

Name-Ansh Tyagi

sap id-500105272

Roll no- R2142220033

Batch-B2 Devops Non-Honors

Lab Exercise 3: Working with Docker Volumes

Objective:

- Learn how to create and manage Docker volumes.
- Understand how Docker volumes can be used to persist data across container restarts.
- Practice mounting Docker volumes to containers.

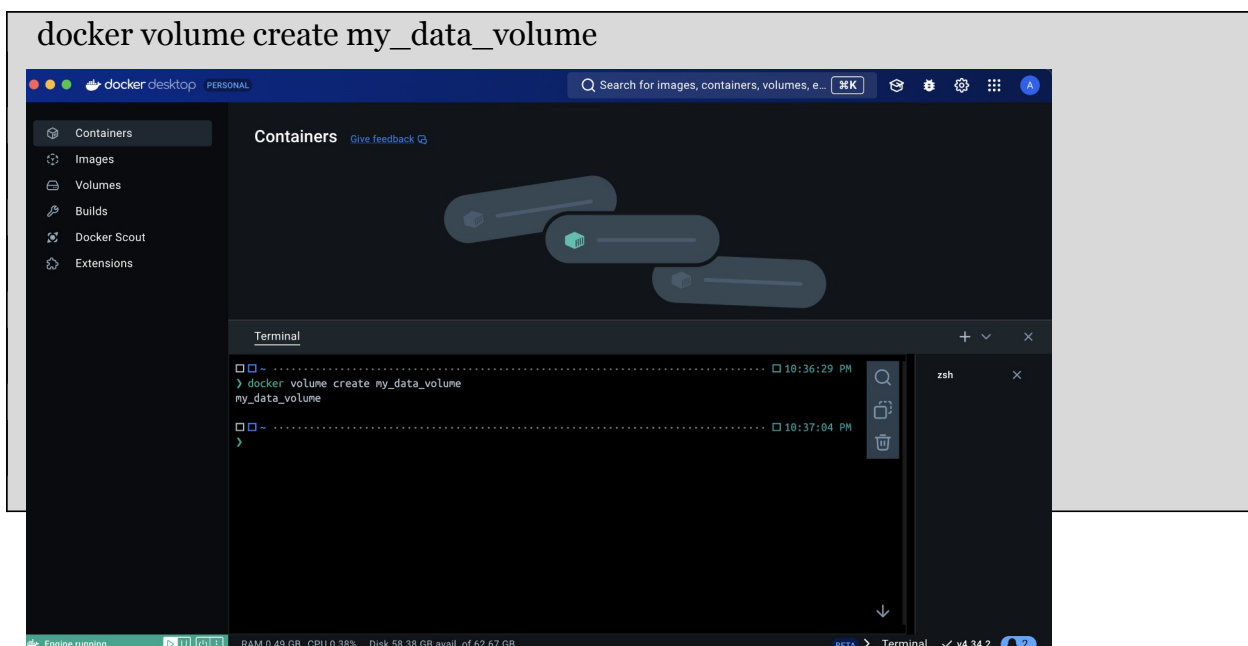
Prerequisites:

- Docker installed on your system.
- Basic understanding of Docker commands and container concepts.

Step 1: Create a Docker Volume

Create a new Docker volume:

