divya-Storage/
umount: /home/ec2-user/divya-Storage: target is busy.
umount: /home/ec2-user/divya-Storage/: target is busy.
[root@ip-172-31-32-56 divya-Storage]# cd --
[root@ip-172-31-32-56 ~]# umount -t xfs /dev/xvdf /home/ec2-user/duivya-Storage
umount: /home/ec2-user/duivya-Storage: no mount point specified.
[root@ip-172-31-32-56 ~]# 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  483M   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
[root@ip-172-31-32-56 ~]# cat
```

Fig7: Created 10 files in divya-Storage and unmounted it

7. Now detach the EBS volume from machine A and attach it to Machine B

8. Now connect to Machine B, create a new directory and mount the same to it.

9. Divya-MachineB EBS volume contains all the ten txt files

Cloud Assignment

Koganti Divya

root@ip-172-31-37-168:/home/ec2-user/divya-Attach

```
       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
19 package(s) needed for security, out of 31 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-37-168 ~]$ sudo su
[root@ip-172-31-37-168 ec2-user]# 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
[root@ip-172-31-37-168 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  483M   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
[root@ip-172-31-37-168 ec2-user]# ls
[root@ip-172-31-37-168 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: DA90AB95-8C11-4BAE-9157-C48213FBAD0C

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-172-31-37-168 ec2-user]# mkdir divya-Attach
[root@ip-172-31-37-168 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/divya-Attach/
[root@ip-172-31-37-168 ec2-user]# cd divya/Attach/
bash: cd: divya/Attach/: No such file or directory
[root@ip-172-31-37-168 ec2-user]# cd divya-Attach/
[root@ip-172-31-37-168 divya-Attach]# ls
10.txt  1.txt  2.txt  3.txt  4.txt  5.txt  6.txt  7.txt  8.txt  9.txt
[root@ip-172-31-37-168 divya-Attach]# cat
```

Fig8: Divya-MachineB EBS

Cloud Assignment

Koganti Divya

3. Snapshot

Steps:

1. Under EC2 Elastic Block store click on Snapshot

2. Click on create snapshot

3. Under volume id select your volume (Divya-EBS) in Tokyo region

4. Under description enter name of snapshot

5. Now click on create snapshot

6. Now click on snapshots and you can able to see your created snapshot

7. Select your snapshot and click on actions and click on copy snapshot

8. In settings page of copy snapshot under Destination region select the region where you want to create sydney (ap-northeast1)

9. Now click on copy snapshot

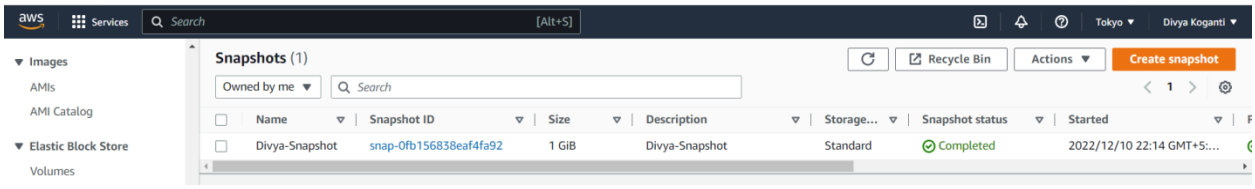


Fig 9: Snapshot created in Tokyo region from Divya-EBS volume

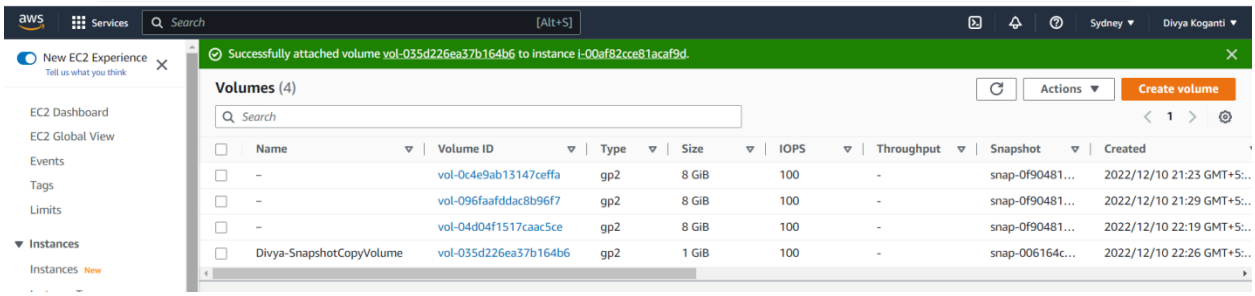


Fig 10: volume created from copy snapshot in Sydney region

10. Create a Divya-Machine C in sydney region and attach the EBS volume created from Snapshot copy

11. Now connect to Divya-Machine C and create a new storage directory named DivyaSnapshot Volume and mount it.

12. switch to the Divya-Snapshot Volume directory and check the list of files in it.

