

Altech - Java Backend Technical Assessment

We are building the Java back-end of a web-based electronics store's checkout system. From the requirements below develop a set of RESTful endpoints and their implementation.

Usage of a framework such as Spring Boot is encouraged but not mandatory - if you feel more comfortable using something else, then please do so.

Persistence should be achieved either through an In-memory DB, Java data structures or any persistence layer – in either case being sure to demonstrate an understanding of safe concurrent usage.

Electronic Store's Requirements

Admin User Operations

- Create a new product
- Remove a product
- Admin endpoints should support pagination.
- Add discount deals for products (Example: Buy 1 get 50% off the second)
- Admin can add an expiration date/time to deals.

Customer Operations

- Add and remove products to and from a basket
- Calculate a receipt of items, including all purchases, deals applied and total price
- Products can be filtered by category, price range, or availability.
- Customer endpoints should support pagination.
- Products have limited stock.
- When a customer adds a product to the basket, decrement stock accordingly.
- If stock is insufficient, the operation should fail gracefully.

Extra

- If any part fails (e.g., insufficient stock, invalid promo), no partial update should persist.

Your Submission

- Everything should be tested with automated tests. If any requirement is not satisfied, a test should fail
- Include this document in your repo
- There should be one documented command to start the app - Docker also can be the options
- There should be one documented command to run the testes
- Optimise for code clarify instead
- Please applied the necessary skills/codes to make sure the high performance
- Push you code to publicly available git repository and provide a link (GitHub is our preferred.)

Out of scope

- Continuous Integration
- Deployment
- Metrics

Reminder

- If you do well in the assignment then your next round will based on adding features to it
- Please designed to be easy to extend