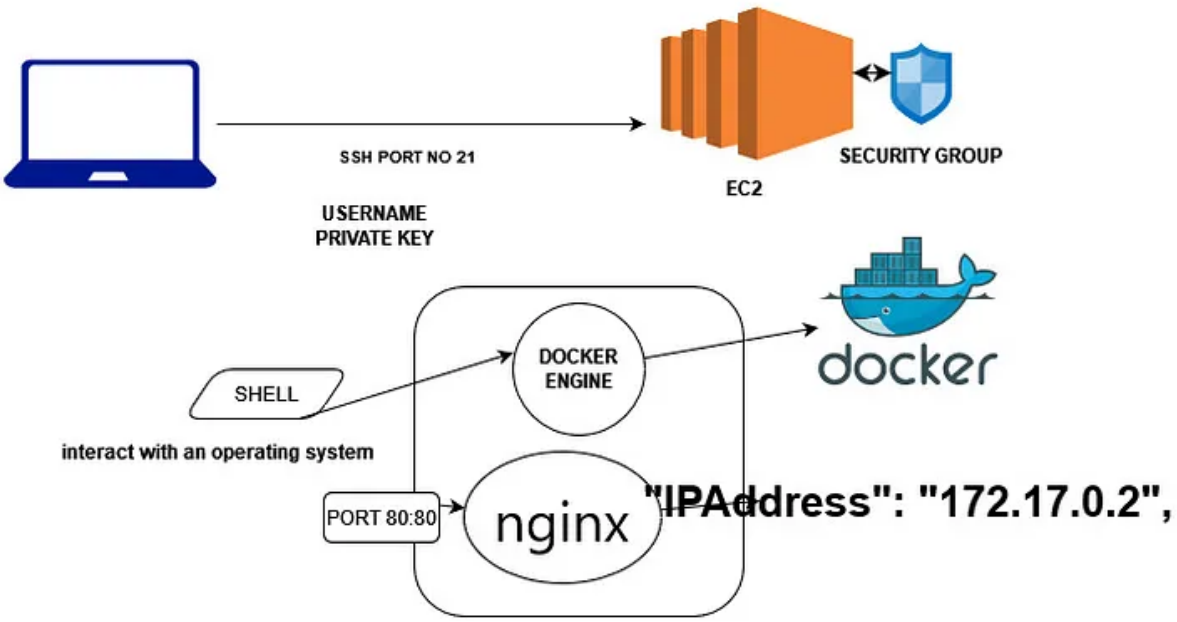
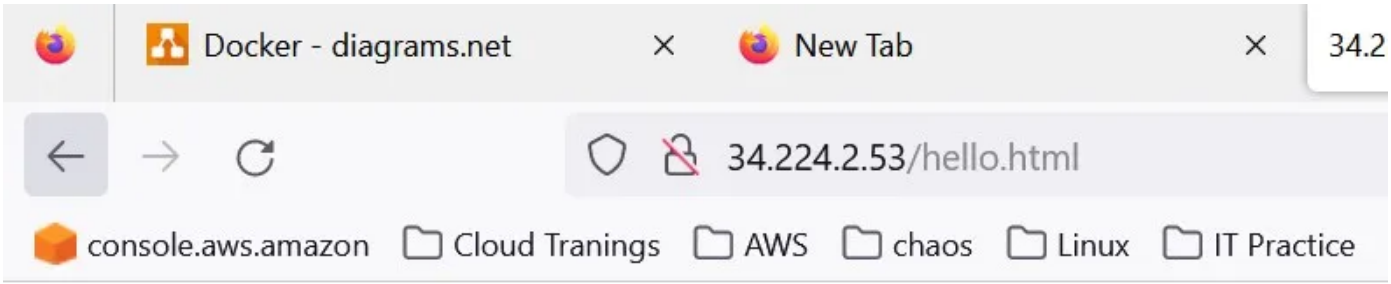
Manikanta Suru

Mar 14 · 4 min read · Listen

Let's Understand “Deploying a Static Web Site on Docker with Nginx and EC2 Set by step.



Let's understand Deploying a Web Site on Docker, with Nginx and EC2



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1. Create a Security Group (Firewall).

