

Apr 21 17:59

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### Problem 1:

- Run a container nginx with name my-nginx and attach 2 volumes to the container using volume mount
- Volume1 for containing static html file
- Volume2 for containing nginx configuration
- Edit the html content
- Remove the container
- Run a new 2 containers with the following:
  - Attach the two volumes that were attached to the previous container using volume mount
  - Map port 80 to port 8080 on you host machine
  - Access the html files from your browser

1-

```
sara@sara:~$ mkdir nginx-volumes
sara@sara:~$ cd nginx-volumes
sara@sara:~/nginx-volumes$ code .
sara@sara:~/nginx-volumes$ mkdir html-content
sara@sara:~/nginx-volumes$ mkdir nginx-conf
sara@sara:~/nginx-volumes$
```

2-

```
index.html X default.conf
html-content > index.html > html > body
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>My Docker Nginx Page</title>
5 </head>
6 <body>
7 <h1>Hello It's Sara</h1>
8 </body>
9 </html>
```

3-

```
nginx-conf > default.conf
1 server {
2     listen 80;
3     server_name localhost;
4
5     location / {
6         root /usr/share/nginx/html;
7         index index.html index.htm;
8     }
9
10 }
```

4-

```
sara@sara:~/nginx-volumes$ docker run -d --name my-nginx -v $(pwd)/html-content:/usr/share/nginx/html -v $(pwd)/nginx-conf:/etc/nginx/conf.d -p 8080:80 nginx
cdc2c44a69bd7727590f444327f9920bd2a1d975b90d0dd69801df761c1a3d70
sara@sara:~/nginx-volumes$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
cdc2c44a69bd   nginx    "/docker-entrypoint..." 32 seconds ago Up 29 seconds 0.0.0.0:8080->80/tcp, [::]:8080->80/tcp my-nginx
sara@sara:~/nginx-volumes$
```

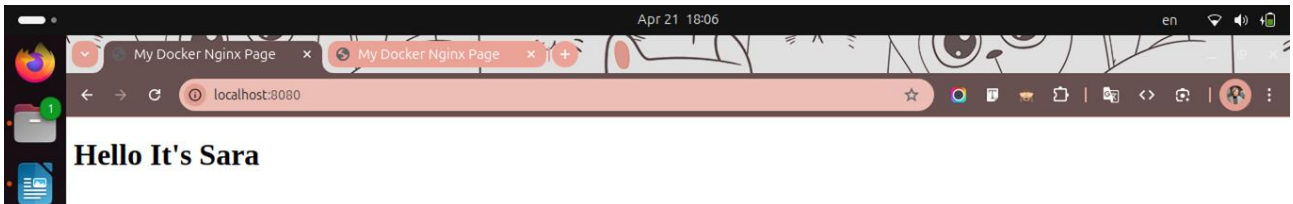
5-



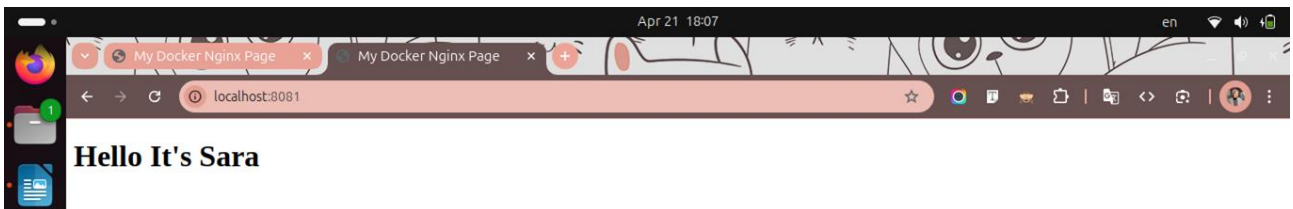
6-

```
sara@sara:~/nginx-volumes$ docker rm -f my-nginx
my-nginx
sara@sara:~/nginx-volumes$ docker run -d \
--name nginx-1 \
-v $(pwd)/html-content:/usr/share/nginx/html \
-v $(pwd)/nginx-conf:/etc/nginx/conf.d \
-p 8080:80 \
nginx
c061fcc4336caae892fe54159b6aea7f13441e9f78ccfe6f85622e281f4f0c67
sara@sara:~/nginx-volumes$ docker run -d \
--name nginx-2 \
-v $(pwd)/html-content:/usr/share/nginx/html \
-v $(pwd)/nginx-conf:/etc/nginx/conf.d \
-p 8081:80 \
nginx
4aa0341851f665757926a0ebfbf6bd708eb3e3e7675dde39dca8722a06bfc08b
sara@sara:~/nginx-volumes$
```