Cloud Assignment

Koganti Divya

root@ip-172-31-34-50:/home/ec2-user/divya-snapshotVolume

```
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
19 package(s) needed for security, out of 31 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-34-50 ~]$ sudo su
[root@ip-172-31-34-50 ec2-user]# 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
[root@ip-172-31-34-50 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  483M   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
[root@ip-172-31-34-50 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: DA90AB95-8C11-4BAE-9157-C48213FBAD0C

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-172-31-34-50 ec2-user]# mkdir divya-snapshotVolume
[root@ip-172-31-34-50 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/divya-snapshotVolume/
[root@ip-172-31-34-50 ec2-user]# ls
divya-snapshotVolume
[root@ip-172-31-34-50 ec2-user]# cd divya-snapshotVolume
[root@ip-172-31-34-50 divya-snapshotVolume]# ls
10.txt  1.txt  2.txt  3.txt  4.txt  5.txt  6.txt  7.txt  8.txt  9.txt
[root@ip-172-31-34-50 divya-snapshotVolume]#
```

Fig 11: Divya-Machine C Snapshot Volume

4. AMI

Cloud Assignment

Koganti Divya

An Amazon Machine Image (AMI) is a template that contains a software configuration (for example, an operating system, an application server, and applications). From an AMI, you launch an instance, which is a copy of the AMI running as a virtual server in the cloud.

Steps:

• Created an Divya-Machine1 Instance and in the security-groups add inbound rule http port 80 for this machine.