2. Launch EC2.

3. Connect through MobaXterm/Putty/super Putty

4. Install Docker in EC2

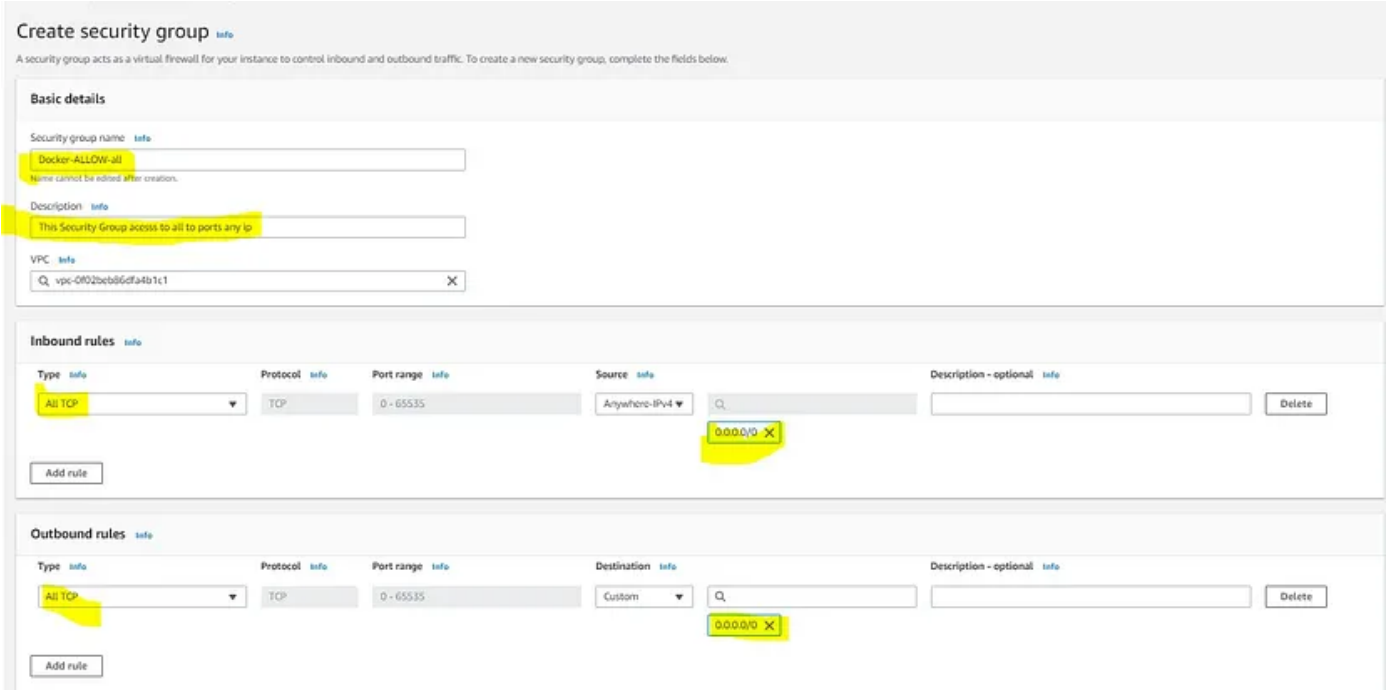
5. Pull the Image from the Docker hub and commands with a brief *Explanation real-time use case.*

