Experiment-6

AIM:-Create a docker image for any application using docker file and push it to Docker Hub.

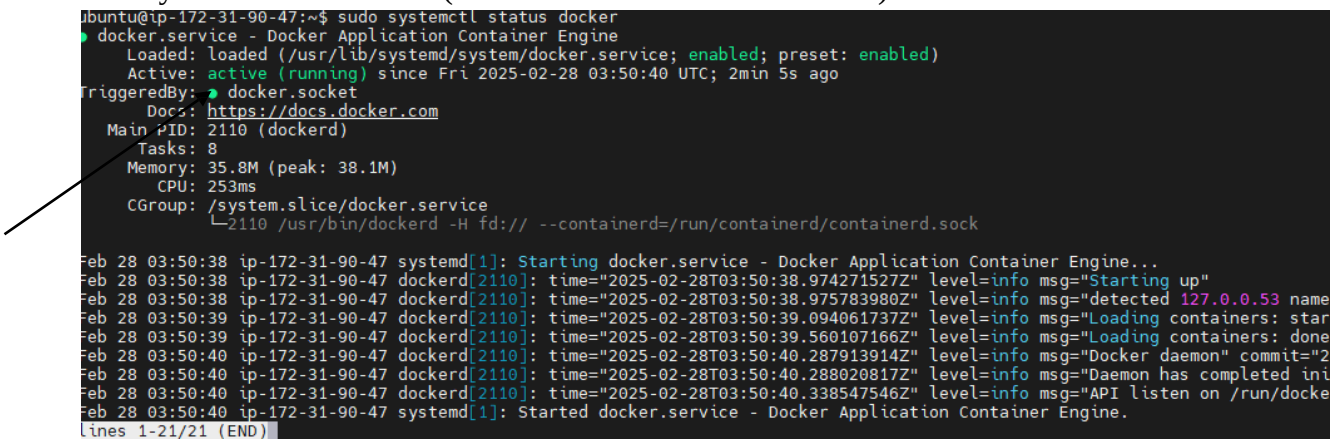
Step 1:-Creating Instance Ubuntu in aws

1. Login AWS(Amazon Web Services) Account
2. Lunch Instance name Docker

Step 2:-Create Docker Hub Account and create repository in Docker Hub

Step 3:-Install Docker and Check Status and Start Docker

1. sudo apt update -y
2. sudo apt install docker.io –y
3. sudo systemctl status docker(come outside use command ctl+z)



Above status command is docker running means no problem if not run use command below to run

4. sudo systemctl start docker

Step 4:- Grant Access

Why we give grant access means

A easy way to verify your Docker installation is by running the below command

docker run hello-world

If the output says:

This can mean two things,

1. Docker deamon is not running.(start docker using “sudo systemctl start docker”)
2. Your user does not have access to run docker commands.

Grant Access to your user to run docker commands

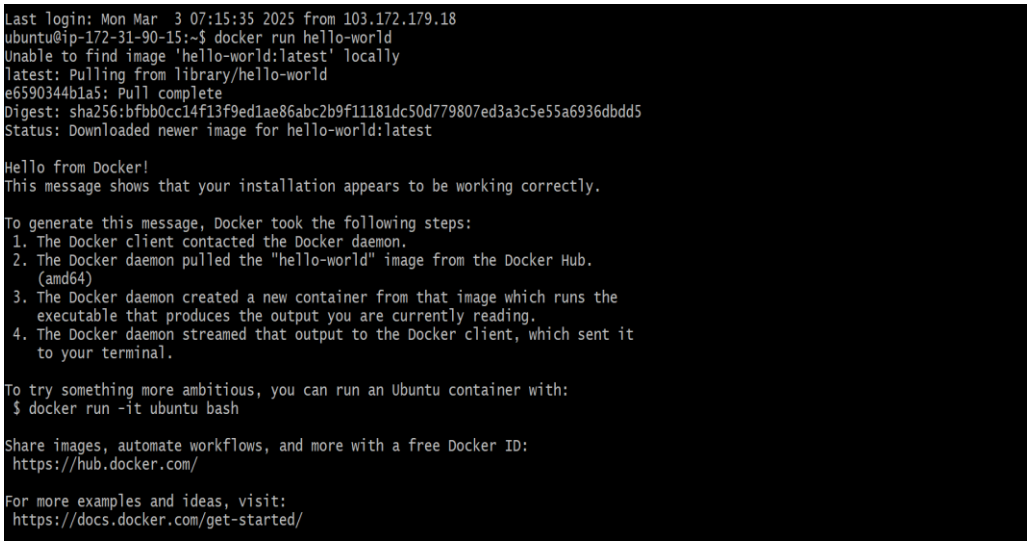
1. sudo usermod -aG docker ubuntu

In the above command ubuntu is the name of the user, you can change the username appropriately.

