CDEC B24

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Hosting 3 tier studentapp via docker compose

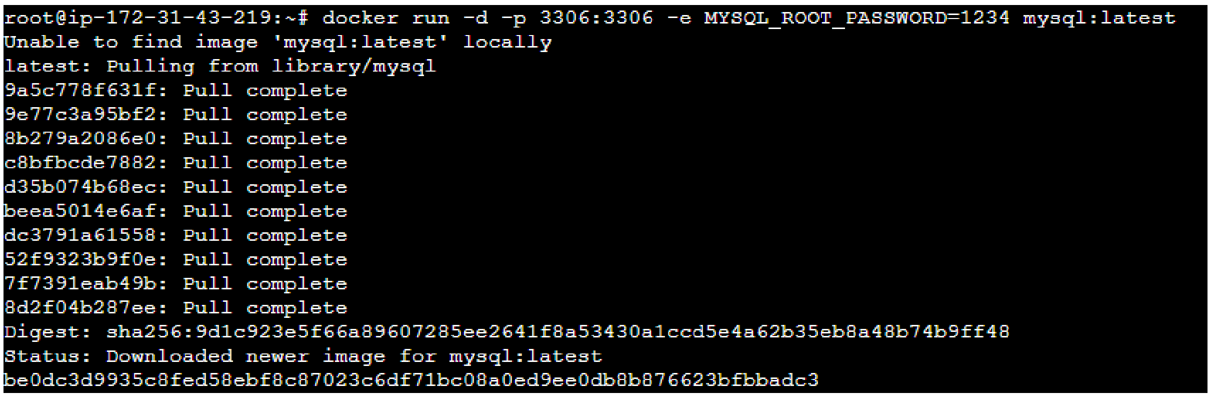
1. **Create EC2 instance with ubuntu image and connect it.**

2. **Install docker in the instance terminal using root user (sudo -i) and aŌer installing docker start the docker using systemctl start docker**

Link - https://docs.docker.com/engine/install/ubuntu/

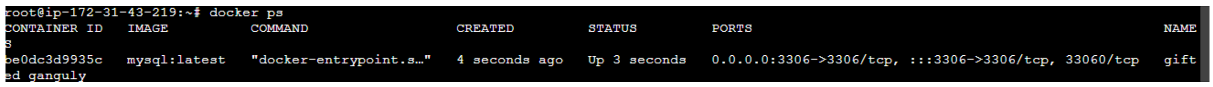
3. **Firstly create data base in MySQL for this use command.**

- docker run -d -p 3306:3306 MYSQL_ROOT_PASSWORD=1234 mysql:latest



```
root@ip-172-31-43-219:~# docker run -d -p 3306:3306 -e MYSQL_ROOT_PASSWORD=1234 mysql:latest
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
9a5c778f631f: Pull complete
9e77c3a95bf2: Pull complete
8b279a2086e0: Pull complete
c8bfbcde7882: Pull complete
d35b074b68ec: Pull complete
beea5014e6af: Pull complete
dc3791a61558: Pull complete
52f9323b9f0e: Pull complete
7f7391eab49b: Pull complete
8d2f04b287ee: Pull complete
Digest: sha256:9d1c923e5f66a89607285ee2641f8a53430a1ccd5e4a62b35eb8a48b74b9ff48
Status: Downloaded newer image for mysql:latest
be0dc3d9935c8fed58ebf8c87023c6df71bc08a0ed9ee0db8b876623bfbbadc3
```

