# 🐳 Docker Volumes Practice Session - Lab Reference

📅 **Date:** April 19, 2025

💻 **Environment:** PowerShell on Windows

📁 **Folder:** `D:\UNI\sixth\LAB SCD\Lab Exam\docker-volumes-practice-sesh`

## 🔧 Step-by-Step Breakdown

### ✅ 1. Created a Working Directory

```
mkdir docker-volumes-practice-sesh
cd .\docker-volumes-practice-sesh
```

### ✅ 2. Created a Docker Volume

```
docker volume create lab10_practice_volume
```

> Volume created: lab10_practice_volume
>
> Also used volume: `my_nginx_volume` for NGINX testing.

### ✅ 3. Ran NGINX Container With a Volume

```
docker run --name running-with-volume --volume my_nginx_volume:/usr/share/nginx/html -d nginx
```

> This mounts the volume my_nginx_volume into the container's web root:
>
> `/usr/share/nginx/html`

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## ✅ 4. Installed `vim` Inside Container

```
apt update
apt install vim
```

> Note: sudo was not available (typical in minimal containers).

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## ✅ 5. Edited the Web Page in Volume

```
cd /usr/share/nginx/html
vim index.html
```

Edited the content to:

```
<title>I changed this page on my volume!</title>
```

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## ✅ 6. Stopped and Removed the First Container

```
docker stop running-with-volume
docker rm running-with-volume
```

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## ✅ 7. Verified Volumes Still Exist

```
docker volume list
```

> Confirmed that my_nginx_volume and lab10_practice_volume were still listed.

## ✅ 8. Launched a Second Container Using the Same Volume

```
docker run --name running-with-volume-again -d --volume my_nginx_volume:/usr/share/nginx/html nginx
```

## ✅ 9. Verified Persistence of Changes

```
docker exec -it running-with-volume-again bash
cd /usr/share/nginx/html
cat index.html
```

> Output confirmed the edited content was preserved inside the volume:

```
<title>I changed this page on my volume!</title>
```

## ✅ What You Practiced

| Task | Description |
|------|-------------|
| 🏗️ Volume Creation | `docker volume create` |
| 📦 Mount Volume to Container | `--volume name:/path/in/container` |
| 🔄 Persistence Test | Verified edits stay across container restarts |
| 🧠 Debugging | Fixed syntax errors ( `&&` , `exec` command) and missing tools |

## 📝 Takeaways

- Docker volumes **persist** even after containers are removed.

- You can **re-use** volumes across multiple containers.

- Use `docker exec -it <container> bash` to get a shell inside the container.

- When editing web content inside a volume, changes are **retained** and **shared** between containers.

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Want this in downloadable `.md` format or want a diagram that visually shows container-volume interaction?