NOTE: : You need to logout and login back for the changes to be reflected.

2. Logout purpose use commands exit or logout

   Again run command “docker run hello-world”



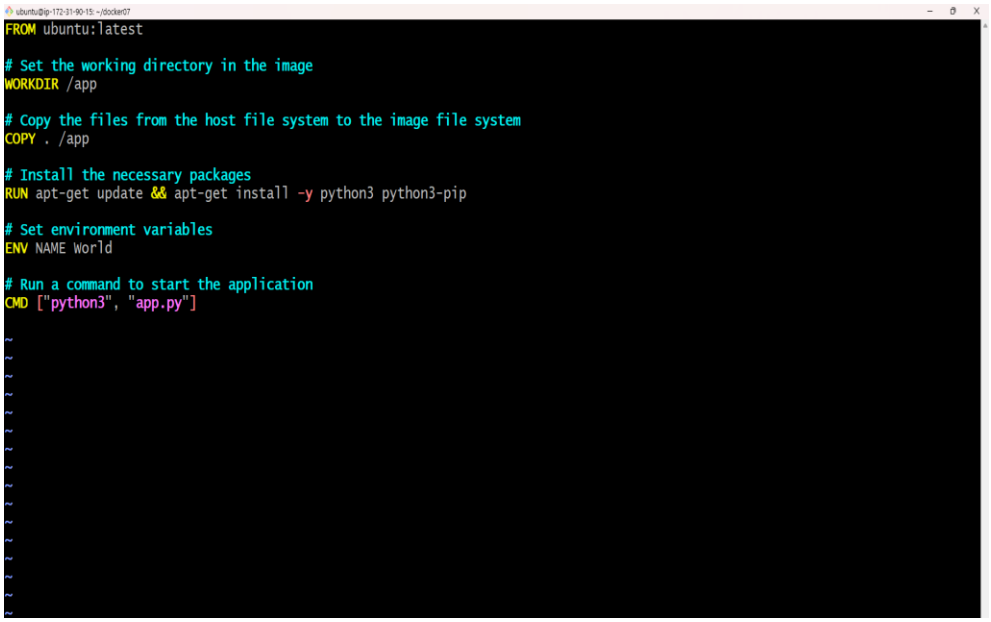
Step 5:-Creating application and Docker file

1. mkdir docker1
2. cd docker1
3. vim app.py

   print(“hello world”)

4. cat app.py

5. vim Dockerfile (below pic commands write lab record) typing command vim before click “i” for insert data after completion Docker file commands save before click esc use :wq



```
FROM ubuntu:latest

# Set the working directory in the image
WORKDIR /app

# Copy the files from the host file system to the image file system
COPY . /app

# Install the necessary packages
RUN apt-get update && apt-get install -y python3 python3-pip

# Set environment variables
ENV NAME World

# Run a command to start the application
CMD ["python3", "app.py"]
```

Below image for understanding purpose

```
ubuntu@ip-172-31-90-47:~/docker1$ cat app.py
print("hello world")
ubuntu@ip-172-31-90-47:~/docker1$ vim Dockerfile
ubuntu@ip-172-31-90-47:~/docker1$ cat Dockerfile
FROM ubuntu:latest

# Set the working directory in the image
WORKDIR /app

# Copy the files from the host file system to the image file system
COPY . /app

# Install the necessary packages
RUN apt-get update && apt-get install -y python3 python3-pip

# Set environment variables
ENV NAME World

# Run a command to start the application
CMD ["python3", "app.py"]

ubuntu@ip-172-31-90-47:~/docker1$
```

Step 6:- Build and Check Docker image

Syntax:- docker build –t dockerhub_username/repositoryname:tag .