7-



8-



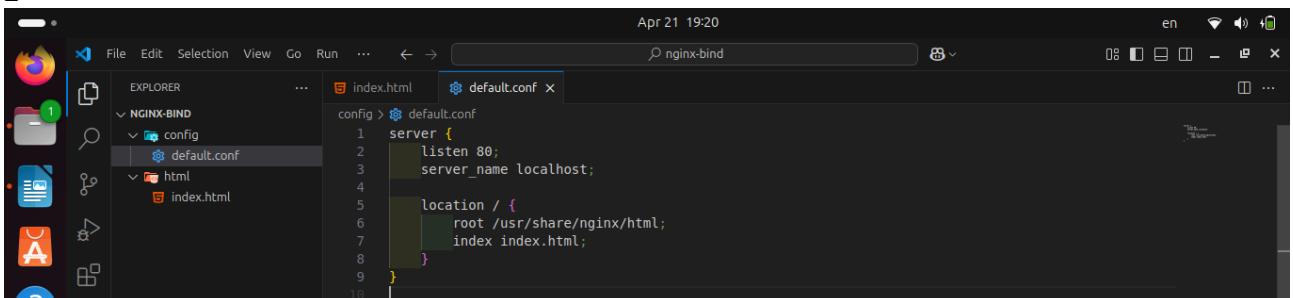
### Problem 2:

- Run a container Nginx with name nginx-bind-mount and attach 2 volumes using bind mount under any paths
- Remove the container
- Run a new container with the following:
  - Attach the two volumes that were attached to the previous container
  - Check the old data in the new containers

