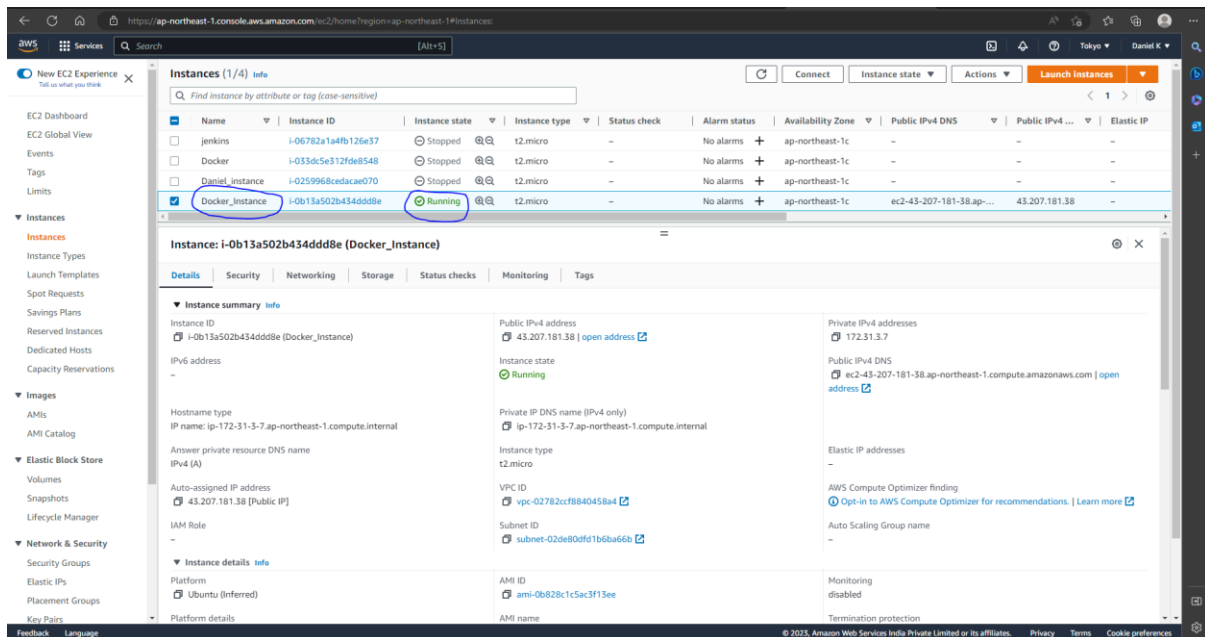# *Devops Assignment-Module 3- Introduction to Dockers*

Assignment 1 - Installing and Configuring Docker on Amazon Linux.docx.txt

Here is the official website of AWS Amazon web services: - https://aws.amazon.com/

1. Sign into to your Account
2. In search box search for EC2 and select EC2.
3. Click on Launch Instance
4. Provide the Required Information such as name, operating system, key pair, etc and click on Launch Instance
5. Amazon EC2 Instance is Created Successfully and Running.

6. To connect to Instance use Puttygen or SSH into cmd

1. To Install Docker here is the official website: -
   https://www.digitalocean.com/community/tutorials/how-to-install-and-use-docker-on-ubuntu-20-04
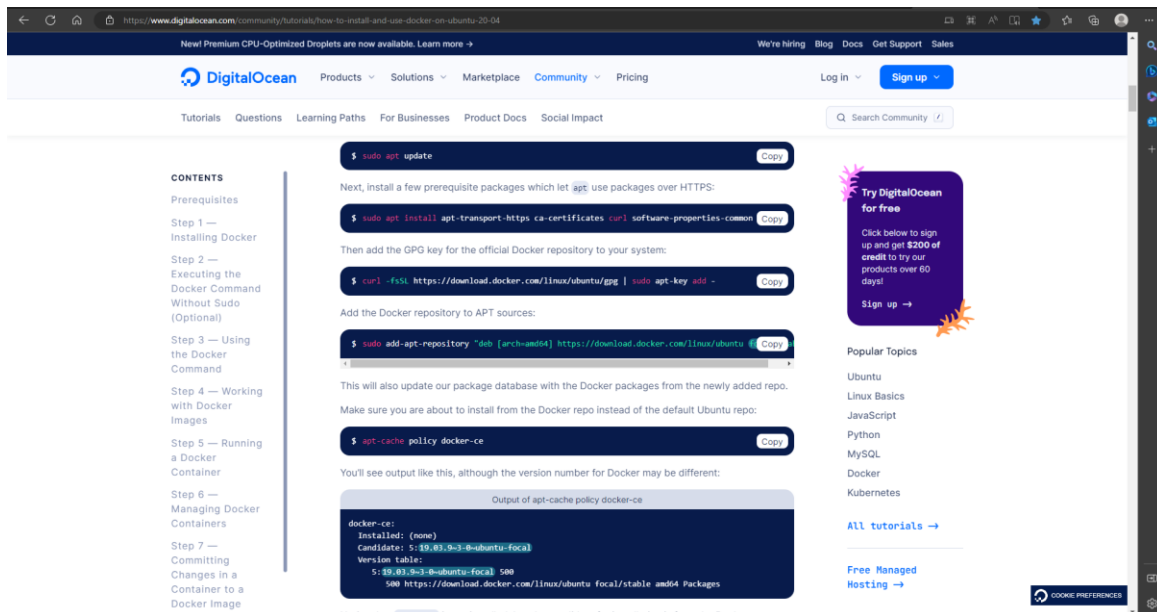
2. Follow the commands respectively: -
   - First, update your existing list of packages:
     →sudo apt update