- docker ps

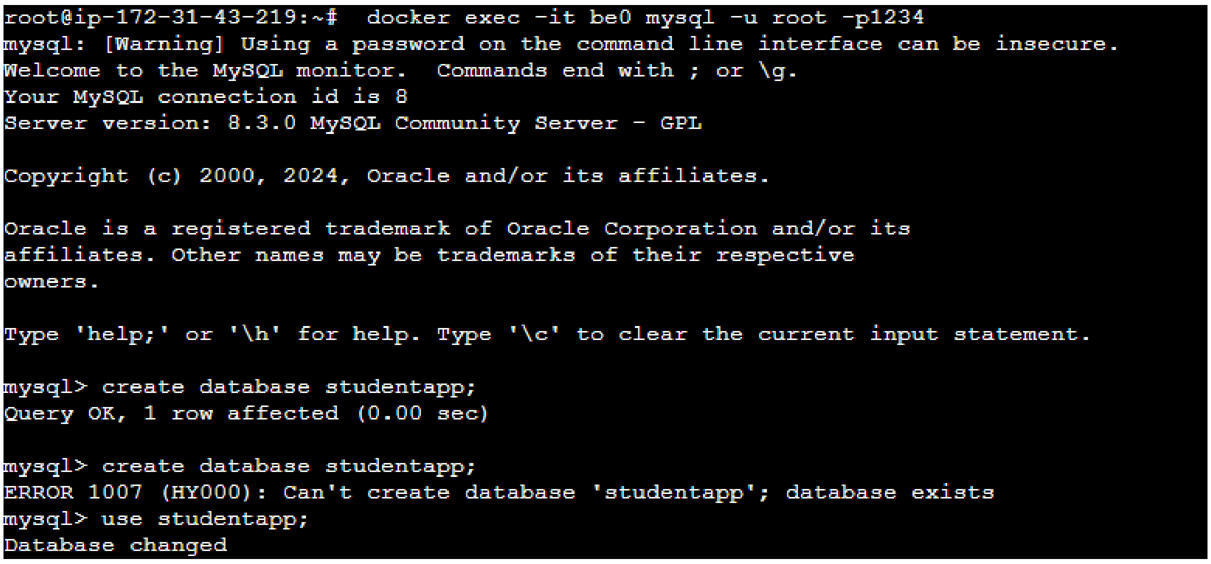


```
root@ip-172-31-43-219:~# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED         STATUS         PORTS                                                  NAME
S
be0dc3d9935c   mysql:latest   "docker-entrypoint.s…"   4 seconds ago   Up 3 seconds   0.0.0.0:3306->3306/tcp, :::3306->3306/tcp, 33060/tcp   gift
ed ganguly
```

- docker exec -it mysql -u root -p1234

4. Afer entering this command you enter into the mysql use commands to create database.

- create database studentapp;
- use studentapp;



```
root@ip-172-31-43-219:~#  docker exec -it be0 mysql -u root -p1234
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.3.0 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database studentapp;
Query OK, 1 row affected (0.00 sec)

mysql> create database studentapp;
ERROR 1007 (HY000): Can't create database 'studentapp'; database exists
mysql> use studentapp;
Database changed
```
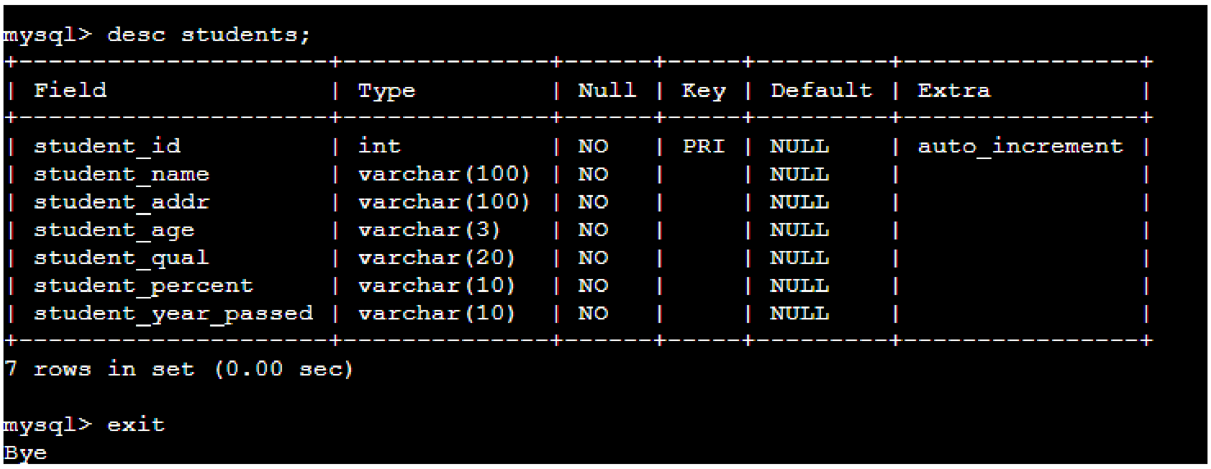

```
CREATE TABLE if not exists students(student_id INT NOT
NULL
AUTO_INCREMENT,
student_name VARCHAR(100) NOT NULL,
student_addr VARCHAR(100) NOT NULL,
student_age VARCHAR(3) NOT NULL,
student_qual VARCHAR(20) NOT NULL,
student_percent VARCHAR(10) NOT NULL,
student_year_passed VARCHAR(10) NOT NULL,
PRIMARY KEY (student_id)
);
```

