

# Technology Stack & Architecture

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Team ID	LTVIP2025TMID30494
Project Name	Medical Inventory Management

## Technical Architecture

### Architecture Overview

The Medical Inventory Management system is a Salesforce-based application designed for streamlined stock management in healthcare environments. It integrates real-time alerts, automated workflows, and centralized supplier tracking.

### High-Level Flow

- **Salesforce Core**
  - Data model of Products, Suppliers, Purchase Orders, Transactions
  - Native security, multitenancy, and user access controls
- **Automation Layer**
  - Scheduled Flows for expiry alerts
  - Triggers for real-time amount calculations
  - Approval processes for PO confirmation
- **Integration**
  - Excel/CSV uploads for bulk inventory imports
  - Potential connection to third-party procurement systems
- **Reporting & Analytics**
  - Real-time dashboards for stock visibility
  - Supplier performance tracking
  - Expiry forecasting

## Technology Stack Components

Layer	Technology / Tool	Purpose
<b>Platform Core</b>	Salesforce Platform (Metadata-driven, Multitenant)	Foundation for objects, permissions, and custom logic
<b>Backend Logic</b>	Apex (Triggers, Classes), SOQL	Calculates totals, updates stock levels, enforces logic
<b>User Interface</b>	Lightning Experience, Record Pages, Lightning Web Components (if extended)	Provides intuitive UI for users to manage inventory and orders
<b>Automation Tools</b>	Flow Builder, Scheduled Flows, Validation Rules	Automates delivery dates, triggers alert, enforces field constraints
<b>Reports &amp; Dashboards</b>	Salesforce Analytics Engine	Enables purchase and supplier analysis with visuals
<b>Access Layer</b>	Profiles, Permission Sets, Role Hierarchies	Defines Inventory Manager vs. Purchase Manager access
<b>External Tools</b>	Email/CSV Import	Enhances data input speed and supports process extensions