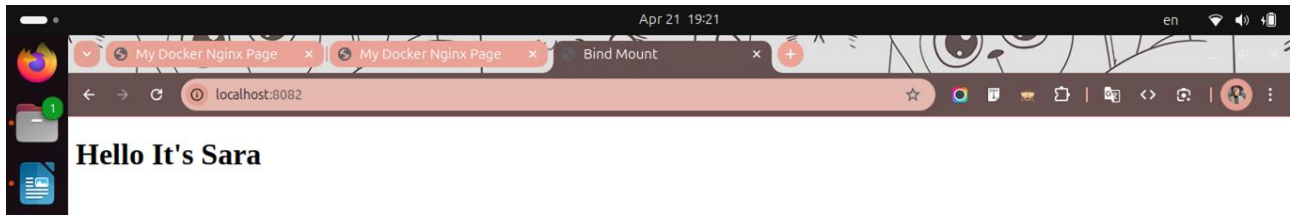
1-



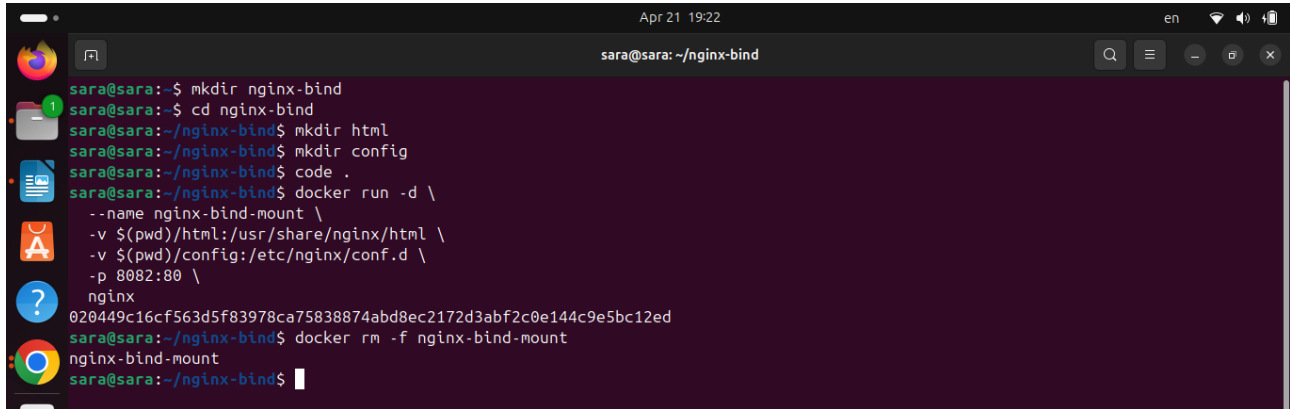
2-



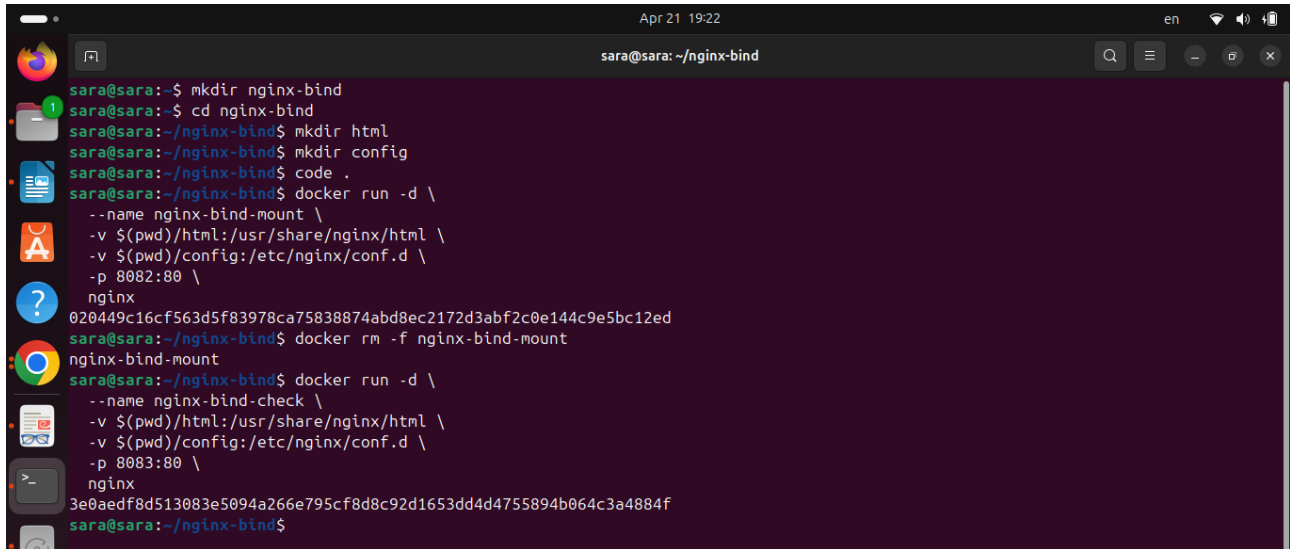
3-



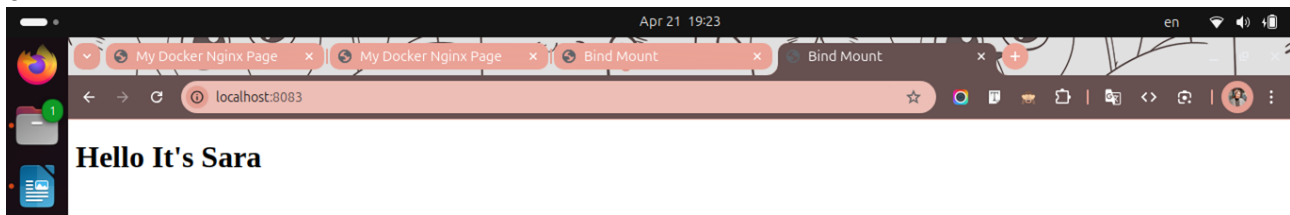
4-



5-



6-



### Problem 3:

- Create 2 nginx containers with 2 different network of type bridge, enter to one of them and use curl command to view the content of the other container.