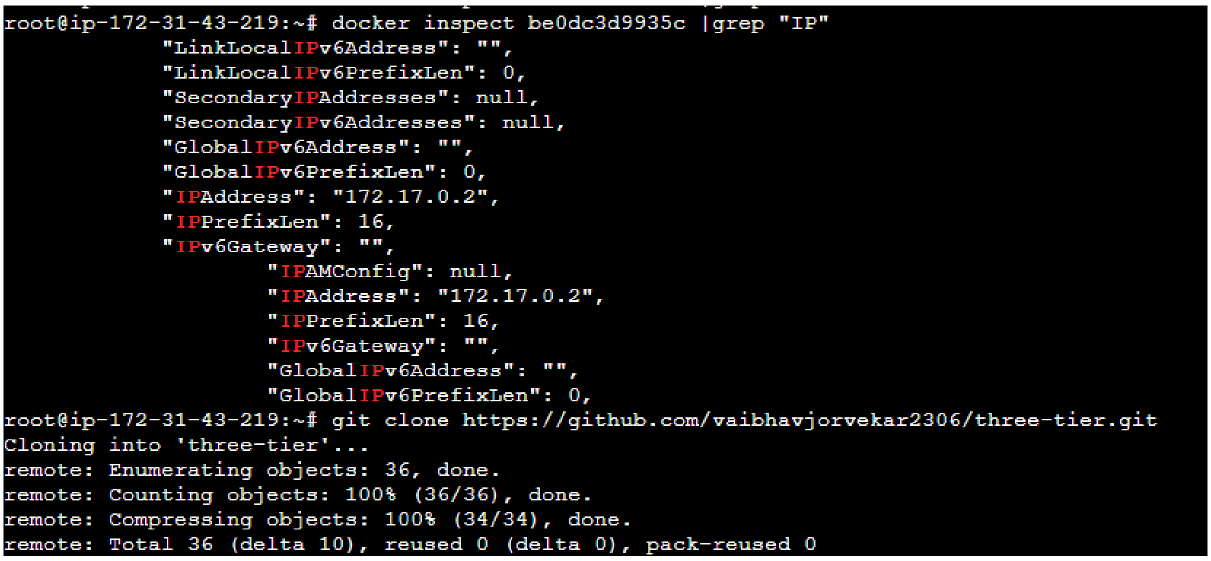
- desc students;

- exit



```
mysql> desc students;
+---------------------+--------------+------+-----+---------+----------------+
| Field               | Type         | Null | Key | Default | Extra          |
+---------------------+--------------+------+-----+---------+----------------+
| student_id          | int          | NO   | PRI | NULL    | auto_increment |
| student_name        | varchar(100) | NO   |     | NULL    |                |
| student_addr        | varchar(100) | NO   |     | NULL    |                |
| student_age         | varchar(3)   | NO   |     | NULL    |                |
| student_qual        | varchar(20)  | NO   |     | NULL    |                |
| student_percent     | varchar(10)  | NO   |     | NULL    |                |
| student_year_passed | varchar(10)  | NO   |     | NULL    |                |
+---------------------+--------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)

mysql> exit
Bye
```

- **docker inspect |grep "IP"**



```
root@ip-172-31-43-219:~# docker inspect be0dc3d9935c |grep "IP"
            "LinkLocalIPv6Address": "",
            "LinkLocalIPv6PrefixLen": 0,
            "SecondaryIPAddresses": null,
            "SecondaryIPv6Addresses": null,
            "GlobalIPv6Address": "",
            "GlobalIPv6PrefixLen": 0,
            "IPAddress": "172.17.0.2",
            "IPPrefixLen": 16,
            "IPv6Gateway": "",
                    "IPAMConfig": null,
                    "IPAddress": "172.17.0.2",
                    "IPPrefixLen": 16,
                    "IPv6Gateway": "",
                    "GlobalIPv6Address": "",
                    "GlobalIPv6PrefixLen": 0,
root@ip-172-31-43-219:~# git clone https://github.com/vaibhavjorvekar2306/three-tier.git
Cloning into 'three-tier'...
remote: Enumerating objects: 36, done.
remote: Counting objects: 100% (36/36), done.
remote: Compressing objects: 100% (34/34), done.
remote: Total 36 (delta 10), reused 0 (delta 0), pack-reused 0
```

