



TracMobility Backend Testing

Objective: Below is a programming assignment. You are allowed to use Java, Spring Boot and any other libraries in order for developing, building, and testing purposes (please note exclusions below). Please include an explanation of your design, assumptions as well as detailed instructions on how to run the application along with your code (no more than one side of A4). We don't require a front-end or a command-line interactive interface. We are most interested in how you design your classes and solve the problem at hand.

The code is assessed for:

- the design
- object-oriented programming skills
- production quality
- maintainability
- extensibility
- scalability (Will your design work with say 1 million vehicles)

Backend Requirements:

You have been tasked with building part of a simple vehicle system that allows customers to borrow vehicles. Your code should provide the following functionality:

- List all available vehicles.
- Borrow and return vehicle.

Notes:

- Please use Java, Spring Boot, Spring MVC
- In order to test this application, you may choose to import the following initial data.
ID, Type, QR_CODE, Status
1, SCOOTER, QR_0001, AVAILABLE
2, SCOOTER, QR_0002, RUNNING
3, SCOOTER, QR_0003, REPAIRING
4, BIKE, QR_0004, AVAILABLE
5, E-BIKE, QR_0005, AVAILABLE
6, SCOOTER, QR_0006, AVAILABLE
- You can cache the data in memory or integrate the H2 database(bonus).
- No distributed caches
- Make it thread safe
- Please add unit test
- Please add integration test