1-

```
sara@sara: ~  
sara@sara:~$ docker network create net1  
1a1560a321d94fdb1ec5d619122b3271851d313f671e56ee64b0d47e5efc2a5  
sara@sara:~$ docker network create net2  
f117067f909cb66f2627ef56c0664b24093a5ca18d4ab7bd0e2304ec494f8443  
sara@sara:~$ docker network ls  
NETWORK ID          NAME                DRIVER              SCOPE  
77951aafc5d         bridge             bridge              local  
53253b4474e4        host               host                local  
1a1560a3214d        net1               bridge              local  
f117067f909c        net2               bridge              local  
43b3339bead5        none              null                local  
sara@sara:~$
```

2-

```
sara@sara:~$ docker run -d \  
--name nginx-net1 \  
--network net1 \  
nginx  
899a2e4c62f320f1b98157b14ccb2a2bb4b72a9170950e126787f616da64b595  
sara@sara:~$ docker run -d \  
--name nginx-net2 \  
--network net2 \  
nginx  
54396ab2da11ecaa0e37435506032751c41f8f252614d3bf793ae887695b6578  
sara@sara:~$
```

3-

```
sara@sara:~$ docker exec -it nginx-net1 bash  
root@899a2e4c62f3:/# apt update && apt install curl -y  
curl nginx-net2  
Get:1 http://deb.debian.org/debian bookworm InRelease [151 kB]  
Get:2 http://deb.debian.org/debian bookworm-updates InRelease [55.4 kB]  
Get:3 http://deb.debian.org/debian-security bookworm-security InRelease [48.0 kB]  
Get:4 http://deb.debian.org/debian bookworm/main amd64 Packages [8792 kB]  
Get:5 http://deb.debian.org/debian bookworm-updates/main amd64 Packages [512 B]  
Get:6 http://deb.debian.org/debian-security bookworm-security/main amd64 Packages [260 kB]  
Fetched 9307 kB in 10s (926 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
1 package can be upgraded. Run 'apt list --upgradable' to see it.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
curl is already the newest version (7.88.1-10+deb12u12).  
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.  
curl: (6) Could not resolve host: nginx-net2  
root@899a2e4c62f3:/#
```