Database will be created

- Backend

1. Create repo in git or use existing and make two folder in the repo.
   1.frontend
   2.backend

2. In backend create three files.

   1.Dockerfile -> your image
   2.context.xml -> add mysql IP
   3.studnet.war ->

3. Make git clone and build docker image.
   -docker build .
   -docker images
   Assign ip to image -> docker run -d -p 8080:8080
   -docker ps

4. Hit ip to see hosting.

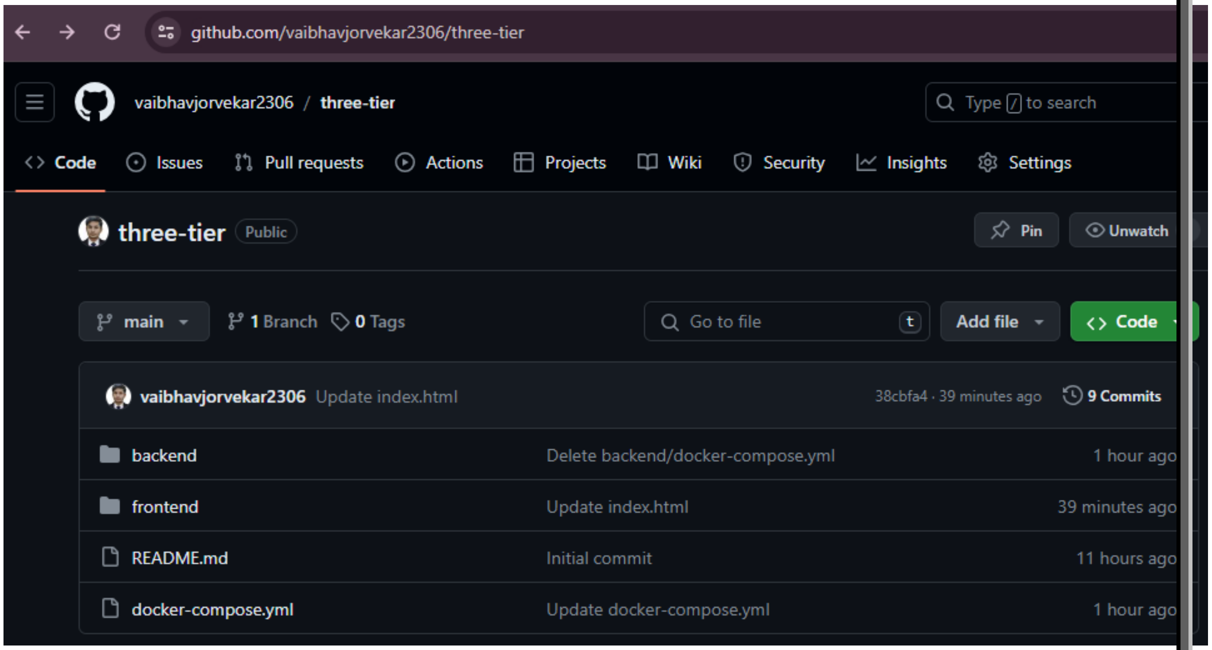
- Frontend

1. Create two files in frontend folder
   1.Dockerfile -> your image

2.index.html -> paste your EC2 instance IP

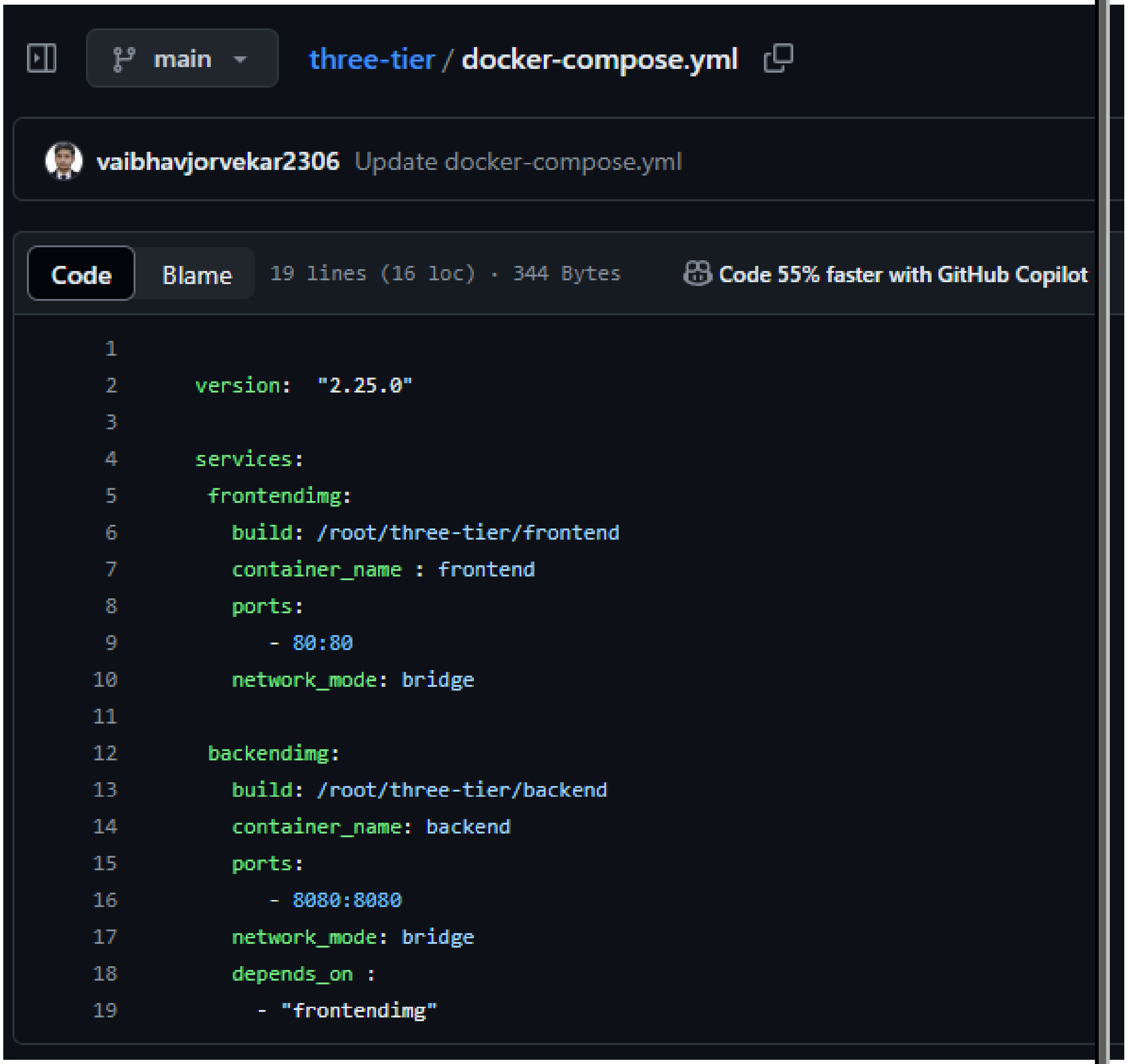
- **Create docker compose file with extension yaml (docker-compose.yml)**

- **The docker-compose.yml file must be separate as shown in photo.**



