

CASE STUDY - CONTAINERIZATION USING DOCKER I

Problem Statement:

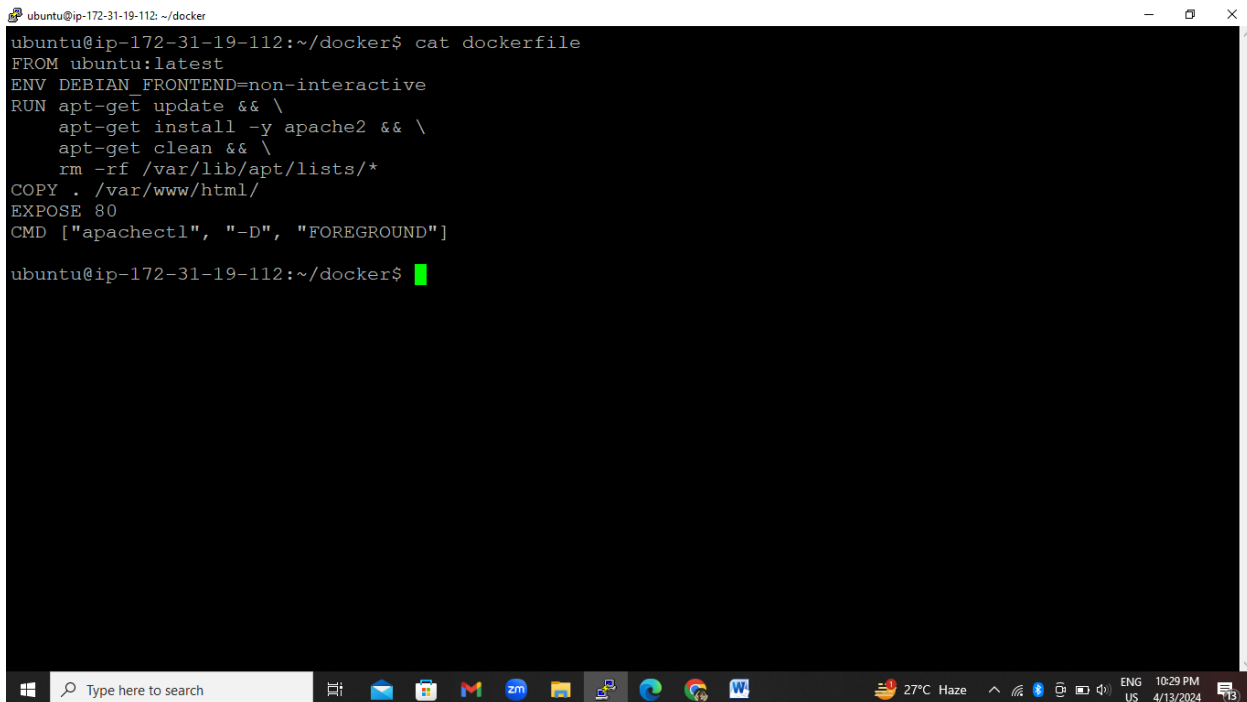
You work as a Devops Engineer in a leading Software Company. You have been asked to Dockerize the applications on the production server. The company uses custom software, therefore there is no pre-built container which can be used.

Assume the following things:

1. Assume the software to be installed is apache
2. Use an Ubuntu container

The company wants the following things:

1. Push a container to DockerHub with the above config
 2. The Developers will not be working with Docker, hence from their side you will just get the code. Write a Dockerfile which could put the code in the custom image that you have built
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```
ubuntu@ip-172-31-19-112: ~/docker
ubuntu@ip-172-31-19-112:~/docker$ cat dockerfile
FROM ubuntu:latest
ENV DEBIAN_FRONTEND=non-interactive
RUN apt-get update && \
    apt-get install -y apache2 && \
    apt-get clean && \
    rm -rf /var/lib/apt/lists/*
COPY . /var/www/html/
EXPOSE 80
CMD ["apachectl", "-D", "FOREGROUND"]
ubuntu@ip-172-31-19-112:~/docker$
```