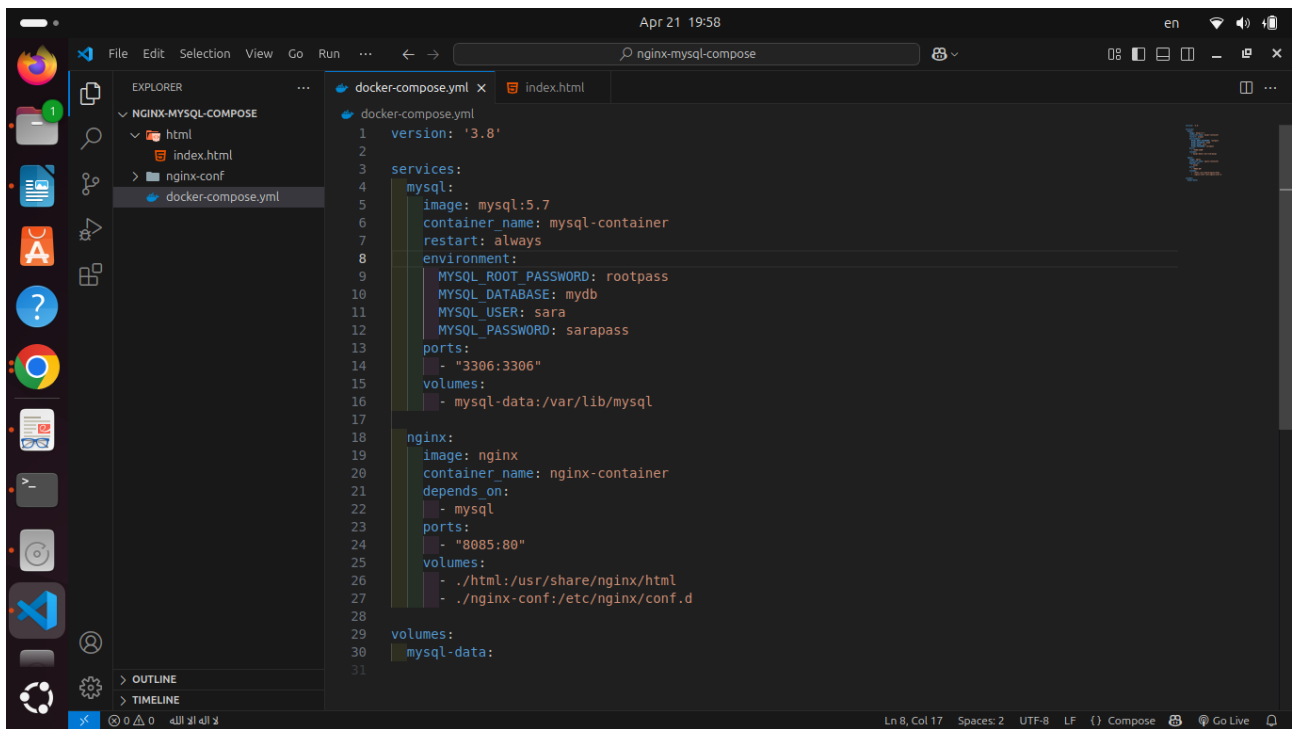


#### Problem 4:

- Create docker compose with:  
Two services nginx and mysql  
Add needed ports and environments for both services  
nginx service is depending on mysql service



1-



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File Edit Selection View Go Run ...

EXPLORER

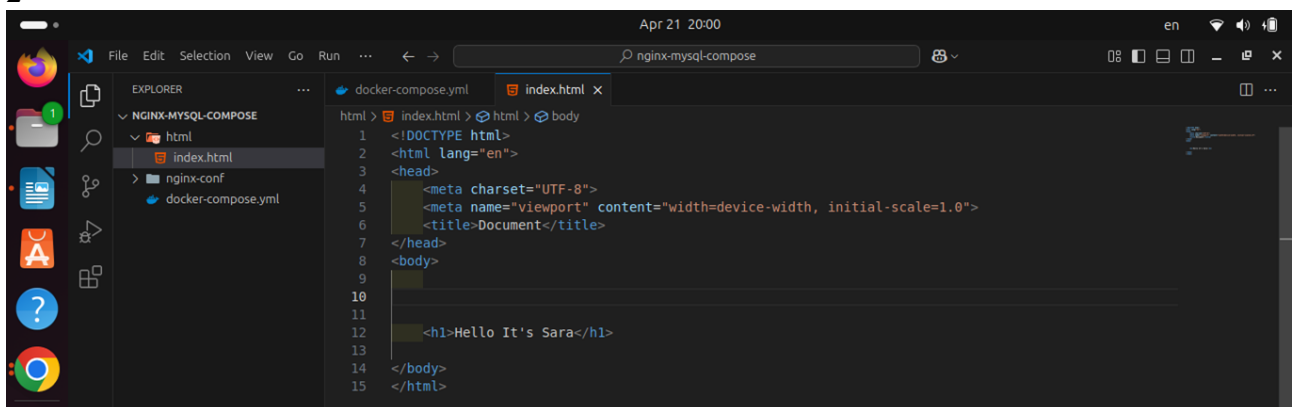
- NGINX-MYSQL-COMPOSE
  - html
    - index.html
  - nginx-conf
    - docker-compose.yml

docker-compose.yml

```
1 version: '3.8'
2
3 services:
4   mysql:
5     image: mysql:5.7
6     container_name: mysql-container
7     restart: always
8     environment:
9       MYSQL_ROOT_PASSWORD: rootpass
10      MYSQL_DATABASE: mydb
11      MYSQL_USER: sara
12      MYSQL_PASSWORD: sarapass
13     ports:
14       - "3306:3306"
15     volumes:
16       - mysql-data:/var/lib/mysql
17
18   nginx:
19     image: nginx
20     container_name: nginx-container
21     depends_on:
22       - mysql
23     ports:
24       - "8085:80"
25     volumes:
26       - ./html:/usr/share/nginx/html
27       - ./nginx-conf:/etc/nginx/conf.d
28
29 volumes:
30   mysql-data:
```

Ln 8, Col 17 Spaces: 2 UTF-8 LF Compose Go Live

2-



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File Edit Selection View Go Run ...

