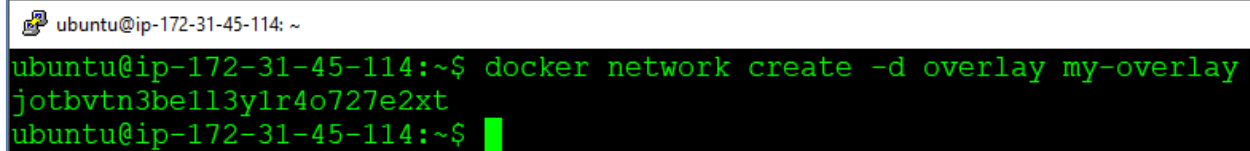


## MULTI-TIER APP IN DOCKER SWARM

**Step 1:** Create a Docker Network, of type overlay

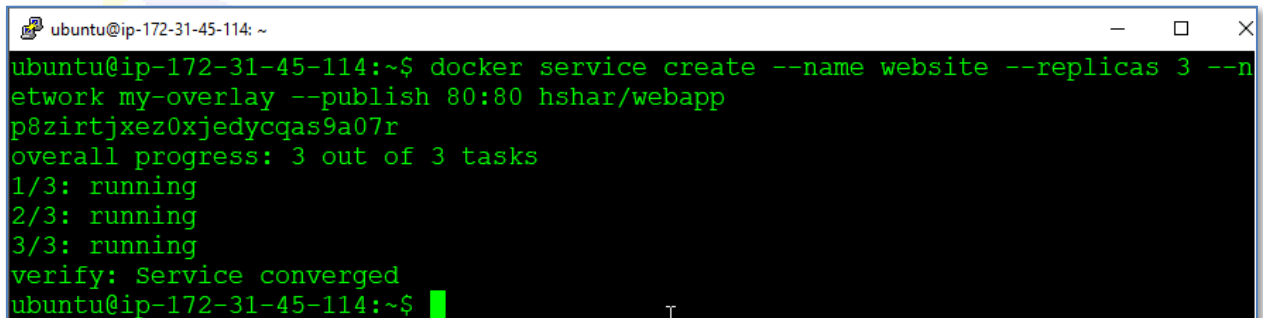
```
$ docker network create -d overlay my-overlay
```



```
ubuntu@ip-172-31-45-114: ~  
ubuntu@ip-172-31-45-114:~$ docker network create -d overlay my-overlay  
jotbvtn3be113y1r4o727e2xt  
ubuntu@ip-172-31-45-114:~$
```

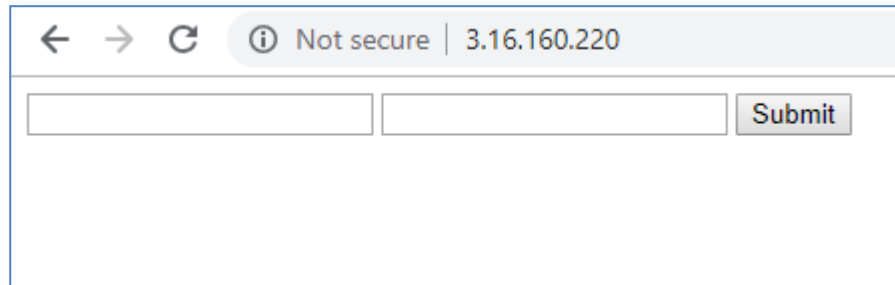
**Step 2:** Now, let's create the webapp service

```
$ docker service create --name website --replicas 3 --network my-overlay --publish 80:80  
hshar/webapp
```



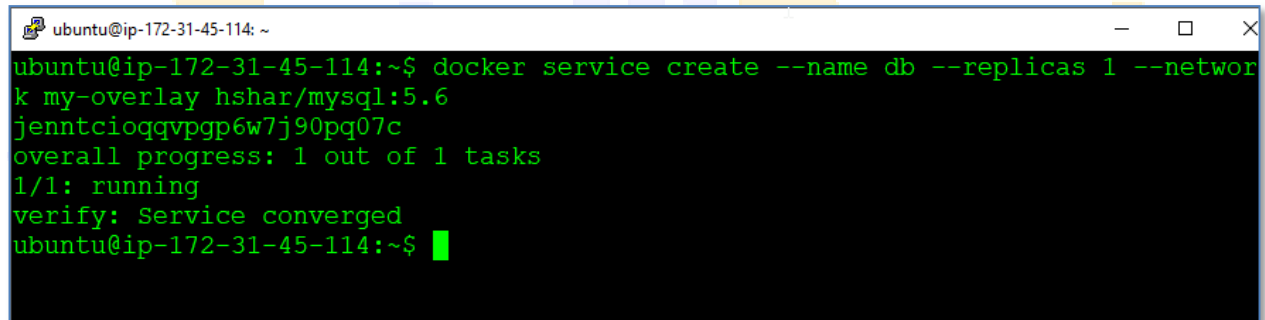
```
ubuntu@ip-172-31-45-114: ~  
ubuntu@ip-172-31-45-114:~$ docker service create --name website --replicas 3 --n  
etwork my-overlay --publish 80:80 hshar/webapp  
p8zirtjxez0xjedycgas9a07r  
overall progress: 3 out of 3 tasks  
1/3: running  
2/3: running  
3/3: running  
verify: Service converged  
ubuntu@ip-172-31-45-114:~$
```

**Step 3:** Let us try running the website in our browser



**Step 4:** Now, let us deploy the DB service

```
$ docker service create --name db --replicas 1 --network my-overlay hshar/mysql:5.6
```



```
ubuntu@ip-172-31-45-114: ~  
ubuntu@ip-172-31-45-114:~$ docker service create --name db --replicas 1 --network my-overlay hshar/mysql:5.6  
jenntcioqqvpgp6w7j90pq07c  
overall progress: 1 out of 1 tasks  
1/1: running  
verify: Service converged  
ubuntu@ip-172-31-45-114:~$
```

**Step 5:** Let us exec into the db container now, you will have to check on which node the mysql container is present, accordingly do an exec on that container

```
$ docker exec -it <container-id> bash
```

```
ubuntu@ip-172-31-45-114: ~
```

```
ubuntu@ip-172-31-45-114:~$ docker exec -it ea5e5c32b11c bash
root@ea5e5c32b11c:/#
```

**Step 6:** Finally create a 1.sql file in this container with the following contents:

```
Create database docker;
```

```
Use docker;
```

```
Create table emp(name varchar(20), phone varchar(20));
```

```
ubuntu@ip-172-31-45-114: ~
```

```
root@ea5e5c32b11c:/# cat 1.sql
create database docker;
use docker;
create table emp( name varchar(20), phone varchar(20));
root@ea5e5c32b11c:/#
```

**Step 7:** Pass the following command, and this shall build your database and table. The password for mysql is “intelli” and username is “root”.

```
mysql -u root -p < 1.sql
```

```
ubuntu@ip-172-31-45-114: ~  
root@ea5e5c32b11c:/# mysql -u root -p < 1.sql  
Enter password:  
root@ea5e5c32b11c:/# █
```

**Step 8:** Finally check the website, by entering data, and verifying whether your MySQL table is being populated.

```
mysql> use docker;  
Reading table information for  
You can turn off this feature  
  
Database changed  
mysql> select * from emp;  
+-----+-----+  
| name   | phone   |  
+-----+-----+  
| devops | intellipaat |  
+-----+-----+  
1 row in set (0.00 sec)
```

New record created successfully