

Lab Guide 3

Dockerfile

Q.1 Create a dockerfile using as base image oraclelinux:8.3 and configure apache server and there should be 3 files index.html training.html trainer.html you need to write something inside all these files. And then create image by ur name and try to run it with any random port no. and verify whether it is accessible or not

Q. 2 Use git command to clone the same repo that i have did the url for that is <https://github.com/mdhack0316/dockerfile> and create multiple images using existing folder and verify whether it is working fine or not

Q.3 use docker.io/library/httpd and change the content of index file by default the content is IT WORKS but u need to change it and try to run and Verify.

Q.4 use nginx image and change the content of this image using docker file .. and then try to expose it on any port no. and verify the same

Ans.1

Vim Dockerfile

Cat Dockerfile

Cat trainer.html

Cat training.html

Docker build -t mayank .

Docker run -itd -p 3535:80 mayank

Docker inspect <container_name> | grep -I ip

Curl <container ip>

Curl <container ip>/trainer.html

Curl <container ip>/training.html

```

[root@trainer docker]# cat Dockerfile
FROM oraclelinux:8.3

MAINTAINER mayankmodi

RUN yum install httpd -y

WORKDIR /var/www/html/

RUN echo "Hello from Dockerfile" > index.html

COPY training.html .
COPY trainer.html .

CMD httpd -DFOREGROUND
[root@trainer docker]# cat trainer.html
hi trainer
[root@trainer docker]# cat training.html
hi training
[root@trainer docker]# docker build -t mayank .
Sending build context to Docker daemon 203.8kB
Step 1/8 : FROM oraclelinux:8.3
--> 816d99f0bbe8
Step 2/8 : MAINTAINER mayankmodi
--> Using cache
--> 2b815d694b35
Step 3/8 : RUN yum install httpd -y
--> Using cache
--> 65f6ff76ace5
Step 4/8 : WORKDIR /var/www/html/
--> Using cache
--> 1eef05edf491
Step 5/8 : RUN echo "Hello from Dockerfile" > index.html
--> Using cache

```

```

[root@trainer docker]# docker run -itd -p 3434:80 mayank
6a6fdedc1d44720fae08ee55805d59a44e550bee7183dc953374e96597b78b36
[root@trainer docker]# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS
6a6fdedc1d44   mayank        "/bin/sh -c 'httpd -..." 5 seconds ago  Up 4 seconds
4→80/tcp      adoring_dewdney
82cf882c8d44   mdhack/myserver  "/bin/sh -c 'httpd -..." 9 minutes ago  Up 9 minutes
8→80/tcp      magical_pasteur
cad5e187e036   mdhack/myapache  "/bin/sh -c 'httpd -..." 9 minutes ago  Up 9 minutes
6→80/tcp      objective_meitner
008052b432c6   nginx          "/docker-entrypoint..." 9 minutes ago  Up 9 minutes
5→80/tcp      friendly_kapitsa
fd42fab8a46e   httpd          "httpd-foreground"       9 minutes ago  Up 9 minutes
4→80/tcp      magical_driscoll
f825d0d9c3c7   oraclelinux:8.3  "/bin/bash"              16 minutes ago  Up 16 minutes
romantic_golick
de028ba93888   nginx          "/docker-entrypoint..." 18 minutes ago  Up 18 minutes
dazzling_turing
b2a8a10c49d1   httpd          "httpd-foreground"       18 minutes ago  Up 18 minutes
charming_booth
[root@trainer docker]# docker inspect adoring_dewdney | grep -i ip
      "HostIp": "",
      "IpMode": "private",