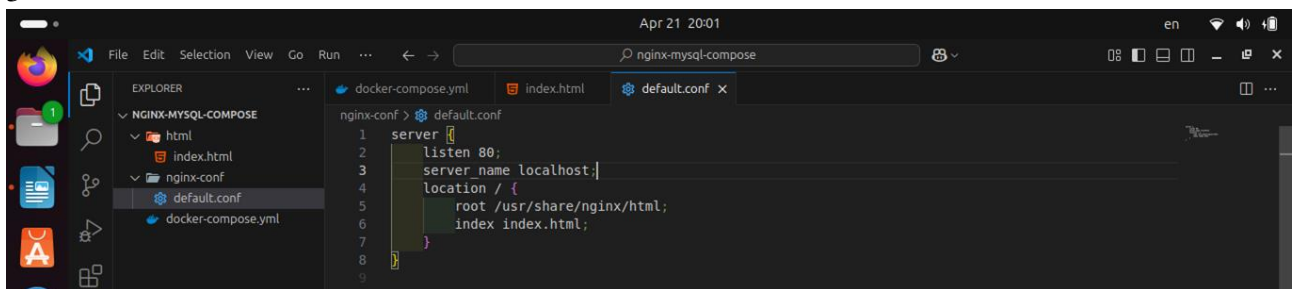
EXPLORER

- NGINX-MYSQL-COMPOSE
  - html
    - index.html
  - nginx-conf
    - docker-compose.yml

index.html

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Document</title>
7 </head>
8 <body>
9
10
11
12   <h1>Hello It's Sara</h1>
13
14 </body>
15 </html>
```

3-



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File Edit Selection View Go Run ...

EXPLORER

- NGINX-MYSQL-COMPOSE
  - html
    - index.html
  - nginx-conf
    - default.conf

default.conf

```
1 server {
2   listen 80;
3   server_name localhost;
4   location / {
5     root /usr/share/nginx/html;
6     index index.html;
7   }
8 }
```

4-

```
sara@sara: ~/nginx-mysql-compose
sara@sara:~/nginx-mysql-compose$ docker-compose up -d
WARN[0000] /hone/sara/nginx-mysql-compose/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please re
move it to avoid potential confusion
[+] Running 20/20
  ✓ nginx Pulled
    ✓ 8a628cdd7ccc Pull complete
    ✓ b0c073cda91f Pull complete
    ✓ e6557c42ebea Pull complete
    ✓ ec74683520b9 Pull complete
    ✓ 6c95adab80c5 Pull complete
    ✓ ad8a0171f43e Pull complete
    ✓ 32ef64864ec3 Pull complete
  ✓ mysql Pulled
    ✓ 20e4dcae4c69 Pull complete
    ✓ 1c56c3d4ce74 Pull complete
    ✓ e9f03a1c24ce Pull complete
    ✓ 68c3898c2015 Pull complete
    ✓ 6b95a940e7b6 Pull complete
    ✓ 90986bb8de6e Pull complete
    ✓ ae71319cb779 Pull complete
    ✓ ffc89e9dfd88 Pull complete
    ✓ 43d05e938198 Pull complete
    ✓ 064b2d298fba Pull complete
    ✓ df9a4d85569b Pull complete
[+] Running 4/4
  ✓ Network nginx-mysql-compose_default Created
  ✓ Volume "nginx-mysql-compose_mysql-data" Created
  ✓ Container mysql-container Started
  ✓ Container nginx-container Started
sara@sara:~/nginx-mysql-compose$
```

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```
✓ df9a4d85569b Pull complete
[+] Running 4/4
  ✓ Network nginx-mysql-compose_default Created
  ✓ Volume "nginx-mysql-compose_mysql-data" Created
  ✓ Container mysql-container Started
  ✓ Container nginx-container Started
sara@sara:~/nginx-mysql-compose$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS
440c46a2cf75   nginx    "/docker-entrypoint.s..." 4 minutes ago Up 4 minutes   0.0.0.0:8085->80/tcp, [::]:8085->80/tcp
4ff7f91cee29   mysql:5.7 "docker-entrypoint.s..." 4 minutes ago Up 4 minutes   0.0.0.0:3306->3306/tcp, [::]:3306->3306/tcp, 33060/tcp
sara@sara:~/nginx-mysql-compose$
```

6-

