

Requirement Analysis Phase

Data Flow Diagram & User Stories

Date	1 November 2025
Team Id	NM2025TMID03427
Project Name	Medical Inventory Management System
Maximum Marks	4 Marks

Data Flow Diagrams (DFD)

A **Data Flow Diagram (DFD)** illustrates how data is processed and transferred within the **Medical Inventory Management System**, offering a clear view of how various components interact. It highlights the flow of information between **users**, the **Salesforce application**, and the **internal data repositories**, ensuring transparency in how data is created, updated, and utilized across the system.

The DFD provides insights into the **logical movement of data** — from input and processing to storage and output — within the application. It helps in understanding how system entities such as **Admins, Inventory Managers, and Purchase Officers** interact with the **Supplier, Product, and Purchase Order Objects** to maintain efficient medical inventory operations.

Level 0: Data Flow



Officers) interact with the Salesforce application, which processes and stores data in Salesforce Objects (Supplier, Product, Purchase Order, and Transaction Records). The processed data is then visualized through dashboards and reports.

Level 1: Process Flow

Input:

Users such as **Administrators**, **Inventory Managers**, and **Purchase Officers** enter essential details into the Salesforce system, including:

- Supplier information (name, contact, address, performance rating)
- Product details (name, batch number, stock quantity, expiry date)
- Purchase order details (supplier link, quantity, order status)

Process:

1. Validation Rules:

Ensure accurate and complete data entry by preventing invalid or duplicate records for suppliers, products, and purchase orders.

2. Salesforce Flows:

Automate recurring tasks such as updating stock levels, monitoring expiry dates, and generating reordering actions when stock thresholds are reached.

3. Apex Triggers:

Manage background operations like real-time inventory adjustments, expiry notifications, and reorder alerts to maintain supply consistency.

Output:

The system generates **real-time reports and dashboards** displaying:

- Current **product stock levels**
- **Upcoming expiry alerts** and restock notifications
- **Supplier performance** analytics
- **Purchase order summaries** and transaction histories

Data Flow Description:

Process No.	Process Name	Description	Data Stores / Entities
P1	Supplier Data Management	Records and updates supplier information, including contact details, address, and performance metrics to maintain an accurate supplier database.	Supplier Object
P2	Product Management	Tracks product details such as name, category, batch number, stock levels, and expiry dates to ensure real-time inventory visibility.	Product Object
P3	Purchase Order Management	Creates, monitors, and updates purchase orders between suppliers and the healthcare organization to ensure timely procurement.	Purchase Order Object
P4	Inventory Monitoring	Automatically updates stock counts upon transactions and triggers alerts for low stock or upcoming expirations.	Inventory Transaction Object
P5	Reporting & Dashboards	Generates analytical dashboards and reports on supplier efficiency, product usage, and expiry compliance for data-driven decision-making.	Reports & Dashboards

User Stories

User stories define how different users interact with the Medical Inventory Management System to fulfill their roles efficiently. Each story ensures that the system's functionality aligns with user requirements and business objectives.

User Type	Functional Requirement (Epic)	User Story No.	User Story / Task	Acceptance Criteria
Administrator	Supplier & Product Management	USN-1	As an Administrator, I want to create, update, and manage supplier and product records to maintain accurate and up-to-date inventory information.	The system should allow the creation, modification, and deactivation of supplier and product records while maintaining data consistency.
Inventory Manager	Stock & Expiry Tracking	USN-2	As an Inventory Manager, I want to monitor stock levels and product expiry dates to prevent shortages and ensure expired products are not used.	The system must automatically update stock quantities and trigger alerts for upcoming expirations before due dates.
Purchase Officer	Purchase Order Management	USN-3	As a Purchase Officer, I want to create and manage purchase orders linked to suppliers for timely stock replenishment.	The system should allow generation and tracking of Purchase Orders with real-time status updates and supplier details.
System (Automation)	Expiry Alert & Notifications	USN-4	As a System, I must send notifications when products are nearing expiry or when stock levels fall below reorder thresholds.	Automated alerts must be sent to designated users via email and dashboard notifications to ensure timely action.
Healthcare Administrator	Reporting & Analytics	USN-5	As a Healthcare Administrator, I want to view detailed reports on stock, supplier performance, and purchase efficiency for informed decision-making.	The dashboard should provide real-time analytics, allow report filtering, and enable export in standard formats (PDF/Excel).
System (Integration)	Supplier API Integration	USN-6	As a System, I must integrate with supplier APIs to synchronize	Data synchronization should occur in real-time between the Salesforce

User Type	Functional Requirement (Epic)	User Story No.	User Story / Task	Acceptance Criteria
			order and product information automatically.	system and external supplier portals to maintain consistency.