1. *Create a Security Group:-*

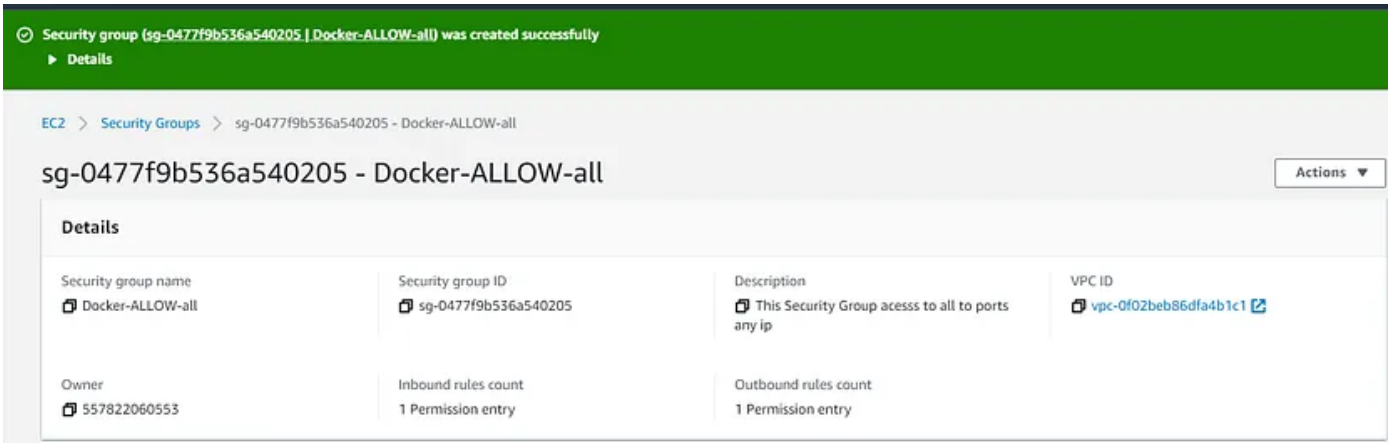
· Create a new security group

· Inbound rules: ALL TCP and 0.0.0.0/0

· Outbound rules: ALL TCP and 0.0.0.0/0

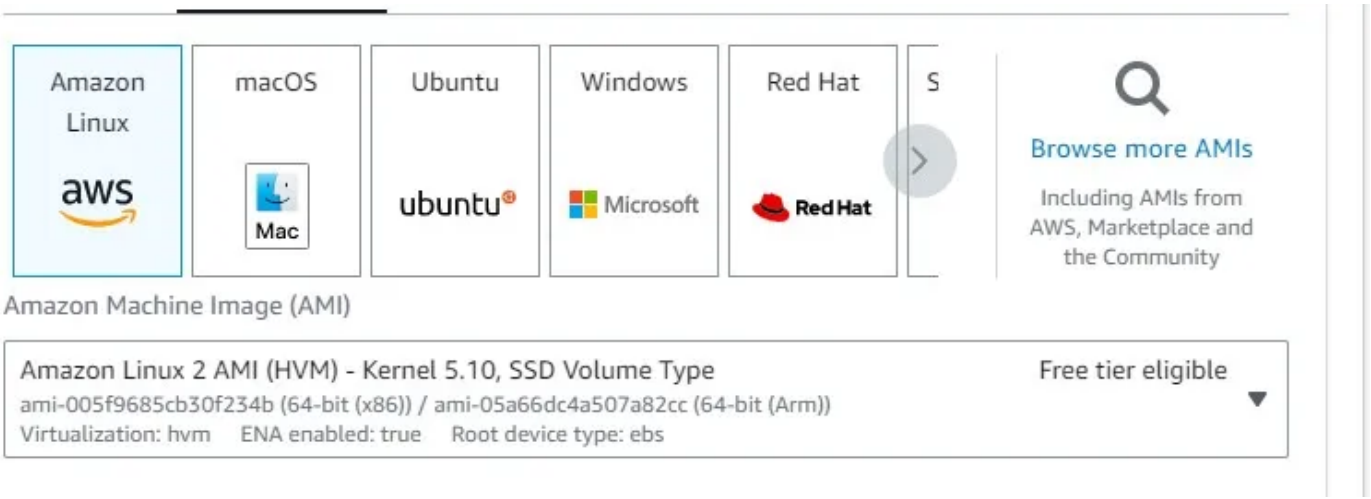


Select -> Create Security Group

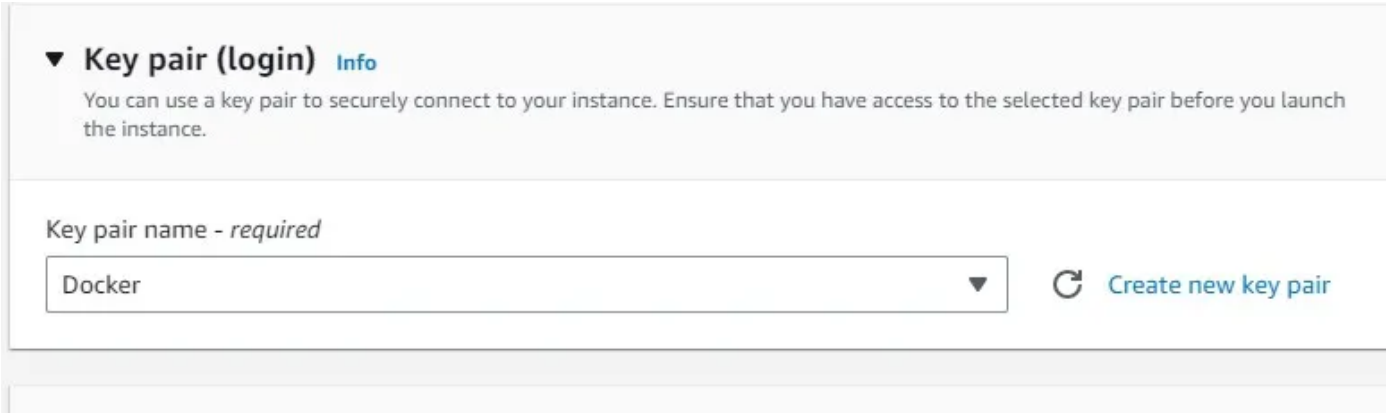


2. Launch EC2.

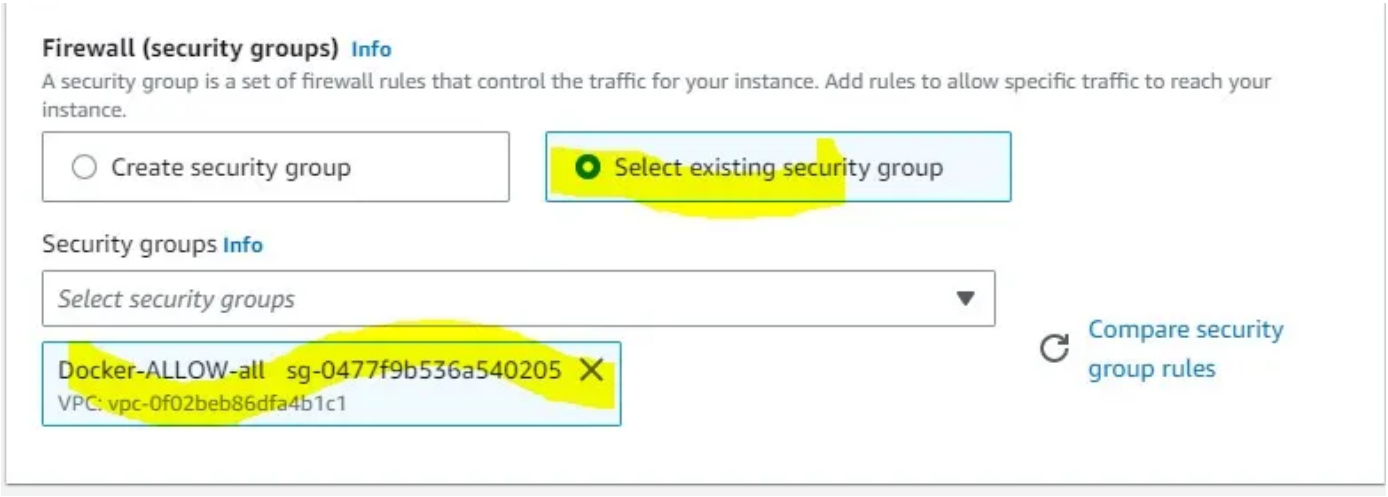
select >Amazon >linux

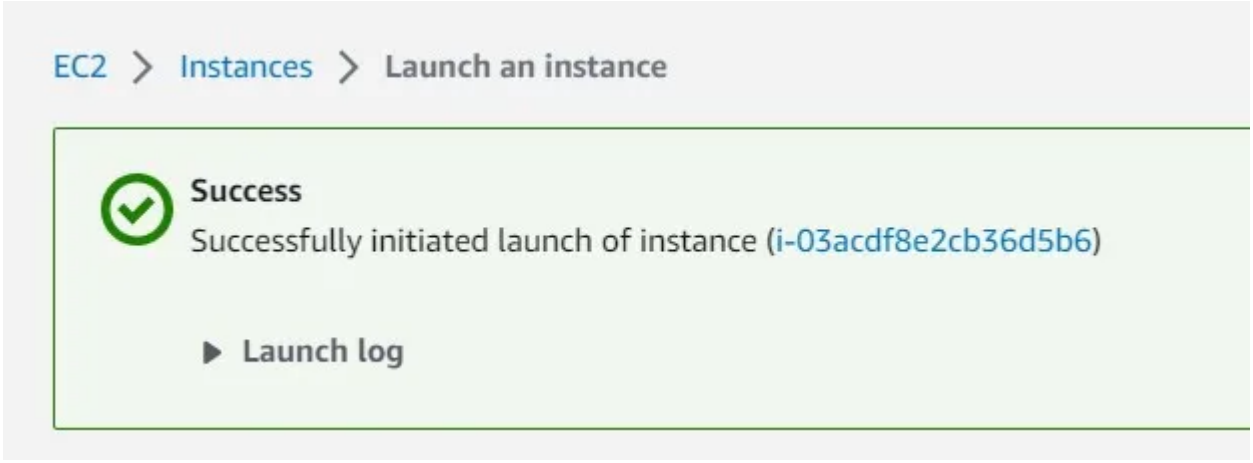


Select Key pair

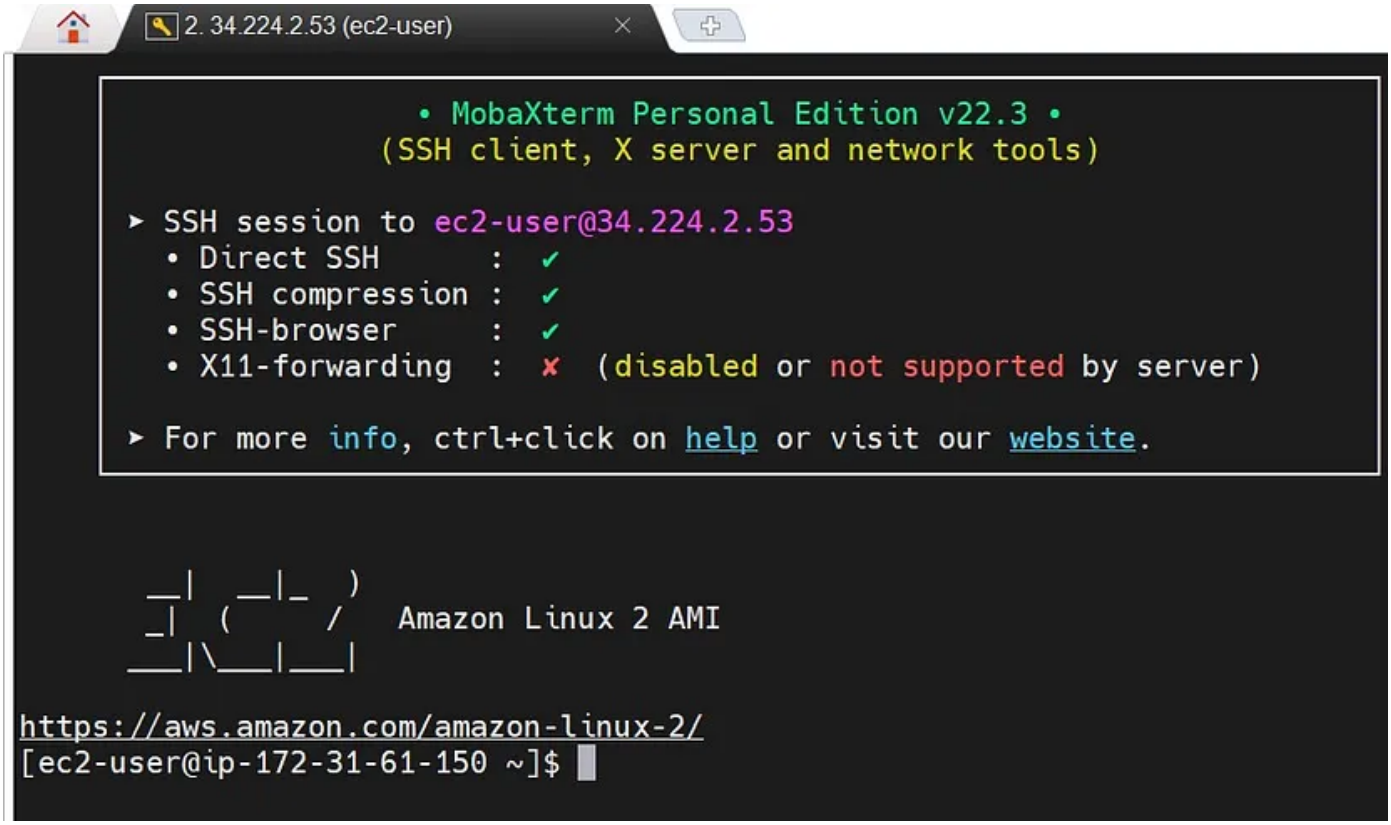


Select the already existing Security Group





3. Connect through MobaXterm/Putty/super Putty



