

Docker Part 2 Assignment – 4

1. Create a Docker swarm cluster with 3 nodes

2. Deploy an Apache container with 4 replicas

- Docker swarm is initialised by docker swarm init in master node
- Docker swarm join token is generated which has to be run on worker nodes to join them into swarm cluster

```
ubuntu@ip-172-31-45-255:~$ docker swarm init --advertise-addr=172.31.45.255
Error response from daemon: This node is already part of a swarm. Use "docker swarm leave" to leave this swarm and join another one.
ubuntu@ip-172-31-45-255:~$ docker swarm join-token worker
To add a worker to this swarm, run the following command:

    docker swarm join --token SWMTKN-1-lzxa2l9gb3x3ppnrwhe0ili3lesh67ptncd6yoql247iyb7pw-dcy499n13qtc9gxq59l5772wz 172.31.45.255:2377

ubuntu@ip-172-31-45-255:~$
```

- Worker node I is joined through docker swarm join token

```
ubuntu@ip-172-31-19-222:~$ docker swarm join --token SWMTKN-1-lzxa2l9gb3x3ppnrwhe0ili3lesh67ptncd6yoql247iyb7pw-dcy499n13qtc9gxq59l5772wz 172.31.45.255:2377
This node joined a swarm as a worker.
ubuntu@ip-172-31-19-222:~$
```

- Worker node II is joined through docker swarm join token

```
ubuntu@ip-172-31-87-170:~$ sudo docker swarm join --token SWMTKN-1-lzxa2l9gb3x3ppnrwhe0ili3lesh67ptncd6yoql247iyb7pw-dcy499n13qtc9gxq59l5772wz 172.31.45.255:2377
This node joined a swarm as a worker.
ubuntu@ip-172-31-87-170:~$
```

- Docker swarm cluster setup is successfully completed

```
ubuntu@ip-172-31-45-255:~$ docker node ls
ID                                HOSTNAME                STATUS    AVAILABILITY    MANAGER STATUS    ENGINE VERSION
t3jprlgvul9mv9lwgjlkp3le        ip-172-31-19-222        Ready    Active
z3lfxwr78ce1748px0v4ys4fo *    ip-172-31-45-255        Ready    Active           Leader             24.0.7
2lhrez54qlv64l1tkm8inh9f0      ip-172-31-87-170        Ready    Active           Leader             24.0.5
```

- An Apache container with 4 replicas is deployed to docker cluster by docker service create command.

```
ubuntu@ip-172-31-45-255:~$ docker service create --replicas 4 --name apache-service -p 90:80 httpd:latest
gcynuq40j5zojy4ptdlheagzr
overall progress: 4 out of 4 tasks
1/4: running [=====>]
2/4: running [=====>]
3/4: running [=====>]
4/4: running [=====>]
verify: Service converged
ubuntu@ip-172-31-45-255:~$
```

- Ensuring the status of apache containers status by docker service ls command

```
ubuntu@ip-172-31-45-255:~$ docker service ls
ID                NAME                MODE                REPLICAS    IMAGE                PORTS
gcynuq40j5zo     apache-service      replicated          4/4         httpd:latest        *:90->80/tcp
```