Experiment - 09

Aim: To learn Dockerfile instructions, build an image for a sample web application using Dockerfile.

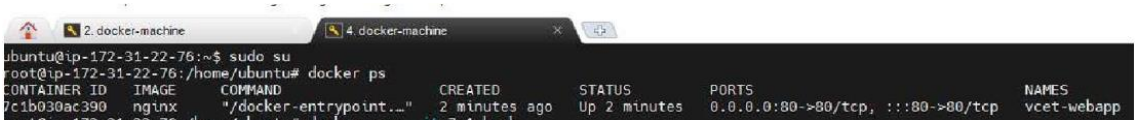
Theory :

Steps are as follows:

1. To map the port numbers of EC2 as well as web application and to run container "nginx" give command as

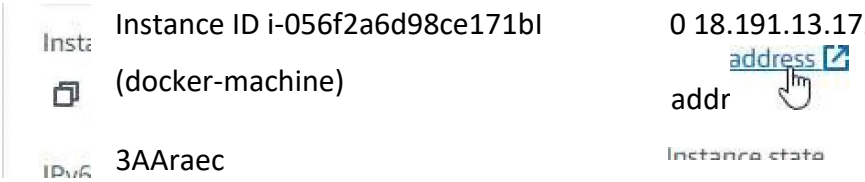
   #docker run -it -p 80:80 --name vcet_webapp nginx bash

2. Check with #docker ps with new tab



3. Try to open url with address by clicking from AWS EC2 as follows:

Instance: i-056f2a6d98ce171b1 (docker-machine)



4. Give the command as "#service nginx"

start Public IPv4 address

docker run -It -p 80:80 —name tsec webapp nginx bash root@6be4bOebOd72:/# ser ice ngüD(status bash: serice: command not found service nginx status [FAIL] nginx is not running . fa i.led! root@6be4bOebOd72:/# service nginx start

2021/07/05 11:39:23 [notice J 40#40: using the "epoU" event method

2021/07/05 [notice] 40#40: nginx/1.21.O

2021/07/65 [notice] 40#40: built by gcc 8.3.O (Debian 8-3.0-6)

2021/07/05 [notice] 40#40: OS: Linux 5-4.0-1045-aws

2021/07/05 [notice] 40#40: getrtimtt(RLIMIT NOFILE): 1048576: 1048576

2021/07/65 11:39:23 [notice] 41#41: start worker processes

2021/07/05 [notice] 41#41: start worker process 42

43 . 242 , - [05/3111/2021: +0000] "GET / HTTP/I.I" 200 61 1' "MoziUa/5,O (Windows NT 10.0; Win64; *64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome,'Y 1472.124 safari/537.36

2021/07/05 11:39:24 [error] *2 open( ) i'/usr/share/nginx/html/favicon. ico n tauted (2: uch file or directory), client: 43 .242.208.201, server: Localhost, request: "GET /favicon. ic TP/I. host. referrer:

43.242. 208 201 - - [05/3111/2021: +0000] "GET /favicon. ico HTTP/I.I" 404 555 "Mozitta/5.o (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, tike Gecko) ome/91.o.4472._124 Safar-1/537.36"

.15.127.45.202 - - +00001 "GET / HTTP/I.I" 200 612 "Mozit1a/5.O s NT 10.6; Win64; 164) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/91.O.4472.124 Safari/53

5. Open this URL: change https as http and then check the output as

The below web page is accessible by the container.

A Not secure | 18.191.13.172

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration Is required.

For online documentation and support please refer to nginx.org. Commercial support is available at nginx.cam.

Thank you for using nginx.

6. Open a new tab and give command as :

#docker exec -it 7cl bash

```
7c1b030ac390   nginx     "/docker-entrypoint.…"   2 minutes ago   Up 2 minutes   0.0.0.0:80->80/tcp, :::80->80/tcp   vcet-webapp
root@ip-172-31-22-76:/home/ubuntu# docker exec -it 7c1 bash
root@7c1b030ac390:/#
```

7. To change index.html file go to html folder as

oot@ip-L72-3L-22-76 docker exec -it 7c1 bash cd /usr/share/nginx/html/

8. Change the name of index.html as index.html.backup

```
root@7c1b030ac390:/usr/share/nginx/html# mv index.html index.html.backup
root@7c1b030ac390:/usr/share/nginx/html# ls
50x.html  index.html.backup
root@7c1b030ac390:/usr/share/nginx/html#
```

9. Type the command as "#apt update" to install "nano" editor and to change the code of html.

10. Install nano editor:

```
Get;                    r/share/ngtnx/html# apt update
Get;2  . http://securuty. debian.org/debian-security buster(updates InReIease [65.4 kEJ
Get:     http;//deb.debian.org/debian buster InRe1eese [122 kE)
Get:4  } http://deb . debian.org/debian buster-updates InRe1ease [51.9 kg )
Get: S  ://security. debian.org/debian-security buster/updates/nain amd64 packages
Get:6    kB1 http://deb . debian .org/debian buster/mein amda4 packages C 7907 kB]
Fetched ://deb . debian.org/debian buster-updates/main amd64 packages [15.2 kB] 8461
Read    s (4316 keys ) ung package lists... Cone dependency tree state information. Done
Building
```

```
Readingages can be upgraded. Run 'apt list --upgradable' to see them.
4          @7c1b03€ac3ge: (us r/share/nginx/html# apt install nano'
```

11. After this, give command as nano index.html. Copy-paste the code and save the file.

12. Check the output by hitting the URL.

13. To remove the container, give the command as

Conclusion : Therefore we studied Dockerfile instructions and successfully built an image for a sample web application using Dockerfile