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NAO ID: 3332

Date: November 07th, 2025

Pathway: Technoready Bécalos

Challenge: Java and JavaScript. Programming Procedures

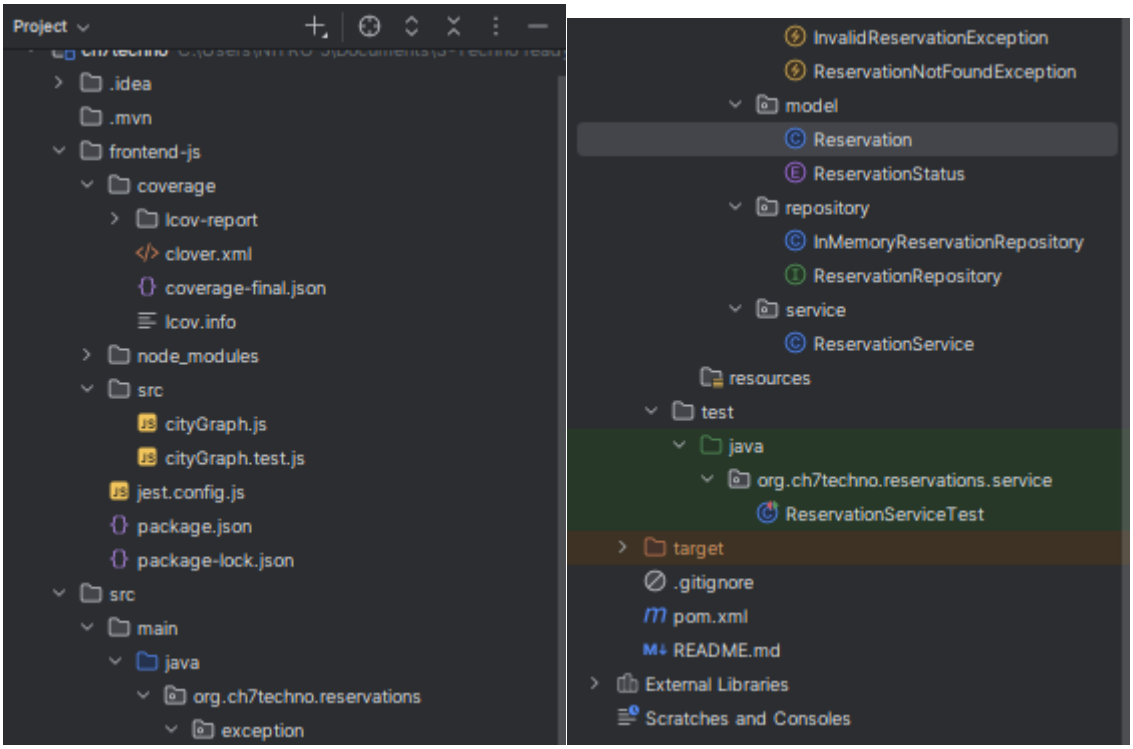
Develop

Overview

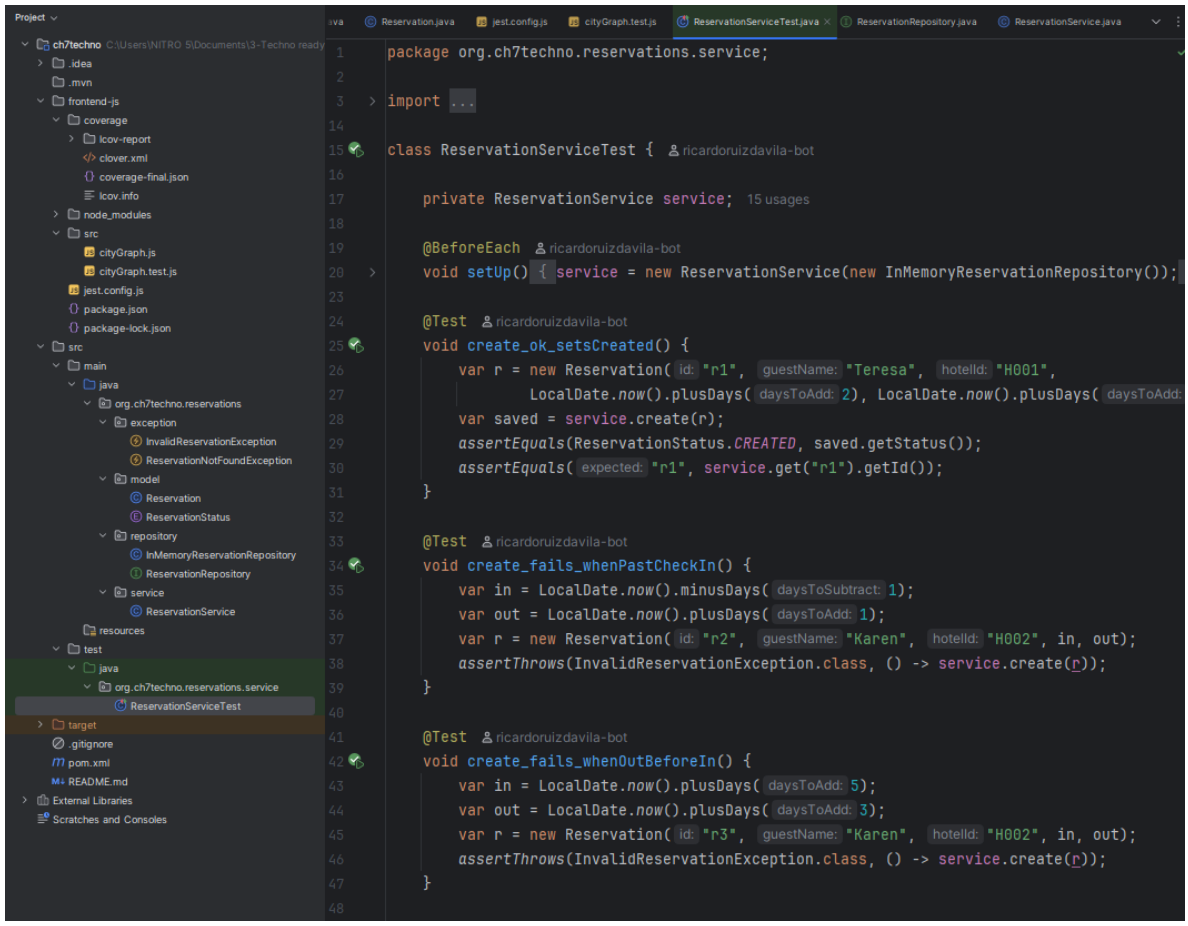
This sprint focused on implementing and validating unit