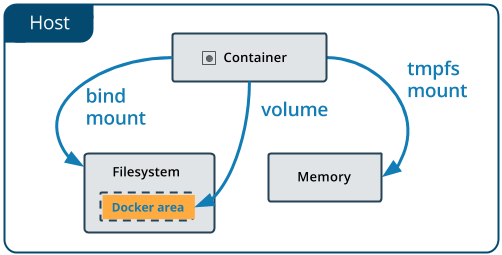
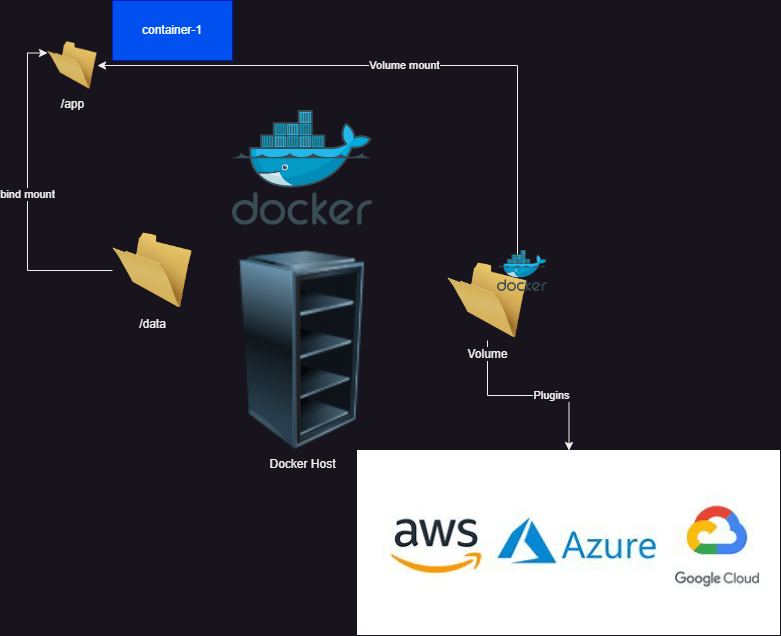
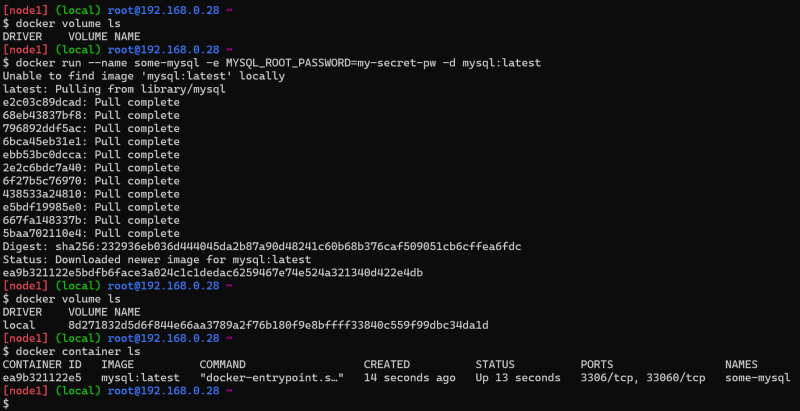
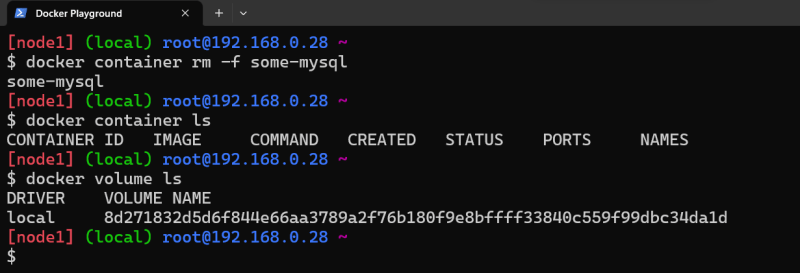
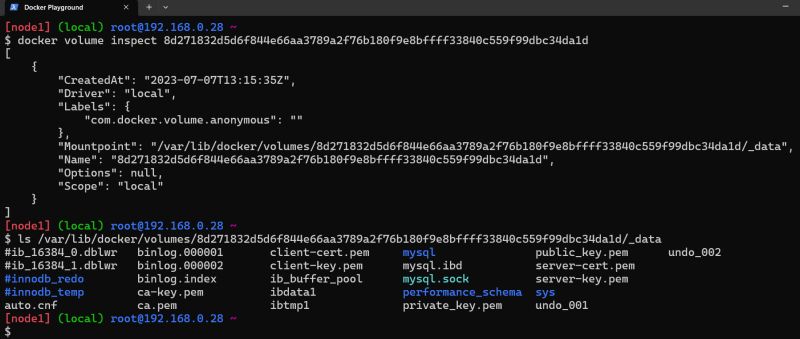
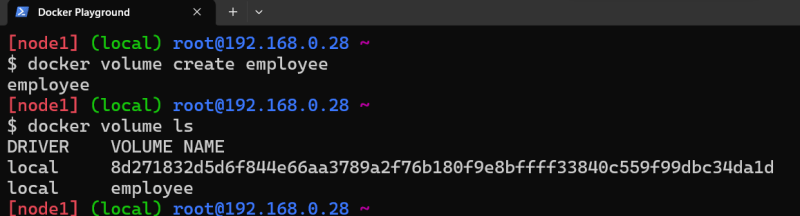
**Docker Volume**

