Project Design Phase

Solution Architecture

Date	2 November 2025
Team ID	NM2025TMID00728
Project Name	Medical Inventory Management System
Maximum Marks	4 marks

Goals of the Architecture

- Automate inventory tracking and expiry monitoring through Salesforce.
- Maintain data integrity between suppliers, products, and purchase orders.
- Provide real-time visibility of stock levels and supplier performance.
- Enable automated alerts and reporting to minimize manual supervision.
- Improve efficiency and accuracy in hospital inventory management operations.

Key Components

- **Supplier Object:** Stores supplier details such as name, contact information, and performance rating.
- **Product Object:** Maintains product details including name, batch number, expiry date, and stock quantity.
- **Purchase Order Object:** Records order information linked to both suppliers and products.
- **Validation Rules:** Ensure data accuracy by preventing incomplete or invalid entries.
- **Flows and Triggers:** Automate key operations such as stock updates, expiry alerts, and order generation.
- **Reports and Dashboards:** Provide analytical insights to monitor supplier performance and inventory movement in real time.

Development Phases

1. Create custom objects for Supplier, Product, and Purchase Order.
2. Define relationships between objects (e.g., Product ↔ Supplier, Order ↔ Product).
3. Configure validation rules for mandatory data and expiry checks.
4. Design page layouts and compact views for user accessibility.
5. Build flows to automate order approvals and expiry notifications.
6. Implement triggers for real-time inventory updates.
7. Generate reports and dashboards for stock analysis and supplier performance.

Solution Architecture Description

The Medical Inventory Management System architecture is designed to provide a robust and automated solution for managing healthcare inventory using Salesforce. It integrates key components such as Suppliers, Products, and Purchase Orders within a unified system. The architecture leverages Salesforce automation tools like Flows and Triggers to ensure real-time data accuracy and correctness, efficient, reliable medical stock management, and expiry monitoring. Through custom validation rules, the system ensures that no expired or incomplete product data enters the database. Reports and dashboards enhance decision-making by providing real-time insights into inventory performance and supplier efficiency. This architecture not only reduces manual effort but also strengthens data reliability, ensuring uninterrupted availability of medical supplies in healthcare facilities.

Solution Architecture Diagram