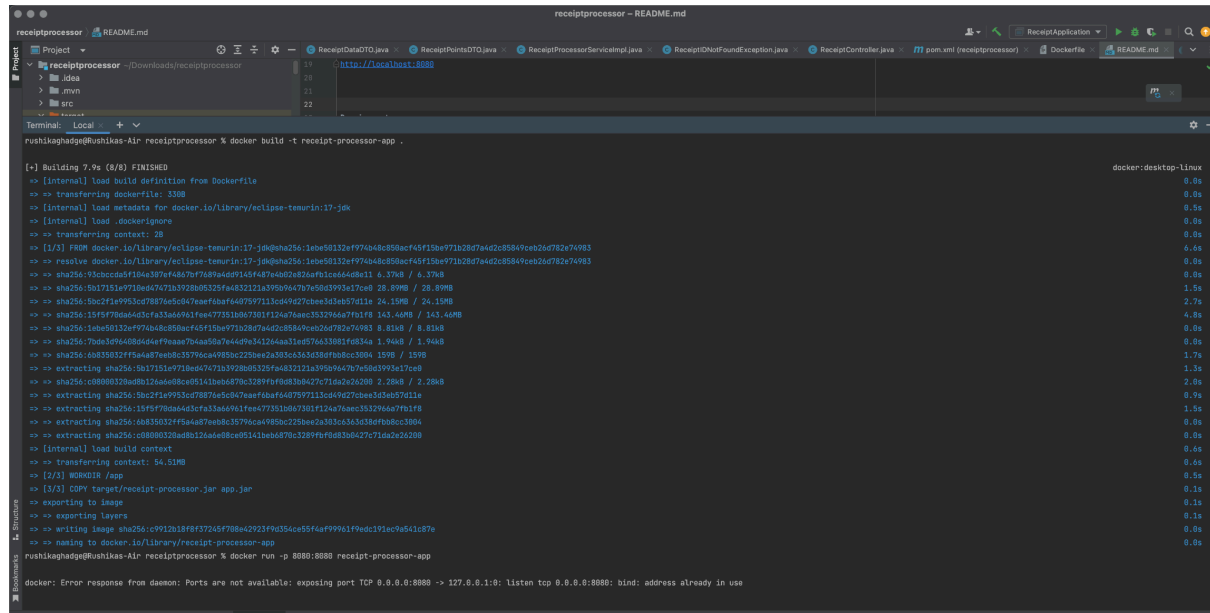


## Case 1: Docker setup

Docker build: `docker build -t receipt-processor-app .`

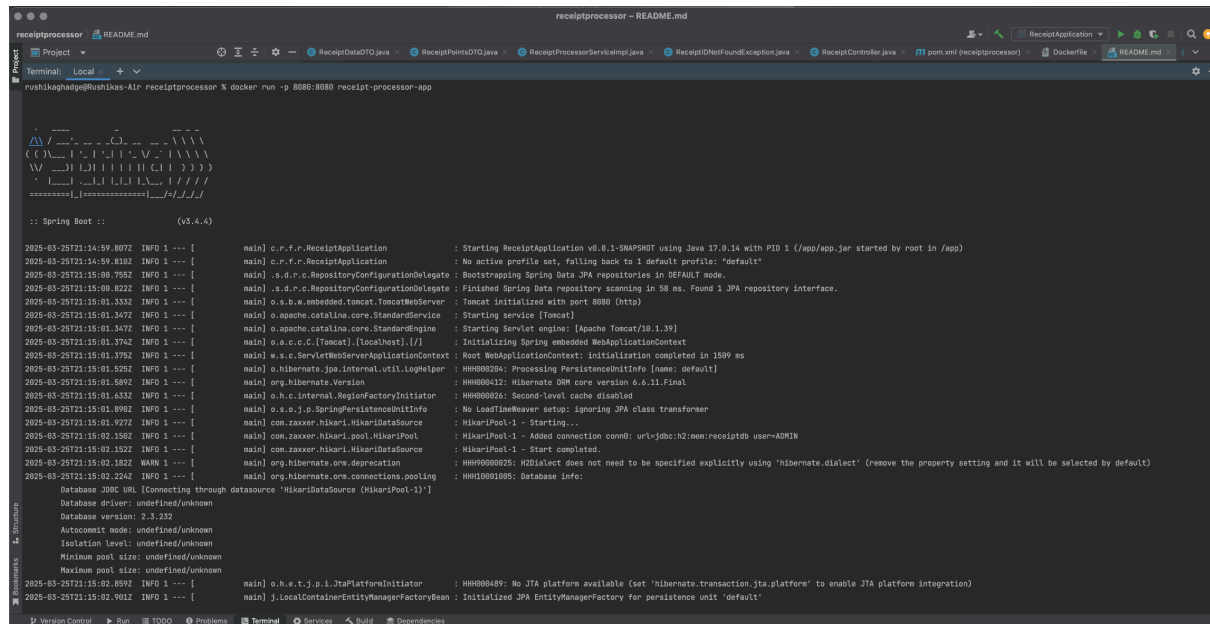


```
receiptprocessor - README.md
Project
  receiptprocessor
    Downloads
      receiptprocessor
        idea
        mvn
        src
Terminal: Local
rushikaghadge@Rushikas-Air receiptprocessor % docker build -t receipt-processor-app .

[+] Building 7.9s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> transferring dockerfile: 330B
=> [internal] load metadata for docker.io/library/eclipse-temurin:17-jdk
=> [internal] load .dockerignore
=> transferring context: 2B
=> [1/3] FROM docker.io/library/eclipse-temurin:17-jdk@sha256:1e09312e9791b48c888cf68f10e971126d7e4d2c88849e026d782670983
=> resolve docker.io/library/eclipse-temurin:17-jdk@sha256:1e09312e9791b48c888cf68f10e971126d7e4d2c88849e026d782670983
=> sha256:930cc0e5f1043397e4867b7f78994609145447e40d0282a6f0ce64408e11 6.37kB / 6.37kB
=> sha256:5b1715e9710e47471b3928b05325e463211a3909647b7e50d3993a17ce0 28.89MB / 28.89MB
=> sha256:5bc2f1e9933cd7876e5cd47eef8a6460759711cd4927cbe33eb57d1e 24.15MB / 24.15MB
=> sha256:15f578e04d3cf3a3a061fee773510b7301f12a67eac353296a67f01f8 143.40MB / 143.40MB
