

# Project Report

## Title:

Salesforce-Based Food Donation Management System —  
"Apply Leftover Food to Poor"

## 1 . Abstract

This project aims to develop a Salesforce-based application to connect food donors (such as restaurants, hostels, and event organizers) with NGOs and volunteers who distribute leftover food to the needy. The system ensures that surplus food is not wasted and is efficiently redirected to people in need. The application automates donor registration, food collection requests, NGO coordination, and delivery tracking through the Salesforce platform. Using Salesforce's CRM capabilities, the solution provides transparency, accountability, and real-time monitoring of donations.

## 2. Introduction

Food wastage is a major social and environmental issue. Every day, large quantities of food are discarded by restaurants, canteens, and households, while millions of people go hungry.

This project uses Salesforce CRM to create a centralized platform that brings together donors, NGOs, and volunteers. The system simplifies the process of donating leftover food by using Salesforce objects, automation, workflows, and dashboards to track the food flow from donor to recipient.

### 3. Objectives

- To reduce food wastage and help the poor by managing surplus food efficiently.
- To provide an easy-to-use Salesforce application for food donors and NGOs.
- To automate donation requests, approvals, and delivery tracking.
- To maintain real-time data on available food and beneficiaries.
- To generate reports and dashboards for impact analysis and transparency

### 4. System Requirements Hardware

#### Requirements

- Processor: Intel i3 or above
- RAM: 4 GB minimum
- Storage: 20 GB free space
- Internet connection

#### Software Requirements

- Salesforce Developer Account (<https://developer.salesforce.com>)
- Web Browser (Chrome/Edge/Firefox)
- Basic knowledge of Apex, Lightning App Builder, and Flow

### 5. Modules of the System

#### User Management Module

- Registers and manages three types of users: Donors, NGOs, and Volunteers.
  - Uses Salesforce roles and profiles for access control.
- ### Food Donation Module
- Donors submit details of leftover food (type, quantity, location).
  - Automatic creation of a Food Donation record in Salesforce.

NGO Allocation Module ● System matches donations to nearby NGOs based on location and need.

- Uses Salesforce Flow or Apex Trigger for automatic allocation.

### Volunteer Assignment Module

- Assigns volunteers to collect and deliver food.
- Volunteers update status via Salesforce Mobile App.

### Tracking and Reporting Module

- Tracks donation lifecycle (Donated → Collected → Delivered).
- Generates dashboards showing total donations, donors, and beneficiaries

## 6. Technologies Used

- Salesforce CRM Platform ● Apex Classes and Triggers
- Lightning App Builder
- Salesforce Flow and Process Builder
- Salesforce Reports & Dashboards

## 7. System Design

### ER Diagram (Conceptual Flow)

Donor —5 Food Donation NGO Volunteer Beneficiary

### Salesforce Objects

#### Donor\_c

- Stores donor details

#### NGO\_c

- Stores NGO details

#### Food\_Donation\_c

- Contains food item info

#### Volunteer\_\_c

- Tracks volunteer availability

#### Delivery\_c

- Records delivery updates

## 8. Workflow Description

- Donor creates a food donation record.
- Salesforce Flow checks for nearby NGOs.
- NGO receives automatic notification (email alert).
- Volunteer is assigned to collect food.
- Delivery is confirmed, and record is marked "Completed."
- Reports and dashboards show metrics like:
  - Total Donations
  - Total Beneficiaries Served
  - Food Collected vs. Delivered

## 9. Expected Outcomes

- Efficient management of leftover food through Salesforce automation.
- Easy coordination between donors, NGOs, and volunteers.
- Reduced food wastage and increased social impact.
- Data-driven transparency with dashboards and reports.

## 10. Advantages

- Cloud-based (accessible from anywhere).
- No need for separate infrastructure.
- Automated workflows reduce manual effort.
- Real-time visibility and accountability

## 11. Future Enhancements

- Integration with Google Maps API for real-time location tracking.
- SMS/WhatsApp notification for donors and volunteers. ● AI-based prediction of high-demand areas for food distribution.
- Mobile-first responsive Lightning App.

## 12. Conclusion

This Salesforce-based Food Donation Management System demonstrates how CRM technology can be applied to social good. By connecting food donors with NGOs and volunteers, it minimizes wastage and ensures that food reaches those who need it most. The solution's scalability, automation, and

cloud features make it a sustainable approach to fighting hunger.

## 13. References

- Salesforce Developer Documentation — <https://developer.salesforce.com/docs>
- Salesforce Trailhead Modules on Flow, Apex, and Lightning App Builder.
- UN Food Waste Report 2024 — World Food Programme.
  - NGO Coordination Guidelines, Government of India.