- Install a few prerequisite packages which let apt use packages over HTTPS:

  →sudo apt install apt-transport-https ca-certificates curl software-properties-common

- Add the Docker repository to APT sources:

→sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu focal stable"

- Finally, install Docker:
  → sudo apt install docker-ce

- Docker should now be installed, the daemon started, and the process enabled to start on boot. Check that it's running:
  → sudo systemctl status docker

Docker Commands:

→docker

→Docker info

→Docker version

→Docker run hello-world

```
root@ip-172-31-3-7: /home/ubuntu
root@ip-172-31-3-7:/home/ubuntu# docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:6e8b6f026e0b9c419ea0fd02d3905dd0952ad1feea67543f525c73a0a790fefb
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/

root@ip-172-31-3-7:/home/ubuntu#
```

To create and run a container:

➔ Docker run –name mycontainer -it -d centos /bin/bash

```
root@ip-172-31-3-7: /home/ubuntu
root@ip-172-31-3-7:/home/ubuntu#
root@ip-172-31-3-7:/home/ubuntu# docker run --name mycontainer -it -d centos /bin/bash
Unable to find image 'centos:latest' locally
latest: Pulling from library/centos
a1d0c7532777: Pull complete
Digest: sha256:a27fd8080b517143cbbbab9dfb7c8571c40d67d534bbdee55bd6c473f432b177
Status: Downloaded newer image for centos:latest
dd41c21bc0d25b1bc5710a62b79d5f3d0dec8f28b54c911c61c1b6873070c696
root@ip-172-31-3-7:/home/ubuntu#
```

→docker ps :- to view a running container

→docker ps -a :- to view all the container

```
root@ip-172-31-3-7: /home/ubuntu
root@ip-172-31-3-7:/home/ubuntu# docker ps
CONTAINER ID   IMAGE        COMMAND              CREATED        STATUS         PORTS      NAMES
dd41c21bc0d2   centos       "/bin/bash"          2 minutes ago  Up 2 minutes              mycontainer
3bd8fde66ac7   nginx        "/docker-entrypoint…" 9 minutes ago  Up 9 minutes   80/tcp    priceless_black
root@ip-172-31-3-7:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE        COMMAND              CREATED        STATUS              PORTS      NAMES
dd41c21bc0d2   centos       "/bin/bash"          2 minutes ago  Up 2 minutes                  mycontainer
3bd8fde66ac7   nginx        "/docker-entrypoint…" 9 minutes ago  Up 9 minutes        80/tcp    priceless_black
93f4372debd8   hello-world  "/hello"             48 minutes ago Exited (0) 48 minutes ago    adoring_wright
root@ip-172-31-3-7:/home/ubuntu#
```

Command to login to a running container:

➔ Docker exec -it mycontainer /bin/bash

```
@dd41c21bc0d2:/
root@ip-172-31-3-7:/home/ubuntu# docker ps
CONTAINER ID   IMAGE      COMMAND              CREATED         STATUS          PORTS      NAMES
dd41c21bc0d2   centos     "/bin/bash"          2 minutes ago   Up 2 minutes               mycontainer
3bd8fde66ac7   nginx      "/docker-entrypoint.…" 9 minutes ago Up 9 minutes    80/tcp     priceless_black
root@ip-172-31-3-7:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE      COMMAND              CREATED         STATUS          PORTS      NAMES
dd41c21bc0d2   centos     "/bin/bash"          2 minutes ago   Up 2 minutes               mycontainer
3bd8fde66ac7   nginx      "/docker-entrypoint.…" 9 minutes ago Up 9 minutes    80/tcp     priceless_black
93f4372debd8   hello-world "/hello"            48 minutes ago  Exited (0) 48 minutes ago  adoring_wright
root@ip-172-31-3-7:/home/ubuntu# docker exec -it mycontainer /bin/bash
[root@dd41c21bc0d2 /]#
```

Commands to start or stop containers:

