**Task 1- Docker Networking:**

**# Create two Docker networks named net1 and net2**

docker network create net1

docker network create net2

**# Run two nginx containers: nginx1 connected to net1 and nginx2 connected to net2**

docker run -d --name nginx1 --network net1 nginx

docker run -d --name nginx2 --network net2 nginx

**# Install ping in both containers (for demonstration purposes)**

docker exec -it nginx1 apt-get update && apt-get install -y iputils-ping

docker exec -it nginx2 apt-get update && apt-get install -y iputils-ping

**# Try to ping from nginx1 to nginx2 and vice versa (these commands should fail)**

docker exec -it nginx1 ping nginx2

docker exec -it nginx2 ping nginx1

**Task 2 : Docker Volumes:**

**# Create a Docker volume named vol1**

docker volume create vol1

**# Run an ubuntu container, mount vol1 to a directory called /data, and write a text file in the /data directory**

docker run -it --name ubuntu1 -v vol1:/data ubuntu bash -c 'echo "Hello, Docker!" > /data/hello.txt'

**# Stop and remove the ubuntu1 container**

docker stop ubuntu1

docker rm ubuntu1