

VoltConnect

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Team Roles



Carolina Prata
Team Coordinator
Product Owner



João Varela
DevOps



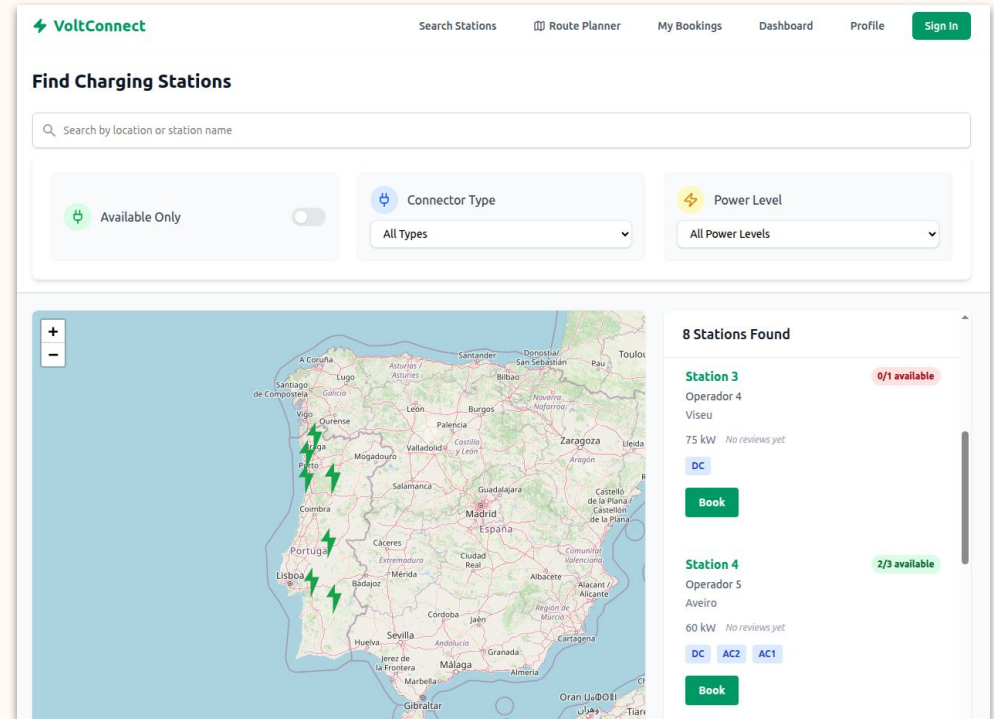
Diogo Domingues
QA Engineer

Product Concept

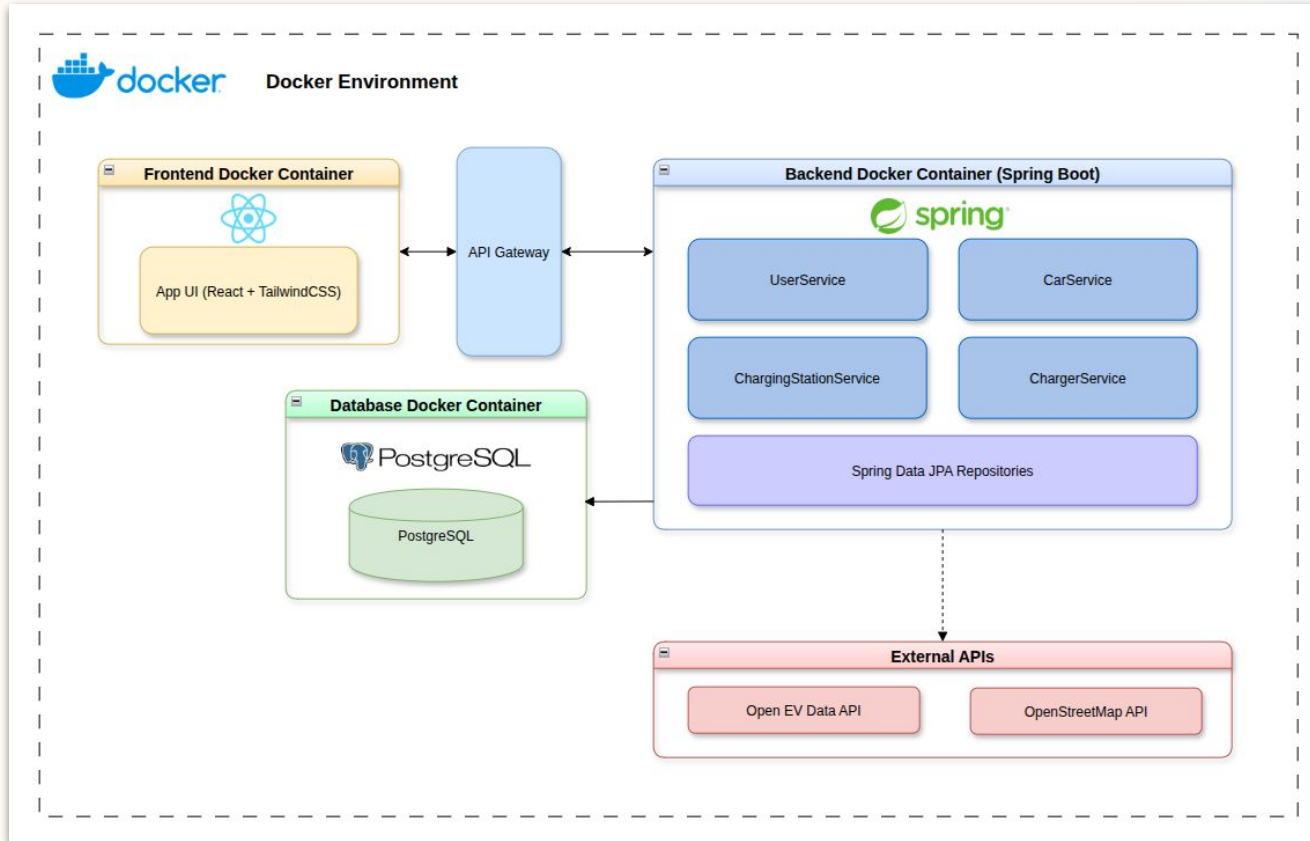
- **Main Features:**
- Station Discovery
 - Slot Booking
 - Charging Control
 - Stations and Chargers Management