vaibhavjorvekar2306 Update index.html 38cbfa4 · 39 minutes ago 9 Commits

backend	Delete backend/docker-compose.yml	1 hour ago
frontend	Update index.html	39 minutes ago
README.md	Initial commit	11 hours ago
docker-compose.yml	Update docker-compose.yml	1 hour ago

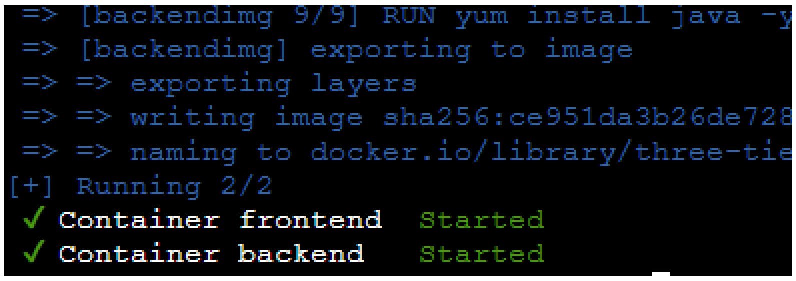

main
three-tier / docker-compose.yml
vaibhavjorvekar2306 Update docker-compose.yml
Code
Blame
19 lines (16 loc) · 344 Bytes
Code 55% faster with GitHub Copilot

```yaml

version:  "2.25.0"

services:
 frontendimg:
   build: /root/three-tier/frontend
   container_name : frontend
   ports:
      - 80:80
   network_mode: bridge

 backendimg:
   build: /root/three-tier/backend
   container_name: backend
   ports:
      - 8080:8080
   network_mode: bridge
   depends_on :
     - "frontendimg"
```