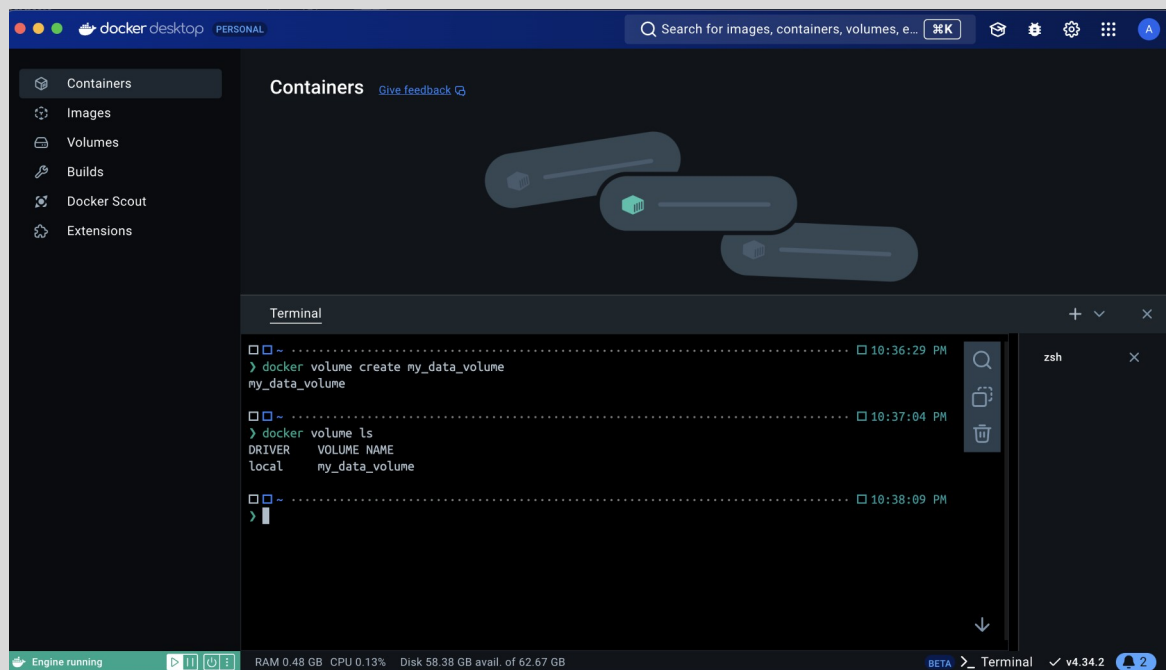
`docker volume create my_data_volume`



This command creates a Docker volume named `my_data_volume`.

Verify that the volume was created:

`docker volume ls`

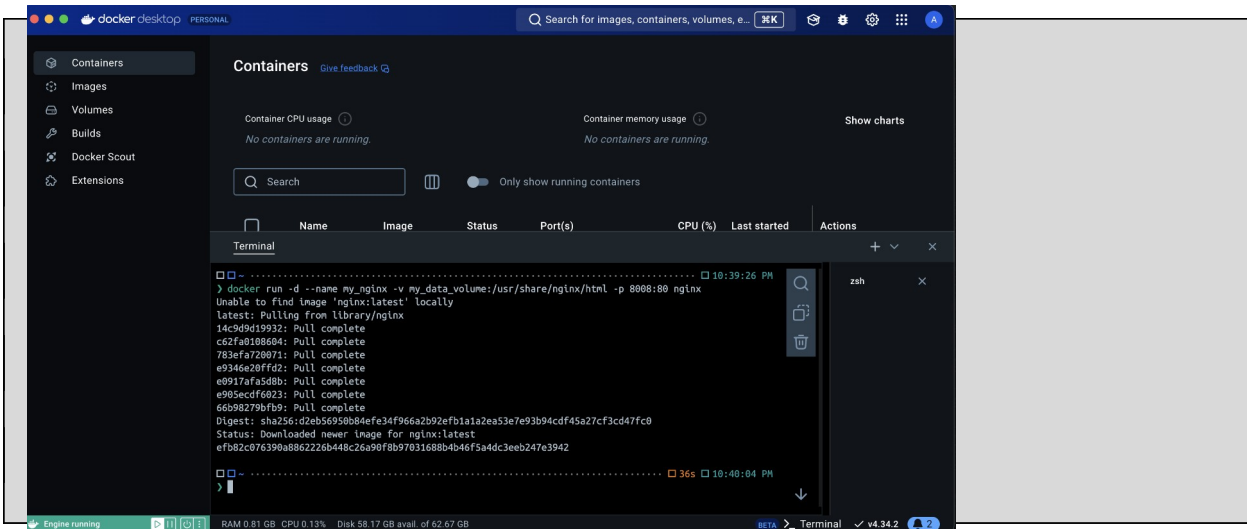


You should see `my_data_volume` listed among the volumes.