- **Extra Features:**
- Route-based planning
 - Ratings and reviews
 - Discounts

- **Actors:**
- EV Driver
 - Technician
 - Admin

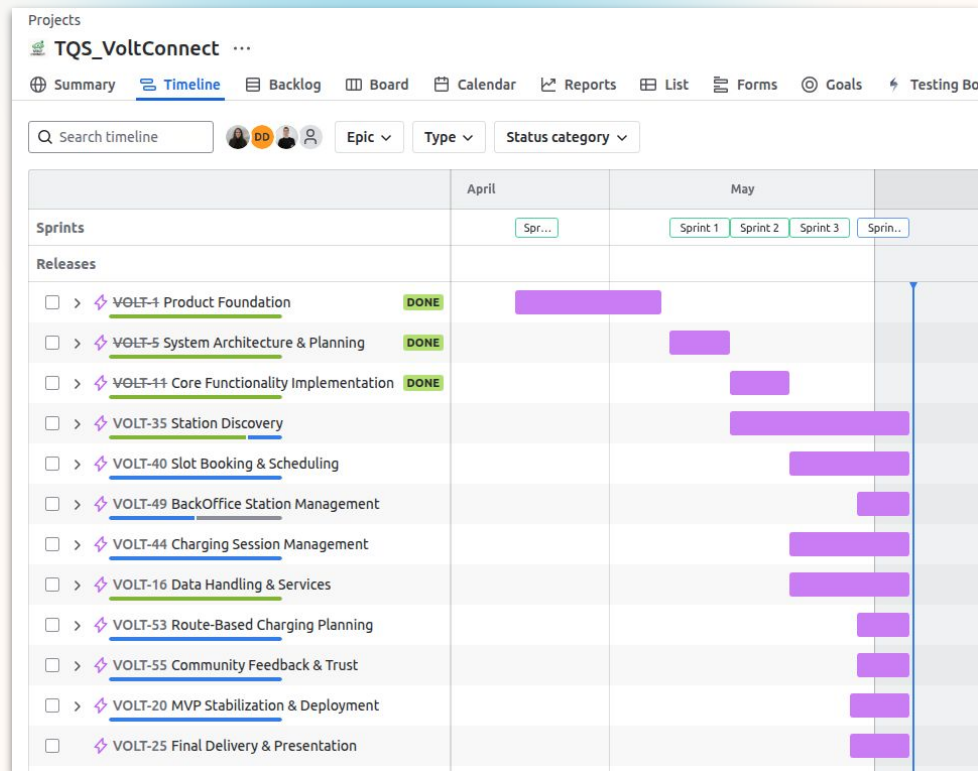


System Architecture



Epics

- **Station Discovery** (15/05 – 04/06)
- **Slot Booking** (21/05 – 04/06)
- **Charging Session Management** (22/05 – 04/06)
- **BackOffice Management** (30/05 – 04/06)
- **Route-Based Charging Planning** (30/05 – 04/06)
- **Community Feedback & Trust** (30/05 – 04/06)



Jira + X-Ray

The screenshot displays the Jira X-Ray interface for the project **TQS_VoltConnect**. The top navigation bar includes various views: Summary, Timeline, Backlog, Board, Calendar, Reports, List, Forms, Goals, **Testing Board** (selected), All work, Development, Code, Security, and a More menu with 5 items. The breadcrumb trail shows the path: Projects / TQS_VoltConnect / Test Repository.