=> sha256:1e09312e9791b48c888cf68f10e971126d7e4d2c88849e026d782670983 8.81kB / 8.81kB
=> sha256:70a5870a60804ef78a6b704c9b3a1224a311e07643383f76834 1.94kB / 1.94kB
=> sha256:a083832f45a487e0dc33796ca49830c225ba2a303ca3a303f0b80c3094 159B / 159B
=> extracting sha256:5b1715e9710e47471b3928b05325e463211a3909647b7e50d3993a17ce0
=> sha256:c880012b0d0126a6e8c541be6b670c3289f9f8083b0627c71a2a26208 2.28kB / 2.28kB
=> extracting sha256:5bc2f1e9933cd7876e5cd47eef8a6460759711cd4927cbe33eb57d1e
=> extracting sha256:15f578e04d3cf3a3a061fee773510b7301f12a67eac353296a67f01f8
=> extracting sha256:a083832f45a487e0dc33796ca49830c225ba2a303ca3a303f0b80c3094
=> extracting sha256:c880012b0d0126a6e8c541be6b670c3289f9f8083b0627c71a2a26208
=> [internal] load build context
=> transferring context: 54.51MB
=> [2/3] WORKDIR /app
=> [3/3] COPY target/receipt-processor.jar app.jar
=> exporting to image
=> exporting layers
=> writing image sha256:c9912b18f8f37245f708e4c923f9d354ca55f4e99961f9edc19c9a541c87e
=> naming to docker.io/library/receipt-processor-app
rushikaghadge@Rushikas-Air receiptprocessor % docker run -p 8080:8080 receipt-processor-app

docker: Error response from daemon: Ports are not available: exposing port TCP 0.0.0.0:8080 -> 127.0.0.1:0: listen tcp 0.0.0.0:8080: bind: address already in use
```