Step 2: Run a Container with the Volume Mounted

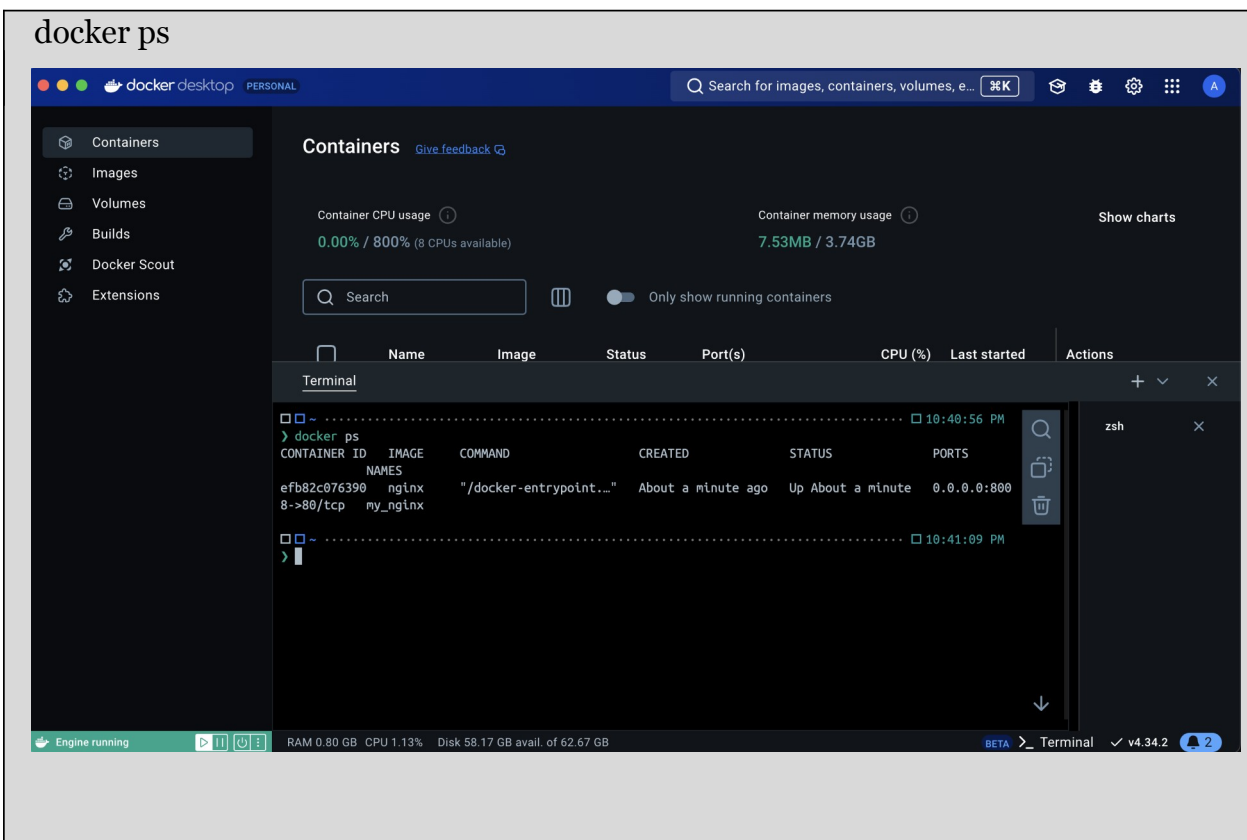
Run an Nginx container with the volume mounted:

```
docker run -d --name my_nginx -v my_data_volume:/usr/share/nginx/html -p
8008:80 nginx
```



This command starts an Nginx container named `my_nginx` and mounts the `my_data_volume` volume to the `/usr/share/nginx/html` directory inside the container.

Verify that the container is running:

