Containerizing the application using docker

1. Dockerfile

Dockerfile

```
FROM openjdk:22-oracle

# Set the working directory inside the container
WORKDIR /app

# Copy the JAR file into the container
COPY ExpenseTrackerApplication.jar /app/ExpenseTrackerApplication.jar

# Specify the command to run the JAR file
CMD ["java", "-jar", "ExpenseTrackerApplication.jar"]
```

2. Building image

```
D:\ExpenseTrackerDocker>docker build -t sownthari/expensetracker .
[+] Building 24.3s (9/9) FINISHED                                                    docker:desktop-linux
 => [internal] load build definition from Dockerfile                                                0.0s
 => => transferring dockerfile: 344B                                                                0.0s
 => [internal] load metadata for docker.io/library/openjdk:22-oracle                               24.1s
 => [auth] library/openjdk:pull token for registry-1.docker.io                                      0.0s
 => [internal] load .dockerignore                                                                   0.0s
 => => transferring context: 2B                                                                     0.0s
 => [internal] load build context                                                                   0.0s
 => => transferring context: 52B                                                                    0.0s
 => [1/3] FROM docker.io/library/openjdk:22-oracle@sha256:08b2d714025cbba08c787f5395d931bae89345a856e4ab1be20891b  0.0s
 => CACHED [2/3] WORKDIR /app                                                                       0.0s
 => [3/3] COPY ExpenseTrackerApplication.jar /app/ExpenseTrackerApplication.jar                     0.0s
 => exporting to image                                                                              0.0s
 => => exporting layers                                                                             0.0s
 => => writing image sha256:09f02fec5c359780303da27b0f29b3037cd4d7662d340e5f43a43c167d24a519        0.0s
 => => naming to docker.io/sownthari/expensetracker                                                 0.0s

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/qertg7qd6y2e8lwi0nhlw7rwi

What's next:
    View a summary of image vulnerabilities and recommendations → docker scout quickview
```

3. Running image

```
D:\ExpenseTrackerDocker>docker run -it sownthari/expensetracker
Login:
Email: user1@gmail.com
Password: password1
Login successful! Welcome User1

Main Menu:
1. Manage User
2. Manage Transactions
3. Manage Categories
4. Manage Budgets
5. Logout
Choose an option (1-5): 1

User Management:
1. View User Details
2. Update User Details
3. Back to Main Menu
Choose an option (1-3): 1
User Details:
ID: 1
Username: User1
Email: user1@gmail.com
Created At: 2024-08-12
Updated At: 2024-08-12
```

4. Creating tag and push the image to remote repository

```
D:\ExpenseTrackerDocker>docker push sownthari/expensetracker
Using default tag: latest
The push refers to repository [docker.io/sownthari/expensetracker]
64acbd862eb9: Pushed
0f4ad5ddd5d4: Pushed
6acaaba9e97a: Mounted from library/openjdk
cf3ce83da20a: Mounted from library/openjdk
0a628c3f1dfa: Mounted from library/openjdk
latest: digest: sha256:a6f73bab30fbd567c0c80644ab1b6cc503eb4dacabf8caa5bbe1ff8966732c79 size: 1369
```