



Application Containerization

And

Orchestration Lab

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Batch – DevOps B4

EXPERIMENT -6

AIM : Working with Docker Compose File to Control Multiple Containers

Steps to Complete:

1. Creating compose files

- Create a directory named nginx in your root.

“ mkdir nginx ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app (main)
$ mkdir nginx
```

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

“ cd nginx ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app (main)
$ cd ./nginx
```

“ vi docker-compose.yml ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app/nginx (main)
$ vi docker-compose.yml
```

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app (main)
version: '2'
services:
  databases:
    image: mysql
    ports:
      - "3307:3306"
    env_file:
      - envs.env
  web:
    image: nginx
    ports:
      - "80:80"
    depends_on:
      - databases
```

- 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 3307 port.
- Add environment variables named "MYSQL_ROOT_PASSWORD", "MYSQL_DATABASE", "MYSQL_USER" and "MYSQL_PASSWORD" along with corresponding values for all.

“ cat evs.env ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app/nginx (main)
$ cat evs.env
MYSQL_ROOT_PASSWORD = swati100
MYSQL_DATABASE: mysqlldb
MYSQL_USER: root
MYSQL_PASSWORD: abc123
```

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

```
nginx > docker-compose.yml
1  version: '2'
2  services:
3    databases:
4      image: mysql
5      ports:
6        - "3307:3306"
7      env_file:
8        - evs.env
9    web:
10     image: nginx
11     ports:
12       - "80:80"
13     depends_on:
14       - databases
```

2. Running images using docker-compose

- Save docker-compose.yaml file and do “ docker-compose up ” .

“ docker-compose up -d ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app/nginx (main)
$ docker-compose up -d
[+] Running 11/11
  ✓ databases 10 layers [#####] 0B/0B Pulled 130.1s
  ✓ 8e0176adc18c Pull complete 50.0s
  ✓ 2d2c52718f65 Pull complete 2.7s
  ✓ d88d03ce139b Pull complete 3.3s
  ✓ 4a7d7f11aa1e Pull complete 57.3s
  ✓ ce5949193e4c Pull complete 9.1s
  ✓ f7f024dfb329 Pull complete 10.3s
  ✓ 5fc3c840facc Pull complete 78.0s
  ✓ 509068e49488 Pull complete 13.2s
  ✓ cbc847bab598 Pull complete 91.5s
  ✓ 942bef62a146 Pull complete 53.4s
[+] Building 0.0s (0/0) docker:default
[+] Running 3/3
  ✓ Network nginx_default Created 0.4s
  ✓ Container nginx-databases-1 Started 0.7s
  ✓ Container nginx-web-1 Started 0.3s
```

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

“ curl localhost:80 ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app/nginx (main)
$ curl localhost:80
<!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 ”

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app/nginx (main)
$ docker-compose down
[+] Running 3/3
✓ Container nginx-web-1      Removed
✓ Container nginx-databases-1 Removed
✓ Network nginx_default      Removed
```

```
91983@DELL MINGW64 ~/OneDrive/Desktop/SEM5/ACO-LAB-2021-25(Local)/my-web-app/nginx (main)
$ curl localhost:80
curl: (7) Failed to connect to localhost port 80 after 2248 ms: Connection refused
```