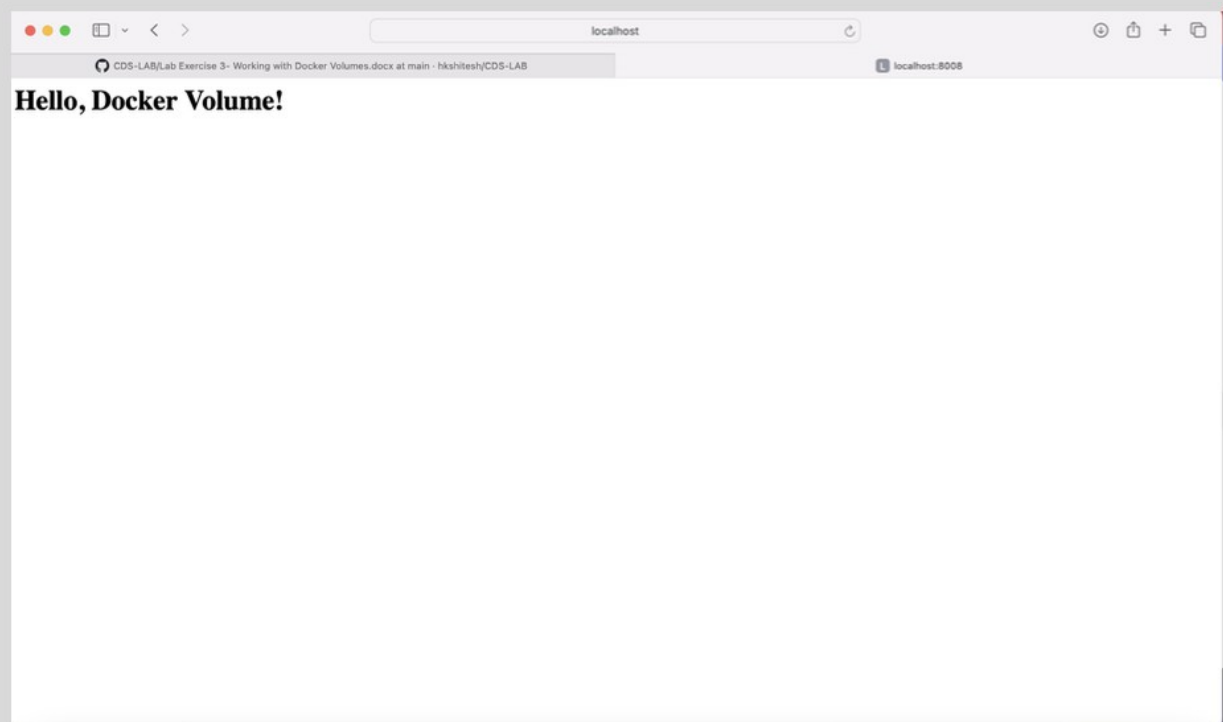


You should see `my_nginx` listed as one of the running containers.

Step 3: Interact with the Volume

Create a simple HTML file in the volume:

```
docker exec -it my_nginx bash  
  
echo "<h1>Hello, Docker Volume</h1>" > /usr/share/nginx/html/index.html  
  
exit
```



This command creates an HTML file inside the `/usr/share/nginx/html` directory, which is backed by `my_data_volume`.

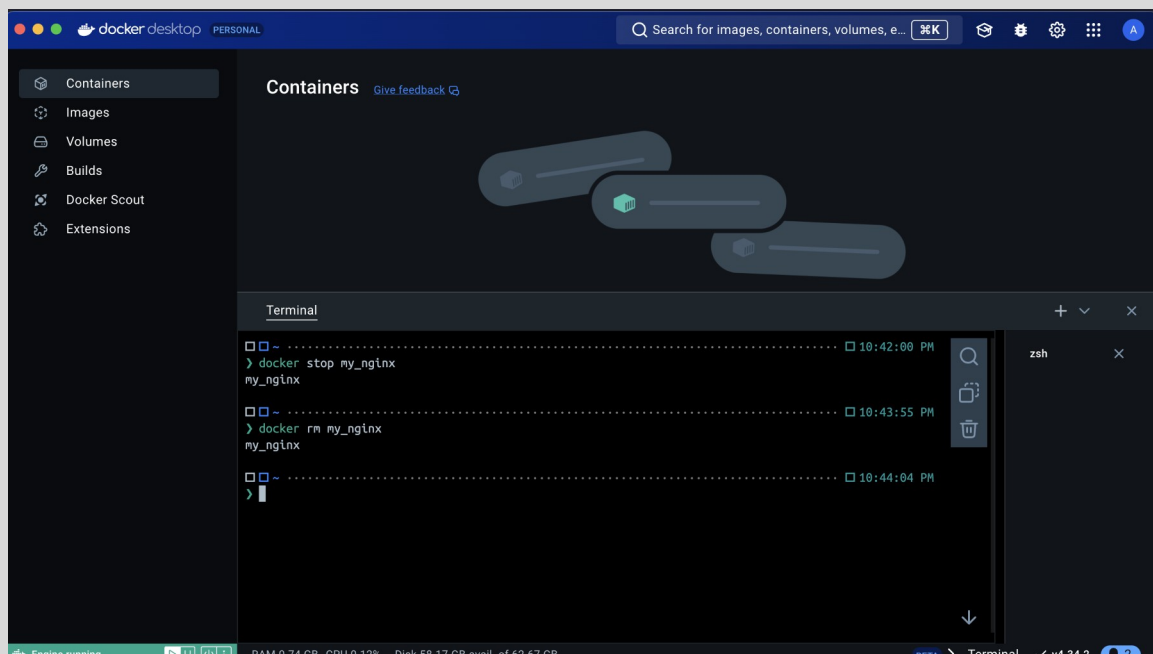
Access the Nginx server to see your file: Open a browser and navigate to `http://localhost:8008`. You should see the message "Hello, Docker Volume!" displayed on the page.

