Synopsis Document For MSA

➢ Introduction:

Inventory Management is critical for businesses to manage product availability, supplier coordination, and stock updates efficiently. This system enables automation of these processes using a scalable microservices architecture.

➢ Problem Statement:

Traditional monolithic inventory systems face difficulties in scaling, managing supplier-product relationships, and ensuring real-time stock updates across modules. These limitations lead to inefficiency, redundancy, and poor visibility across departments.

➢ Objectives:

- Develop a modular Inventory Management System using microservices.
- Implement CRUD operations for products, suppliers, stock, and orders.
- Ensure each service is independently scalable and maintainable.
- Track inventory levels and manage supplier restocking.

➢ Scope:

The system will support:

- Product catalog management
- Supplier data handling
- Real-time stock tracking
- Order processing with stock updates
- Future extensions may include notification services, analytics, or warehouse management.

➢ Technologies Used:

- **Backend**: Java, Spring Boot
- **Database**: MySQL
- **Communication**: REST APIs
- **Containerization (Optional)**: Docker
- **Documentation/Testing**: Postman

➢ Expected Outcome:

- A fully functional, decoupled inventory management system.
- REST APIs for each microservice (Product, Supplier, Stock, Order).
- Real-time tracking of stock and supplier coordination.

GitHub Link: https://github.com/VinayPatel553/Inventory-Management-System-MSA.git