• Connect to the above instance and perform the below commands

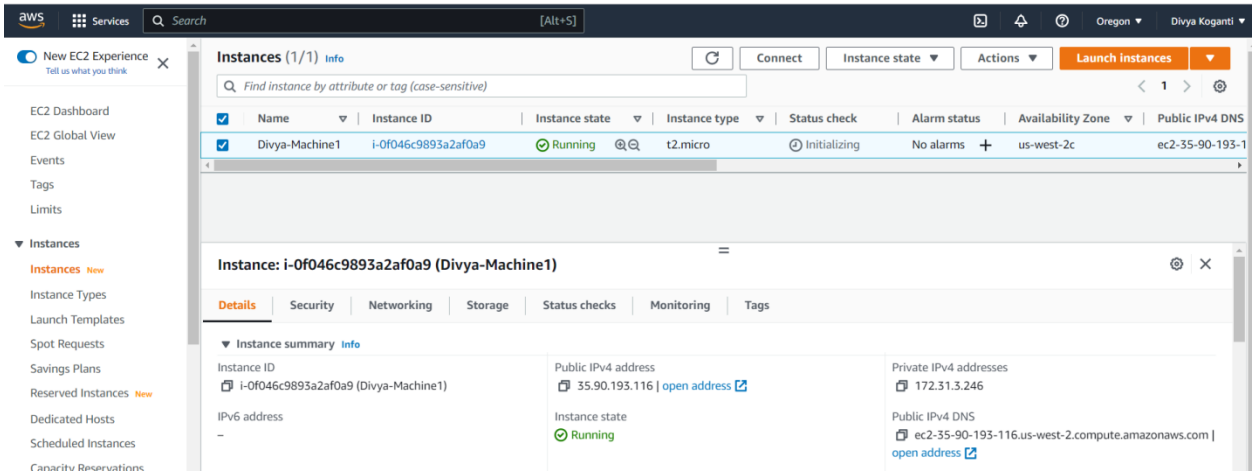


Fig12: Divya-Machine1

Preparing your Ubuntu server

1. sudo apt update
2. sudo ufw allow ssh
3. sudo ufw allow 80
4. sudo ufw allow 443
5. sudo ufw enable

Cloud Assignment

Koganti Divya

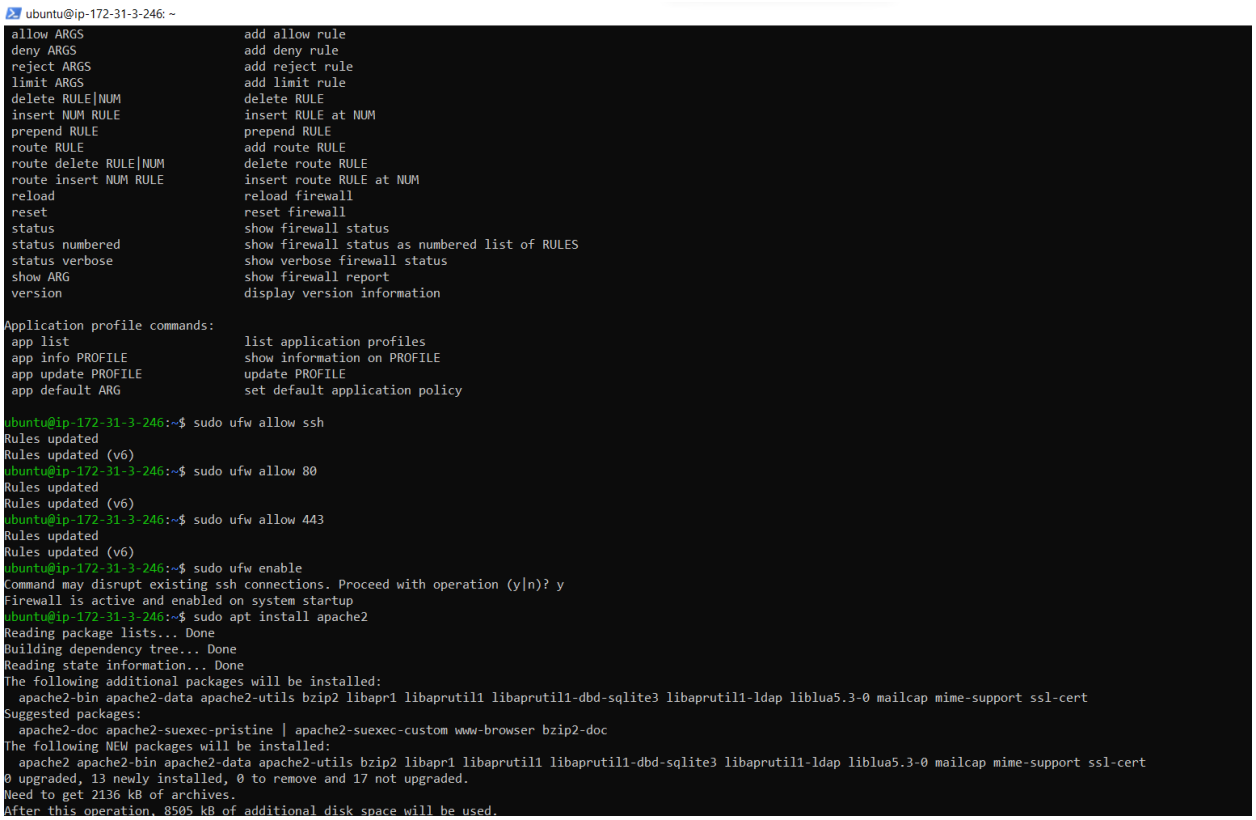


Fig13: Preparing Ubuntu server

• Installing and testing Apache2

1. sudo apt install apache2

2. sudo systemctl status apache2

3. http://YOURSERVERIPADDRESS/

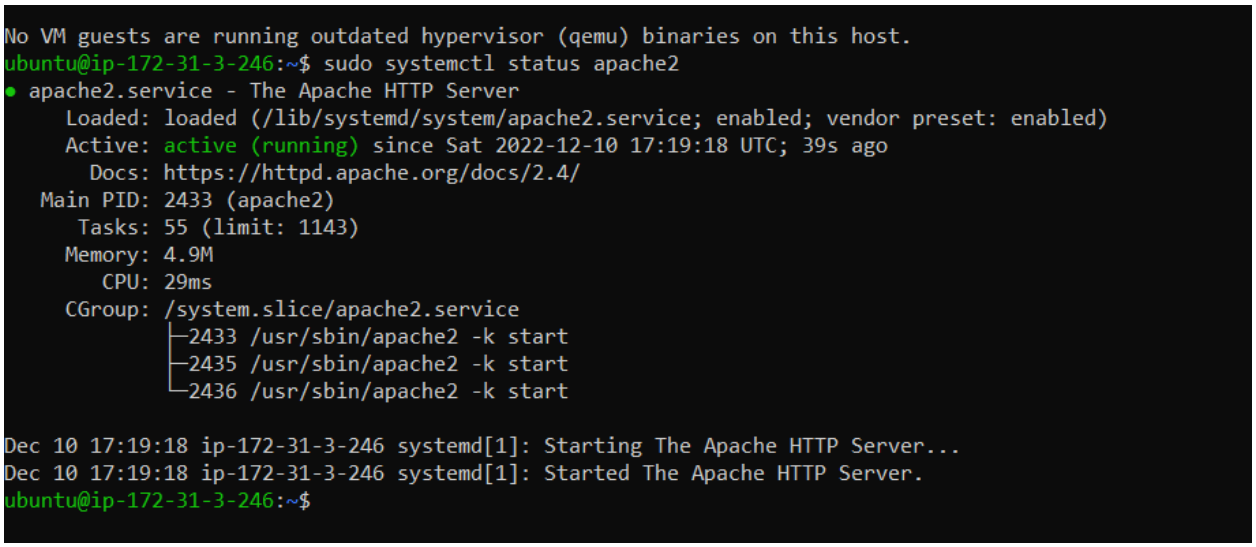


Fig 14: Testing apache2

Fig 15: Testing apache2 on browser

- Installing and testing PHP

1. sudo apt install php8.1
2. php --version
3. sudo systemctl restart apache2
4. echo '' | sudo tee -a /var/www/html/phpinfo.php > /dev/null
5. http://YOURSERVERIPADDRESS/phpinfo.php

Cloud Assignment

Koganti Divya

ubuntu@ip-172-31-3-246: /

```
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php (php) in auto mode
update-alternatives: using /usr/bin/phar8.1 to provide /usr/bin/phar (phar) in auto mode
update-alternatives: using /usr/bin/phar.phar8.1 to provide /usr/bin/phar.phar (phar.phar) in auto mode

Creating config file /etc/php/8.1/cli/php.ini with new version
Setting up libapache2-mod-php8.1 (8.1.2-1ubuntu2.9) ...

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 (8.1.2-1ubuntu2.9) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for php8.1-cli (8.1.2-1ubuntu2.9) ...
Processing triggers for libapache2-mod-php8.1 (8.1.2-1ubuntu2.9) ...
