microservice using docker

Building a Microservice with Docker Compose

About this Hands-on Lab

You've just completed developing your weather application, and are ready to deploy it to your production Docker server. After doing some analysis, you decided to deploy three containers that will be load-balanced using Nginx. To do this you need to create a Docker Compose file that will create three `weather-app` services on a private network. Then you will create an Nginx service that will be publicly accessible and have it load balance traffic to the weather-app services.

Learning Objectives

Successfully complete this lab by achieving the following learning objectives:

Create the Compose File

Create `docker-compose.yml`:

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

The contents of `docker-compose.yml` should be:

```
version: '3'
services:
  weather-app1:
    build:
      context: ./weather-app
      args:
        - VERSION=v2.0
    ports:
      - "8080:3000"
    networks:
     - weather_app
    environment:
      - NODE_ENV=production
  weather-app2:
    build:
      context: ./weather-app
      args:
        - VERSION=v2.0
    ports:
      - "8081:3000"
    networks:
     - weather_app
    environment:
      - NODE_ENV=production
  weather-app3:
    build:
      context: ./weather-app
      args:
        - VERSION=v2.0
    ports:
      - "8082:3000"
    networks:
     - weather_app
    environment:
      - NODE_ENV=production
  nginx:
      build: ./nginx
      tty: true
      ports:
       - '80:80'
      networks:
       - frontend
       - weather_app

networks:
  frontend:
  weather_app:
    internal: true
```

Add the Services to nginx.conf

Update `nginx/nginx.conf`:

```
vi nginx/nginx.conf
```

The contents of `nginx.conf` should be:

```
events { worker_connections 1024; }

http {
  upstream localhost {
    server weather-app1:3000;
    server weather-app2:3000;
    server weather-app3:3000;
  }
  server {
    listen 80;
    server_name localhost;
    location / {
      proxy_pass http://localhost;
      proxy_set_header Host $host;
    }
  }
}
```

Create the Docker Compose Service

Create the Compose service:

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