PROJECT DESIGN PHASE-II

Technology Stack (Architecture & Stack)

DATE	01/11/2025
NM ID	NM2025TMID08826
PROJECT NAME	MEDICAL INVENTORY MANAGEMENT
MAXIMUM MARKS	4MARKS

Technical Architecture Guidelines

The architecture includes:

- Application logic blocks for inventory validation, transaction logging, and alerting

- Infrastructural demarcation between local Salesforce components and cloud-hosted services

- External interfaces for optional integrations (e.g., supplier verification APIs)

- Data storage components for supplier, product, and transaction records

- No machine learning model in current scope

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Admin interacts via Salesforce Lightning dashboard	Salesforce Lightning UI
2	Application Logic-1	Validates product expiry and quantity before usage	Validation Rules
3	Application Logic-2	Logs inventory movement and usage	Apex Triggers, Flows
4	Application Logic-3	Sends alerts for low stock or expired items	Salesforce Flow, Notification Builder
5	Database	Stores supplier, product, and transaction data	Custom Salesforce Objects
6	Cloud Database	Managed by Salesforce cloud backend	Salesforce Cloud Database
7	File Storage	Minimal use; logs stored internally	Salesforce System Logs
8	External API-1 (Optional)	Supplier verification or vendor rating API	REST API Integration
9	External API-2	Not applicable	-

S.No	Component	Description	Technology
10	Machine Learning Model	Not applicable for current use case	-
11	Infrastructure	Hosted and managed on Salesforce SaaS platform	Salesforce Cloud (SaaS)

Table-2: Application Characteristics

S.No	Characteristic	Description	Technology
1	Open-Source Frameworks	Not applicable (Salesforce is proprietary)	-
2	Security Implementations	Role-based access control, field-level security	Profiles, Permission Sets, Sharing Rules
3	Scalable Architecture	SaaS-based, horizontally scalable via Salesforce architecture	Salesforce Multi-Tenant Cloud
4	Availability	Highly available with Salesforce cloud hosting	Load-balanced Salesforce Instances
5	Performance	Optimized via indexed fields, asynchronous flows	SOQL, Background Jobs, Flow Optimization

ADMIN

APPLICATION
LOGIC-I

INVENTOR
VALIDATION

USER
INTERTACE

TRANSACTION
LOGGING

VALIDATES
USER STATUS

INVETMOPT MANAGE
UNDERSTANDING

EXTERNAL
API

EXTERNAL
API