➔docker start container_name or container_id

➔docker stop container_name or container_id

```
root@ip-172-31-3-7: /home/ubuntu
root@ip-172-31-3-7:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE       COMMAND              CREATED          STATUS          PORTS      NAMES
dd41c21bc0d2   centos      "/bin/bash"          2 minutes ago    Up 2 minutes               mycontainer
3bd8fde66ac7   nginx       "/docker-entrypoint.…" 9 minutes ago  Up 9 minutes    80/tcp     priceless_black
93f4372debd8   hello-world "/hello"             48 minutes ago   Exited (0) 48 minutes ago  adoring_wright
root@ip-172-31-3-7:/home/ubuntu# docker exec -it mycontainer /bin/bash
[root@dd41c21bc0d2 /]# exit
exit
root@ip-172-31-3-7:/home/ubuntu# docker stop 3bd8fde66ac7
3bd8fde66ac7
root@ip-172-31-3-7:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE       COMMAND              CREATED          STATUS          PORTS      NAMES
dd41c21bc0d2   centos      "/bin/bash"          12 minutes ago   Up 12 minutes              mycontainer
3bd8fde66ac7   nginx       "/docker-entrypoint.…" 19 minutes ago Exited (0) 15 seconds ago  priceless_black
93f4372debd8   hello-world "/hello"             58 minutes ago   Exited (0) 58 minutes ago  adoring_wright
root@ip-172-31-3-7:/home/ubuntu# docker start 3bd8fde66ac7
3bd8fde66ac7
root@ip-172-31-3-7:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE       COMMAND              CREATED          STATUS          PORTS      NAMES
dd41c21bc0d2   centos      "/bin/bash"          12 minutes ago   Up 12 minutes              mycontainer
3bd8fde66ac7   nginx       "/docker-entrypoint.…" 19 minutes ago Up 3 seconds    80/tcp     priceless_black
93f4372debd8   hello-world "/hello"             58 minutes ago   Exited (0) 58 minutes ago  adoring_wright
root@ip-172-31-3-7:/home/ubuntu#
```

To remove a container:

➔docker rm container_name or container_id

```
root@ip-172-31-3-7: /home/ubuntu
root@ip-172-31-3-7:/home/ubuntu# docker start 3bd8fde66ac7
3bd8fde66ac7
root@ip-172-31-3-7:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE       COMMAND              CREATED          STATUS          PORTS      NAMES
dd41c21bc0d2   centos      "/bin/bash"          12 minutes ago   Up 12 minutes              mycontainer
3bd8fde66ac7   nginx       "/docker-entrypoint.…" 19 minutes ago Up 3 seconds    80/tcp     priceless_black
93f4372debd8   hello-world "/hello"             58 minutes ago   Exited (0) 58 minutes ago  adoring_wright
root@ip-172-31-3-7:/home/ubuntu# docker rm 93f4372debd8
93f4372debd8
root@ip-172-31-3-7:/home/ubuntu#
```

