

Java Backend Developer Exercise

Introduction

The purpose of this exercise is for the developer to demonstrate his familiarity with Java backend technologies and design patterns by providing a sample of what clean and reusable code means to the candidate.

There should be inline comments to major decisions and a summary of architectural choices that were considered.

Exercise

“Secure Order Management Service”

For this exercise, you should build a small Order service in Java that will handle the basic CRUD operations on Orders. The Order entity can be as simple as {Id, Status, Total price and Date}.

This service must expose an API where an authenticated user can trigger these CRUD operations.

Architecture

The only requirement is that you use Java as main language. You are free to use any library or framework you find useful.

Focus on a good architecture and best practices. Show us you know how to produce high quality reusable code.

Minimum Requirements

- Test coverage
- Documentation
- Persistence layer
- OAuth2 authentication

Extras

- Use separate micro services
 - When a change occurs in an order (e.g. status change), an event is triggered. Another service registers and listens to specific events, and then reacts to them (e.g. log that order [X] changed status from [S1] to [S2]).
 - Use an event queue
- Fault tolerance / Resilience
- API documentation (e.g. Swagger, ...)
- Containerized application (e.g. Docker, ...)
- Version control (e.g. GitHub, BitBucket, ...)
- Initial data load from an external data source (file, REST call, etc...)
- Azure Active Directory for identity access management