1. docker build –t deekshith0607/test02:image.
2. docker images

Step 7:- Run your First Docker Container

1. docker run -it deekshith0607/test02:image
2. Output

Hello World

```
ubuntu@ip-172-31-90-15:~/docker07$ docker run -it deekshith0607/test02:image
helloworld
ubuntu@ip-172-31-90-15:~/docker07$
```

Step 8:-Docker Login

1. docker login

```
Username: deekshith0607
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
```

Step 9:- Push the Image to DockerHub and share it with the world

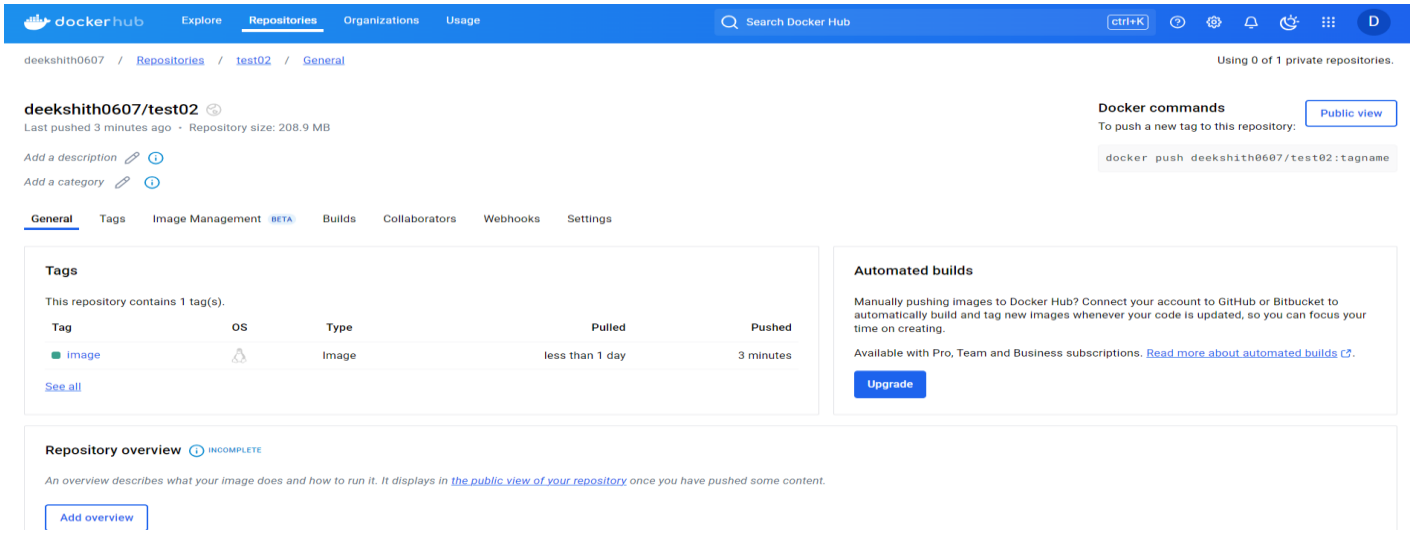
1. docker push deekshith0607/test02:image

```
ubuntu@ip-172-31-90-15:~/docker07$ docker push deekshith0607/test02:image
The push refers to repository [docker.io/deekshith0607/test02]
ed3940815687: Pushed
705d2e1b5105: Pushed
84a24c5bbf62: Pushed
4b7c01ed0534: Mounted from library/ubuntu
image: digest: sha256:e4f9d06c41f2f3f8fa4166e4318186c8a926b1fd1b36b8b061ccd974f2d0d09c size: 1155
```

Output:-

1. **docker images (Command to Check output)**

```
ubuntu@ip-172-31-90-15:~/docker07$ docker images
REPOSITORY            TAG       IMAGE ID       CREATED          SIZE
deekshith0607/test02  image     772d53dbb82e   12 minutes ago   574MB
ubuntu                latest    a04dc4851cbc   5 weeks ago      78.1MB
hello-world           latest    74cc54e27dc4   5 weeks ago      10.1kB
ubuntu@ip-172-31-90-15:~/docker07$
```


dockerhub
Explore
Repositories
Organizations
Usage
Search Docker Hub
ctrl+K
D
deekshith0607 / Repositories / test02 / General
Using 0 of 1 private repositories.
deekshith0607/test02
Last pushed 3 minutes ago • Repository size: 208.9 MB
Add a description
Add a category
Docker commands
To push a new tag to this repository:
Public view
docker push deekshith0607/test02:tagname
General
Tags
Image Management BETA
Builds
Collaborators
Webhooks
Settings
Tags
This repository contains 1 tag(s).
Tag
OS
Type
Pulled
Pushed
image
Image
less than 1 day
3 minutes
See all
Automated builds
Manually pushing images to Docker Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.
Available with Pro, Team and Business subscriptions. Read more about automated builds.
Upgrade
Repository overview
INCOMPLETE
An overview describes what your image does and how to run it. It displays in the public view of your repository once you have pushed some content.
Add overview