Step 4: Test Data Persistence

Stop and remove the container:

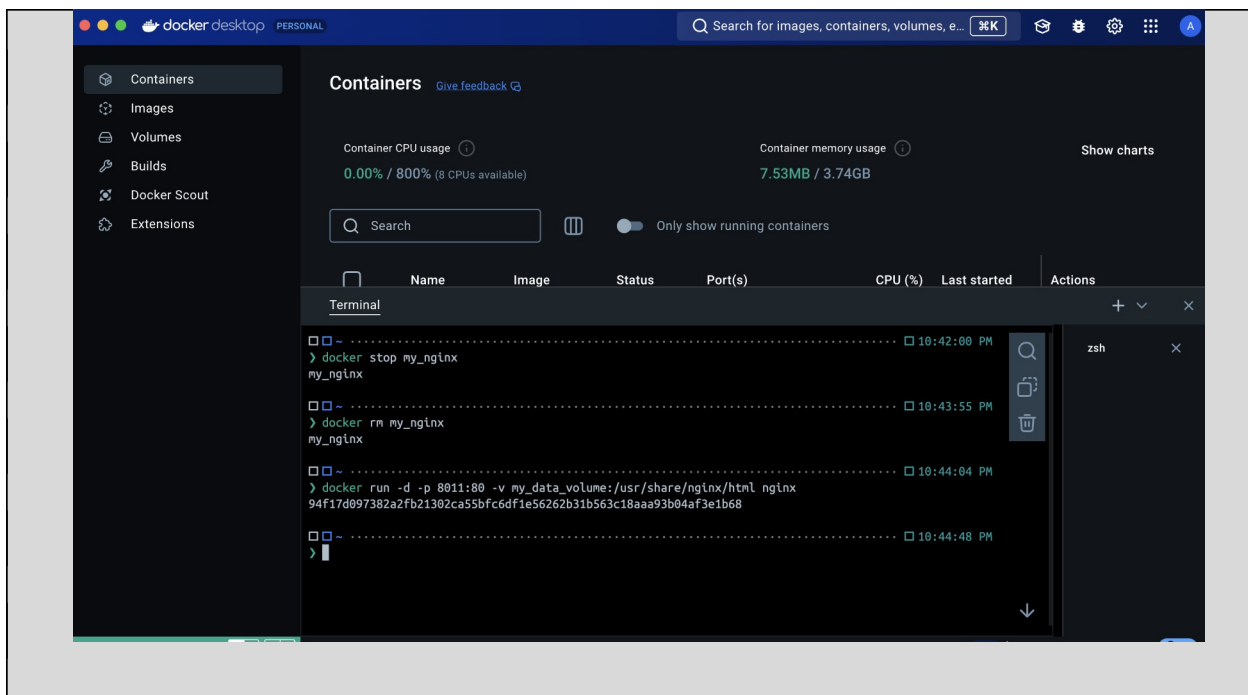
```
docker stop my_nginx
```

```
docker rm my_nginx
```



Run a new Nginx container using the same volume:

```
docker run -d -p 8011:80 -v my_data_volume:/usr/share/nginx/html nginx
```