The main heading is **Test Repository for project TQS_VoltConnect**, accompanied by a **Create** button. On the left, a sidebar contains **FOLDERS** and **TEST SETS** sections. The **FOLDERS** section shows a folder named **Test Repository** with 192 items.

The main content area, titled **Test Repository**, features a search bar and filters: **Only My Issues**, **Tests and Preconditions**, **Filters**, and a menu icon. It indicates **Showing 192 of 192 entries**. The test entries are listed in a table:

Category	Test ID	Test Name	Status
GENERIC			DONE
VOLT-108	deleteStation_NonExistingId_ThrowsException		DONE
GENERIC			DONE
VOLT-107	deleteStation_ExistingId_ReturnsNoContent		DONE
GENERIC			DONE
VOLT-106	deleteStation_NotFound_ReturnsNotFound		DONE
GENERIC			DONE
VOLT-103	findById_ExistingId_ReturnsStation		DONE
GENERIC			DONE
VOLT-102	saveStation_ReturnsSavedStation		DONE
GENERIC			DONE

Booking Logic

[Search Stations](#) [Route Planner](#) [My Bookings](#) [Dashboard](#) [Profile](#) [Sign In](#)

Find Charging Stations

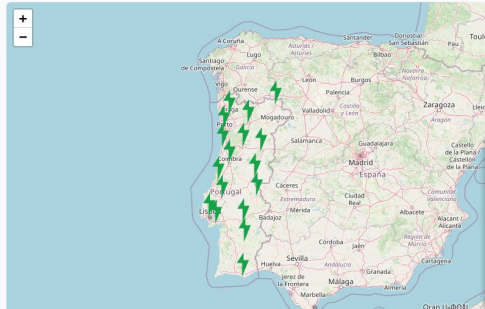
Available Only

Connector Type

Power Level

All Types

All Power Levels



17 Stations Found

Station 1 3/4 available

Operator 18
Viseu
100 kW
No reviews yet
[AC1](#) [AC2](#) [DC](#)

Book Charging Slot - Viseu Charging Station

Coordinates: 40.6610, -7.9097 • 100 kW • AC1, AC2, DC

Select Vehicle

Search vehicle by brand or model...

Select Charger

AC1
11 kW - AVAILABLE
€0.25 / kWh

AC2
22 kW - AVAILABLE
€0.30 / kWh

DC
50 kW - AVAILABLE
€0.50 / kWh

DC
100 kW - OCCUPIED
€0.60 / kWh

Select Date

Thu
5

Fri
6

Sat
7

Sun
8

Mon
9

Tue
10

Wed
11

Available Time Slots

16:00

17:00

18:00

Confirm Booking

[Search Stations](#) [Route Planner](#) [My Bookings](#) [Dashboard](#) [Profile](#) [Sign In](#)

My Charging Bookings

Viseu Charging Station

05/06/2025 16:00

DC • 100 kW

Scheduled

View Booking

Cancel Reservation

Évora Charging Station

10/06/2025 11:00

AC2 • 22 kW

Cancelled

Faro Charging Station

05/06/2025 16:30

DC • 50 kW

Scheduled

View Booking

Cancel Reservation

Vila Real Charging Station

05/06/2025 15:56

DC • 1000 kW

Charging

View Charging

QA Stack

➤ Tests Performed:

- Unit Tests (JUnit 5 with Mockito and Jacoco)
- Integration Tests
- E2E Tests



➤ Static Code Analysis:

- SonarQube Cloud (quality, coverage, duplications)
- CodeQL (security)



QA Stack

➤ Observability:

- Prometheus + Grafana
- Spring Boot Actuator + Micrometer (Backend)
- Postgres Exporter (DB)
- Automated alerts via Discord

➤ CI/CD:

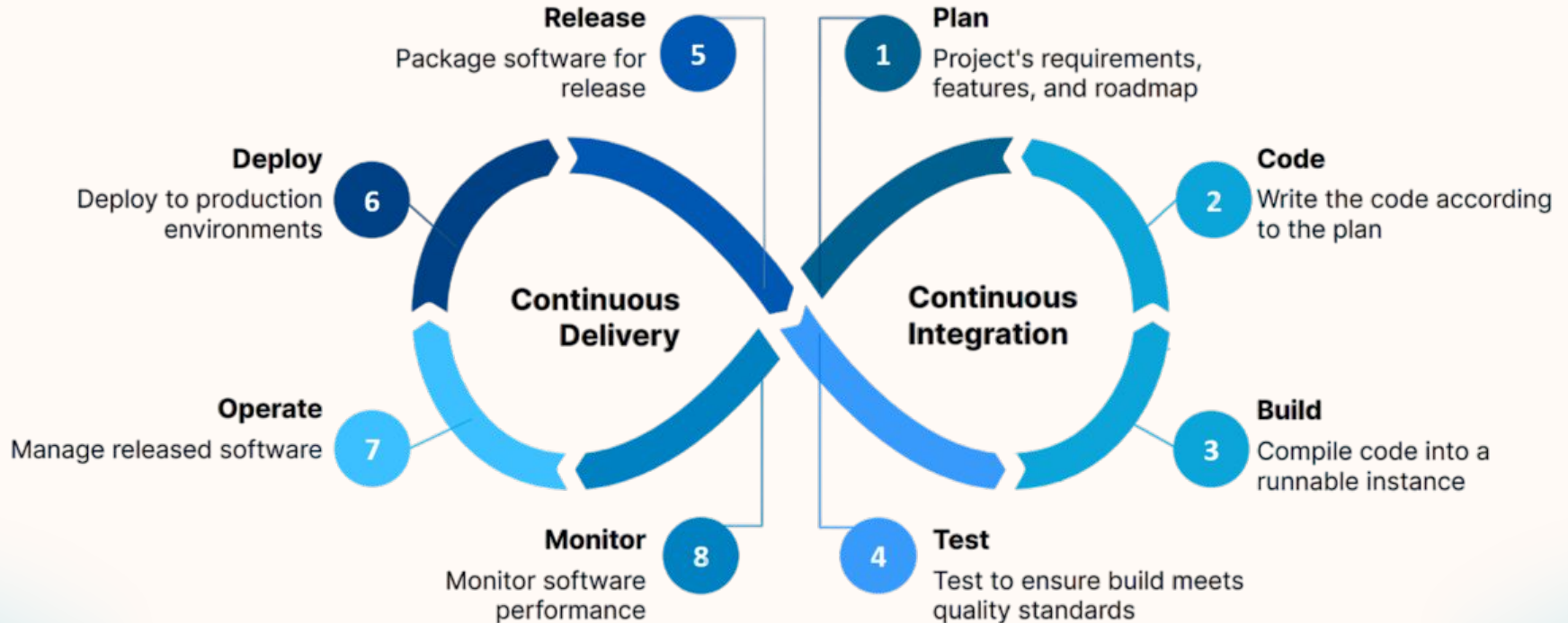
- Via GitHub Actions (with different pipelines for Frontend and Backend)
- CI - Automatic build and tests
- CD - new release -> new GHCR image that is then updated automatically in the server

➤ Requirements Traceability:

- Xray




CI and CD Pipeline



Available on <http://deti-tgs-04.ua.pt/>

DEMO

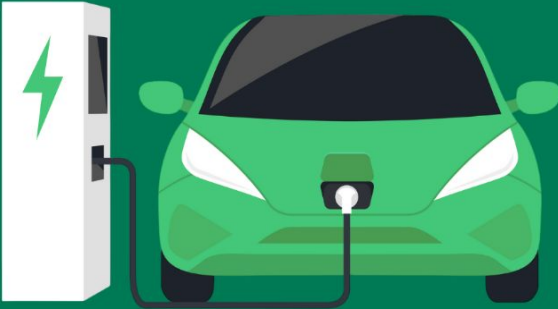
⚡ VoltConnect

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Charge Your EV The Smart Way


Find, book, and pay for charging stations across Portugal. Save time and reduce range anxiety with our smart platform.

[Find Stations](#) [How It Works](#)




FEATURES

A better way to charge your EV

**Real-time Availability**

See which stations are available right now and book your slot in advance.

**Seamless Payments**

Pay directly through the app with multiple payment options available.

Project self-review

Plus	Minus	Interesting
Bookings	Frontend Tests	Route Planner
Technician Actions	CI on frontend	Instant Status Tracking (chargers + reservations)
Release deployment	Outdated Architecture Diagram	Developed our own external EV-car API
Modern frontend	Non Functional Tests	
Great results with only 3 people :)		

Future Work

- **Authentication**
- **Adapt pages to user logged in**
- **Non-functional Tests**
- **Frontend test running on GitHub Actions**

