



## **TO SUPPLY LEFT OVER FOOD TO POOR**

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## 1. Project Overview

FoodConnect is a transformative initiative that tackles two pressing global issues: food waste and hunger. By leveraging cutting-edge Salesforce technology, we aim to connect surplus food from restaurants, grocery stores, events, and households with underprivileged communities in need of nourishment.

## 2. Objectives

At the heart of FoodConnect lies a mission to address food waste and hunger while empowering communities through efficient technology. Our objectives are crafted to deliver measurable impact and foster a culture of sharing and accountability.

### **Business Goals:**

- A. **Reduce Food Waste:** Redirect surplus food from donors such as restaurants, grocery stores, and events to those in need, minimizing wastage and maximizing its value.
- B. **Combat Hunger:** Build a reliable network that connects food suppliers with nonprofits, shelters, and underserved communities, ensuring timely access to nutritious meals.
- A. **Streamline Operations:** Simplify and enhance volunteer coordination, task management, and communication to create a seamless experience for all stakeholders.
- B. **Promote Transparency and Accountability:** Leverage technology to provide clear tracking, reporting, and insights into food collection, distribution, and impact

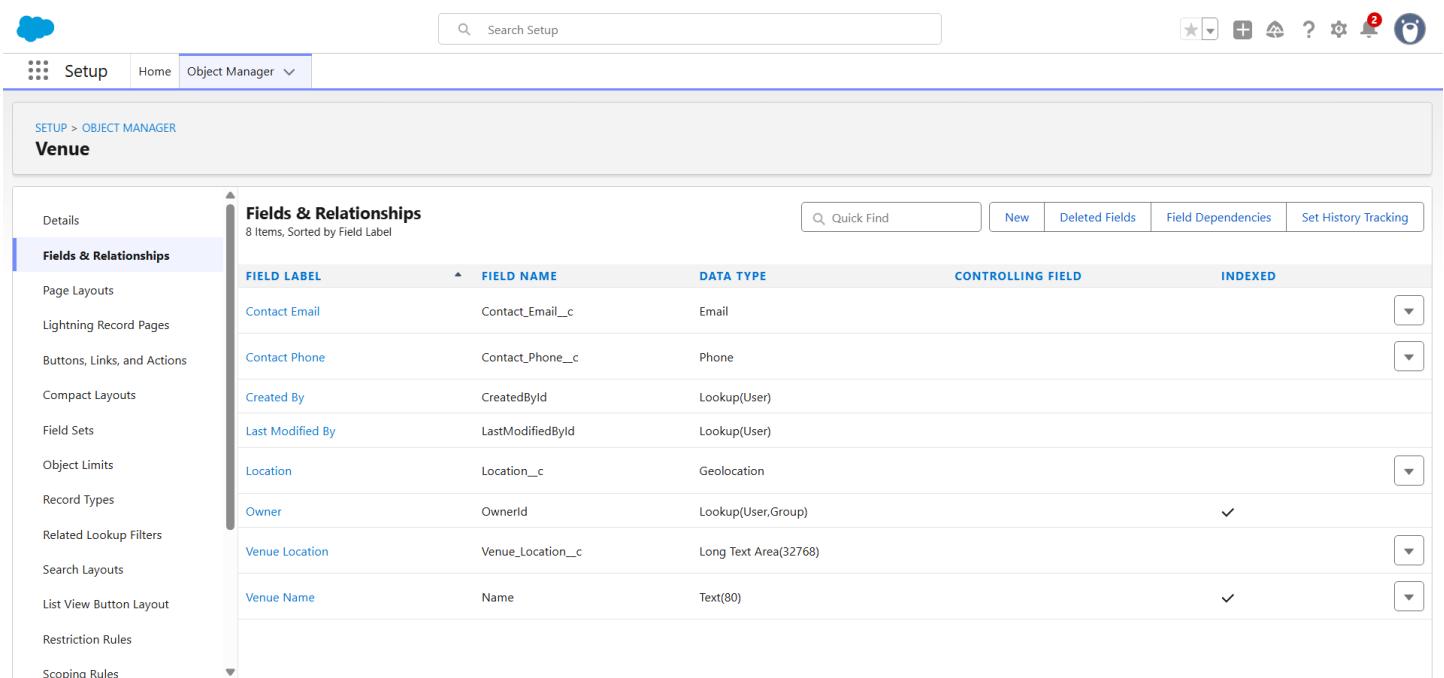
### 3. Salesforce Key Features and Concepts Utilized

FoodConnect leverages the power of Salesforce to create an efficient, userfriendly platform that streamlines food redistribution and volunteer management.

