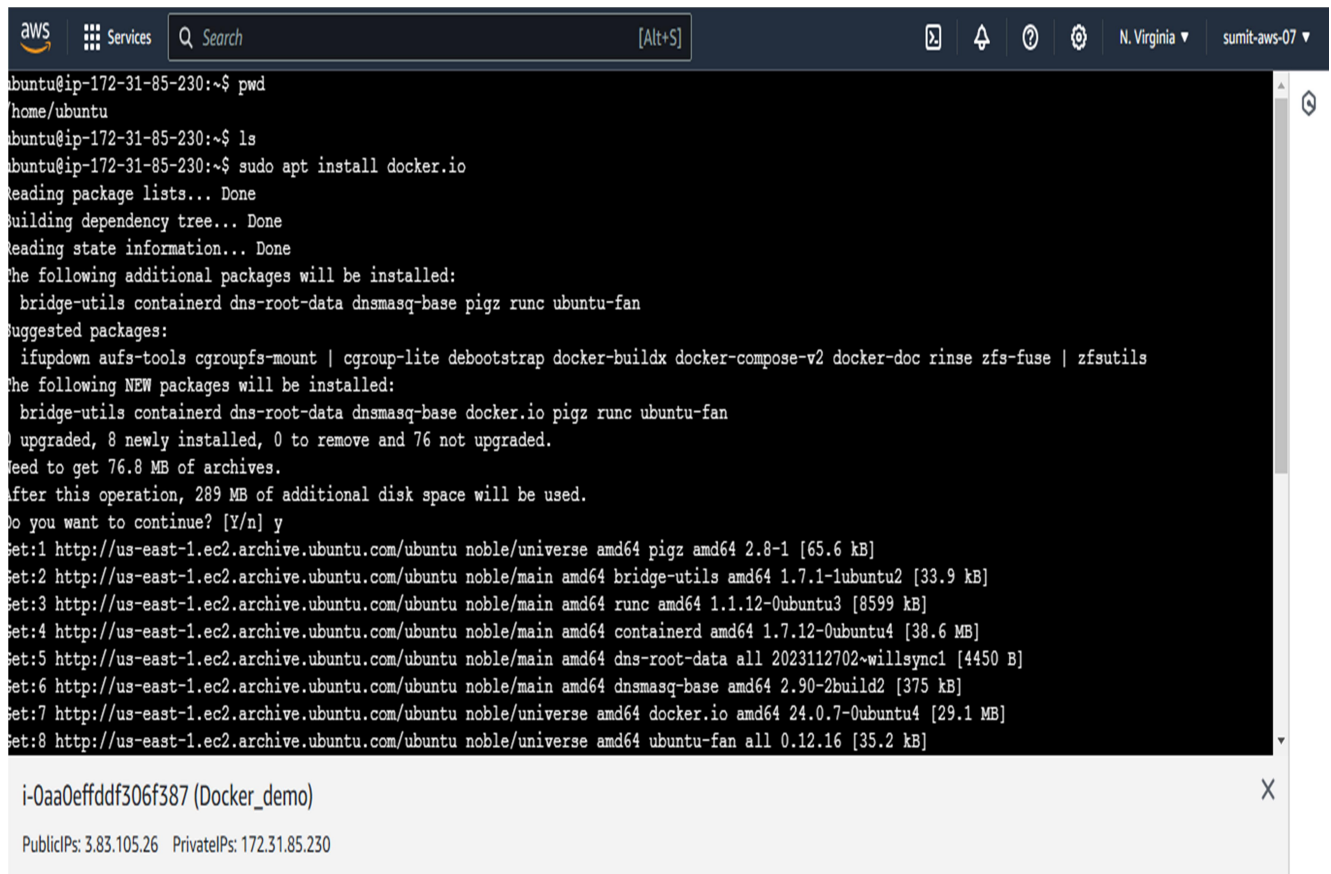


[Guvi Task]

Day 2 - Containers - Microservice Architecture

TASK: Install docker on EC2 and explore the docker commands (docker images, containers, volumes, network)



```
aws Services Search [Alt+S]
buntu@ip-172-31-85-230:~$ pwd
/home/ubuntu
buntu@ip-172-31-85-230:~$ ls
buntu@ip-172-31-85-230:~$ sudo apt install docker.io
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base pigz runc ubuntu-fan
Suggested packages:
  ifupdown aufs-tools cgroupfs-mount | cgroup-lite debootstrap docker-buildx docker-compose-v2 docker-doc rinse zfs-fuse | zfsutils
The following NEW packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base docker.io pigz runc ubuntu-fan
0 upgraded, 8 newly installed, 0 to remove and 76 not upgraded.
Need to get 76.8 MB of archives.
After this operation, 289 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 bridge-utils amd64 1.7.1-1ubuntu2 [33.9 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 runc amd64 1.1.12-0ubuntu3 [8599 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 containerd amd64 1.7.12-0ubuntu4 [38.6 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dns-root-data all 2023112702-willsync1 [4450 B]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dnsmasq-base amd64 2.90-2build2 [375 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 docker.io amd64 24.0.7-0ubuntu4 [29.1 MB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 ubuntu-fan all 0.12.16 [35.2 kB]
i-0aa0effddf306f387 (Docker_demo)
PublicIPs: 3.83.105.26 PrivateIPs: 172.31.85.230
```

```
aws Services Search [Alt+S] N. Virginia sumit-aws-07

ubuntu@ip-172-31-85-230:~$ docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS          NAMES
eb3e6114f335   hello-world "/hello"                23 seconds ago Exited (0) 21 seconds ago          agitated_chatterjee

ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
09f376ebb190: Pull complete
5529e0792248: Pull complete
9b3add3eb3d: Pull complete
57910a8c4316: Pull complete
7b5f78f21449: Pull complete
b7923aa4e8a6: Pull complete
785625911f12: Pull complete
Digest: sha256:0f04e4f646a3f14bf31d8bc8d885b6c951fdcf42589d06845f64d18aec6a3c4d
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
nginx          latest    4f67c83422ec   13 days ago    188MB
hello-world    latest    d2c94e258dcb   13 months ago  13.3kB
ubuntu@ip-172-31-85-230:~$
```