2. **Git push or pull**
3. **Cd <repo name>**

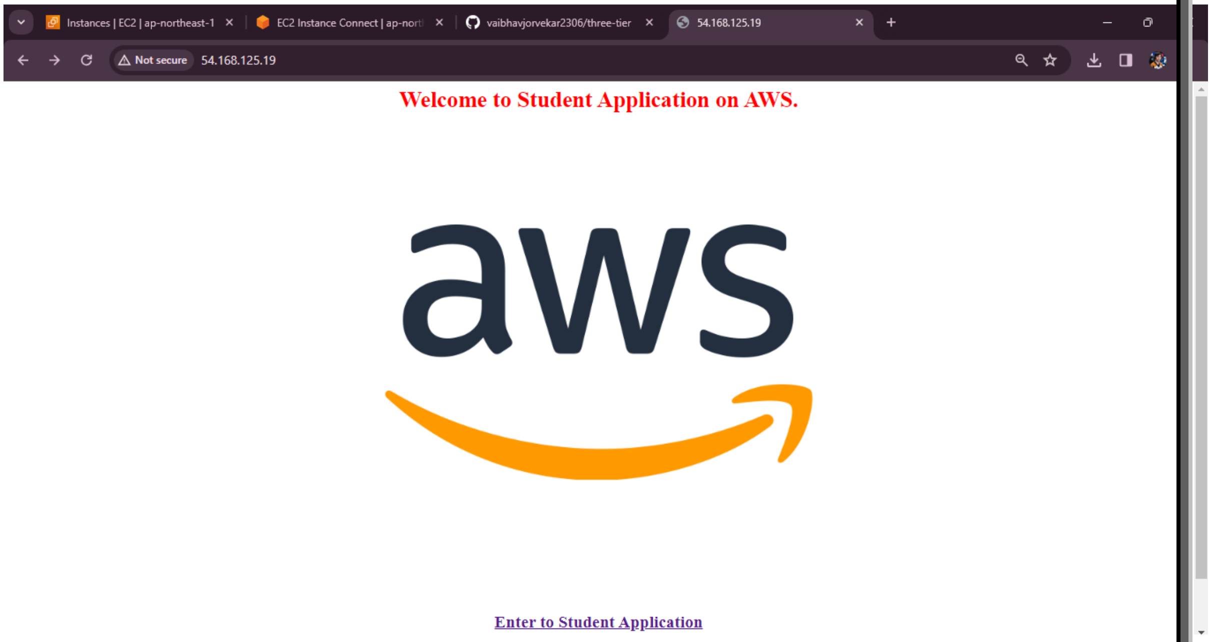
4. docker compose up -d -> use command

-docker compose up -d



```
=> [backendimg 9/9] RUN yum install java -y
=> [backendimg] exporting to image
=> => exporting layers
=> => writing image sha256:ce951da3b26de728
=> => naming to docker.io/library/three-tie
[+] Running 2/2
 ✓ Container frontend  Started
 ✓ Container backend   Started
```

