

## Experiment No. 1.4

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**Branch:** MCA - CCD

**Section/Group:** 22MCD-1/ Grp B

**Semester:** III

**Subject Name:** Containerization With Docker

**Subject Code:** 22CAH-742

### 1. Aim/Overview of the practical: Managing Containers with the Docker CLI

**2. Task to be done:** The Docker CLI is a powerful tool for managing Docker containers. It provides a comprehensive set of commands for performing all aspects of container management, including:

- Starting, stopping, and restarting containers
- Viewing container logs
- Inspecting container status
- Managing container networks and volumes

### 3. Code for experiment/practical:

**To Create:** \$ docker run --name python1 python

**To List:** \$ docker container ls -a

```
PS C:\Users\Pinda> docker run --name python1 python
```

```
PS C:\Users\Pinda> docker container ls -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
cd1535d75ae8	python	"python3"	About a minute ago	Exited (0) 30 seconds ago		python1

**To Inspect:** \$ docker inspect python1

```
PS C:\Users\Pinda> docker inspect python1
[
  {
    "Id": "cd1535d75ae8f3531e8f509b163e263c2516c136be42478b9e79f99ffa6d35d9",
    "Created": "2023-10-18T06:55:11.970379007Z",
    "Path": "python3",
    "Args": [],
    "State": {
      "Status": "exited",
      "Running": false,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 0,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-10-18T06:55:13.463447253Z",
      "FinishedAt": "2023-10-18T06:55:13.56280515Z"
    }
  }
]
```

**To Run in interactive mode:** \$ docker run --name ubuntu -it ubuntu

**To Stop:** \$ docker container stop ubuntu1

**To Remove:** docker container rm ubuntu1

```
PS C:\Users\Pinda> docker run --name ubuntu1 -it ubuntu
root@610859cf6a95:/# dir
bin boot dev etc home lib lib32 lib64 libx32 media mnt opt proc root run sbin srv sys tmp usr var
root@610859cf6a95:/# exit
exit
PS C:\Users\Pinda> docker container stop ubuntu1
ubuntu1
PS C:\Users\Pinda> docker container rm ubuntu1
ubuntu1
PS C:\Users\Pinda> docker container rm python1
python1
PS C:\Users\Pinda> docker container ls -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
```

## Managing container networks and volumes

**To create network:** \$ docker network create my-network

**To create volume:** \$ docker volume create my-volume

```
PS C:\Users\Pinda> docker network create my-network
f2d3d68374ded52eec4760ec4bac4bbc3ad1db9ac491a35b029720e1d1ac526b
PS C:\Users\Pinda> docker volume create my-volume
my-volume
```

## 4. Learning outcomes (What I have learned):

- To manage container with CLI.
- To run, stop, remove Containers.
- Manage container networks and volume.