Here's how we've utilized Salesforce features to bring this initiative to life.

#### Custom Objects

**Venues:** Store vital information about food donation locations, including address, capacity, and contact details, ensuring organized management of distribution points



The screenshot shows the Salesforce Object Manager interface for the 'Venue' custom object. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main area displays the 'Fields & Relationships' section with 8 items. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Contact Email	Contact_Email__c	Email		
Contact Phone	Contact_Phone__c	Phone		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Geolocation		
Owner	OwnerId	Lookup(User,Group)		✓
Venue Location	Venue_Location__c	Long Text Area(32768)		
Venue Name	Name	Text(80)		✓

**Tasks:** Track and manage volunteer assignments with fields for descriptions, deadlines, and responsible individuals.

orgfarm-f7a365849c-dev-ed.develop.my.salesforce-setup.com/lightning/setup/ObjectManager/01ldL00000B3dUk/FieldsAndRelationships/view

Setup Home Object Manager

SETUP > OBJECT MANAGER Task

**Fields & Relationships**  
16 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Date	Date_c	Date		
Distance	Distance_c	Number(14, 4)		
Drop-Off Point	Drop_Off_Point_c	Lookup(Drop-Off Point)		
Feedback	Feedback_c	Long Text Area(32768)		
Food Category	Food_Category_c	Picklist (Multi-Select)		
Last Modified By	LastModifiedBy	Lookup(User)		
Name of the Person	Name_of_the_Person_c	Text(30)		
Number of People Served	Number_of_People_Served_c	Number(18, 0)		

**Drop-Off Points:** Record specific delivery locations, making it easier for volunteers to plan and execute tasks effectively.

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Setup Home Object Manager

SETUP > OBJECT MANAGER Drop-Off Point

**Fields & Relationships**  
9 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Distance	Distance_c	Number(14, 4)		
distance calculation	distance_calculation_c	Formula (Number)		
Drop-Off Point Name	Name	Text(80)		
Last Modified By	LastModifiedBy	Lookup(User)		
Location 2	Location_2_c	Geolocation		
Owner	OwnerId	Lookup(User,Group)		
State	State_c	Picklist		
Venue_c	Venue_c	Lookup(Venue)		

**Volunteers:** Maintain a centralized database of volunteers, including their contact details, availability, and assigned tasks.

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Setup Home Object Manager

SETUP > OBJECT MANAGER  
Volunteer

Details Fields & Relationships

Fields & Relationships  
14 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Long Text Area(32768)		
Age	Age__c	Number(18, 0)		
Available On	Available_On__c	Date		
Contact Number	Contact_Number__c	Number(18, 0)		
Created By	CreatedById	Lookup(User)		
Date of Birth	Date_of_Birth__c	Date		
Drop_Off_point	Drop_Off_point__c	Master-Detail(Drop-Off Point)	✓	
Email	Email__c	Email		
Execution ID	Execution_ID__c	Auto Number		

**Execution Details:** Document completed tasks, linking them to specific volunteers and drop-off points for a detailed activity history.

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Setup Home Object Manager

SETUP > OBJECT MANAGER  
Execution Detail

Details Fields & Relationships

Fields & Relationships  
5 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Execution Detail Name	Name	Text(80)	✓	
Last Modified By	LastModifiedById	Lookup(User)		
Task	Task__c	Master-Detail(Task)	✓	
Volunteer	Volunteer__c	Master-Detail(Volunteer)	✓	