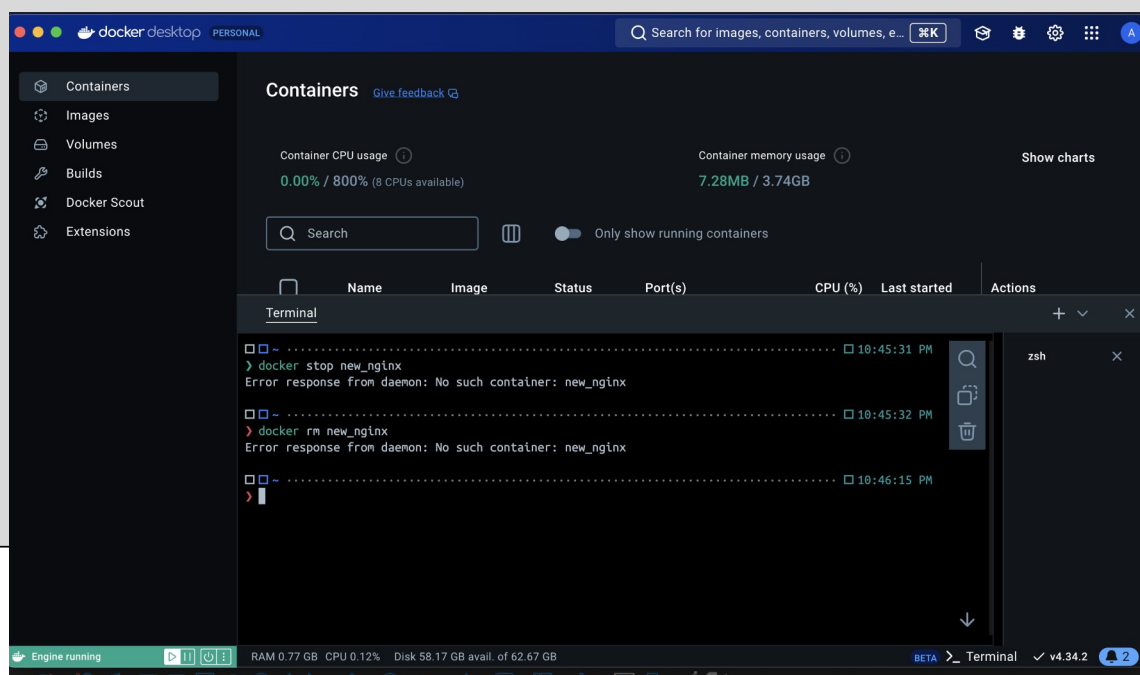
Access the Nginx server again: Navigate to `http://localhost` in your browser. You should still see the "Hello, Docker Volume!" message, demonstrating that the data persisted across container instances.

Step 5: Clean Up

Stop and remove the container:

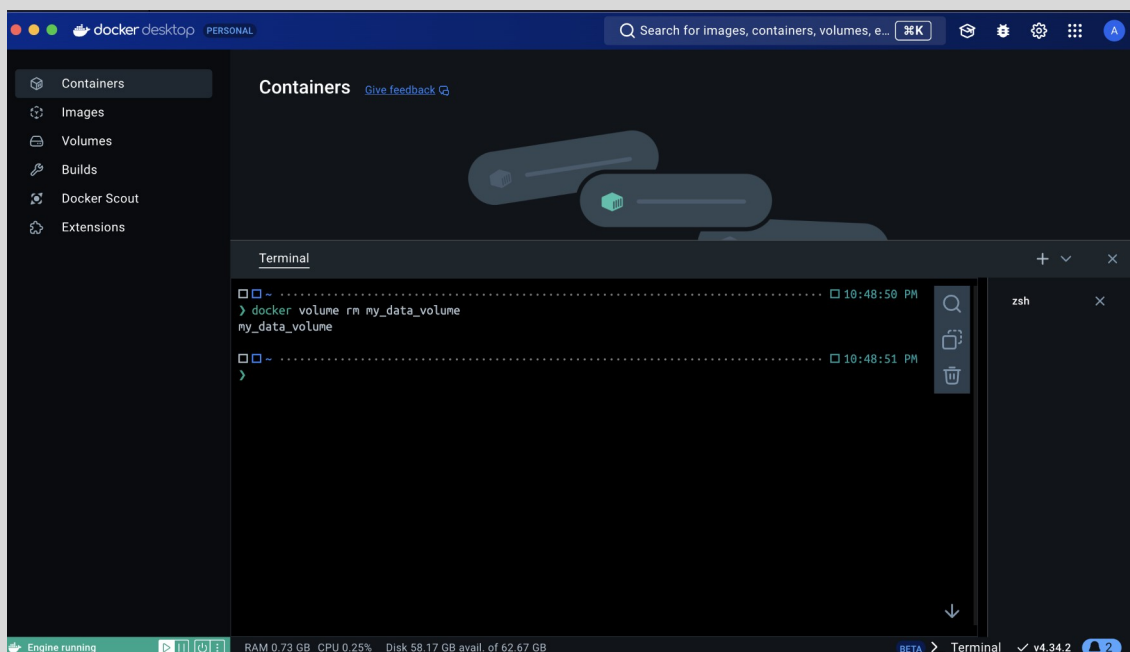
```
docker stop new_nginx
```

```
docker rm new_nginx
```



