

README

Starting Application

To run the application as a jar file unzip the submitted zip file and find billing-0.0.1-SNAPSHOT.jar file. Run the command

```
java -jar billing-0.0.1-SNAPSHOT.jar
```

I have used java version 23. But it should run with a lower version as well.

Running application

The application starts up and runs a test suite. Code can be found in BillingApplication.java. The application uses an in memory H2 database. You can open the database console to check the schema. To open the console, navigate to <http://localhost:8080/h2-console/> There is no password set.

English Preferences Tools Help

Login

Saved Settings: Generic H2 (Embedded)

Setting Name: Generic H2 (Embedded) Save Remove

Driver Class: org.h2.Driver

JDBC URL: jdbc:h2:mem:testdb

User Name: sa

Password:

Connect Test Connection

Auto commit: On Max rows: 1000 SQL statement: SELECT \* FROM POLICY;  
SELECT \* FROM PAYMENT;  
SELECT \* FROM POLICY\_SCHEDULE;

jdbc:h2:mem:testdb

PAYMENT

POLICY

POLICY\_SCHEDULE

POLICY\_SCHEDULES

INFORMATION\_SCHEMA

Users

H2 2.3.232 (2024-08-11)

SELECT \* FROM POLICY;

END_DATE	IS_DELINQUENT	PREMIUM_AMOUNT	START_DATE	ID	LAST_PAYMENT_STATUS	POLICY_HOLDER
2026-06-30	FALSE	10000.00	2025-07-01	1	FAILED	Customer 1
2026-06-30	FALSE	20000.00	2025-07-01	2	COMPLETED	Customer 2
2026-06-30	TRUE	30000.00	2025-07-01	3	NONE	Customer 3

(3 rows, 4 ms)

SELECT \* FROM PAYMENT;

AMOUNT	RETRY_NUMBER	ID	PAYMENT_DATE_TIME	POLICY_ID	STATUS	TRANSACTION_REFERENCE
1000.00	0	1	2025-06-09 09:16:53.965684	2	COMPLETED	e05d248b-383b-40a3-9b28-5aa06dd6f93b
1000.00	1	2	2025-06-09 09:16:53.973069	1	FAILED	39ec07e5-0ef5-4fa2-a4af-b27deae35251
1000.00	2	3	2025-06-09 09:16:53.976741	1	FAILED	b8bffc3f-1652-4f50-a104-0428434366a0
833.33	3	4	2025-06-09 09:16:53.981619	1	FAILED	b4eaf35e-23d5-49e7-afff-2822cfa90c6

(4 rows, 1 ms)

SELECT \* FROM POLICY\_SCHEDULE;

PAYMENT_DUE_DATE	SCHEDULED_AMOUNT	ID	POLICY_ID	STATUS
2025-07-01	833.33	1	1	FAILED
2025-08-01	833.33	2	1	DUE
2025-09-01	833.33	3	1	DUE
2025-10-01	833.33	4	1	DUE
2025-11-01	833.33	5	1	DUE
2025-12-01	833.33	6	1	DUE
2026-01-01	833.33	7	1	IN IF

## Accessing APIs

Fetch a policy

<http://localhost:8080/api/policy/1>

Fetch only the schedule

<http://localhost:8080/api/policy/1/schedule>

Fetch delinquent policy

<http://localhost:8080/api/policy/delinquent>

Testing of recording payments and retrying failed payments is done directly via Billing Application. The results can be verified in console output and browsing the schema.