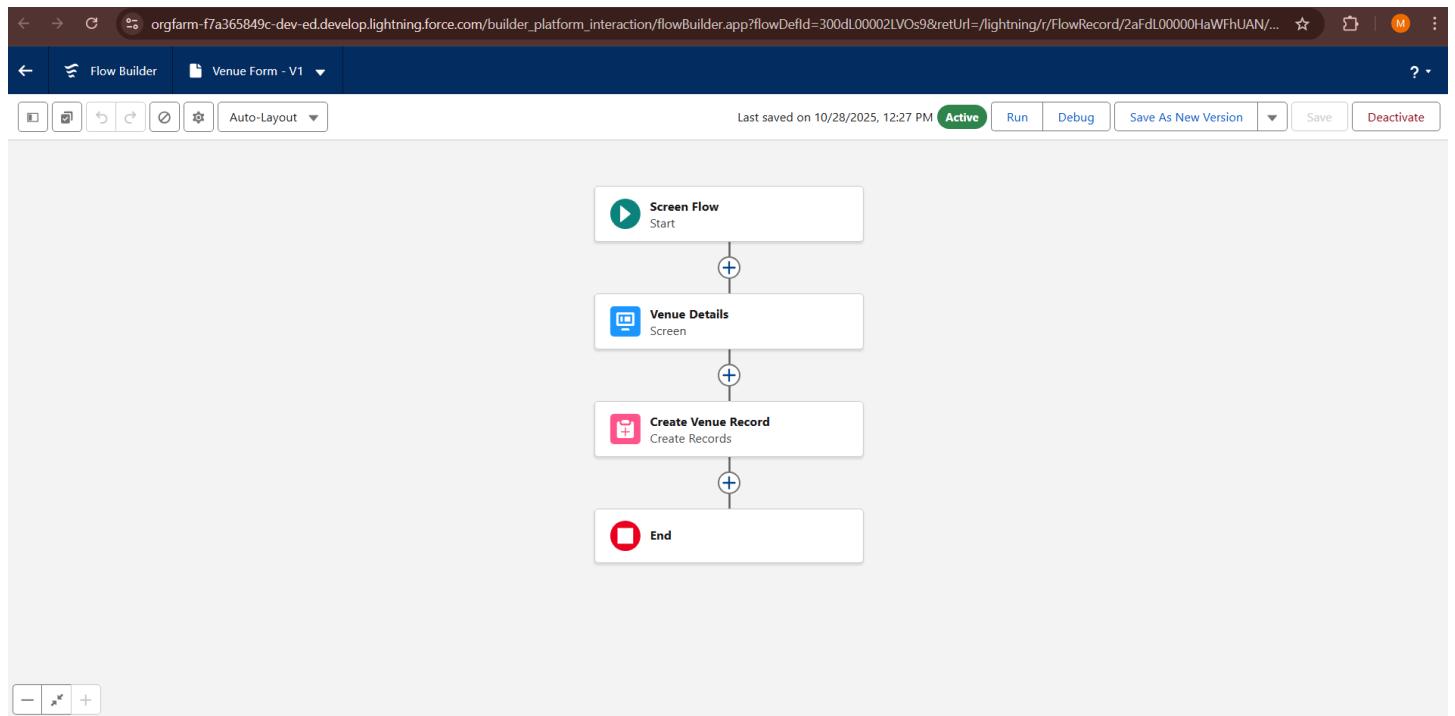
## Relationships

- Master-Detail Relationships:** Create structured connections, such as linking tasks to their execution details, ensuring data consistency and logical organization.

- **Lookup Relationships:** Enable flexible associations, like connecting volunteers to drop-off points, allowing for dynamic task allocation based on location and availability.

## Automations and Workflows

**Flows:** Automate processes like creating venue records or assigning tasks, guiding users through step-by-step workflows to ensure accuracy and efficiency.



**Apex Triggers:** Implement custom logic, such as calculating distances between venues and volunteers, to optimize task assignments and reduce delivery times.

