

## Lesson 04 Demo 03

### Running a Container into Services Running Under Swarm

**Objective:** To deploy the nginx services in both global mode and with replicas for load balancing and high availability across multiple nodes in a Docker swarm cluster

**Tools required:** Docker and Ubuntu OS

**Prerequisites:** None

Steps to be followed:

1. Deploy the nginx service in global mode
2. Create nginx services with replicas
3. Check the container status

#### Step 1: Deploy the nginx service in global mode

- 1.1 Run the nginx image as a service in global mode on each node in the swarm cluster by running the following commands:

```
sudo docker service create --mode global \  
--publish mode=host,target=80,published=8080 \  
--name=nginx nginx:latest
```

```
labsuser@ip-172-31-29-216:~$ sudo docker service create --mode global \  
> --publish mode=host,target=80,published=8080 \  
> --name=nginx nginx:latest  
as7hs7f5v3k6jajaef90x0wp9  
overall progress: 3 out of 3 tasks  
e5a7syx7911y: running [=====>]  
2ok547v07m3s: running [=====>]  
qh2u7kcfnepf: running [=====>]  
verify: Service converged  
labsuser@ip-172-31-29-216:~$
```

## Step 2: Create nginx services with replicas

- 2.1 Execute the following commands to create a nginx service with three replica containers on the swarm cluster:

```
sudo docker service create \  
--name my_web --replicas 3 \  
--publish published=5050,target=80 nginx
```

```
labsuser@ip-172-31-29-216:~$ sudo docker service create \  
> --name my_web --replicas 3 \  
> --publish published=5050,target=80 nginx  
0yqh8jbjrd8fed67wnz646w7m  
overall progress: 3 out of 3 tasks  
1/3: running [=====>]  
2/3: running [=====>]  
3/3: running [=====>]  
verify: Service converged  
labsuser@ip-172-31-29-216:~$
```

## Step 3: Check the container status

- 3.1 Execute the following command to verify the status of each container instance running within the service **my\_web**:

```
sudo docker service ps my_web
```

```
labsuser@ip-172-31-29-216:~$ sudo docker service ps my_web
```

ID	NAME	IMAGE	NODE	DESIRED STATE	CURRENT STATE
1r2vs4go8p5j	my_web.1	nginx:latest	ip-172-31-30-210	Running	Running about a minute ago
06v7fagbkwx	my_web.2	nginx:latest	ip-172-31-29-216	Running	Running about a minute ago
mzx3qkdi8s2e	my_web.3	nginx:latest	ip-172-31-26-147	Running	Running about a minute ago

```
labsuser@ip-172-31-29-216:~$
```

By following these steps, you have successfully deployed the nginx services in both global mode and with replicas for load balancing and high availability across multiple nodes in a Docker swarm cluster.