



# **Application Containerization And Orchestration Lab**

**Submitted By – Chitwan Singh**

**SAP ID – 500097009**

**Enrolment no. – R2142211291**

**Batch – DevOps B4**

**Submitted to**

**– Dr. Hitesh Kumar Sharma**

## EXPERIMENT 6

### AIM: Working with Docker Compose File to Control Multiple Containers

#### Steps to Complete:

#### Creating compose files

- ❖ Create a directory named nginx in your root.

```
mkdir nginx
```

```
Vidyarathi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app (main)  
$ mkdir nginx
```

Switch to that directory and create a file named docker-compose.yaml

```
cd nginx
```

```
vi docker-compose.yml
```

```
Vidyarathi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app (main)  
$ cd ./nginx  
Vidyarathi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)  
$ vi docker-compose.yml
```

- ❖ Use docker-compose version 2 to create docker-compose.yaml file.  
Create a service named "databases". Use image named "mysql"  
  
Map container 3306 port to host machine 3306 port.  
  
Add environment variables named "MYSQL\_ROOT\_PASSWORD",  
"MYSQL\_DATABASE", "MYSQL\_USER" and "MYSQL\_PASSWORD" along with  
corresponding values for all.

```
cat evs.env
```

```
MYSQL_ROOT_PASSWORD=redhat08  
MYSQL_DATABASE=nginxdb  
MYSQL_USER=root
```

```
Vidyarathi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)  
$ cat evs.env  
MYSQL_ROOT_PASSWORD=redhat08  
MYSQL_DATABASE=nginxdb  
MYSQL_USER=root  
MYSQL_PASSWORD=redhat08
```

Add another service named "web"  
Use image "nginx"

```
cat docker-compose.yml
```

```
Vidyardhi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)
$ cat docker-compose.yml
version: '3'
services:
  databases:
    image: mysql
    ports:
      - "3307:3306"
    env_file:
      - envs.env
  web:
    image: nginx
    ports:
      - "80:80"
    depends_on:
      - databases
Vidyardhi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)
```

```
version: '3'
services:
  databases:
    image: mysql
    ports:
      - "3307:3306"
    env_file:
      - envs.env
  web:
    image: nginx
    ports:
      - "80:80"
    depends_on:
      - databases
```

## Running images using docker-compose

- ❖ Save docker-compose.yaml file and do docker-compose up.

```
docker-compose up -d
```

```
Vidyardhi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)
$ docker-compose up -d
Network nginx_default Creating
Network nginx_default Created
Container nginx-databases-1 Creating
Container nginx-databases-1 Created
Container nginx-web-1 Creating
Container nginx-web-1 Created
Container nginx-databases-1 Starting
Container nginx-databases-1 Started
Container nginx-web-1 Starting
Container nginx-web-1 Started
```

- ❖ Verify nginx service is up and is accessible on machine.

```
curl localhost:80
```

```
Vidyarthi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)
$ curl localhost:80
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left     Speed
100 615    100 615    0    0 45310      0 --:--:-- --:--:-- --:--:-- 51250<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
```

Stop and remove your docker container using docker-compose.

```
docker-compose down
```

```
Vidyarthi@chitwan MINGW64 ~/desktop/ACO-LAB-2021-25/my-web-app/nginx (main)
$ docker-compose down
Container nginx-web-1 Stopping
Container nginx-web-1 Stopped
Container nginx-web-1 Removing
Container nginx-web-1 Removed
Container nginx-databases-1 Stopping
Container nginx-databases-1 Stopped
Container nginx-databases-1 Removing
Container nginx-databases-1 Removed
Network nginx_default Removing
Network nginx_default Removed
```