## Project steps

### Step 2: Create a New App

1. Navigate to Setup App Manager New Lightning App.
2. App Name: Food Donation Management
3. Description: "A Salesforce app to manage leftover food donations for the poor."
4. Choose Lightning Experience Navigation Style.
5. Add custom objects and tabs (created later).
6. Save and open the app in App Launcher.

### Step 3: Create Custom Objects

You'll need several objects to store data.

Go to Setup    Object Manager Create    Custom Object.

Object Name	API Name	Purpose
Donor	Donor_c	To store donor details
NGO	NGO_c	To store NGO details
Food Donation	Food_Donation_c	To record donated food items
Volunteer	Volunteer_c	To manage volunteer details
Delivery	Delivery_c	To track pickup and delivery status

✓ Enable: "Allow Reports," "Allow Activities," and "Track Field History" for each object.

## Step 4: Create Fields for Each Object

### Donor c

- Donor\_Name (Text)
- Contact\_Number (Phone)
- Email (Email)
- Address (Text Area)

### NGO\_c

- NGO\_Name (Text)
- Contact\_Person (Text)
- Phone (Phone)
- Location (Text)
- Capacity (Number)

### Food\_Donation—C

- Donor (Lookup Donor\_c)
- Food\_Type (Picklist: Cooked, Packed, Bakery, Fruits, etc.)
- Quantity (Number)
- Location (Text)
- Status (Picklist: New, Assigned, Picked Up, Delivered)
- Assigned\_NGO (Lookup NGO\_c)

### Volunteer c

- Volunteer\_Name (Text)
- Phone (Phone)
- Assigned\_Area (Text) • Availability (Checkbox) Delivery\_c
- Food\_Donation (Lookup Food\_Donation\_c)
- Volunteer (Lookup Volunteer\_c)
- Pickup\_Time (Date/Time)
- Delivery\_Time (Date/Time)
- Status (Picklist: Pending, Completed)

## Step 5: Create Relationships

- In Food\_Donation\_c, create a Lookup Relationship to Donor and NGO.
- In Delivery\_c, create Lookup Relationships to Food\_Donation and Volunteer.
- This ensures connected records and clear tracking from donor food to NGO delivery.

## Step 6: Create Tabs for Custom Objects

1. Go to Setup Tabs New Custom Object Tab.
2. Select each custom object (Donor, NGO, Food Donation, Volunteer, Delivery).
3. Choose an icon and assign to your Food Donation Management app.

## Step 7: Create Lightning Record Pages

1. Open each object Lightning Record Pages New Page.

2. Customize layout with fields and related lists (using Lightning App Builder).
3. Example: On the Food Donation record page, show related NGO and Delivery info.

## Step 8: Automate Workflow (Using Salesforce Flow or Process Builder)

### Option 1: Salesforce Flow

- Trigger: When a new Food Donation record is created.
- Action:
  - Auto-assign nearby NGO (based on Location or Availability).
  - Change Status field to "Assigned."
  - Send an Email Alert to NGO contact.

### Option 2: Process Builder (Simpler Option)

- Object: Food\_Donation\_c
- Criteria: [Status = New]
- Actions:
  - Update field Assigned\_NGO.
  - Send Email Alert to NGO.

## Step 9: Create Validation Rules

To maintain data accuracy:

- Example: On Food\_Donation c , ensure Quantity > 0.
- Example: On Volunteer\_c , ensure phone number is filled if Availability = TRUE.

## Step 10: Create Reports and Dashboards

### 1. Go to Reports New Report.

- Example Reports:
  - "Total Food Donations by Donor"
  - "Donations Delivered This Week"
  - "Active NGOs by Location"

### 2. Go to Dashboards New Dashboard.

- Add charts like: Pie chart (Donations by Type), Bar chart (Deliveries Completed).

## Step 11: Test the System

1. Log in as Admin create sample Donor, NGO, and Volunteer records.
2. Create a new Food Donation record.
3. Verify that NGO and Volunteer are auto-assigned.
4. Check that workflow sends email and updates status.
5. Run reports and view dashboards.

## Step 12: Deploy or Share



- Keep it in Developer Org for demo and submission.
- Optionally, you can export the app using Change Sets or Salesforce CLI.
- Share access with your instructor using Read-Only profile or demo login.

## Step 13: Documentation & Screenshots

### HOME PAGE

The screenshot shows the Salesforce Lightning Home page for the FoodConnect app. The page features a navigation bar with links to Home, Venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, and Dashboards. The main content area is titled "Task Execution Details" and includes a search bar, "Open", "Refresh", and "Subscribe" buttons. Below this, there are three main sections: "venue and Drop Off point" with a table, "Volunteer Task" with a chart, and a code editor showing the app's structure. A "Venue Form" is also visible on the right side.