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.
ubuntu@ip-172-31-3-246:~$ cd /
ubuntu@ip-172-31-3-246:/$ php --version
PHP 8.1.2-1ubuntu2.9 (cli) (built: Oct 19 2022 14:58:09) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.1.2, Copyright (c) Zend Technologies
    with Zend OPcache v8.1.2-1ubuntu2.9, Copyright (c), by Zend Technologies
ubuntu@ip-172-31-3-246:/$ udo systemctl restart apache2
Command 'udo' not found, but can be installed with:
sudo apt install udo
ubuntu@ip-172-31-3-246:/$ sudo systemctl restart apache2
ubuntu@ip-172-31-3-246:/$ echo '<?php phpinfo(); ?>' | sudo tee -a/var/www/html/phpinfo.php>/dev/null
tee: invalid option -- '/'
Try 'tee --help' for more information.
ubuntu@ip-172-31-3-246:/$ echo '<?php phpinfo(); ?>' | sudo tee-a/var/www/html/phpinfo.php>/dev/null
sudo: tee-a/var/www/html/phpinfo.php: command not found
ubuntu@ip-172-31-3-246:/$ echo '<?php phpinfo(); ?>' | sudo tee -a /var/wwww/html/phpinfo.php > /dev/null
tee: /var/wwww/html/phpinfo.php: No such file or directory
ubuntu@ip-172-31-3-246:/$ echo '<?php phpinfo(); ?>' | sudo tee -a /var/www/html/phpinfo.php > /dev/null
ubuntu@ip-172-31-3-246:/$ sudo systemctl restart apache2
ubuntu@ip-172-31-3-246:/$ echo '<?php phpinfo(); ?>' | sudo tee -a /var/www/html/phpinfo.php > /dev/null
ubuntu@ip-172-31-3-246:/$
```

Fig 16: Connecting PHP

Cloud Assignment

Koganti Divya

Fig 17: Testing PHP on browser

5. Load Balancer

Steps:

• Create a EC2 machine (Divya-A) and add security group with inbound rule allowing SSH and HTTP port.