```

```

b2a8a10c49d1  httpd      "httpd-foreground"      18 minutes ago   Up 18 minutes    80/tcp
charming_booth
[root@trainer docker]# docker inspect adoring_dewdney | grep -i ip
        "HostIp": "",
        "IpcMode": "private",
        "LinkLocalIPv6Address": "",
        "LinkLocalIPv6PrefixLen": 0,
        "HostIp": "0.0.0.0",
        "HostIp": "::",
        "SecondaryIPAddresses": null,
        "SecondaryIPv6Addresses": null,
        "GlobalIPv6Address": "",
        "GlobalIPv6PrefixLen": 0,
        "IPAddress": "172.17.0.9",
        "IPPrefixLen": 16,
        "IPv6Gateway": "",
        "IPAMConfig": null,
        "IPAddress": "172.17.0.9",
        "IPPrefixLen": 16,
        "IPv6Gateway": "",
        "GlobalIPv6Address": "",
        "GlobalIPv6PrefixLen": 0,
[root@trainer docker]# curl 172.17.0.9
Hello from Dockerfile
[root@trainer docker]# curl 172.17.0.9/training.html
hi training
[root@trainer docker]# curl 172.17.0.9/trainer.html
hi trainer
[root@trainer docker]#

```

Ans.2

Git clone <https://github.com/mdhack0316/dockerfile>

Cd dockerfile

Cd normalwebsite

Ls

Cat Dockerfile

Cat index.html

Docker build -t mozilla .

Docker run -itd --name mayank1 -p 3555:80 mozilla

Docker inspect mayank1 | grep -i ip

Curl <container ip>

Goto browser --- <http://publicip:3555>

Cd pythoncodedocker

Ls

Cat Dockerfile

Docker build -t python .

Docker run -it python

```
root@trainer ~]# git clone https://github.com/mdhack0316/dockerfile
fatal: destination path 'dockerfile' already exists and is not an empty directory.
root@trainer ~]#
root@trainer ~]# rm -rf dockerfile/
root@trainer ~]# git clone https://github.com/mdhack0316/dockerfile
root@trainer ~]# git clone https://github.com/mdhack0316/dockerfile
Cloning into 'dockerfile' ...
remote: Enumerating objects: 29, done.
remote: Counting objects: 100% (29/29), done.
remote: Compressing objects: 100% (23/23), done.
remote: Total 29 (delta 3), reused 19 (delta 1), pack-reused 0
Receiving objects: 100% (29/29), 61.64 KiB | 2.37 MiB/s, done.
Resolving deltas: 100% (3/3), done.
root@trainer ~]# cd docker
root@trainer docker]# cd ../dcokerfile
bash: cd: ../dcokerfile: No such file or directory
root@trainer docker]# ls
Dockerfile  dockerfile  mayank.html  mayankfile  trainer.html  training.html
root@trainer docker]# cd
root@trainer ~]# cd dockerfile
root@trainer dockerfile]# ls
README.md  maynak.txt  normalwebsite  pythoncodedocker
root@trainer dockerfile]# cd normalwebsite/
root@trainer normalwebsite]# ls
CODE_OF_CONDUCT.md  Dockerfile  LICENSE  README.md  images  index.html  styles
root@trainer normalwebsite]# docker build -t mozilla .
```

```
root@trainer normalwebsite]#
root@trainer normalwebsite]# docker run -itd -p 3555:80 mozilla
root@trainer normalwebsite]# docker run -itd --name mayank12 -p 3555:80 mozilla
5e77510ff0333c5fbbc868544b2207285ac5294aa8c5ae1a4924000ef7ce325
root@trainer normalwebsite]# docker inspect mayank12 | grep -i ip
        "HostIp": "",
        "IpcMode": "private",
        "LinkLocalIPv6Address": "",
        "LinkLocalIPv6PrefixLen": 0,
        "HostIp": "0.0.0.0",
        "HostIp": "::",
        "SecondaryIPAddresses": null,
        "SecondaryIPv6Addresses": null,
        "GlobalIPv6Address": "",
        "GlobalIPv6PrefixLen": 0,
        "IPAddress": "172.17.0.10",
        "IPPrefixLen": 16,
        "IPv6Gateway": "",
        "IPAMConfig": null,
        "IPAddress": "172.17.0.10",
        "IPPrefixLen": 16,
        "IPv6Gateway": "",
        "GlobalIPv6Address": "",
        "GlobalIPv6PrefixLen": 0,
root@trainer normalwebsite]# curl 172.17.0.10
!DOCTYPE html>
html>
```

```
dockerfile hello.py
[root@trainer pythoncodedocker]# docker build -t python .
Sending build context to Docker daemon 3.584kB
Step 1/6 : FROM oraclelinux:8.3
----> 816d99f0bbe8
Step 2/6 : MAINTAINER mayank123modi@gmail.com
----> Using cache
----> 3563fc718211
Step 3/6 : RUN dnf install python3 -y
----> Running in 93dfcb549bf1
Oracle Linux 8 BaseOS Latest (x86_64)          157 MB/s | 55 MB      00:00
```

```
[root@trainer pythoncodedocker]# docker run -it python
Hello all , welcome to python.. !!
Welcome to Mayank Containers
```

