Appl Containerization and Orchestration

Experiment 3

AIM: Working with Docker Volume

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Steps to Complete:

1. **View all Volume in Docker**

   Command : docker volume ls

   ```
   zsh: command not found: docke
   [alpha@Akhands-MacBook-Pro ~ % docker ps -a
   CONTAINER ID   IMAGE     COMMAND       CREATED        STATUS
   05c2c96ec365   ubuntu    "/bin/bash"   4 minutes ago  Exited (0) 4 minutes ago
   13d4bf8dab2f   ubuntu    "bash"        5 minutes ago  Exited (0) 5 minutes ago
   [alpha@Akhands-MacBook-Pro ~ % docker volume ls
   DRIVER     VOLUME NAME
   local      newvol
   alpha@Akhands-MacBook-Pro ~ %
   ```

2. **Create a new Volume**

   Command : docker volume create newvol

   ```
   See 'docker --help'
   [alpha@Akhands-MacBook-Pro ~ % docker volume ls
   DRIVER     VOLUME NAME
   [alpha@Akhands-MacBook-Pro ~ % docker volume create newvol
   newvol
   [alpha@Akhands-MacBook-Pro ~ % docker volume ls
   DRIVER     VOLUME NAME
   local      newvol
   ```

3. **Mount a Volume with a container**

   Command : docker run -d -v newvol:/data ubuntu /bin/bash

   ```
   CONTAINER ID    IMAGE     COMMAND    CREATED    STATUS    PORTS    NAMES
   [alpha@Akhands-MacBook-Pro ~ % docker run -d ubuntu
   13d4bf8dab2f06fbcffcd4cac2deed14a87340b64cf2827ad35035aa963695ae
   [alpha@Akhands-MacBook-Pro ~ % docker ps
   CONTAINER ID    IMAGE     COMMAND    CREATED    STATUS    PORTS    NAMES
   [alpha@Akhands-MacBook-Pro ~ % docker run -d -v newvol:/data ubuntu /bin/bash
   05c2c96ec36587f6bda5d739bd9e56a7e0716863a9a94122499b544a9ac9c70f
   [alpha@Akhands-MacBook-Pro ~ % docker ps
   CONTAINER ID    IMAGE     COMMAND    CREATED    STATUS    PORTS    NAMES
   [alpha@Akhands-MacBook-Pro ~ % docke ps -a
   ```

4. **Create another container and Mount with the same Volume**

Command : docker run -d -v newvol:/data ubuntu /bin/bash

```
[alpha@Akhands-MacBook-Pro ~ % docker run -d ubuntu
13d4bf8dab2f06fbcffcd4cac2deed14a87340b64cf2827ad35035aa963695ae
[alpha@Akhands-MacBook-Pro ~ % docker ps
CONTAINER ID   IMAGE     COMMAND    CREATED    STATUS     PORTS      NAMES
[alpha@Akhands-MacBook-Pro ~ % docker run -d -v newvol:/data ubuntu /bin/bash
05c2c96ec36587f6bda5d739bd9e56a7e0716863a9a94122499b544a9ac9c70f
[alpha@Akhands-MacBook-Pro ~ % docker ps
CONTAINER ID   IMAGE     COMMAND    CREATED    STATUS     PORTS      NAMES
[alpha@Akhands-MacBook-Pro ~ % docke ps -a
```

5. **See the complete working of container**

```
alpha@Akhands-MacBook-Pro ~ % docker run -it -v newvol:/data ubuntu /bin/bash
root@f7217a8b0b40:/# ls
bin  boot  data  dev  etc  home  lib  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@f7217a8b0b40:/# pwd
/
root@f7217a8b0b40:/# cd data
root@f7217a8b0b40:/data# ls
root@f7217a8b0b40:/data# mkdir mynewfile
root@f7217a8b0b40:/data# cd mynewfile
root@f7217a8b0b40:/data/mynewfile# ls
root@f7217a8b0b40:/data/mynewfile# vim fist.txt
bash: vim: command not found
root@f7217a8b0b40:/data/mynewfile# sudo apt install vim
bash: sudo: command not found
root@f7217a8b0b40:/data/mynewfile# apt install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package vim
root@f7217a8b0b40:/data/mynewfile# touch newfile
root@f7217a8b0b40:/data/mynewfile# ls
newfile
root@f7217a8b0b40:/data/mynewfile# cd
root@f7217a8b0b40:~# cd /data
root@f7217a8b0b40:/data# ls
mynewfile
root@f7217a8b0b40:/data# touch dockernewhelpgiude.txt
root@f7217a8b0b40:/data# ls
dockernewhelpgiude.txt   mynewfile
root@f7217a8b0b40:/data#
```

6. **Exited from container and restart again to see the persistent of Docker Volume**

Command : Dokcer start <container ID>

Docker attach <container ID>

```
[alpha@Akhands-MacBook-Pro ~ % docker start f7217a8b0b40
 f7217a8b0b40
[alpha@Akhands-MacBook-Pro ~ % docker attach f7217a8b0b40
[root@f7217a8b0b40:/# ls
 bin   boot   data   dev   etc   home   lib   media   mnt   opt   proc   root   run   sbin   srv   sys   tmp   usr   var
[root@f7217a8b0b40:/# /data
 bash: /data: Is a directory
[root@f7217a8b0b40:/# cd data
[root@f7217a8b0b40:/data# ls
 dockernewhelpgiude.txt   mynewfile
 root@f7217a8b0b40:/data#
```