• Prepare your UBUNTU server and install and test apache2

• Install and test PHP8.1

• Create an AMI and create two instances from AMI with security group allowing inbound rule for SSH and HTTP port.

Cloud Assignment

Koganti Divya

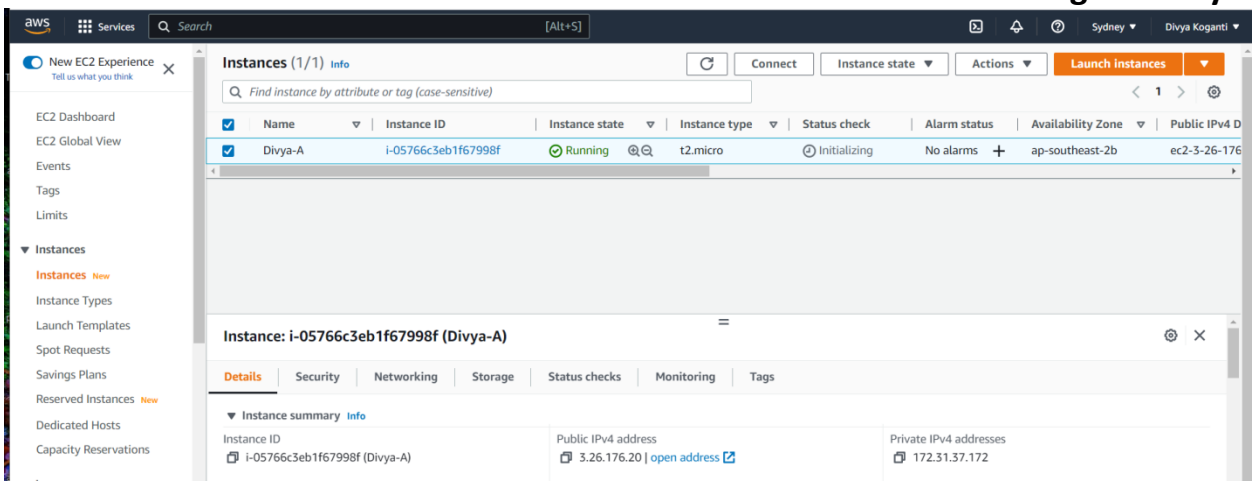


Fig 18: Divya-A

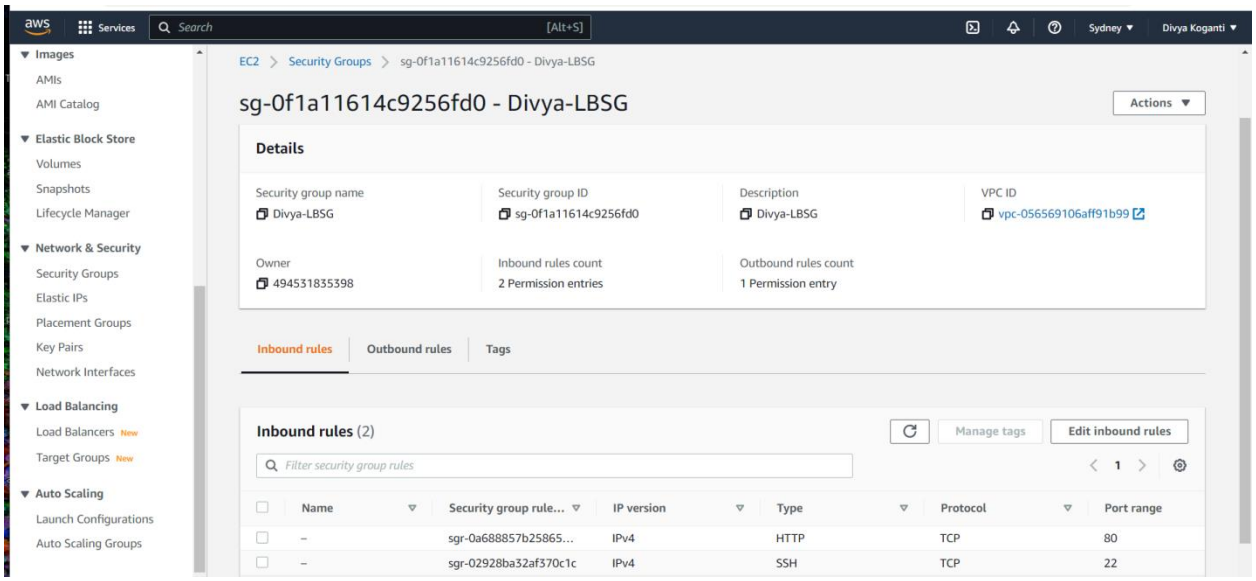


Fig 19: Security Group- Divya-LBSG for Load Balancer

• Under Load balancing from EC2 service click on Load Balancer and click on create a load balancer.