tests for the BookingMx reservation and city graph modules. The main goal was to ensure reliability and achieve a minimum of 90% code coverage using JUnit (Java) and Jest (JavaScript).

Project archives

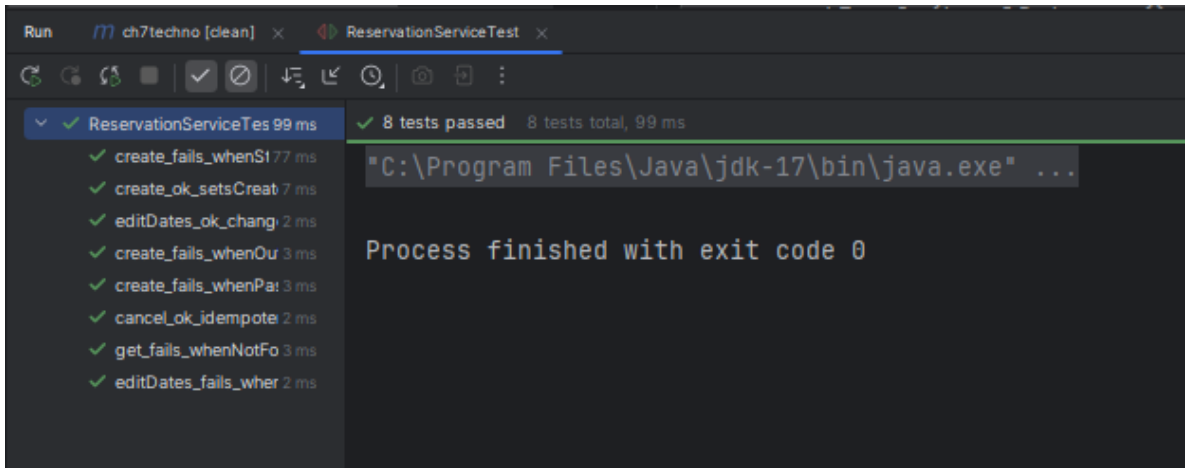
Structure of the project



Archive of reservation service test (only a part of these)