The screenshot shows the Salesforce Setup Apex Triggers page. On the left, there's a sidebar with categories like Email, Custom Code, Environments, and Jobs. Under Custom Code, 'Apex Triggers' is selected. The main area displays the Apex Trigger Detail for 'DropOffTrigger'. It shows the trigger code:

```

trigger DropOffTrigger on Drop_Off_point__c (before insert) {
    for(Drop_Off_point__c Drop : Trigger.new){
        Drop.Distance__c = Drop.distance_calculation__;
    }
}

```

Details for the trigger include:

- Name:** DropOffTrigger
- Code Coverage:** 0% (0/2)
- Created By:** Nithya R. 10/28/2025, 12:02 AM
- sObject Type:** Drop-Off Point
- Status:** Active
- Last Modified By:** Nithya R. 11/1/2025, 3:45 AM

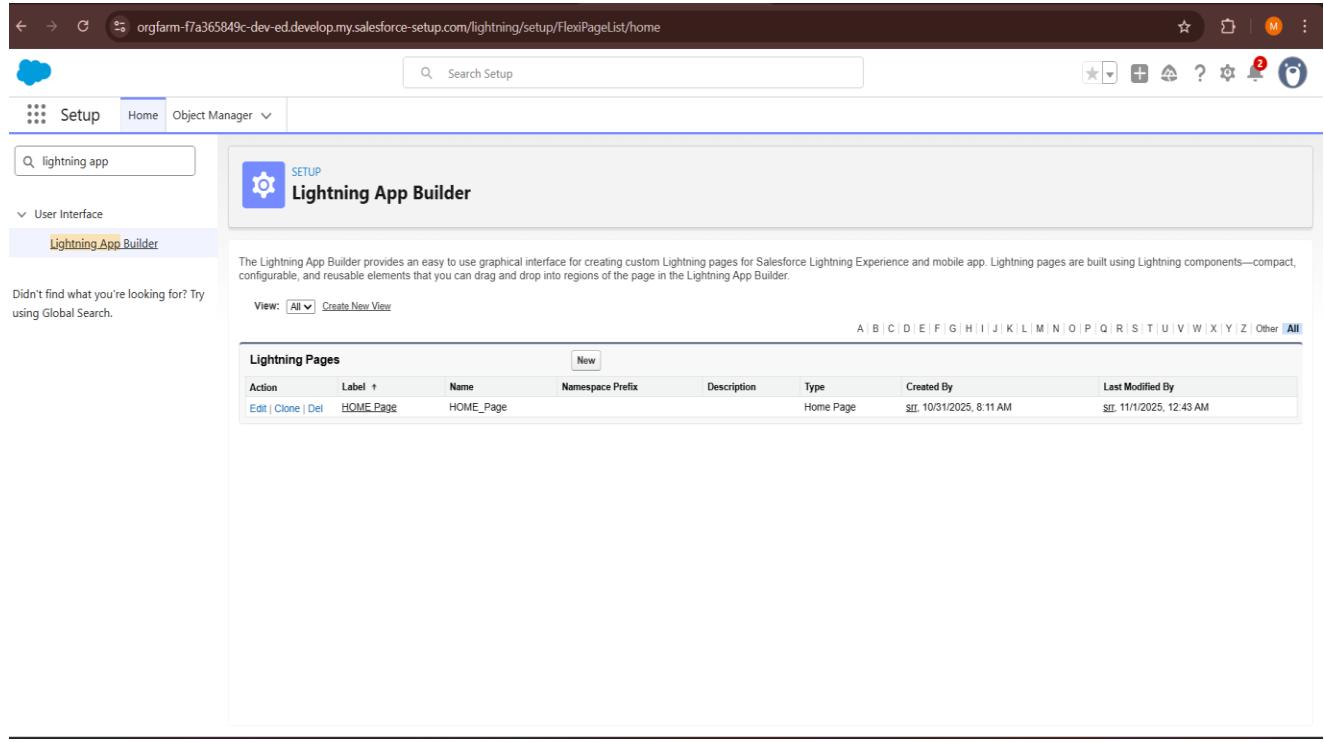
**Dashboards:** Provide visual representations of key data, empowering stakeholders to make informed decisions and track progress in real-time.

The screenshot shows the FoodConnect dashboard management interface. The top navigation bar includes links for Home, Venues, Drop-Off Points, Tasks, Volunteers, Execution Details, Reports, and Dashboards. The 'Dashboards' tab is active. On the left, a sidebar lists categories: Dashboards, Recent (2 items), DASHBOARDS (Recent), FOLDERS (All Folders), and FAVORITES (All Favorites). The main area displays a table of recent dashboards:

Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Task Execution Details		Custom Dashboards	Nithya R	10/31/2025, 8:09 AM	
Organization Details		Custom Dashboards	Nithya R	10/31/2025, 7:28 AM	

## User Experience Enhancements

- **Lightning App:** Deliver a sleek, intuitive interface that simplifies navigation and ensures users can quickly access essential features.



