

Project Design Phase-II

Technology Stack

(Architecture & Stack)

Date	0 1.11.2025
Team ID	NM2025TMID04299
Project Name	Medical Inventory Management
Maximum Marks	4 Marks

Technical Architecture Overview

The Salesforce-based Medical Inventory Management System is a cloud-hosted CRM solution designed to automate and monitor medical stock, supplier orders, and purchases. It uses **Salesforce Lightning, Apex, Flows, and Reports** as its core components. The system connects **Products, Suppliers, Purchase Orders, Order Items, and Inventory Transactions** through custom relationships and automation logic.

Architecture Highlights:

- Cloud-hosted Salesforce environment (SaaS).
- Application logic implemented using Apex Triggers and Salesforce Flow.
- Data storage handled through Salesforce Object Database.
- Reports and Dashboards used for analytics and insights.
- Secure access via Profiles, Roles, and Permission Sets.

Components & Technologies

S.No	Component	Description	Technology Used
1	User Interface	Users interact via Salesforce Lightning Pages and Tabs.	Salesforce Lightning Experience
2	Application Logic - 1	Business logic for calculating Total Order Cost.	Apex Trigger
3	Application Logic - 2	Automates Actual Delivery Date updates.	Record-Triggered Flow
4	Application Logic - 3	Enforces validation on Expected Delivery Date ≤ 7 days.	Salesforce Validation Rules
5	Database	Stores Products, Suppliers, Purchase Orders, and Transactions.	Salesforce Object Database
6	Cloud Database	Managed automatically under Salesforce Cloud backend.	Salesforce Cloud Data Services
7	Reporting Module	Displays data summaries and analytics by Supplier and Order.	Salesforce Reports
8	Dashboard Module	Visualizes supplier performance and total costs.	Salesforce Dashboards
9	External API (Optional)	Integrates with hospital ERP systems if required.	REST API via Salesforce Connect
10	Security Layer	Controls user permissions through Profiles, Roles, and Permission Sets.	Salesforce Security Model
11	Infrastructure	Fully hosted SaaS application with 99.9% uptime.	Salesforce Cloud Infrastructure

Application Characteristics

S.No	Characteristics	Description	Technology Used
1	Open-Source Frameworks	Not applicable — Salesforce is a proprietary cloud platform.	—
2	Security Implementations	Profile and Role-based access, Permission Sets, and MFA login.	Salesforce Security Controls
3	Scalable Architecture	Scales automatically with organization data and user count.	Salesforce Cloud Scalability
4	Availability	Salesforce guarantees high uptime and reliability for cloud users.	Load-balanced Salesforce Servers
5	Performance	Optimized with indexed database fields, triggers, and async flows.	Apex Trigger, Salesforce Flow