JAVA DEVELOPMENT CHALLENGE

Problem Statement

A small start-up named "iCommerce" wants to build a very simple online shopping application to sell their products. In order to get to the market quickly, they just want to build an MVP version with a very limited set of functionalities:

1. The application is simply a simple web page that shows all products on which customers can filter and search for products based on different criteria such as product category, name, price, brand, colour.
2. If the customer finds a product that they like, they can view its details and add it to their shopping cart and proceed to place an order.
3. No online payment is supported yet. The customer is required to pay by cash when the product got delivered.

Expected Outputs

1. Implementation for the following operations:

   - Get a list of products by filtering multiple criteria including category, price, brand, colour.
   - Add a product to shopping cart

2. Entity-relationship diagram for the database and solution diagrams for the components, infrastructure design if any
3. An acceptable amount of unit tests should be covered
4. Readme file includes:

   - A brief explanation for the software development principles, patterns & practices being applied
   - A brief explanation for the code folder structure and the key Java libraries and frameworks being used
   - All the required steps in order to get the application run on a local computer
   - Full CURL commands to verify the APIs (include full request endpoint, HTTP Headers and request payload if any)

5. For those who targets a position above Lead level, it's important to have your solution design covers not only the Java backend web services but also all other components of the application as well including the infrastructure

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