4. Install Docker in EC2

Update OS packages: sudo yum update -y

Install Docker

sudo amazon-linux-extras install docker

```
Running transaction
  Installing : runc-1.1.4-1.amzn2.0.1.x86_64                                    1/
  Installing : containerd-1.6.8-1.amzn2.0.1.x86_64                              2/
  Installing : libcgroup-0.41-21.amzn2.x86_64                                   3/
  Installing : pigz-2.3.4-1.amzn2.0.1.x86_64                                    4/
  Installing : docker-20.10.17-1.amzn2.0.2.x86_64                               5/
  Verifying  : containerd-1.6.8-1.amzn2.0.1.x86_64                              1/
  Verifying  : pigz-2.3.4-1.amzn2.0.1.x86_64                                    2/
  Verifying  : libcgroup-0.41-21.amzn2.x86_64                                   3/
  Verifying  : docker-20.10.17-1.amzn2.0.2.x86_64                               4/
  Verifying  : runc-1.1.4-1.amzn2.0.1.x86_64                                    5/

Installed:
  docker.x86_64 0:20.10.17-1.amzn2.0.2

Dependency Installed:
  containerd.x86_64 0:1.6.8-1.amzn2.0.1       libcgroup.x86_64 0:0.41-21.amzn2       pigz.x86_64 0:2.3.4-1.amzn2.0.1
  runc.x86_64 0:1.1.4-1.amzn2.0.1
```