➔docker images

➔docker rmi image_name or image_id

```
root@ip-172-31-3-7: /home/ubuntu
93f4372debd8   hello-world  "/hello"          58 minutes ago   Exited (0) 58 minutes ago         adoring_wright
root@ip-172-31-3-7:/home/ubuntu# docker rm 93f4372debd8
93f4372debd8
root@ip-172-31-3-7:/home/ubuntu# docker images
REPOSITORY    TAG      IMAGE ID        CREATED        SIZE
nginx         latest   904b8cb13b93    5 days ago     142MB
hello-world   latest   feb5d9fea6a5    17 months ago  13.3kB
centos        latest   5d0da3dc9764    17 months ago  231MB
root@ip-172-31-3-7:/home/ubuntu# docker rmi feb5d9fea6a5
Untagged: hello-world:latest
Untagged: hello-world@sha256:6e8b6f026e0b9c419ea0fd02d3905dd0952ad1feea67543f525c73a0a790fefb
Deleted: sha256:feb5d9fea6a5e9606aa995e879d862b825965ba48de054caab5ef356dc6b3412
Deleted: sha256:e07ee1baac5fae6a26f30cabfe54a36d3402f96afda318fe0a96cec4ca393359
root@ip-172-31-3-7:/home/ubuntu#
```
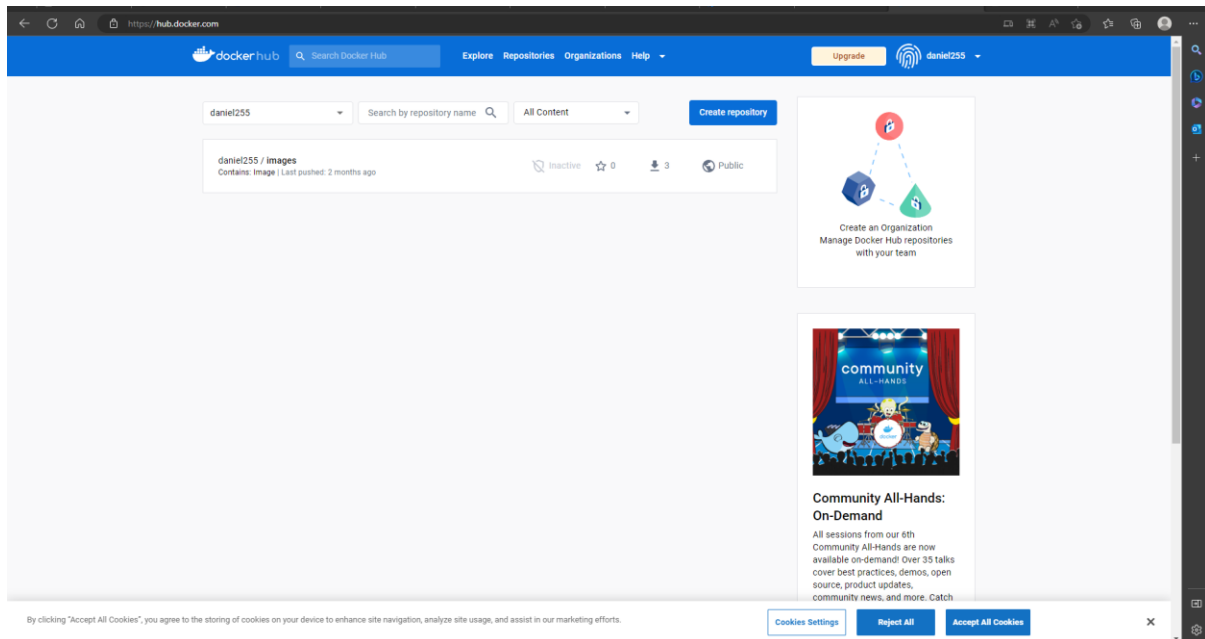
Docker Hub

Here is the official website for Docker Hub: - https://hub.docker.com/

Command to authenticate to Docker Hub:

→docker login

Command to push tagged image to a DockerHub Repository:

→docker push daniel255/images:tagname
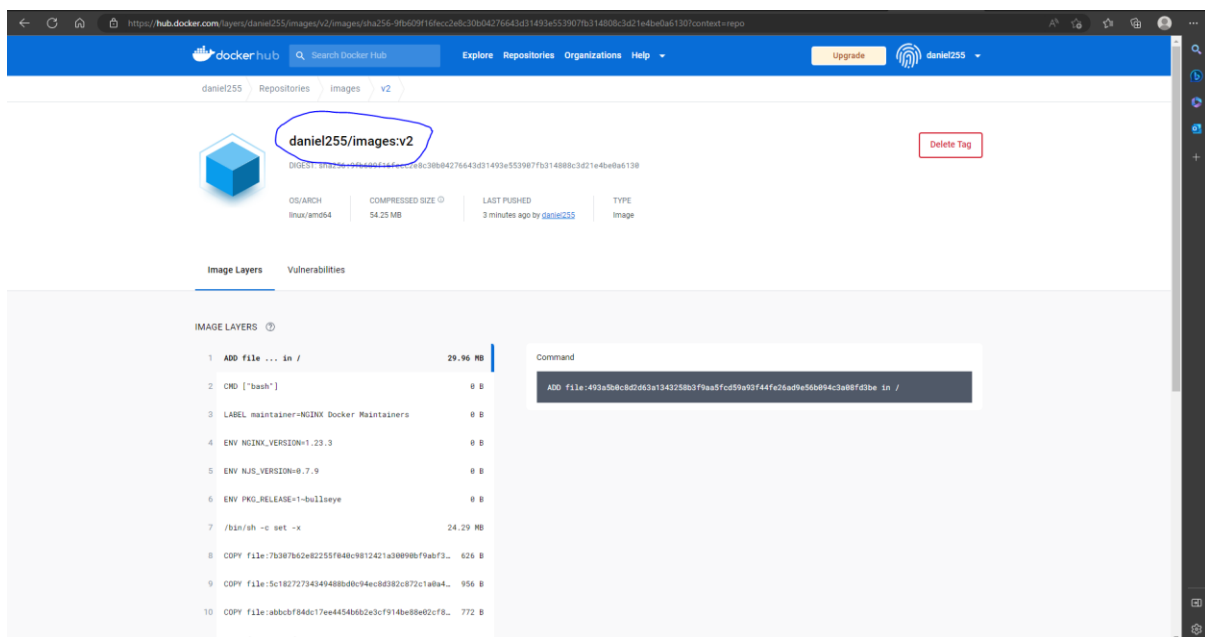
Docker image v2 has been pushed to docker hub successfully: