Lab Exercise 2- Working with docker volumes

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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.

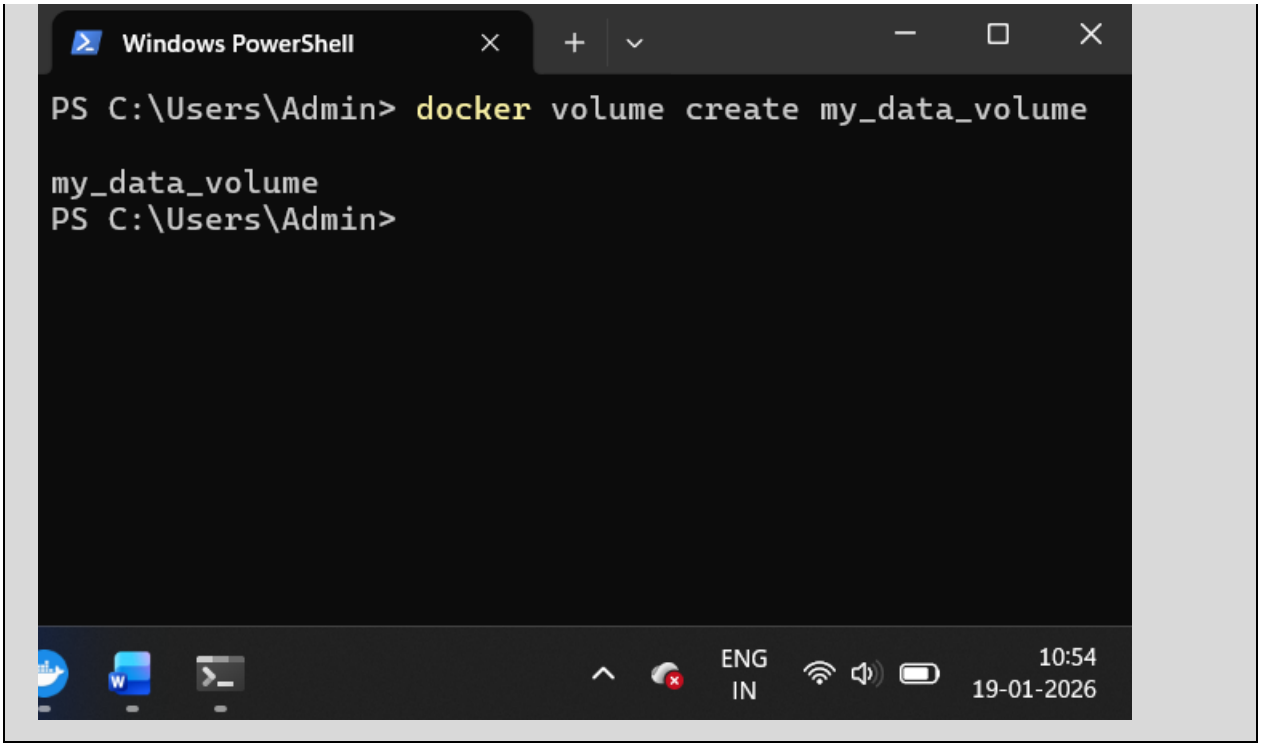
Prerequisites:

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

Step 1: Create a Docker Volume

Create a new Docker volume:

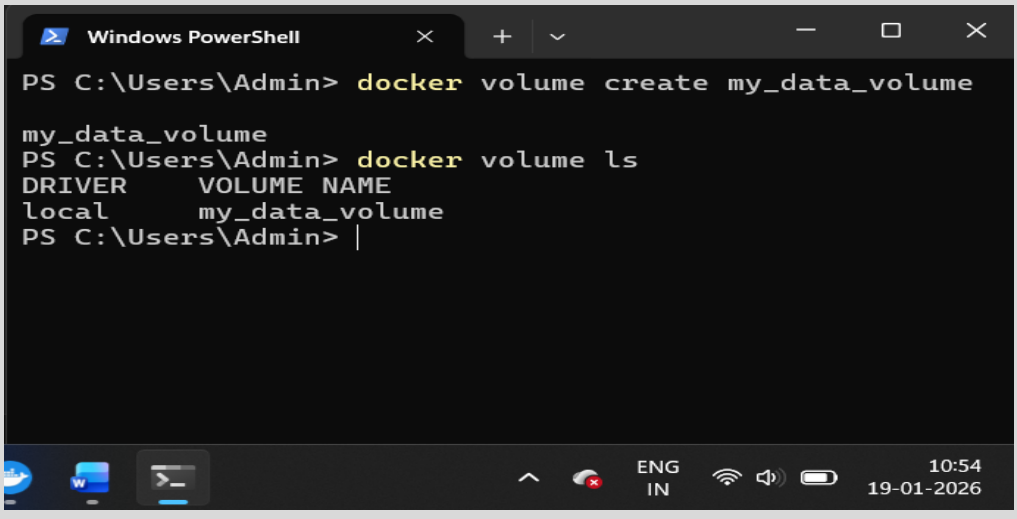
```
docker volume create my_data_volume
```



This command creates a Docker volume named my_data_volume.

Verify that the volume was created:

docker volume ls

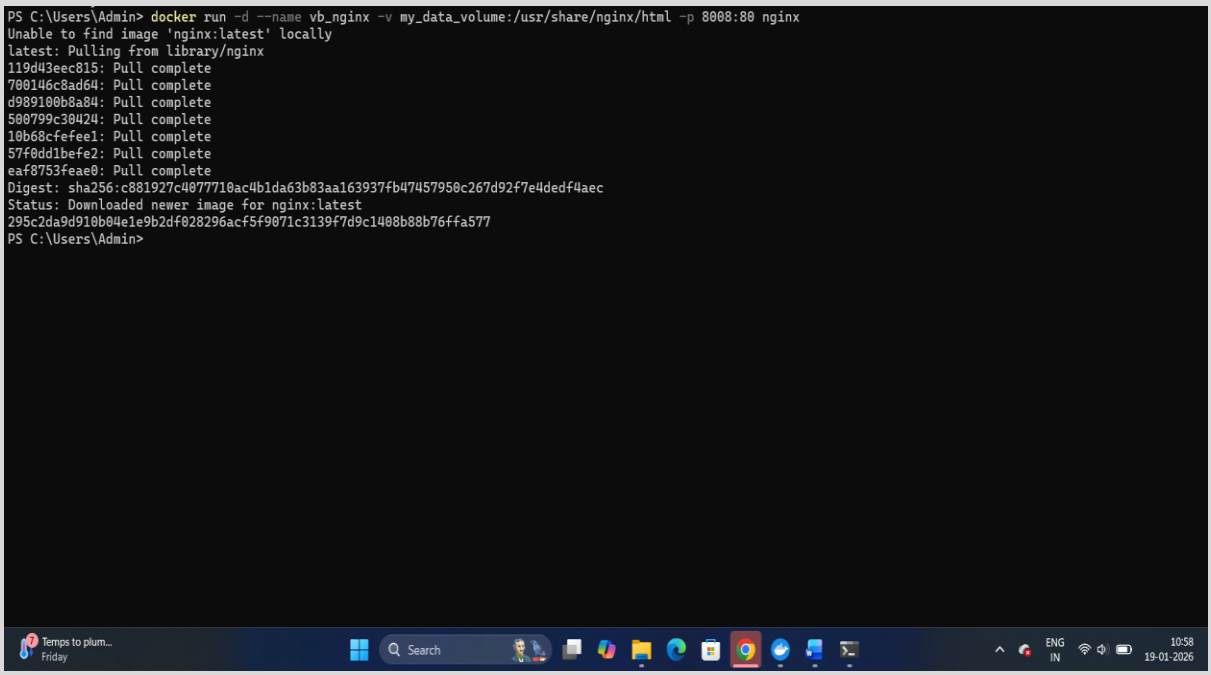


You should see my_data_volume listed among the volumes.