* Docker has volumes types <https://docs.docker.com/storage/volumes/>
  + bind mount
  + volume mount
  + tmpfs mount  
      
    

List the volumes and create the mysql contianer, view the volumes after that  


Now remove the container and view the volumes  
  


Let’s create a volume called as employee volume  


I will start a mysql container with the following environmental variables and volume mounted to the container on folder /var/lib/mysql

* + root password MYSQL\_ROOT\_PASSWORD ==> admin@123
  + database MYSQL\_DATABASE => employees
  + user MYSQL\_USER => lte
  + user password MYSQL\_PASSWORD => admin@123

docker container run -d --name empdb -P -e "MYSQL\_ROOT\_PASSWORD=admin@123" \

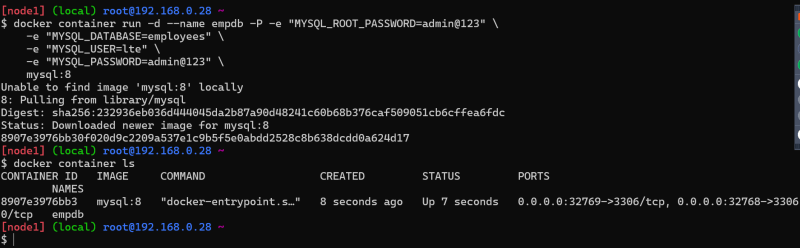
-e "MYSQL\_DATABASE=employees" \

-e "MYSQL\_USER=lte" \

-e "MYSQL\_PASSWORD=admin@123" \

-v employee:/var/lib/mysql \

mysql:8

  
\* now lets login into mysql terminal of container and create some tables  
docker container exec -it empdb mysql -u lte -p  
\* Execute the following commands

use employees;