Docker run: `docker run -p 8080:8080 receipt-processor-app`



```
receiptprocessor - README.md
Project
  receiptprocessor
    Downloads
      receiptprocessor
        idea
        mvn
        src
Terminal: Local
rushikaghadge@Rushikas-Air receiptprocessor % docker run -p 8080:8080 receipt-processor-app

:: Spring Boot :: (v3.4.4)

2025-03-25T21:14:59.807Z INFO 1 --- [main] c.r.f.r.ReceiptApplication : Starting ReceiptApplication V0.0.1-SNAPSHOT using Java 17.0.14 with PID 1 (/app/app.jar started by root in /app)
2025-03-25T21:14:59.810Z INFO 1 --- [main] c.r.f.r.ReceiptApplication : No active profile set, falling back to 1 default profile: "default"
2025-03-25T21:15:00.795Z INFO 1 --- [main] s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring data JPA repositories in DEFAULT mode.
2025-03-25T21:15:01.822Z INFO 1 --- [main] s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 58 ms. Found 1 JPA repository interface.
2025-03-25T21:15:01.833Z INFO 1 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)
2025-03-25T21:15:01.847Z INFO 1 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2025-03-25T21:15:01.847Z INFO 1 --- [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.39]
2025-03-25T21:15:01.874Z INFO 1 --- [main] o.a.e.c.c.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2025-03-25T21:15:01.879Z INFO 1 --- [main] o.s.w.s.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1009 ms
2025-03-25T21:15:01.923Z INFO 1 --- [main] o.hiber.na.jpa.internal.util.LogHelper : HH000294: Processing PersistenceUnitInfo [name: default]
2025-03-25T21:15:01.892Z INFO 1 --- [main] org.hibernate.Version : HH0000412: Hibernate ORM core version 6.6.11.Final
2025-03-25T21:15:01.833Z INFO 1 --- [main] o.h.c.internal.RegionFactoryInitiator : HH0000026: Second-level cache disabled
2025-03-25T21:15:01.890Z INFO 1 --- [main] o.s.e.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup; ignoring JPA class transformer
2025-03-25T21:15:01.927Z INFO 1 --- [main] com.zaxxer.hikari.HikariPool-1 : HikariPool-1 - Starting...
2025-03-25T21:15:02.150Z INFO 1 --- [main] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added connection conn0: url=jdbc:h2:mem:receiptdb user=ADMIN
2025-03-25T21:15:02.152Z INFO 1 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2025-03-25T21:15:02.182Z WARN 1 --- [main] org.hibernate.orm.deprecation : HH0000025: H2Dialect does not need to be specified explicitly using 'hibernate.dialect' (remove the property setting and it will be selected by default)
2025-03-25T21:15:02.224Z INFO 1 --- [main] org.hibernate.orm.connections.pooling : HH010001005: Database info:
Database JDBC URL [Connecting through datasource 'HikariDataSource (HikariPool-1)']
Database driver: undefined/unknown
Database version: 2.3.232
Autocommit mode: undefined/unknown
Isolation level: undefined/unknown
Minimum pool size: undefined/unknown
Maximum pool size: undefined/unknown
2025-03-25T21:15:02.859Z INFO 1 --- [main] o.h.e.t.j.p.i.JtaPlatformInitiator : HH0000489: No JTA platform available (set 'hibernate.transaction.jta.platform' to enable JTA platform integration)
2025-03-25T21:15:02.901Z INFO 1 --- [main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
```

## Case 2: Running Java Application using SpringBoot

### Step1:

Execute ReceiptApplication class to start Spring Project:

The screenshot shows an IDE with the following components:

- Project Explorer:** Shows a project structure with packages like `com.rush.fetch.receiptprocessor`, `controller`, `dto`, `model`, `repository`, `service`, and `test`.
- Editor:** Displays the `ReceiptApplication.java` file. The code includes imports for `SpringBootApplication` and `SpringApplication`, and a `main` method that runs the application.
- Console:** Shows the output of the application startup, including messages from `LocalContainerEntityManagerFactoryBean`, `JpaBaseConfiguration`, and `TomcatWebServer`. It indicates that the application started successfully on port 8080.

## Step2:

Once application starts in-memory db H2 is reachable on:

<http://localhost:8080/h2-console>

Username:admin

Passwork : Leave it blank

Jdbc url:jdbc:h2:mem:receiptdb

The screenshot shows the H2 Console login page in a web browser. The address bar shows the URL `localhost:8080/h2-console/login.jsp?sessionId=092481eb4595520676fd4ef958d34a60`. The page has a navigation bar with links for `English`, `Preferences`, `Tools`, and `Help`. The main content area is titled "Login" and contains the following fields and buttons:

- Saved Settings:** A dropdown menu showing "Generic H2 (Embedded)".
- Setting Name:** A text input field containing "Generic H2 (Embedded)", with `Save` and `Remove` buttons.
- Driver Class:** A text input field containing "org.h2.Driver".
- JDBC URL:** A text input field containing "jdbc:h2:mem:receiptdb".
- User Name:** A text input field containing "admin".
- Password:** A text input field (currently empty).
- Buttons:** `Connect` and `Test Connection` buttons.

Table created:

`SELECT * FROM RECEIPT;`



Post Request: **http://localhost:8080/receipts/process**

OverviewGetting startedPOST Post dataGET Get data+No environment

REST API basics: CRUD, test & variable / Post dataSaveShare

POSThttp://localhost:8080/receipts/processSend

ParamsAuthorizationHeaders (8)BodyScriptsSettingsCookies

noneform-datax-www-form-urlencoderawbinaryGraphQLJSON

```
1 {
2   "retailer": "Target",
3   "purchaseDate": "2022-01-01",
4   "purchaseTime": "13:01",
5   "items": [
6     {
7       "shortDescription": "Mountain Dew 12PK",
8       "price": "6.49"
9     },
10    {
11      "shortDescription": "Emils Cheese Pizza",
12      "price": "12.25"
13    },
14    {
15      "shortDescription": "Knox Creamy Chicken",
16      "price": "1.26"
17    },
18    {
19      "shortDescription": "Doritos Nacho Cheese",
20      "price": "3.35"
21    },
22    {
23      "shortDescription": "Klarbrunn 12-PK 12 FL OZ ",
24      "price": "12.00"
25    }
26  ],
27   "total": "35.35"
28 }
```