Step 2: Run a Container with the Volume Mounted

Run an Nginx container with the volume mounted:

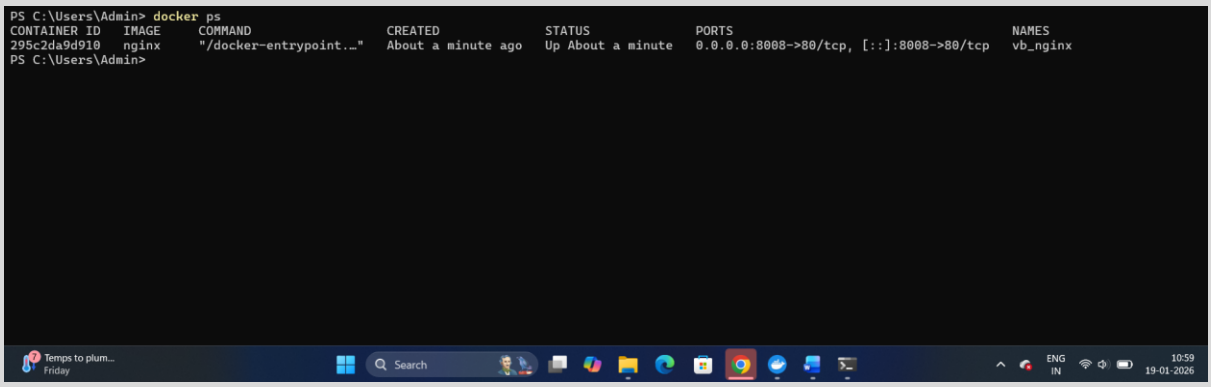
docker run -d --name my_nginx -v my_data_volume:/usr/share/nginx/html -p 8008:80 nginx



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:

docker ps

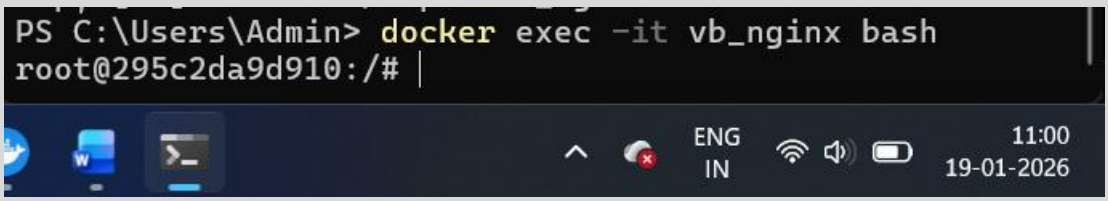


You should see my_nginx listed as one of the running containers.

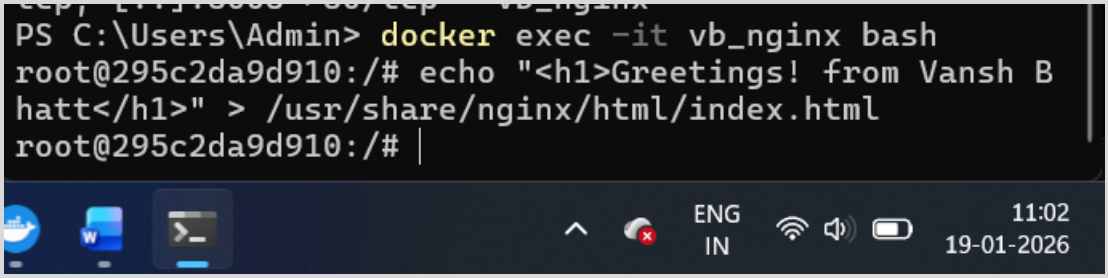
Step 3: Interact with the Volume

Create a simple HTML file in the volume:

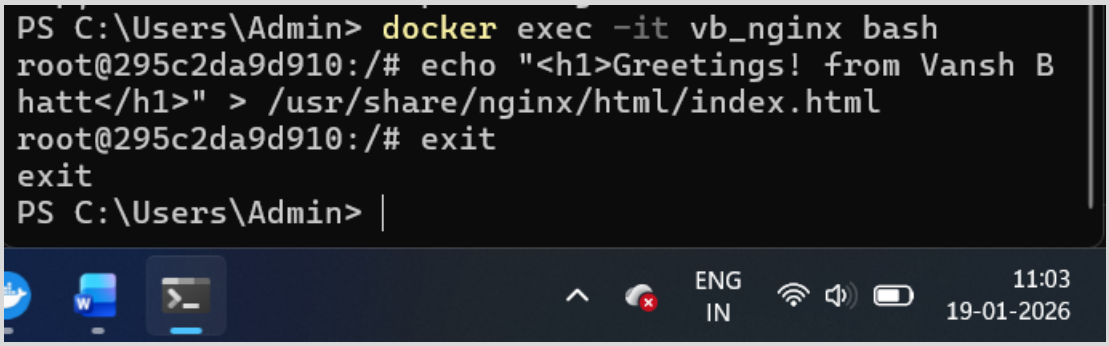
docker exec -it my_nginx bash



echo "<h1>Hello, Docker Volume</h1>" > /usr/share/nginx/html/index.html

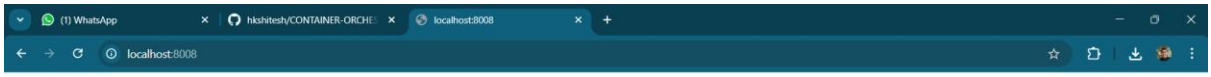


Exit



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.