5. Pull the Image from the Docker hub and commands with a brief *Explanation real-time use case.*

sudo service docker start

```
[ec2-user@ip-172-31-61-150 ~]$ sudo service docker start
Redirecting to /bin/systemctl start docker.service
[ec2-user@ip-172-31-61-150 ~]$
```

command is used to enable the Docker service to start automatically at boot time on systems that use systemd as the init syste***Enable it***

sudo systemctl enable docker

```
[ec2-user@ip-172-31-61-150 ~]$ sudo systemctl enable docker
Created symlink from /etc/systemd/system/multi-user.target.wants/docker.service to /usr/lib/systemd/system/docker.service.
```

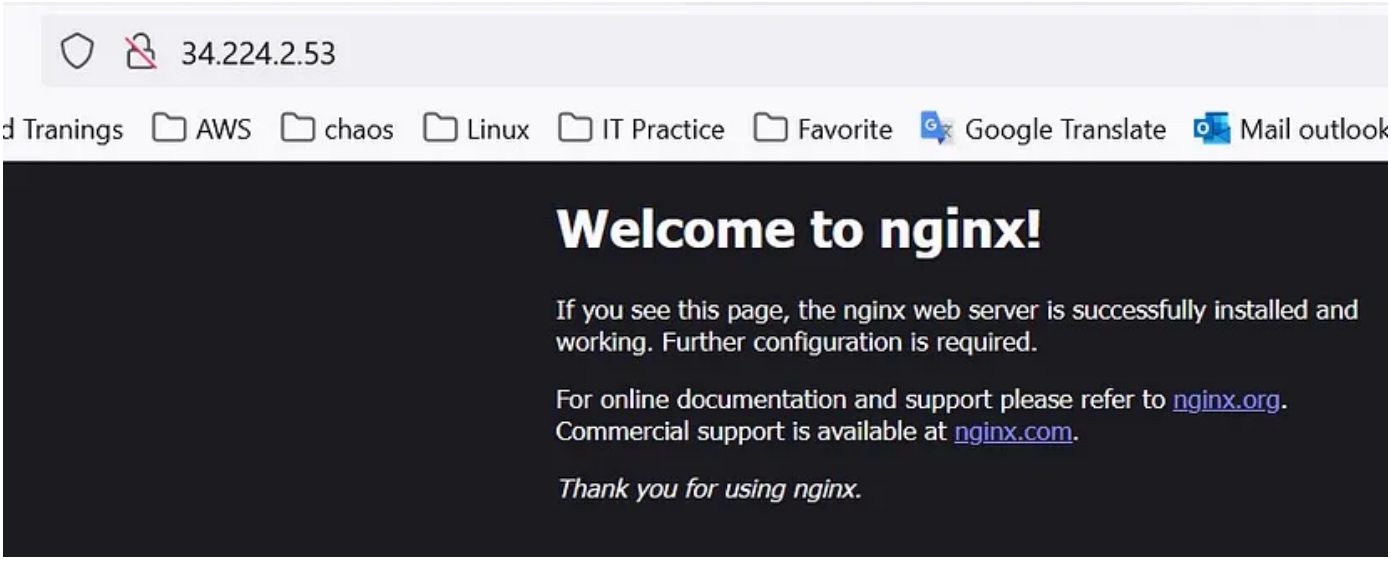
Add the user to the docker group

sudo usermod -a -G docker ec2-user.docker run -d -p 80:80 nginx

Map a container port to a host port.
docker run -d -p 80:80 nginx
docker run -d -p <any-host-port>:80 nginx

```
[ec2-user@ip-172-31-61-150 ~]$ docker run -d -p 80:80 nginx
d9c7f79557cfda8042bab2262b3fba736607469c6307ad8820137f9b30f13d0e
[ec2-user@ip-172-31-61-150 ~]$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS                                   NA
MES
d9c7f79557cf   nginx          "/docker-entrypoint.…"   12 seconds ago   Up 12 seconds   0.0.0.0:80→80/tcp, :::80→80/tcp         de
termined_pascal
ff4162b6e864   904b8cb13b93   "/docker-entrypoint.…"   33 minutes ago   Up 17 minutes   80/tcp                                  in
telligent_kilby
[ec2-user@ip-172-31-61-150 ~]$
```