BodyCookiesHeaders (5)Test Results (1/1)200 OK238 ms209 BSave Response

JSONPreviewVisualize

```
1 {
2   "id": "50cb54a7-193e-4637-8d41-440f8a626782"
3 }
```

Get request: **http://localhost:8080/receipts/{ID}/points**

OverviewGetting startedPOST Post dataGET Get data+No environment

REST API basics: CRUD, test & variable / Get dataSaveShare

GEThttp://localhost:8080/receipts/50cb54a7-193e-4637-8d41-440f8a626782/pointsSend

ParamsAuthorizationHeaders (6)BodyScriptsSettingsCookies

Query Params

Key	Value	Description
Key	Value	Description

BodyCookiesHeaders (5)Test Results (1/1)200 OK83 ms177 BSave Response

JSONPreviewVisualize

```
1 {
2   "points": 28
3 }
```

Post Request:

OverviewGetting startedPOST Post dataGET Get data+

REST API basics: CRUD, test & variable / Post data

POSThttp://localhost:8080/receipts/process

ParamsAuthorizationHeaders (8)BodyScriptsSettings

noneform-datax-www-form-urlencodedrawbinaryGraphQLJSON

```
1 {
2   "retailer": "M&M Corner Market",
3   "purchaseDate": "2022-03-20",
4   "purchaseTime": "14:33",
5   "items": [
6     {
7       "shortDescription": "Gatorade",
8       "price": "2.25"
9     }, {
10      "shortDescription": "Gatorade",
11      "price": "2.25"
12    }, {
13      "shortDescription": "Gatorade",
14      "price": "2.25"
15    }, {
16      "shortDescription": "Gatorade",
17      "price": "2.25"
18    }
19  ],
20   "total": "9.00"
21 }
```

BodyCookiesHeaders (5)Test Results (1/1)200 OK40 ms209 BSave

JSONPreviewVisualize

```
1 {
2   "id": "86e5081a-6194-4284-b748-ac6441561d87"
3 }
```

Get request:

OverviewGetting startedPOST Post dataGET Get data+

REST API basics: CRUD, test & variable / Get data

GEThttp://localhost:8080/receipts/86e5081a-6194-4284-b748-ac6441561d87/points

ParamsAuthorizationHeaders (6)BodyScriptsSettings

Query Params

	Key	Value	Description
	Key	Value	Description

BodyCookiesHeaders (5)Test Results (1/1)200 OK37 ms17

JSONPreviewVisualize

```
1 {
2   "points": 109
3 }
```

Post request: 400 Bad Request response for incorrect json body

OverviewGetting startedPOST Post dataGET Get data+

REST API basics: CRUD, test & variable / Post data

POSThttp://localhost:8080/receipts/process

ParamsAuthorizationHeaders (8)BodyScriptsSettings

noneform-datax-www-form-urlencodedrawbinaryGraphQLJSON

```
2  "retailer": "Target",
3  "purchaseDate": "2022-01-01",
4  "purchaseTime": "13:01",
5  "items": [
6    {
7      "shortDescription": "Mountain Dew 12PK",
8      "price": "6.49"
9    },
10   {
11     "shortDescription": "Emils Cheese Pizza",
12     "price": "12.25"
13   },
14   {
15     "shortDescription": "Knorr Creamy Chicken",
16     "price": "1.26"
17   },
18   {
19     "shortDescription": "Doritos Nacho Cheese",
20     "price": "3.35"
21   },
22   {
23     "shortDescription": "Klarbrunn 12-PK 12 FL OZ ",
24     "price": "12.00"
25   }
26 ],
27 "total": "35.35"
```

BodyCookiesHeaders (4)Test Results (0/1)

JSONPreviewVisualize

```
1 {
2   "timestamp": "2025-03-25T20:26:56.991+00:00",
3   "status": 400,
4   "error": "Bad Request",
5   "path": "/receipts/process"
6 }
```

Get Request - If receipt Id not found returns 404 not found

OverviewGetting startedPOST Post dataGET Get data+

REST API basics: CRUD, test & variable / Get data

GEThttp://localhost:8080/receipts/86e5081a/points

ParamsAuthorizationHeaders (6)BodyScriptsSettings

Query Params

Key	Value	Description
Key	Value	Description

BodyCookiesHeaders (5)Test Results (0/1)

RawPreviewVisualize

```
1 Receipt ID not found: 86e5081a
```