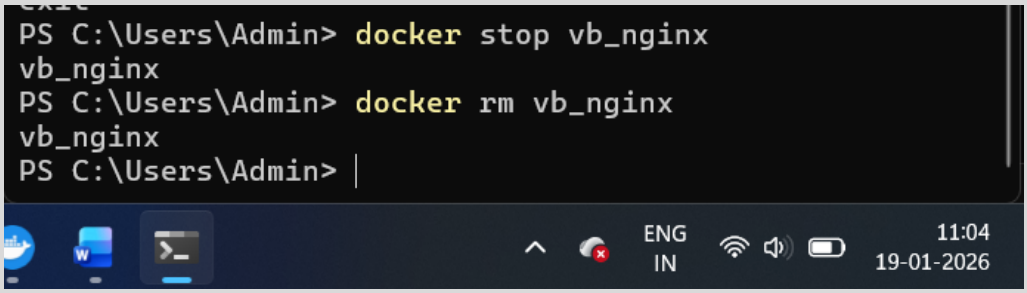


Step 4: Test Data Persistence

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

```
PS C:\Users\Admin> docker run -d --name vb_nginx -v my
_data_volume:/usr/share/nginx/html -p 8008:80 nginx
fb57ac80ea8ddccfe591074af1eb23e7158e17af12927d44152338
0103927ce0
PS C:\Users\Admin>
```

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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.

Greetings! from Vansh Bhatt

Step 5: Clean Up

Stop and remove the container:

docker stop my_nginx

docker rm my_nginx

```
PS C:\Users\Admin> docker stop vb_nginx
vb_nginx
PS C:\Users\Admin> docker rm vb_nginx
vb_nginx
PS C:\Users\Admin>
```

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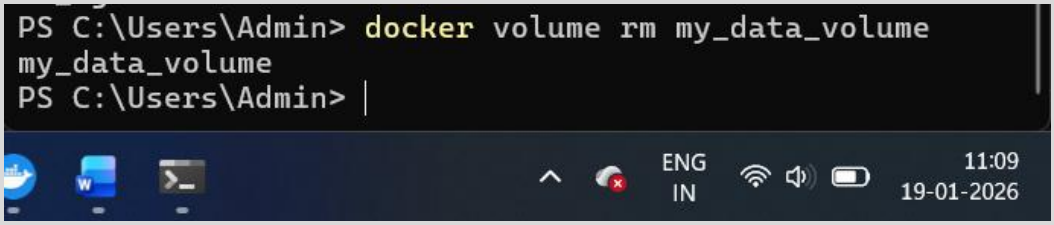
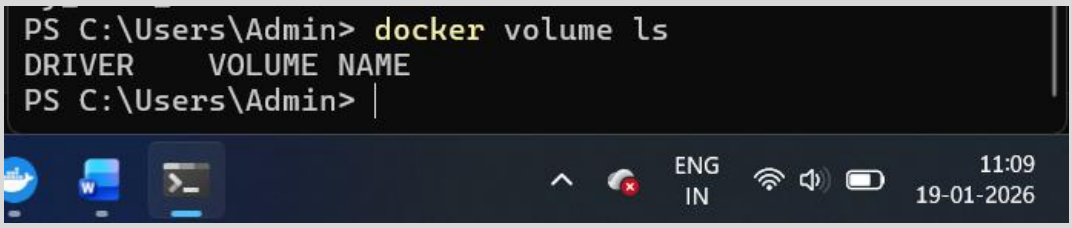
Remove the Docker volume:

```
docker volume rm my_data_volume
```



Verify that the volume is removed:

```
docker volume ls
```



Ensure that my_data_volume is no longer listed.

Thank You