```
ubuntu@ip-172-31-19-112: ~/docker
ubuntu@ip-172-31-19-112:~/docker$ ls -l
total 8
-rw-rw-r-- 1 ubuntu ubuntu 241 Apr 13 16:48 dockerfile
-rw-rw-r-- 1 ubuntu ubuntu 56 Apr 13 16:48 index.html
ubuntu@ip-172-31-19-112:~/docker$ docker build -f dockerfile -t dhivya2409/assignment:v1 .
[+] Building 18.9s (8/8) FINISHED                                docker:default
=> [internal] load build definition from dockerfile              0.0s
=> => transferring dockerfile: 280B                             0.0s
=> [internal] load metadata for docker.io/library/ubuntu:latest 0.4s
=> [internal] load .dockerignore                                0.0s
=> => transferring context: 2B                                    0.0s
=> [1/3] FROM docker.io/library/ubuntu:latest@sha256:77906da86b60585ce12215807090eb327e7386c8fa 2.5s
=> => resolve docker.io/library/ubuntu:latest@sha256:77906da86b60585ce12215807090eb327e7386c8fa 0.0s
=> => sha256:aa772c98400ef833586d1d517d3e8da670f7e712bf581ce6053165081773259d 424B / 424B 0.0s
=> => sha256:ca2b0f26964cf2e80ba3e084d5983dab293fdb87485dc6445f3f7bbfc89d7459 2.30kB / 2.30kB 0.0s
=> => sha256:bccd10f490ab0f3fba61b193d1b80af91b17ca9bdca9768a16ed05ce16552fcb 29.54MB / 29.54MB 0.4s
=> => sha256:77906da86b60585ce12215807090eb327e7386c8faffb5402369e421f44eff17e 1.13kB / 1.13kB 0.0s
=> => extracting sha256:bccd10f490ab0f3fba61b193d1b80af91b17ca9bdca9768a16ed05ce16552fcb 1.8s
=> [internal] load build context                                0.0s
=> => transferring context: 375B                                  0.0s
=> [2/3] RUN apt-get update && apt-get install -y apache2 && apt-get clean && rm - 14.9s
=> [3/3] COPY . /var/www/html/                                0.1s
=> exporting to image                                          0.9s
=> => exporting layers                                           0.8s
=> => writing image sha256:628eae57662c7d9d71812c429d893386b67ef2b53cfa4098aa99f5d9ef23ccc7 0.0s
=> => naming to docker.io/dhivya2409/assignment:v1            0.0s
ubuntu@ip-172-31-19-112:~/docker$
```

```
ubuntu@ip-172-31-19-112: ~/docker
ubuntu@ip-172-31-19-112:~/docker$ docker login
Log in with your Docker ID or email address to push and pull images from Docker Hub. If you don't have
a Docker ID, head over to https://hub.docker.com/ to create one.
You can log in with your password or a Personal Access Token (PAT). Using a limited-scope PAT grants be
tter security and is required for organizations using SSO. Learn more at https://docs.docker.com/go/acc
ess-tokens/

Username: dhivya2409
Password:
WARNING! Your password will be stored unencrypted in /home/ubuntu/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
ubuntu@ip-172-31-19-112:~/docker$ docker push dhivya2409/assignment:v1
The push refers to repository [docker.io/dhivya2409/assignment]
dfa3195e40e1: Pushed
a45ace96ac6a: Pushed
5498e8c22f69: Mounted from library/ubuntu
v1: digest: sha256:7411aa242d4857baa599dc874b7c423e3bd1980b1cac12aac0102106f77cc8c2 size: 948
ubuntu@ip-172-31-19-112:~/docker$
```

hub.docker.com/repository/docker/dhivya2409/assignment/tags

dhivya2409 / Repositories / assignment / Tags

General Tags Builds Collaborators Webhooks Settings

Sort by Newest Filter Tags Delete

TAG
v1
Last pushed a few seconds ago by dhivya2409

docker pull dhivya2409/assignment:v1 Copy

| Digest | OS/ARCH | Last pull | Compressed Size |
|--------------|-------------|-----------|-----------------|
| 7411aa242d48 | linux/amd64 | --- | 60.34 MB |

```
ubuntu@ip-172-31-19-112: ~/docker
ubuntu@ip-172-31-19-112:~/docker$ docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS
PORTS         NAMES
da08f21739ec   dhivya2409/assignment:v1           "apachectl -D FOREGR..." About a minute ago Up About a minu
te 80/tcp        confident_poincare
ubuntu@ip-172-31-19-112:~/docker$ docker exec da08f21739ec cat /var/www/html/index.html
<h1>This is the custom code from the company side</h1>
ubuntu@ip-172-31-19-112:~/docker$
```