# Task 3

**Summary**:

In this assignment, you will develop a Chocolate Manufacturing Factory API, where users can interact with the application by creating and managing chocolate products. The application will be implemented as a Spring Boot project, utilizing RESTful APIs and JPA for data persistence. The assignment should be completed individually within 2 working days.

**Functional Requirements**:

**Product Creation**: Implement an API endpoint for creating new chocolate products, where authenticated users can specify the details of the product, including the name, ingredients, price, and quantity available.

**Product Management**: Implement API endpoints to enable product creators to edit or delete their own products.

**Order Management**: Implement API endpoints to allow users to place orders for chocolate products, including the ability to specify the quantity and shipping details.

**Inventory Management**: Implement API endpoints to enable factory managers to track inventory levels of chocolate products, including the ability to update the quantity available and view current stock levels.

**Examples of API Usage:**

**Product Creation:**

Endpoint: POST /api/products

Request Payload: { "name": "Dark Chocolate Bar", "ingredients": ["cocoa", "sugar", "butter"], "price": 2.99, "quantity": 100 }

Response: 201 Created

**Product Management:**

Endpoint: PUT /api/products/{productId}

Request Payload: { "name": "Milk Chocolate Bar", "ingredients": ["cocoa", "sugar", "milk", "butter"], "price": 1.99, "quantity": 150 }

Response: 200 OK

**Order Management**:

Endpoint: POST /api/orders

Request Payload: { "product\_id": 1, "quantity": 5, "shipping\_address": "123 Main St, Anytown, USA" }

Response: 200 OK

**Inventory Management:**

Endpoint: GET /api/inventory

Response: 200 OK

Response Payload: { "products": [{ "id": 1, "name": "Dark Chocolate Bar", "quantity": 100 }, { "id": 2, "name": "Milk Chocolate Bar", "quantity": 150 }] }

Note: The above examples demonstrate the usage of the Chocolate Manufacturing Factory API endpoints. You should implement these API endpoints as part of the assignment, along with any additional endpoints required to fulfill the functional requirements.