Experiment 5

Aim :- Working with Dockerfile to Build and Push Docker Image

1. Create following Dockerfile

```
FROM alpine
MAINTAINER SUDIPT
RUN apk update
RUN apk add nodejs
RUN mkdir /app
COPY index.js /app
WORKDIR /app
RUN node index.js
```

Solution :-

Very first we need create a file named as **Dockerfile** without extension(it is must to not add extension in the file) and had to copy the above script and save it.

Command :- vi Dockerfile

```
FROM alpine
MAINTAINER vishalthakur1920@gmail.com
RUN apk update
RUN apk add nodejs
RUN mkdir /app
```

2. Build the image from Dockerfile

Solution :-

Command :- docker build -t myimage:0.1 .

```
vishalthakur@vishals-MacBook-Air image % docker build -t myimage:0.1 .
[+] Building 45.4s (8/8) FINISHED
 => [internal] load build definition from Dockerfile                                    0.0s
 => => transferring dockerfile: 142B                                                     0.0s
 => [internal] load .dockerignore                                                        0.0s
 => => transferring context: 2B                                                          0.0s
 => [internal] load metadata for docker.io/library/alpine:latest                        3.5s
 => [1/4] FROM docker.io/library/alpine@sha256:bc41182d7ef5ffc53a40b044e725193bc10142a1243f395ee852a8d9  0.0s
 => CACHED [2/4] RUN apk update                                                          0.0s
 => [3/4] RUN apk add nodejs                                                            41.6s
 => [4/4] RUN mkdir /app                                                                 0.1s
 => exporting to image                                                                   0.1s
 => => exporting layers                                                                  0.1s
 => => writing image sha256:62c54fd5309bc586efbf60337aaf5089ad32b41dbbeb1dabd80f71c27a3ff155  0.0s
 => => naming to docker.io/library/myimage:0.1                                           0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
```

3. Create an account on Dockerhub and repository in it

4. Tag recently created image

Solution :-

Command :- docker tag 62c54fd5309b vishathakur1920/alpine

```
vishalthakur@vishals-MacBook-Air image % docker tag 62c54fd5309b vishathakur1920/alpine
```

5. Login to Docker

Solution :-

Command :- docker login

```
vishalthakur@vishals-MacBook-Air image % docker login
Login with your Docker ID 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.
Username: vishathakur1920
Password:
Login Succeeded

Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.
com/go/access-tokens/
```

6. Push the image on dockerhub

Solution :-

Command :- docker push vishathakur1920/alpine

```
vishalthakur@vishals-MacBook-Air image % docker push vishathakur1920/alpine
Using default tag: latest
The push refers to repository [docker.io/vishathakur1920/alpine]
5e47feb5eb4f: Pushed
d171d6442c5a: Pushed
ba3cc0d66335: Pushed
5d3e392a13a0: Pushed
latest: digest: sha256:45eec930dee3ec1fca4a95e18853fc7af68b18bec69b462372b95631e614502a size: 1158
vishalthakur@vishals-MacBook-Air image %
```

7. Pull and Run the container of your deployed image on docker hub

● First we need to remove the created image from docker to pull again.

Command :- docker run -d vishathakur1920/alpine

```
vishalthakur@vishals-MacBook-Air image % docker run -d vishathakur1920/alpine
Unable to find image 'vishathakur1920/alpine:latest' locally
latest: Pulling from vishathakur1920/alpine
9b18e9b68314: Already exists
2de23bd36ece: Already exists
04d3fa88a6d6: Already exists
19f50cb87d8d: Already exists
Digest: sha256:45eec930dee3ec1fca4a95e18853fc7af68b18bec69b462372b95631e614502a
Status: Downloaded newer image for vishathakur1920/alpine:latest
9c73ee9fca1add49b61ddc38de5f61e19f2fdd5dea48917e3951f98229d65c8f
```

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