

## **Technology Stack (Architecture & Stack)**

Date: 10 November 2025

Team ID: NM2025TMID02283

Project Name: Medical Inventory Management System (MIMS)

Project End Date: 27 June 2025

Maximum Marks: 14 Marks

### **Technical Architecture**

The deliverable shall include the architectural diagram as below and the information as per Table 1 & Table 2.

Example: Medicine stock and order tracking using Salesforce Platform

Reference: <https://www.salesforce.com/products/health-cloud/>

### **Guidelines:**

Include all the processes (Application Logic / Technology Blocks).

Provide infrastructural demarcation (Local / Cloud).

Include external interfaces (APIs, third-party integrations).

Indicate Data Storage components / services.

Indicate interface to reporting and analytics models (if applicable).

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**Table-1: Components & Technologies**

S.No	Component	Description	Technology
1	User Interface	Admin and staff interaction via Salesforce Lightning App dashboard	Salesforce Lightning Web Components (LWC)
2	Application Logic-1	Validates stock levels before confirming new purchase orders	Salesforce Flow / Apex Trigger
3	Application Logic-2	Manages expiry tracking and low-stock alerts	Apex Scheduled Jobs / Flow

- 4 Application Logic–3 Sends notifications to pharmacists and suppliers Salesforce Notification Builder / Email Alerts
- 5 Database Stores medicine, supplier, and transaction details Salesforce Object Database (Custom Objects)
- 6 Cloud Database Managed via Salesforce backend Salesforce Cloud (Multi-Tenant)
- 7 File Storage Stores invoices, prescription images, and reports Salesforce Files / Attachments
- 8 External API–1 (Optional) Integrate with hospital HR or procurement systems REST API / Named Credentials
- 9 External API–2 Integrate with external pharmacy supplier API for stock availability REST Integration using Apex HTTP methods
- 10 Machine Learning Model (Future use) Predict medicine demand and reorder needs Einstein Prediction Builder / Tableau CRM
- 11 Infrastructure (Server / Cloud) Hosted and managed on Salesforce SaaS platform Salesforce Cloud (SaaS)
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**Table–2: Application Characteristics**

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Not applicable (Salesforce is proprietary) –	
2	Security Implementation	Role-based access control, profiles, permission sets, sharing rules	Salesforce Security Model
3	Scalable Architecture	SaaS-based, horizontally scalable with Salesforce infrastructure	Salesforce Cloud Architecture

- 4 Availability    High availability via redundant Salesforce cloud instances  
Salesforce Trust Cloud
- 5 Performance Optimized via indexed queries, asynchronous Apex jobs, and flows  
Apex, SOQL Optimization, Flow Performance Tools