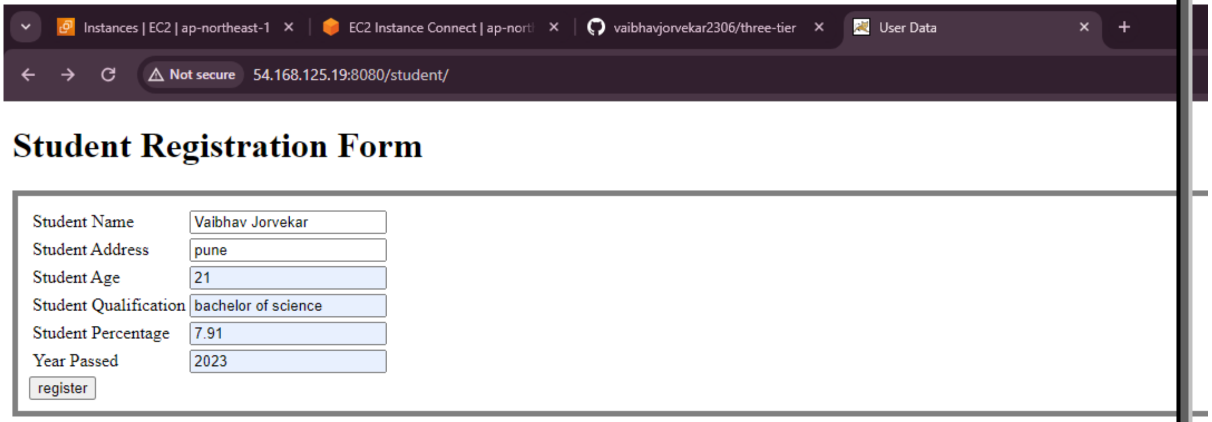
Hit the ip in web



Instances | EC2 | ap-northeast-1
EC2 Instance Connect | ap-nort
vaibhavjorvekar2306/three-tier
54.168.125.19
Not secure 54.168.125.19

Welcome to Student Application on AWS.

Enter to Student Application

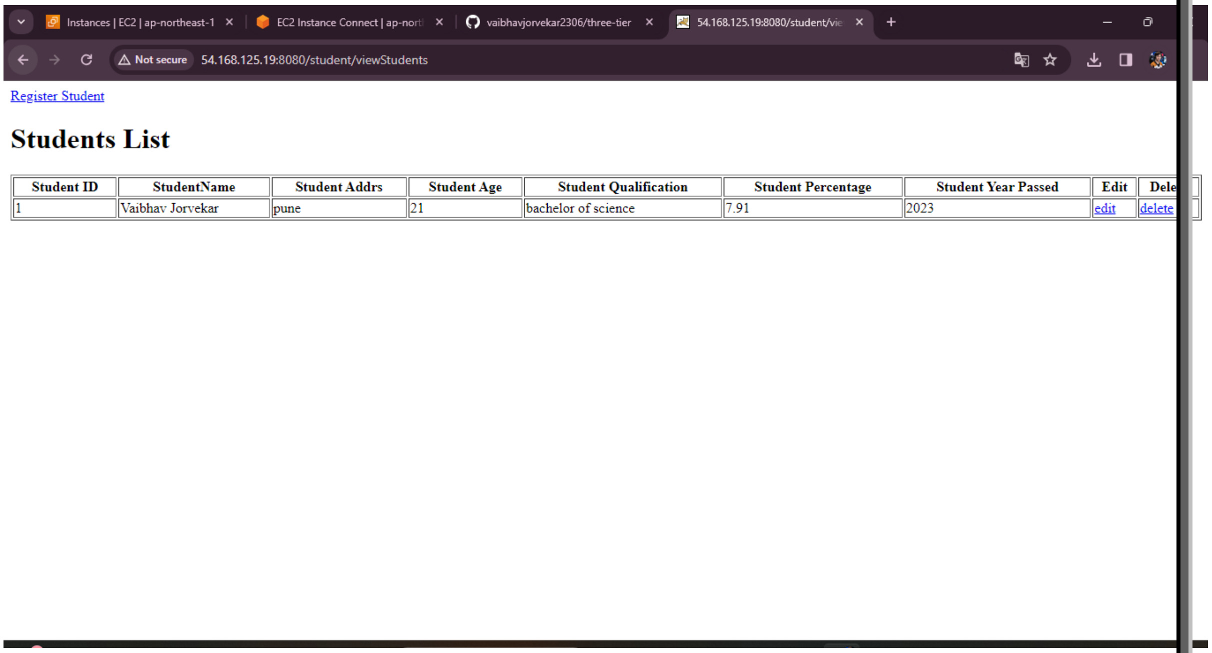


Instances | EC2 | ap-northeast-1
EC2 Instance Connect | ap-nort
vaibhavjorvekar2306/three-tier
User Data
Not secure 54.168.125.19:8080/student/

Student Registration Form

Student Name	Vaibhav Jorvekar
Student Address	pune
Student Age	21
Student Qualification	bachelor of science
Student Percentage	7.91
Year Passed	2023

register


Instances | EC2 | ap-northeast-1
EC2 Instance Connect | ap-nort
vaibhavjorvekar2306/three-tier
54.168.125.19:8080/student/vie
Not secure
54.168.125.19:8080/student/viewStudents

Register Student

Students List

Student ID	StudentName	Student Addrs	Student Age	Student Qualification	Student Percentage	Student Year Passed	Edit	Dele
1	Vaibhav Jorvekar	pune	21	bachelor of science	7.91	2023	edit	delete