Ans.3

Create a dockerfile

Vim Dockerfile

Docker build -t newhttpd .

Docker run -itd --name testing newhttpd

docker inspect <container name> | grep -I ip

curl <container ip>

```
[root@trainer new]# cat Dockerfile
FROM httpd

RUN echo hi > /usr/local/apache2/htdocs/index.html

[root@trainer new]#
```

```

[root@trainer new]# ls
[root@trainer new]# vim Dockerfile
[root@trainer new]# docekr build -t newhttpd .
-bash: docekr: command not found
[root@trainer new]# doker build -t newhttpd .
-bash: doker: command not found
[root@trainer new]# docker build -t newhttpd .
Sending build context to Docker daemon 2.048kB
Step 1/2 : FROM httpd
--> 192d41583429
Step 2/2 : RUN echo hi > /usr/local/apache2/htdocs/index.html
--> Running in 7d21f6317181
Removing intermediate container 7d21f6317181
--> d90e379dede8
Successfully built d90e379dede8
Successfully tagged newhttpd:latest
[root@trainer new]# docker run -itd --name testing newhttpd
585afe5c703bcd5fb3c13e36497e485c802a98097f86db5a2a1e6a7f05ffe4cc
[root@trainer new]# docker inspect testing | grep -i ip
    "IpcMode": "private",
    "LinkLocalIPv6Address": "",
    "LinkLocalIPv6PrefixLen": 0,
    "SecondaryIPAddresses": null,
    "SecondaryIPv6Addresses": null,
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "IPAddress": "172.17.0.11",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "IPAMConfig": null,
    "IPAddress": "172.17.0.11",
    "IPPrefixLen": 16,
    "SecondaryIPAddresses": null,
    "SecondaryIPv6Addresses": null,
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "IPAddress": "172.17.0.11",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "IPAMConfig": null,
    "IPAddress": "172.17.0.11",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
[root@trainer new]# curl 172.17.0.11
hi
[root@trainer new]#
[root@trainer new]#
[root@trainer new]#

```

Ans. 4

Create a mayankfile

Vim mayankfile

Docker build -t newnginx .

Docker run -itd --name testing newnginx

docker inspect <container name> | grep -I ip

curl <container ip>

```
[root@trainer new]# cat mayankfile
FROM nginx

RUN echo hi > /usr/share/nginx/html/index.html

[root@trainer new]#

[root@trainer new]# docker build -t newnginx .
Sending build context to Docker daemon 3.072kB
Step 1/2 : FROM httpd
--> 192d41583429
Step 2/2 : RUN echo hi > /usr/local/apache2/htdocs/index.html
--> Using cache
--> d90e379dede8
Successfully built d90e379dede8
Successfully tagged newnginx:latest
[root@trainer new]# docker run -itd --name testn newnginx
bb0dacdbe48773091dfe9532bf02eeb33eb1b1c13e99ad7d65edd7afde8ed585
[root@trainer new]# docker inspect testn | grep i ip
grep: ip: No such file or directory
[root@trainer new]# docker inspect testn | grep -i ip
    "IpMode": "private",
    "LinkLocalIPv6Address": "",
    "LinkLocalIPv6PrefixLen": 0,
    "SecondaryIPAddresses": null,
    "SecondaryIPv6Addresses": null,
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "IPAddress": "172.17.0.12",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "IPAMConfig": null,
    "IPAddress": "172.17.0.12",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
[root@trainer new]# curl 172.17.0.12
hi
[root@trainer new]#
```