Go to any Browser and type your EC2 Instance ip on url tab



i want to login to the nginx container and see what is there inside change web page add new HTML page

docker exec -it <ID> bash

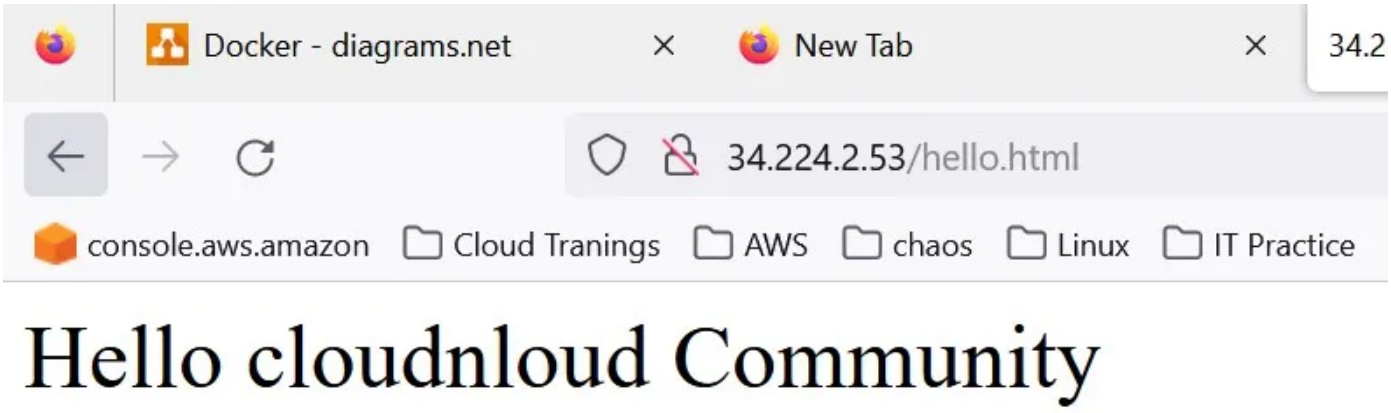
```
[ec2-user@ip-172-31-61-150 ~]$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS                                   NAMES
d9c7f79557cf   nginx          "/docker-entrypoint.…"   10 minutes ago   Up 10 minutes   0.0.0.0:80→80/tcp, :::80→80/tcp         determined_p
ascal
ff4162b6e864   904b8cb13b93   "/docker-entrypoint.…"   44 minutes ago   Up 28 minutes   80/tcp                                  intelligent_
kilby
[ec2-user@ip-172-31-61-150 ~]$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS                                   NAMES
d9c7f79557cf   nginx          "/docker-entrypoint.…"   10 minutes ago   Up 10 minutes   0.0.0.0:80→80/tcp, :::80→80/tcp         determined_p
ascal
ff4162b6e864   904b8cb13b93   "/docker-entrypoint.…"   44 minutes ago   Up 28 minutes   80/tcp                                  intelligent_
kilby
[ec2-user@ip-172-31-61-150 ~]$ docker exec -it d9c7f79557cf bash
root@d9c7f79557cf:/#
```

cd /usr/share/nginx/html

root@d9c7f79557cf:/usr/share/nginx/html# echo “Hello cloudnloud Community” > hello.html

```
root@d9c7f79557cf:/usr/share/nginx/html# rm -f echo Hello cloudnloud Community  >hello.html
root@d9c7f79557cf:/usr/share/nginx/html# echo "<font size='20'>Hello cloudnloud Community</font>" > hello.html
```

Go to any Browser and type your EC2 Instance ip on url tab



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Docker commands with a brief *Explanation of real-time use case.*

docker images → will show the images available in the server

docker pull <name>:<version> → will pull the image from docker hub

docker pull nginx

nginx - Official Image | Docker Hub

Official build of Nginx.

hub.docker.com

```
[ec2-user@ip-172-31-61-150 ~]$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
3f9582a2cbe7: Pull complete
9a8c6f286718: Pull complete
e81b85700bc2: Pull complete
73ae4d451120: Pull complete
6058e3569a68: Pull complete
3a1b8f201356: Pull complete
Digest: sha256:aa0afebbb3cfa473099a62c4b32e9b3fb73ed23f2a75a65ce1d4b4f55a5c2ef2
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
[ec2-user@ip-172-31-61-150 ~]$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
Digest: sha256:aa0afebbb3cfa473099a62c4b32e9b3fb73ed23f2a75a65ce1d4b4f55a5c2ef2
Status: Image is up to date for nginx:latest
docker.io/library/nginx:latest
```

docker create <image-id> — create container out of image

```
[ec2-user@ip-172-31-61-150 ~]$ docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
nginx        latest    904b8cb13b93   12 days ago   142MB
[ec2-user@ip-172-31-61-150 ~]$ docker create  904b8cb13b93
ff4162b6e86457ce679546100be3fe11d3cc895c3525ef26ea7313be8f3e1fdf
[ec2-user@ip-172-31-61-150 ~]$
```

docker ps — will show running containers it

```
[ec2-user@ip-172-31-61-150 ~]$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED         STATUS             PORTS     NAMES
ff4162b6e864   904b8cb13b93   "/docker-entrypoint.…"   16 minutes ago   Up About a minute   80/tcp    intelligent_kilby
```