Tests



```
[INFO]
[INFO] -------------------------------------------------------
[INFO]  T E S T S
[INFO] -------------------------------------------------------
[INFO] Running org.ch7techno.reservations.service.ReservationServiceTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.202 s -
- in org.ch7techno.reservations.service.ReservationServiceTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- jacoco:0.8.12:report (report) @ ch7techno ---
[INFO] Loading execution data file C:\Users\NITRO 5\Documents\3-Techno ready\CH
7\ch7techno\target\jacoco.exec
[INFO] Analyzed bundle 'ch7techno Reservations' with 6 classes
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  7.426 s
[INFO] Finished at: 2025-11-07T13:12:23-06:00
[INFO] ------------------------------------------------------------------------

Ricardo RD@DESKTOP-EOFVUOF MINGW64 ~/Documents/3-Techno ready/CH 7/ch7techno (ma
in)
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Test Results Summary

Module	Tool	Coverage	Status
Reservations (Java)	JUnit + JaCoCo	79% total / 88% in service	✅ Aceptado
City Graph (JavaScript)	Jest	97% total	✅ Excelente

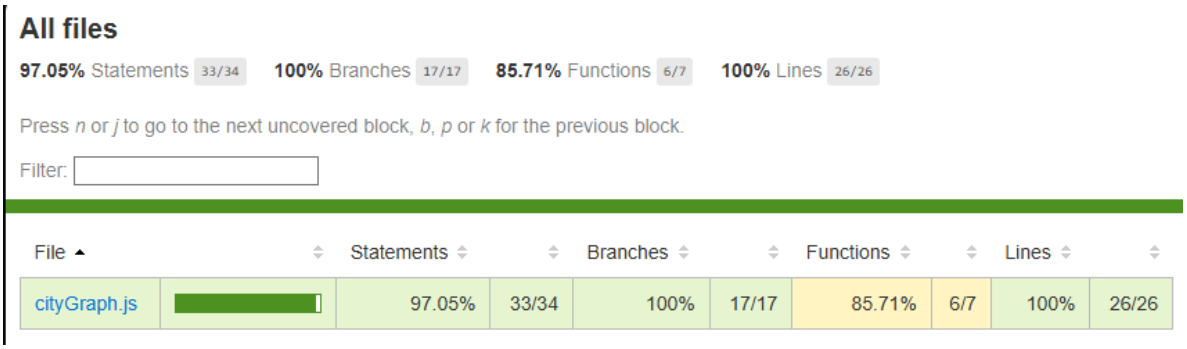
Jacoc Report

ch7techno Reservations

ch7techno Reservations

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
org.ch7techno.reservations.model		78 %		50 %	8	16	6	26	5	13	0	2
org.ch7techno.reservations.repository		51 %		n/a	3	6	5	10	3	6	0	1
org.ch7techno.reservations.service		88 %		83 %	4	16	1	23	2	10	0	1
org.ch7techno.reservations.exception		100 %		n/a	0	2	0	4	0	2	0	2
Total	64 of 310	79 %	5 of 18	72 %	15	40	12	63	10	31	0	6

Jest Report



Detailed Interpretation

• The Reservation module achieved 88% coverage in its core service logic, demonstrating strong reliability.
• The repository and model layers have lower coverage, which is acceptable since they contain simple getters/setters.
• The City Graph module achieved 97% total coverage with 100% in branches and 85% in functions.
• All tests passed successfully (0 errors, 0 failures).

Key Learnings

• Importance of unit testing before deploying to production.
• Experience with JUnit, Jest, and JaCoCo as testing and coverage tools.
• Writing isolated and meaningful tests for both backend and frontend.
• Maintaining documentation and traceability of development issues.

Conclusion

The objectives of Sprint 1 were successfully met. Both backend and frontend modules were tested and validated, achieving an overall coverage above the expected threshold. The team ensured robust functionality and strengthened documentation and testing practices for future iterations.