Shady mohamed

Docker-compose-project

GitHub: https://github.com/shadymh10/docker_compose

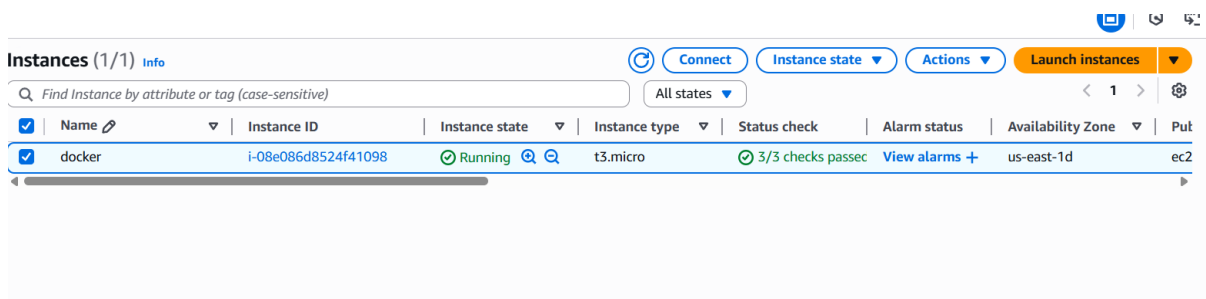**Project: Flask web application with MySQL database containerized using Docker**

Tools Used:

🐍 **Flask - Lightweight Python web framework for rapid development**

🗄️ **MySQL - Robust and reliable relational database**

💻 **VS Code - Advanced code editor with Python & Docker extensions**

⬭ **EC2 - Amazon cloud server for hosting and deployment**

🐳 **Docker - Application containerization for easy portability**

📦 **Docker Compose - Multi-container orchestration and management**

🗂️ **Git & GitHub - Version control and cloud code repository**

Result: Professional, portable application that runs anywhere, easy to deploy and maintain, and highly scalable! 🎯

Steps:

-Create ec2 and connect:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Put
docker	i-08e086d8524f41098	⊘ Running ⊕ ⊖	t3.micro	⊘ 3/3 checks passec	View alarms +	us-east-1d	ec2

-A structure of project :

```
[root@ip-172-31-36-0 docker_compose]# tree
.
├── README.md
├── app.py
├── data
├── docker-compose.yml
├── docker_compose
├── dockerfile
├── notes.db
├── requirements.txt
├── static
│   └── index.css
└── templates
    └── index.html

4 directories, 8 files
```

-Create a Dockerfile(build images) and docker-compose.yml(manage images)

```
[root@ip-172-31-36-0 docker_compose]# cat docker-compose.yml
services:
  web:
    build: .
    ports:
      - "5000:5000"
    volumes:
      - .:/app
      - ./data:/app/data
    environment:
      - FLASK_ENV=development
    command: python app.py

[root@ip-172-31-36-0 docker_compose]# cat dockerfile
FROM python:3.11

WORKDIR /app

COPY requirements.txt ./
RUN pip install --no-cache-dir -r requirements.txt

COPY . .

CMD ["python", "app.py"]
```

-Docker images after running app

```
root@ip-172-31-36-0 docker_compose]# docker images
REPOSITORY              TAG       IMAGE ID       CREATED          SIZE
docker_compose-web     latest    05c022fa0649   5 minutes ago    1.22GB
```

-Some commands uses in project

```
598  git clone https://github.com/shadymh10/docker_compose.git
599  ls
600  cd docker_compose/
601  ls
602  vim dockerfile
603  vim docker-compose.yml
604  vim app.py
605  vim requirements.txt
606  docker-compose up --build
```

-Show app by 18.232.118.39:5000