CREATE TABLE Customers

(

ID int,

Age int,

FirstName varchar(20),

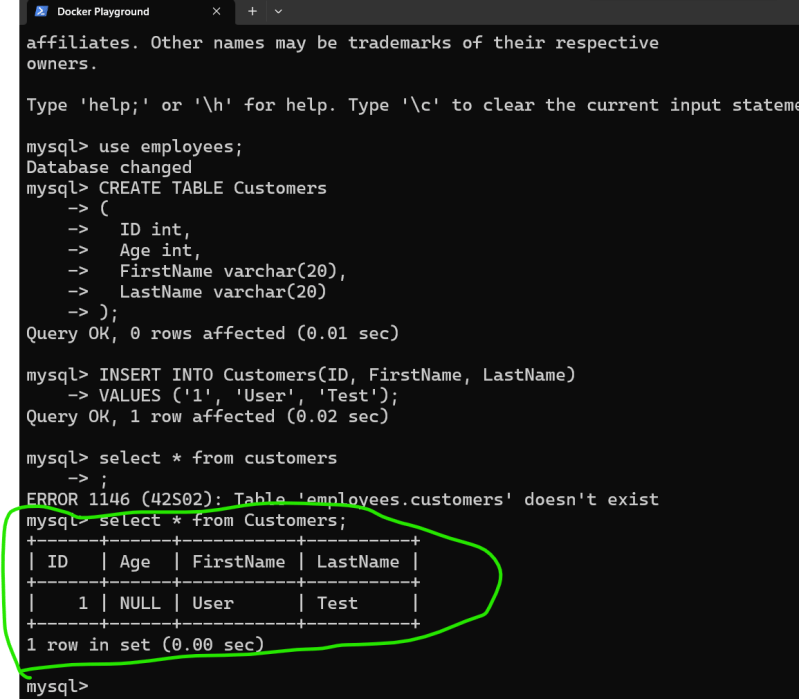
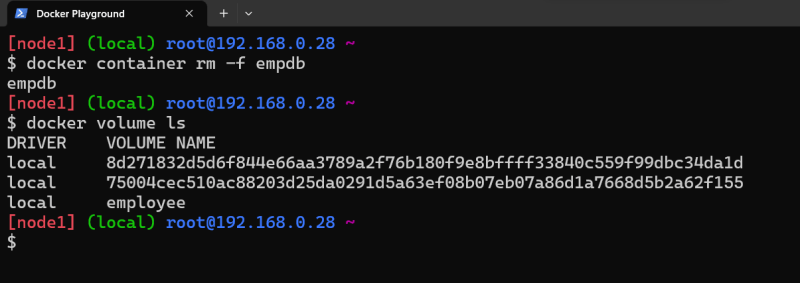
LastName varchar(20)

);

INSERT INTO Customers(ID, FirstName, LastName)

VALUES ('1', 'User', 'Test');

select \* from Customers;

  
\* Now lets delete this container  
  
\* Now let’s create a new container with same volume mounted

docker container run -d --name empdbagain -P -e "MYSQL\_ROOT\_PASSWORD=admin@123" \

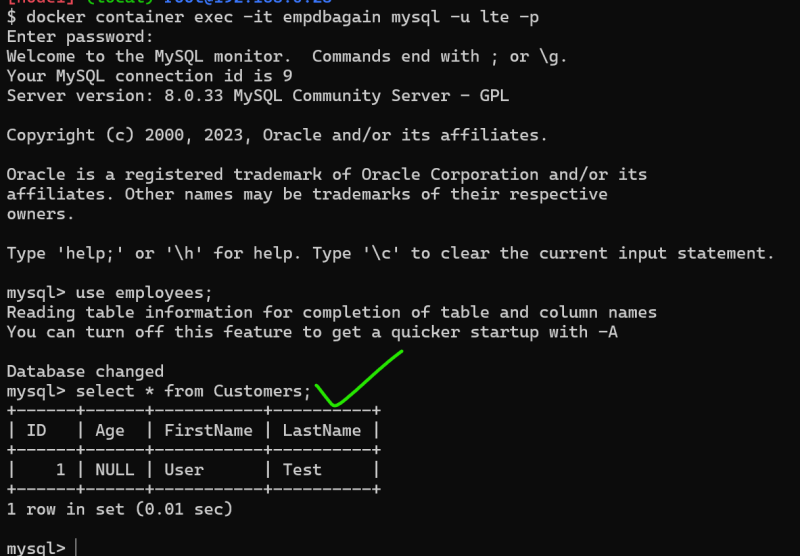
-e "MYSQL\_DATABASE=employees" \

-e "MYSQL\_USER=lte" \

-e "MYSQL\_PASSWORD=admin@123" \

-v employee:/var/lib/mysql \

mysql:8

Now query for Customers  


VOLUME instruction in Docker image:

While building the docker image if we use the volume instruction with some folder path, volumes will be created if the user does not explicitly passes -v or --mount. If -v or –mount is used then data will be used based on the mount passed during container created

**Networking in Docker**

* Create a new linux vm and install docker in it
* execute docker network ls
* docker implements networking with the help of network drivers <https://docs.docker.com/network/drivers/>
* Docker has came up with specification Container Network Model (CNM) and implemented libnetwork <https://github.com/moby/libnetwork/blob/master/docs/design.md> whereas there is one more popular container networking specification which is used in kubernetes i.e. Container Network Interface (CNI) <https://github.com/containernetworking/cni>
* We will continue this discussion tomorrow