• Click on create Application load balancer and Give name to your load balancer (DivyaAPLB) and select all mappings under Network Mapping.

• Under security groups create a new security group allowing inbound rules for SSH and HTTP port.

• Under Listeners and routing, need to create a new target group (Divya-APLBTG) and include your target machines under it.

• Now connect your Target Group to your Load balancer and click on create

Cloud Assignment

Koganti Divya

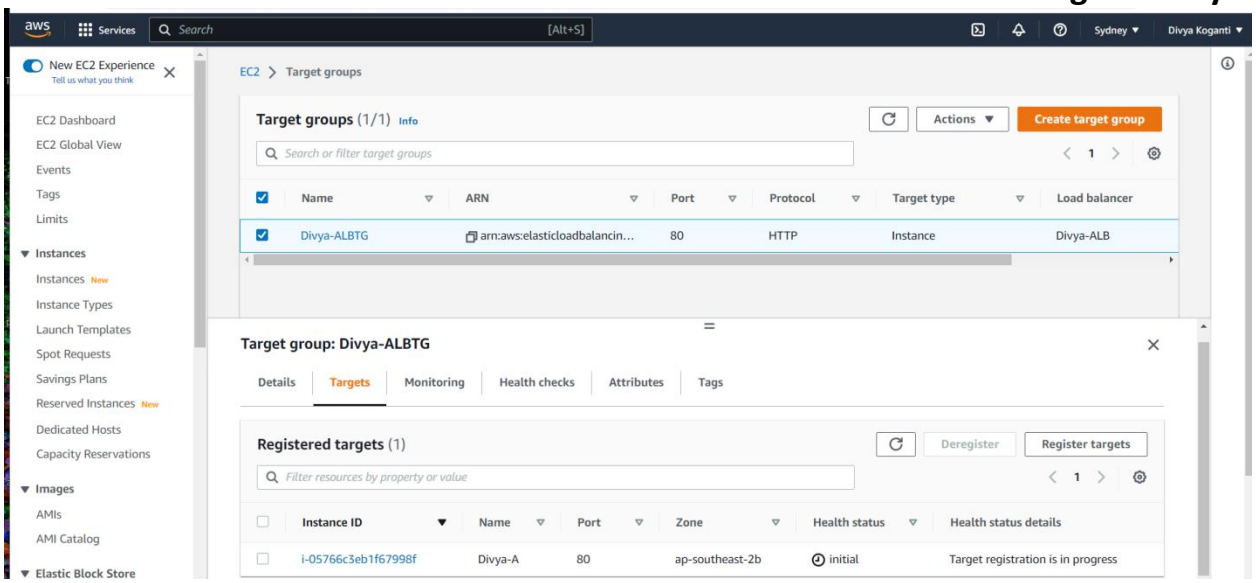


Fig 20: Target Group

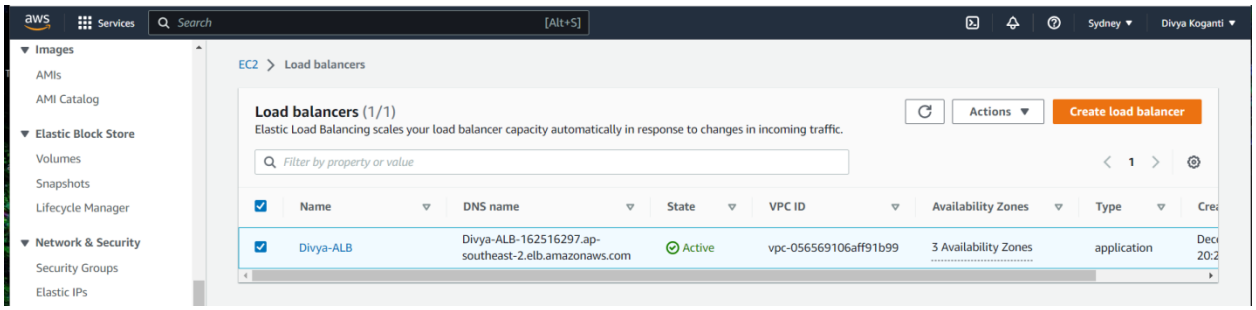


Fig21: Load Balancer

• Now connect to your Load balancer by copying the DNS name and pasting in the browser.

