Docker Command Guide

Here are **proper detailed steps** to perform all the tasks listed in your PDF (`Docker_Commands.pdf`). I've organized them into **logical phases** for better understanding:

🔹 PHASE 1: Docker Setup and Info

1. ✅ **Check Docker Installation Info:**

```
bash

docker info
```

   - Shows details about your Docker engine, containers, images, volumes, etc.

🔹 PHASE 2: Container Operations

2. ✅ **List Running Containers:**

```
bash

docker container ls
```

3. ✅ **List All Containers (including stopped):**

```
bash

docker container ls -a
```

4. ✅ **Start a Stopped Container:**

```
bash

docker container start laughing_buck
```

   - Starts the container named `laughing_buck`.

🔹 PHASE 3: Working with Docker Images

5. ✅ **List Available Docker Images:**

```
bash

docker images
```

6. ✅ **Run an Nginx Container:**

```
bash

docker run -d -p 9090:80 nginx
```

- `-d`: Detached mode
- `-p 9090:80`: Maps port 9090 (host) to port 80 (container)
- Now visit: `http://localhost:9090` in your browser

🔹 PHASE 4: Working with Ubuntu Container

7. ✅ **Pull Ubuntu Image:**

```
bash

docker pull ubuntu
```

8. ✅ **Run Ubuntu in Detached Mode with a Name:**

```
bash

docker run -itd --name my-linux ubuntu
```

9. ✅ **Access the Running Ubuntu Container:**

```
bash

docker exec -it my-linux /bin/bash
```

10. ✅ **Remove the Container:**

```
bash

docker rm my-linux
```

🔹 PHASE 5: Process and Networking

11. ✅ **List Processes inside Container:**
    Inside the container shell:

```
bash

ps -a
```

12. ✅ **List Running Containers:**

```
bash

docker ps
```

13. ✅ **List Docker Networks:**

```bash
bash

docker network ls
```

🔹 PHASE 6: Volumes and Data Persistence

14. ✅ **Create a Docker Volume:**

```bash
bash

docker volume create mydata
```

15. ✅ **Start BusyBox Container (lightweight Linux shell):**

```bash
bash

docker run -it busybox
```

16. ✅ **Inside Container: Create Directory and File:**

```bash
bash

mkdir data
echo "some data" > /data/file.txt
ls /data
cat /data/file.txt
```

17. ✅ **List Volumes:**

```bash
bash

docker volume ls
```

18. ✅ **Run Container with Volume Mounted:**

```bash
bash

docker run -it -v mydata:/data busybox
```

19. ✅ **Inside Container: Create New File in Volume:**

```bash
bash

cd /data
echo "entering data again" > file1.txt
ls -lrt
cat file1.txt
```

✅ FINAL VERIFICATION

20. You can confirm **volume persistence** by running another container with the same volume:

```
bash


docker run -it -v mydata:/data busybox
cat /data/file1.txt
```

    - You should see `**entering data again**`

If you'd like, I can provide a **script combining all these steps** for learning or automation. Let me know!