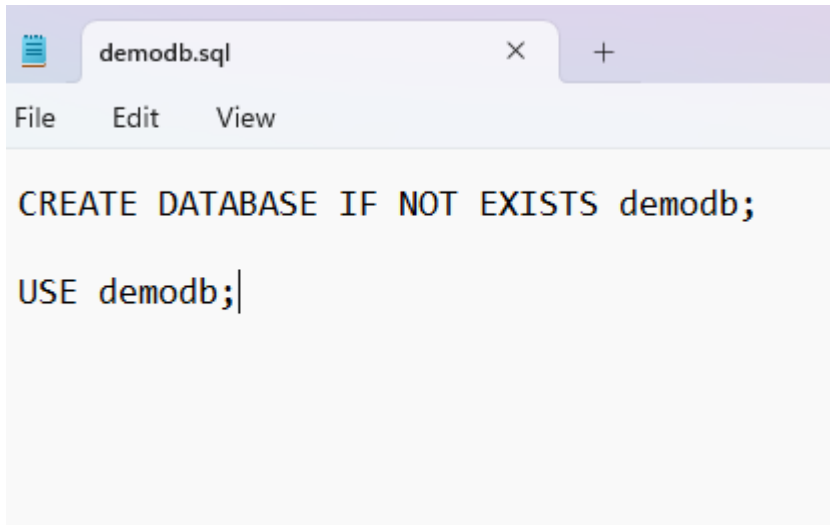


Creation of Backend Container for MySQL

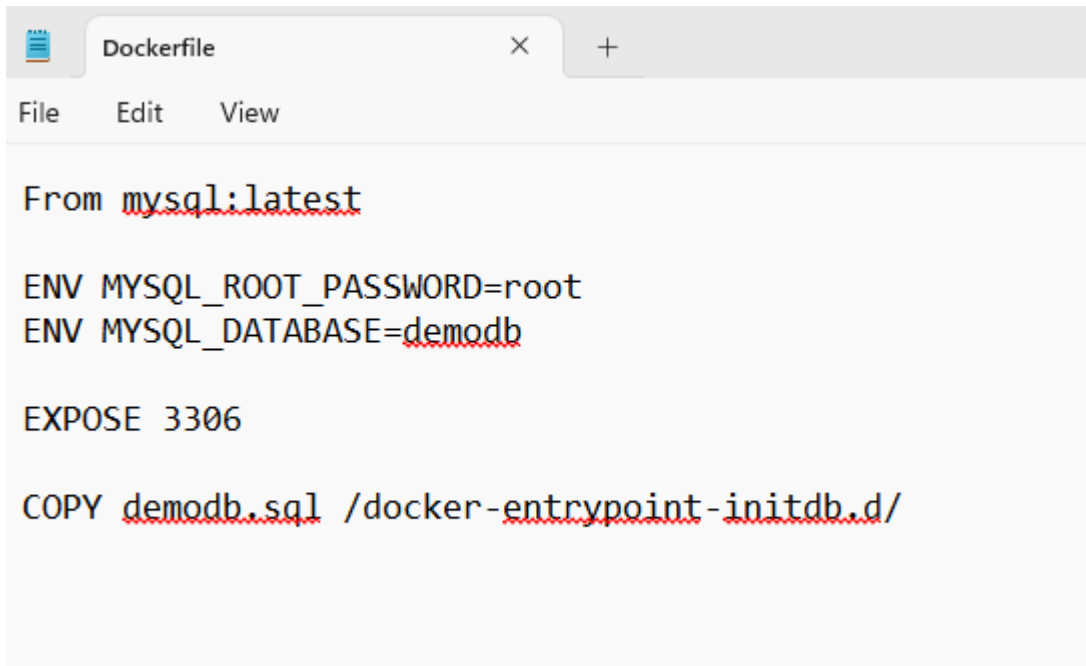
1. Create a sql script file for creating the database as follows:

A screenshot of a code editor window with a tab labeled 'demodb.sql'. The editor has a menu bar with 'File', 'Edit', and 'View'. The code content is:

```
CREATE DATABASE IF NOT EXISTS demodb;

USE demodb;
```

2. Create a Dockerfile in no extension format and add the contents as below:

A screenshot of a code editor window with a tab labeled 'Dockerfile'. The editor has a menu bar with 'File', 'Edit', and 'View'. The code content is:

```
From mysql:latest

ENV MYSQL_ROOT_PASSWORD=root
ENV MYSQL_DATABASE=demodb

EXPOSE 3306

COPY demodb.sql /docker-entrypoint-initdb.d/
```

3. Use Docker Desktop, Open the terminal and navigate to the right folder and create the container image using below command
docker build -t exbackend:v1 .

4. Run the backend container after creating the network using below command
docker network create appnetwork

docker run --name exbackend --net appnetwork --hostname exbackend -d -e MYSQL_ROOT_PASSWORD=root -e MYSQL_DATABASE=demodb exbackend:v1

Creation of FrontEnd Container for Spring Boot Application

1. Create an SpringBoot Application as ExContainer and add the required dependencies as below in pom.xml file

```
<dependency>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-web</artifactId>
</dependency>
<dependency>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-data-jpa</artifactId>
</dependency>
<dependency>
  <groupId>com.mysql</groupId>
  <artifactId>mysql-connector-j</artifactId>
  <scope>runtime</scope>
</dependency>
```

2. Create StudentController.java in Controller Package and add the code as below:
<https://github.com/kannanmano6cfs/SBAug2025/blob/main/ExContainer/src/main/java/com/learning/excontainer/Controller/StudentController.java>
3. Create Student.java in Model Package and add the code as below:
<https://github.com/kannanmano6cfs/SBAug2025/blob/main/ExContainer/src/main/java/com/learning/excontainer/Model/Student.java>
4. Create StudentRepository.java in Repository Package and add the code as below:
<https://github.com/kannanmano6cfs/SBAug2025/blob/main/ExContainer/src/main/java/com/learning/excontainer/Repository/StudentRepository.java>
5. Add the properties as below in application.properties file
<https://github.com/kannanmano6cfs/SBAug2025/blob/main/ExContainer/src/main/resources/application.properties>
6. Create fat.jar using the below command in the IDE terminal
mvn clean package -DskipTests
7. Create the Dockerfile in no extension format as below:
<https://github.com/kannanmano6cfs/SBAug2025/blob/main/ExContainer/Dockerfile>
8. Build container image using below command in Docker Desktop, use the terminal and navigate to the right folder where your Dockerfile has stored.
docker build -t excontainer:v1 .
9. Run the Container using below command:
docker run --name excontainer --net aug25network --hostname excontainer -d -p 8081:8081 excontainer:v1
10. Verify the Container using Postman