• You can also check to which machine it is being connected using DNS name/phpinfo.php and you can check the ip address of your machine to which it is being connected

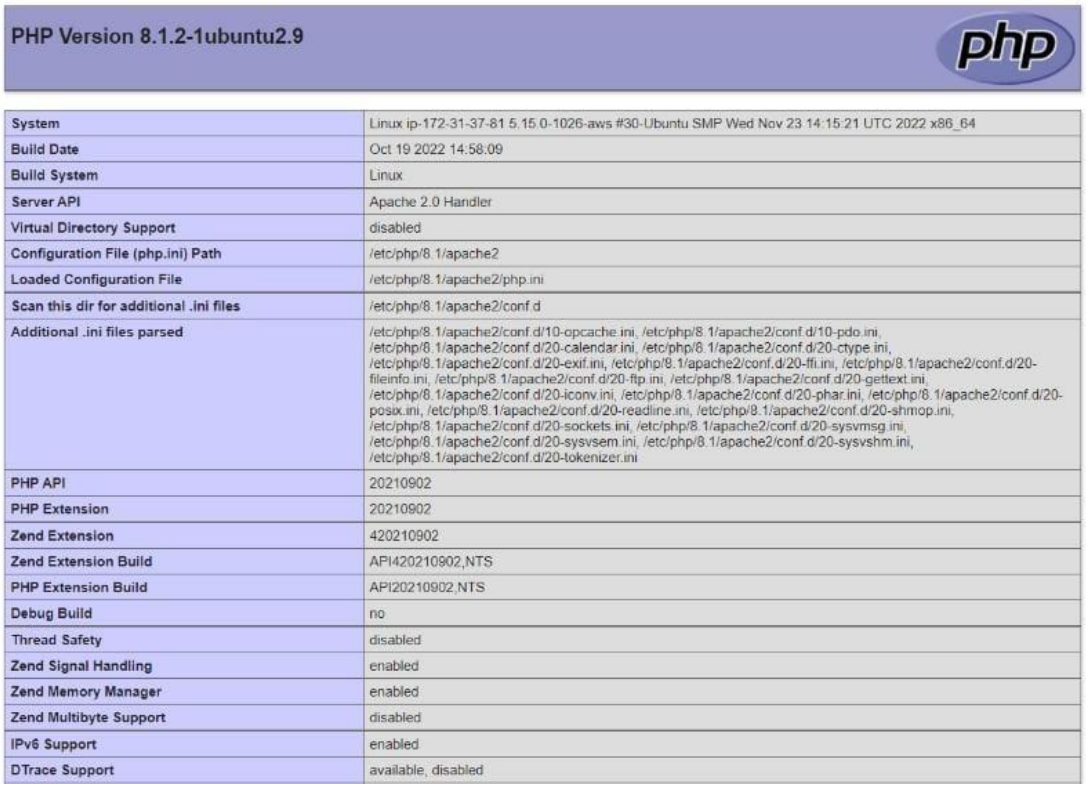
Cloud Assignment

Koganti Divya

Fig22: Connecting to UBUNTU using Load balancer

Cloud Assignment

Koganti Divya



PHP Version 8.1.2-1ubuntu2.9

System	Linux ip-172-31-37-81 5.15.0-1026-aws #30-Ubuntu SMP Wed Nov 23 14:15:21 UTC 2022 x86_64
Build Date	Oct 19 2022 14:58:09
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-ffi.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
Zend Multibyte Support	disabled
IPv6 Support	enabled
DTrace Support	available, disabled

Fig23: Connecting to PHP using Load balancer