

NodeJS home assignment

Background:

In this assignment, you will need to simulate an API and Database design for an e-commerce website.

User Side

1. User registration
2. User login
3. Unique cart for every user
4. Add to cart
5. Remove from cart
6. Checkout
7. A user can update his address
8. View orders
 - a. Order date
 - b. Order id
 - c. Order total
9. Order details
 - a. Order date
 - b. Order id
 - c. Order total
 - d. List of products
 - i. Product name
 - ii. Product description
 - iii. Product price

Admin Side

1. Add product
2. Delete product
3. Update product
4. Statistics
 - a. List of the top 5 products (number of sales) each month
 - b. List of the top 5 customers (by number of order) each month
 - c. List of the top 5 customers (by order total) each month
 - d. Avg sales per month

Requirements:

1. NodeJS
2. Express
3. Babel
4. ES6 (Classes, Arrow functions, Async/Await. ETC...)
5. KnexJS (no sequelize)
6. Docker file
7. Docker compose file
8. Mysql/Postgres
9. JWT
10. Access Control (permissions admin/client)
11. Migration files
12. The database design should support the “**Slowly Changing Dimensions**” principle.
(<https://www.nuwavesolutions.com/slowly-changing-dimensions>)
13. TDD
 - a. Jest
 - b. [Faker.js](#) to generate random data

Entities:

Keep in mind this is just a high-level view of the entities and you will need to adjust them in your DB to meet the requirements.

1. User
 - a. First name
 - b. Last name
 - c. Email
 - d. Password
 - e. Address
 - f. Role
2. Product
 - a. Product name
 - b. Product description
 - c. Product price
3. Cart
4. Order