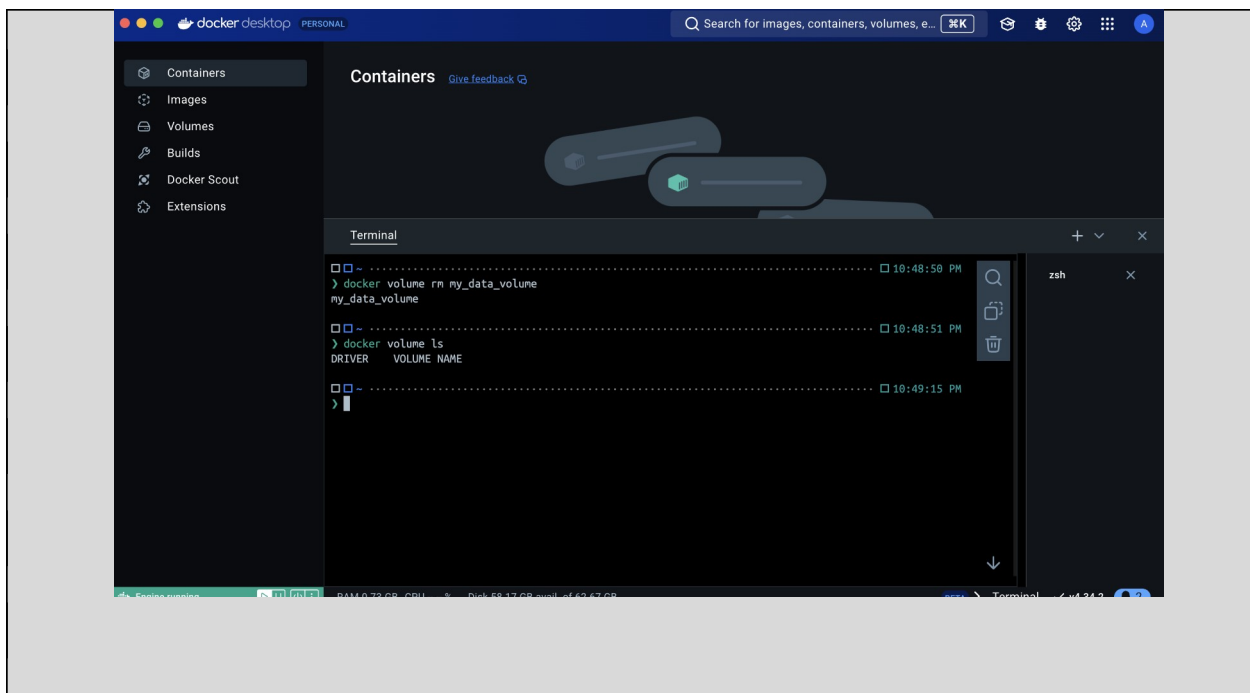
Remove the Docker volume:

```
docker volume rm my_data_volume
```



Verify that the volume is removed:

```
docker volume ls
```



Ensure that my_data_volume is no longer listed.