

Software Engineering

Assignment No 2

Group Members

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docker-compose.yml

```
1  version: "3.3"
2  services:
3    web-frontend:
4      build: ./frontend
5      volumes:
6        - ./frontend:/var/www/html
7      ports:
8        - 5000:80
9
10   backend-db:
11     image: mysql:latest
12     command: --default-authentication-plugin=mysql_native_password
13     restart: always
14     volumes:
15       - ./backend:/docker-entrypoint-initdb.d
16     environment:
17       MYSQL_DATABASE: Mobiles
18       MYSQL_ROOT_PASSWORD: root
19
20   phpmyadmin:
21     image: phpmyadmin:latest
22     restart: always
23     ports:
24       - 5001:80
25     environment:
26       - PMA_ARBITRARY=1
27
28   pythonapp:
29     build:
30       context: ./flask-app-python
31       dockerfile: Dockerfile
32     ports:
33       - 5002:80
34
```

flask-app-python/Dockerfile



```
1 FROM python:3.9
2
3 COPY . /app
4 WORKDIR /app
5
6 RUN pip install flask
7
8 CMD ["python", "app.py"]
9
```

frontend/Dockerfile



```
1 FROM php:7.2-apache
2
3 COPY . /var/www/html/
4
5 RUN docker-php-ext-install mysqli
6
```

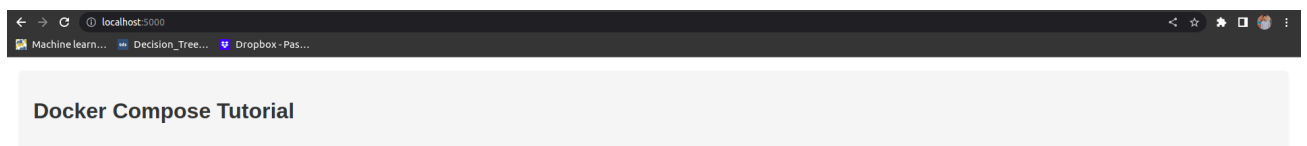
flask-app-python/app.py

```
1  from flask import Flask, jsonify
2
3  app = Flask(__name__)
4
5  @app.route('/')
6  def get_products():
7      products = [
8          {"Samsung": "Brand A", "country": "UK"},
9          {"CR7": "Brand B", "country": "Portugal"},
10         {"Messi": "Brand C", "country": "Argentina"},
11     ]
12     return jsonify(products)
13
14 if __name__ == '__main__':
15     app.run(debug=True, host='0.0.0.0')
16
```

Output:

```
1 (base) jawad_ahmed@jad:~/Documents/Semester_6/Software_Engineering/Assignments/02-Assignment_Improved$ sudo docker-compose up -d
2 Creating network "02-assignment_improved_default" with the default driver
3 Creating 02-assignment_improved_web-frontend_1 ... done
4 Creating 02-assignment_improved_pythonapp_1 ... done
5 Creating 02-assignment_improved_backend-db_1 ... done
6 Creating 02-assignment_improved_phpmyadmin_1 ... done
7
```

Go to <http://localhost:5000>



Running Multi-Container Application

Connection Established
Welcome!!

Data Fetched from the Database

- 1 - Iphone - 5
- 2 - Samsung - 6

Data Fetched by Python Microservice

- UK
- Portugal
- Argentina