

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).

Table-1: Components & Technologies

S.No	Component	Description Technology
1	User Interface Lightning App dashboard (LWC)	Admin and staff interaction via Salesforce Salesforce Lightning Web Components
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

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|----|---------------------------------|--|--|
| 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) |

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