**Project Title: Inventory Tracking System**

**Problem Statement:**

A small warehouse wants to track its inventory efficiently. Currently, stock management is done manually, leading to errors and delays.

You need to create a **RESTful Spring Boot application** with MySQL that allows warehouse staff to manage **Products** and **Suppliers**. The system will expose REST APIs for all operations.

**Entities & Relationship**

1. **Product**
   * Product ID (Primary Key)
   * Name
   * Description
   * Quantity
   * Price
   * Supplier (Many-to-One relationship)
2. **Supplier**
   * Supplier ID (Primary Key)
   * Name
   * Email
   * Phone Number
   * Address

**Relationship:**

* One Supplier can supply multiple Products (One-to-Many).

**Functional Requirements (REST APIs)**

1. **Product APIs**
   * Create a new product.
   * Get all products.
   * Get product by ID.
   * Update product details.
   * Delete a product.
   * Optional: Get products by supplier.
2. **Supplier APIs**
   * Create a new supplier.
   * Get all suppliers.
   * Get supplier by ID.
   * Update supplier details.
   * Delete a supplier.
3. **Validation**
   * Ensure required fields are validated (e.g., email format, quantity > 0, price > 0).
   * Optional: Custom exception handling for resource not found or invalid data.

**Technical Requirements**

* **Backend:** Spring Boot, Spring Data JPA, MySQL
* **REST API:** Spring Web (Controller with @RestController)
* **Database:** MySQL (products and suppliers tables)
* **Build Tool:** Maven
* **Port:** 8080
* **JSON format** for request and response