### **Lab Exercise 1- Basic Docker Commands**

**Objective**

To understand and practice basic Docker commands for managing images, containers, and Docker environments.

**Prerequisites**

* Docker installed on your system (docker --version to verify).
* Internet connection (for pulling images from Docker Hub).

**Steps**

**1. Verify Docker Installation**

docker --version

docker info

Confirms Docker is installed and running.

**2. Pull an Image from Docker Hub**

docker pull hello-world

Downloads a simple test image from Docker Hub.

**3. Run a Container**

docker run hello-world

Runs the hello-world container and prints a welcome message.

**4. List Running Containers**

docker ps

Shows currently running containers.

**5. List All Containers (including stopped ones)**

docker ps -a

Displays both running and exited containers.

**6. Download and Run a Web Server (Nginx)**

docker pull nginx

docker run -d -p 8008:80 --name mynginx nginx

Runs Nginx in detached mode (-d) and maps port 8008 on host to port 80 in container.  
Test it: open **http://localhost:8008** in your browser.

**7. Stop and Start a Container**

docker stop mynginx

docker start mynginx

Stops and restarts the container named mynginx.

**8. Check Logs of a Container**

docker logs mynginx

Displays logs of the Nginx container.

**9. Access a Running Container**

docker exec -it mynginx /bin/bash

Opens an interactive shell inside the container. Type exit to leave.

**10. Remove Containers and Images**

docker stop mynginx

docker rm mynginx

docker rmi nginx

Removes the container and then deletes the image.