Part A: Network Creation

• Create a network in Docker by running the following command:

```
docker network create mongo
```

- List the networks using command

```
docker network ls
```

Part B: Running DB image with network

```
docker pull mongodb/mongodb-community-server:latest

docker run --network mongo --name mongodb -p 27017:27017 -d mongodb/mongodb-community-server:latest
```

- Confirm the container is running

```
docker ps
```

- Once running, check mongo db with mongosh command:

```
mongosh --port 27017
docker exec -it mongodb bash
mongosh
```

Part C: Creating Image of Backend Application:

- Please comment below property in application.properties file:

#spring.data.mongodb.uri=mongodb://localhost:27017

- Make sure to create application-production.properties file as follows:

NOTE: Do check the highlighted part.

```
spring.application.name=sprinbootdemo

server.port=8081
# Here mongodb after // is the name of the docker mongo container
spring.data.mongodb.uri=mongodb://mongodb:27017
spring.data.mongodb.database=telecomdb
logging.level.org.springframework.data.mongodb.core.MongoTemplate=DEBUG

logging.level.org.mongodb.driver.protocol.command=DEBUG
# https://www.devglan.com/spring-boot/spring-boot-mongodb-crud

spring.output.ansi.enabled=ALWAYS
message=Default Profile

logging.file.name=logs/app.log
management.endpoints.web.exposure.include=*
management.endpoints.web.base-path=/manage
management.endpoint.health.show-details=ALWAYS

# Redis configuration
```

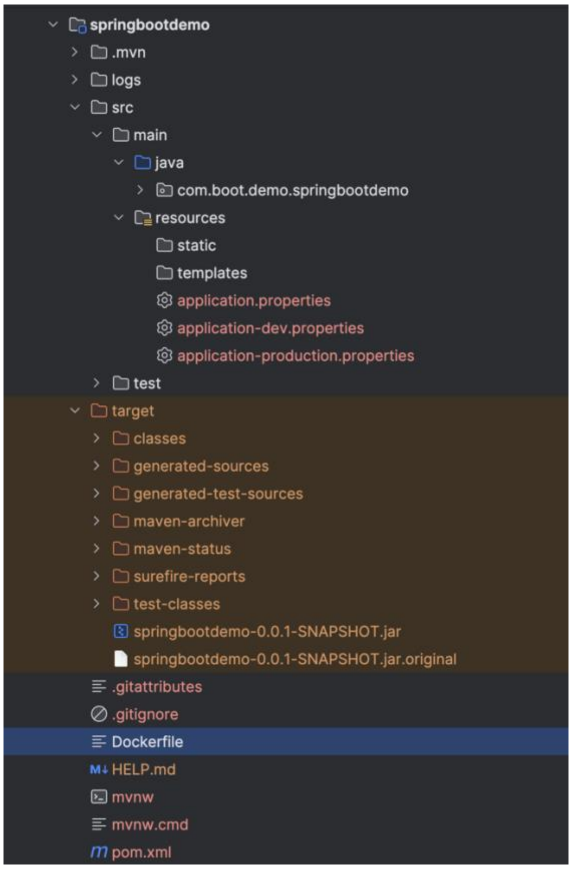
```
spring.data.redis.host=localhost
spring.data.redis.port=6379
```

- Execute **maven install for springbootdemo project**

- Create Dockerfile as follows:

```
FROM amazoncorretto:17
ADD target/springbootdemo-0.0.1-SNAPSHOT.jar app.jar
EXPOSE 8080
CMD ["java","-jar","-Dspring.profiles.active=production", "app.jar"]
```

NOTE: Do create Dockerfile exactly within the root of project. Project structure looks as below:



```
springbootdemo
    .mvn
    logs
    src
        main
            java
                com.boot.demo.springbootdemo
            resources
                static
                templates
                application.properties
                application-dev.properties
                application-production.properties
        test
    target
        classes
        generated-sources
        generated-test-sources
        maven-archiver
        maven-status
        surefire-reports
        test-classes
        springbootdemo-0.0.1-SNAPSHOT.jar
        springbootdemo-0.0.1-SNAPSHOT.jar.original
    .gitattributes
    .gitignore
    Dockerfile
    HELP.md
    mvnw
    mvnw.cmd
    pom.xml
```

- Create image as follows:

```
docker image build -t springboot .
```

Note: springboot is our image name. Period (.) at the end of command is important

```
docker image ls
```

- **Visit the swagger page** in your browser. You can test the application is running - you will need to use the IP address / machine-name of your system. The url should be:

  ```
  docker run  -p8100:8081  --network mongo springboot
  ```

  http://localhost:8100/swagger-ui/index.html