Distance ↑	Venue Name	Drop-Off Point Name
-	streetcause	keeranur

View Report (venue and ... As of Oct 29, 2025, 8:04 AM

Record Count

Volunteer: Volunteer ID

View Report (Volunteer T... As of Oct 29, 2025, 8:04 AM

Venue Form

Venue Name

Email

Phone

Venue Location

Latitude

Longitude

Next

### VENUES

The screenshot shows the Salesforce Lightning Venues page. The page features a navigation bar with links to Home, Venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, and Dashboards. The main content area is titled "Venues" and includes a search bar, "New", "Import", "Change Owner", and "Assign Label" buttons. Below this, there is a table with one item, "streetcause".

	Venue Name
1	streetcause

TASKS

FoodConnect

Home

Venues

Tasks

Drop-Off Points

Execution Details

Volunteers

Reports

Dashboards

Tasks

Recently Viewed

New

Import

Change Owner

Assign Label

Search this list...

1 item • Updated a few seconds ago

<input type="checkbox"/>	Task Name
1 <input type="checkbox"/>	terminator

DROP-OFF POINTS

FoodConnect

Home

Venues

Tasks

Drop-Off Points

Execution Details

Volunteers

Reports

Dashboards

Drop-Off Points

Recently Viewed

New

Import

Change Owner

Assign Label

Search this list...

1 item • Updated a few seconds ago

<input type="checkbox"/>	Drop-Off Point Name
1 <input type="checkbox"/>	keeranur

EXECUTION DETAILS

FoodConnect

HomeVenuesTasksDrop-Off PointsExecution DetailsVolunteersReportsDashboards

Execution Details

Recently Viewed

NewImportAssign Label

1 item • Updated a few seconds ago

Search this list...

Execution Detail Name

1roleplay

VOLUNTEERS

FoodConnect

HomeVenuesTasksDrop-Off PointsExecution DetailsVolunteersReportsDashboards

Volunteers

Recently Viewed

NewImportAssign Label

1 item • Updated a few seconds ago

Search this list...

Volunteer Name

1jai

REPORTS

FoodConnect

HomeVenuesTasksDrop-Off PointsExecution DetailsVolunteersReportsDashboards

Reports

Recent

4 items

Search recent reports...

New ReportNew Folder

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	venue and Drop Off point		Custom Reports	HARIHARAN K	10/28/2025, 6:59 AM	
Created by Me						
Private Reports	Sample Flow Report: Screen Flows	Which flows run, what's the status of each interview, and how long do users take to complete the screens?	Public Reports	Automated Process	10/21/2025, 4:06 PM	
Public Reports						
All Reports	Volunteer Task		Custom Reports	HARIHARAN K	10/28/2025, 7:18 AM	
	Volunteer Task		Custom Reports	HARIHARAN K	10/28/2025, 7:11 AM	
FOLDERS						
All Folders						
Created by Me						
Shared with Me						
FAVORITES						
All Favorites						

DASHBOARDS

FoodConnect

HomeVenuesTasksDrop-Off PointsExecution DetailsVolunteersReportsDashboards

Dashboards

All Dashboards

4 items

Search all dashboards...

New DashboardNew Folder

DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent						
Created by Me						
Private Dashboards	Enablement Dashboard	View data on how Enablement helps drive your business outcomes. This is your main dashboard for all Enablement analytics. Don't delete it. If you want to make changes to this dashboard, duplicate it.	Enablement Dashboard Spring '24	Automated Process	10/21/2025, 4:06 PM	
All Dashboards						
FOLDERS						
All Folders	Enablement Dashboard	View data on how Enablement helps drive your business outcomes. This is your main dashboard for all Enablement analytics. Don't delete it. If you want to make changes to this dashboard, duplicate it.	Enablement Dashboard Summer '24	Automated Process	10/21/2025, 4:06 PM	
Created by Me						
Shared with Me						
FAVORITES	Organization Details		Private Dashboards	HARIHARAN K	10/28/2025, 7:50 AM	
All Favorites	Task Execution Details		Custom Dashboards	HARIHARAN K	10/28/2025, 7:52 AM	

FoodConnect

Home

Venues

Tasks

Drop-Off Points

Execution Details

Volunteers

Reports

Dashboards

Dashboards

All Folders

3 items

Q Search...

New Dashboard

New Folder

⚙

DASHBOARDS

Recent

Created by Me

Private Dashboards

All Dashboards

FOLDERS

All Folders

Created by Me

Shared with Me

FAVORITES

All Favorites

Name	Created By	Created On	Last Modified By	Last Modified Date	
Custom Dashboards	HARIHARAN K	10/28/2025, 7:23 AM	HARIHARAN K	10/28/2025, 7:23 AM	⌵
Enablement Dashboard Spring '24	Automated Process	10/21/2025, 4:06 PM	Automated Process	10/21/2025, 4:06 PM	⌵
Enablement Dashboard Summer '24	Automated Process	10/21/2025, 4:06 PM	Automated Process	10/21/2025, 4:06 PM	⌵