## Detailed Steps to Solution Design

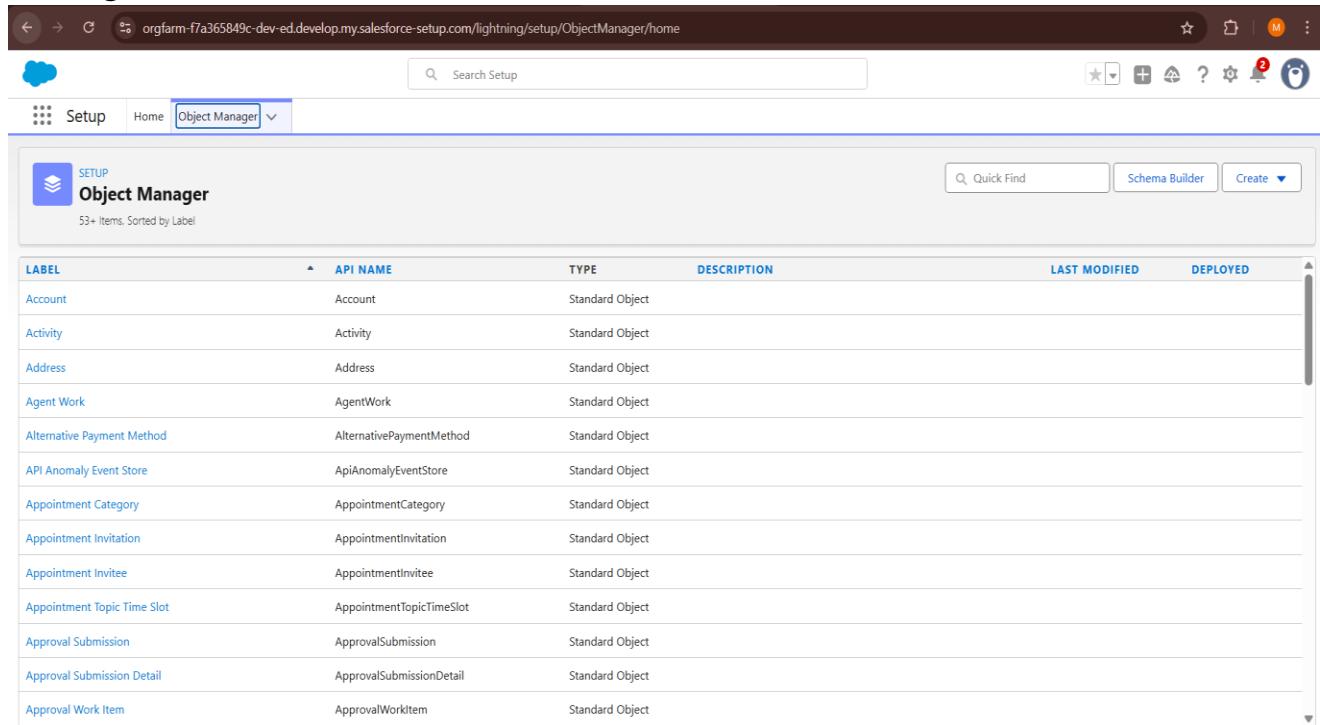
Building FoodConnect involved a structured and thoughtful approach to ensure the platform meets the needs of donors, volunteers, and recipients while leveraging the robust capabilities of Salesforce. Below is a step-by-step breakdown of the design and implementation process:

### Step 1: Developer Account Setup

- Registered for a Salesforce Developer account to create a dedicated environment for development and testing.
- Verified the account to unlock full access to Salesforce features, ensuring a smooth setup process.

