# Project Design Phase-II -Technology Stack (Architecture & Stack)

**Date: 01 November 2025**
**Team ID: NM2025TMID05985**
**Project Name: To Supply Leftover Food to Poor**
**Maximum Marks: 4 Marks**

## Technical Architecture

The system is developed using Salesforce Developer Edition, a cloud-based CRM platform. It connects food donors, NGOs, and volunteers through a centralized platform that enables real-time donation tracking, notifications, and record management. The app is entirely hosted on Salesforce Cloud and integrates built-in automation tools like Flow Builder, Apex Triggers, and Lightning Components.

**Table-1: Components & Technologies**

| .No | Component | Description | Technology |
|---|---|---|---|
| 1 | User Interface | Donors, NGOs, and Volunteers interact through custom Lightning pages | Salesforce Lightning Web Components (LWC) |
| 2 | Application Logic-1 | Manages food donation records and connections between users | Apex Classes & Lightning Controllers |
| 3 | Application Logic-2 | Automates workflows such as food pickup, delivery, and status updates | Salesforce Flow Builder, Process Builder |
| 4 | Application Logic-3 | Sends real-time notifications and email alerts | Salesforce Notification Builder, Email Alerts |
| 5 | Database | Stores all user, donor, NGO, and food record data | Salesforce Objects & Fields (Custom Objects) |
| 6 | Cloud Database | Securely managed on Salesforce Cloud backend | Salesforce Cloud Database |
| 7 | File Storage | Images or proof of delivery stored in system | Salesforce Files & Attachments |
| 8 | External API-1 (Optional) | Google Maps API for location tracking | REST API Integration |
| 9 | External API-2 | SMS or WhatsApp integration for instant updates | Twilio / Messaging API |

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|---|---|---|---|
| 10 | Machine Learning Model | (Optional future enhancement) Predict donation demand zones | Einstein AI (Salesforce) |
| 11 | Infrastructure (Server / Cloud) | Fully cloud-hosted and managed on Salesforce platform | Salesforce Cloud (SaaS) |

**Table-2: Application Characteristics**

| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 1 | Open-Source Frameworks | Salesforce is a proprietary platform | - |
| 2 | Security Implementations | Role-based access, authentication, record sharing rules | Salesforce Security Model, Permission Sets |
| 3 | Scalable Architecture | Scales automatically with Salesforce infrastructure | Salesforce Cloud Multi-tenant Architecture |
| 4 | Availability | High availability with redundant cloud servers | Load-balanced Salesforce Instances |
| 5 | Performance | Optimized via Apex triggers, flows, and indexed queries | Apex, Lightning Data Service |