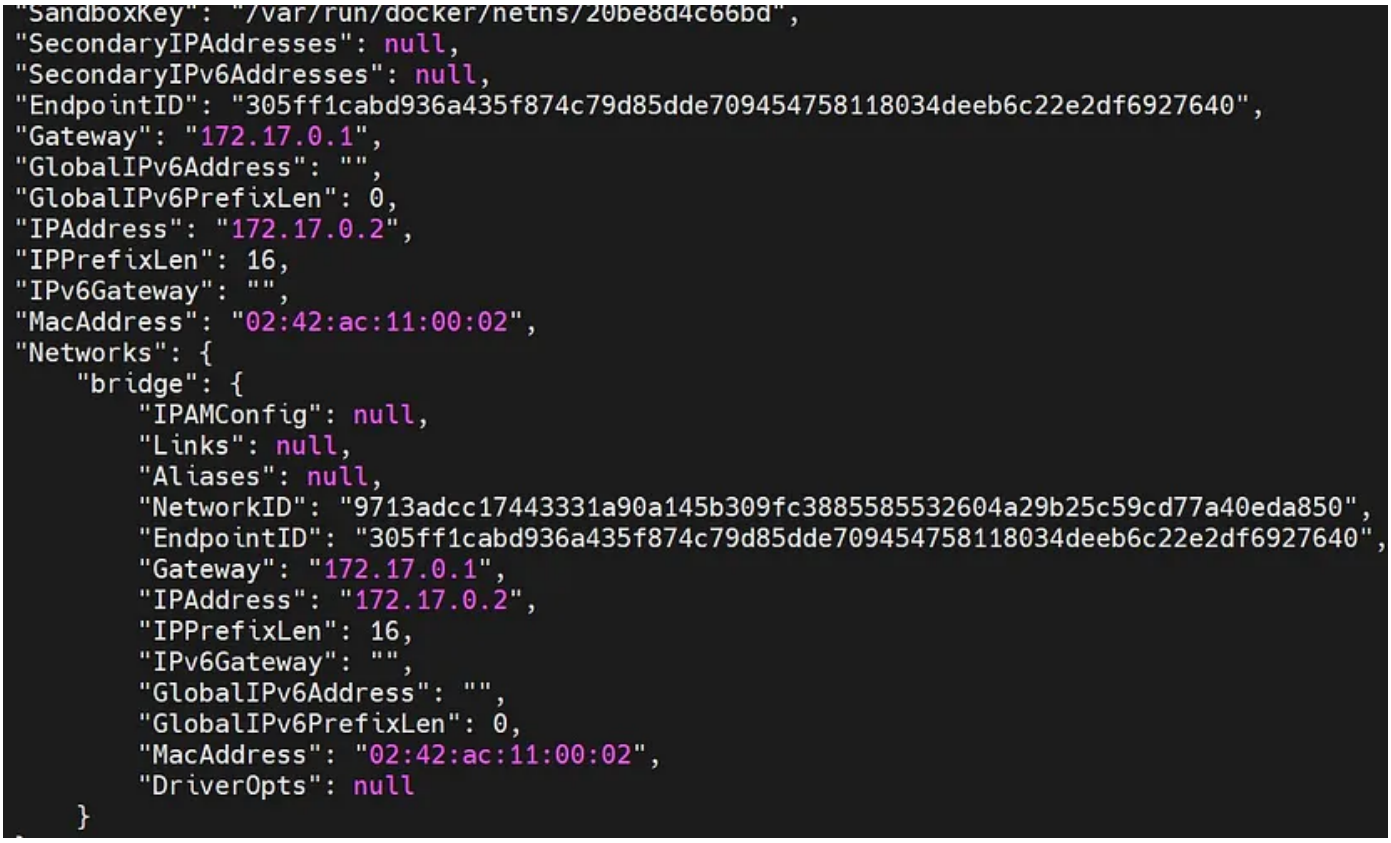
docker stop <container-id> -> it will stop the container

```
[ec2-user@ip-172-31-61-150 ~]$ docker stop d9c7f79557cf
d9c7f79557cf
[ec2-user@ip-172-31-61-150 ~]$
```

docker rm <container-id> -> delete the container

docker rmi <image-id> — will remove images

docker inspect <container-id>



Happy Learning

👉 In case you would like to continue the discussion, you can always reach out to me on Twitter or on LinkedIn for professional networking, if you feel like following me on GitHub you can also do that.

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Docker AWS Docker Image Community