i-0aa0effddf306f387 (Docker_demo)

PublicIPs: 3.83.105.26 PrivateIPs: 172.31.85.230

```
aws Services Search [Alt+S] N. Virginia sumit-aws-07

latest: Pulling from library/nginx
09f376ebb190: Pull complete
5529e0792248: Pull complete
9b3add3eb3d: Pull complete
57910a8c4316: Pull complete
7b5f78f21449: Pull complete
b7923aa4e8a6: Pull complete
785625911f12: Pull complete
Digest: sha256:0f04e4f646a3f14bf31d8bc8d885b6c951fdcf42589d06845f64d18aec6a3c4d
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
nginx          latest    4f67c83422ec   13 days ago    188MB
hello-world    latest    d2c94e258dcb   13 months ago  13.3kB
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$ docker run --name containernginx -d -p 80:80 nginx
6b8d9b2e8e3382c0d889366b4fab42efc1bb7f3ccc86385f562776cfb59a070a
ubuntu@ip-172-31-85-230:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS          NAMES
6b8d9b2e8e33   nginx     "/docker-entrypoint..." 8 seconds ago Up 7 seconds   0.0.0.0:80->80/tcp, :::80->80/tcp containernginx
ubuntu@ip-172-31-85-230:~$
```

i-0aa0effddf306f387 (Docker_demo)

PublicIPs: 3.83.105.26 PrivateIPs: 172.31.85.230

```
aws Services [Alt+S] N. Virginia sumit-aws-07
ubuntu@ip-172-31-85-230:~$ docker volume create my-vol
my-vol
ubuntu@ip-172-31-85-230:~$ ls
Dockerfiles-SampleApps MultistageDockerfile nodeapp
ubuntu@ip-172-31-85-230:~$ docker volume ls
DRIVER VOLUME NAME
local my-vol
local my-volume
ubuntu@ip-172-31-85-230:~$ docker run --name mysqlcontainerwithvolume -e MYSQL_ROOT_PASSWORD=admin -v my-vol:/var/lib/mysql -d mysql
d10c9b35003c4c4f1a19a0a783112643191aee285cf426973438bfe19967a6c2
ubuntu@ip-172-31-85-230:~$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d10c9b35003c mysql "docker-entrypoint.s..." 5 minutes ago Up 5 minutes 3306/tcp, 33060/tcp mysqlcontainerwithvolume
ubuntu@ip-172-31-85-230:~$ docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
MES
d10c9b35003c mysql "docker-entrypoint.s..." 5 minutes ago Up 5 minutes 3306/tcp, 33060/tcp my
sqlcontainerwithvolume
ee4ae284c332 myjavaapp "Java -jar app.jar" 22 minutes ago Created 0.0.0.0:2000->8080/tcp, :::2000->8080/tcp fe
stive hugle
9e2e1241121c myjavaapp "Java -jar app.jar" 23 minutes ago Created 0.0.0.0:7000->8080/tcp, :::7000->8080/tcp fe
stive goldberg
d137ab70f98a myjavaapp "Java -jar app.jar" 24 minutes ago Created 0.0.0.0:3000->8080/tcp, :::3000->8080/tcp ad
oring nash
f1575fde7cd myjavaapp "Java -jar app.jar" 29 minutes ago Created 0.0.0.0:5000->8080/tcp, :::5000->8080/tcp in
i-Oaa0effddf306f387 (Docker_demo)
PublicIPs: 34.205.18.230 PrivateIPs: 172.31.85.230
```

```
ubuntu@ip-172-31-85-230:~$ docker network ls
NETWORK ID NAME DRIVER SCOPE
4767bd3dba81 bridge bridge local
02d9968f1503 host host local
7706a881c311 mynetwork bridge local
fc31cb6516d0 none null local
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$ docker run -d --name con1 --network mynetwork busybox sleep 1000
Unable to find image 'busybox:latest' locally
latest: Pulling from library/busybox
ec562eabd705: Pull complete
Digest: sha256:9ae97d36d26566ff84e8893c64a6dc4fe8ca6d1144bf5b87b2b85a32def253c7
Status: Downloaded newer image for busybox:latest
d0cabdbcbdd02ccbf0c3d821bd8cdfd8d5e879f30f5332334e05848b87b01689
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$ docker run -d --name con2 --network mynetwork mysql
5f87bc9718ece405a8815229bc846864a2f52eafe313db1a2fc8d80e6689a259
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
ubuntu@ip-172-31-85-230:~$
i-Oaa0effddf306f387 (Docker_demo)
PublicIPs: 35.175.146.190 PrivateIPs: 172.31.85.230
```