## Step 2: Custom Object Creation

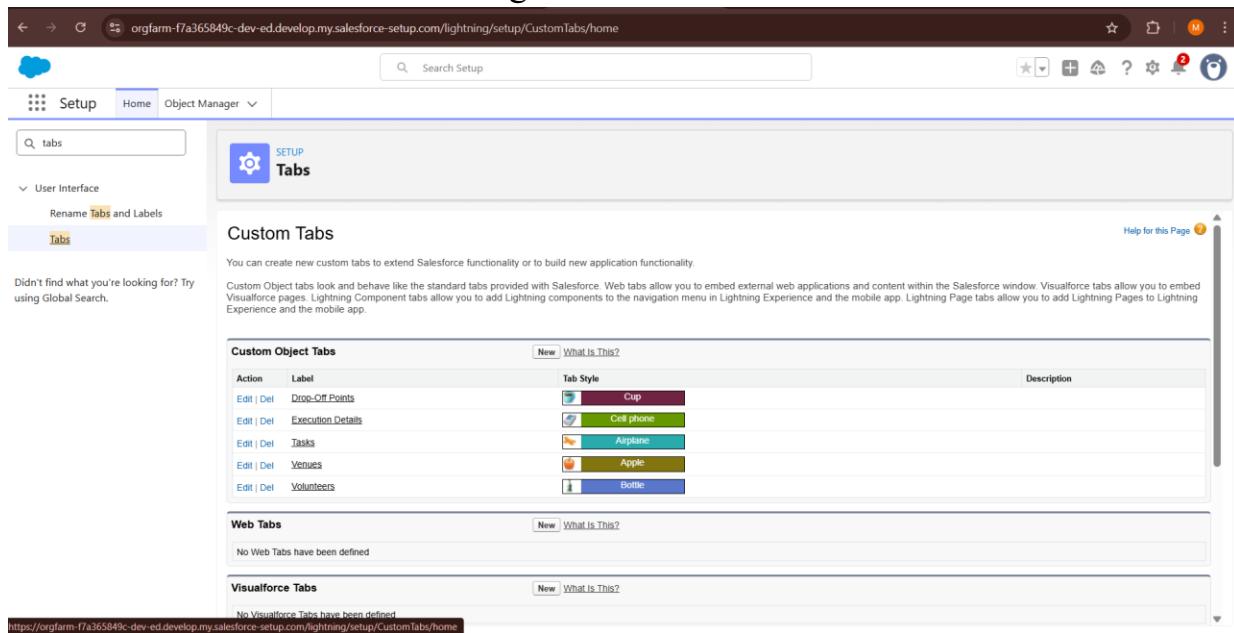
- Used Salesforce Object Manager to design custom objects for Venues, Drop-Off Points, Tasks, Volunteers, and Execution Details.
- Configured fields such as text, numbers, dates, and relationships to capture all relevant data, ensuring each object reflects the real-world requirements of food distribution logistics.



The screenshot shows the Salesforce Object Manager page. At the top, there's a navigation bar with tabs for Setup, Home, and Object Manager (which is selected). Below the navigation is a search bar labeled "Search Setup". The main area is titled "Object Manager" with a sub-section "SETUP". It displays a table with 15 rows, each representing a standard object: Account, Activity, Address, Agent Work, Alternative Payment Method, API Anomaly Event Store, Appointment Category, Appointment Invitation, Appointment Invitee, Appointment Topic Time Slot, Approval Submission, Approval Submission Detail, Approval Work Item, and Case. The columns are labeled: LABEL, API NAME, TYPE, DESCRIPTION, LAST MODIFIED, and DEPLOYED. The "Type" column shows "Standard Object" for all items.

## Step 3: Custom Tabs for Navigation

- Created custom tabs for each object, improving navigation and making it easier for users to access and manage data.



The screenshot shows the Salesforce Custom Tabs page. At the top, there's a navigation bar with tabs for Setup, Home, and Object Manager (selected). Below the navigation is a search bar labeled "Search Setup". The main area is titled "Custom Tabs" with a sub-section "SETUP". On the left, there's a sidebar with a "User Interface" section containing "Rename Tabs and Labels" and "Tabs" (which is selected). A message at the bottom left says "Didn't find what you're looking for? Try using Global Search." The main content area shows sections for "Custom Object Tabs", "Web Tabs", and "Visualforce Tabs". Under "Custom Object Tabs", there's a table with 5 rows: Drop-Off Points, Execution Details, Tasks, Venues, and Volunteers. Each row has "Edit | Del" links and a "Label" column. To the right of the table is a "Tab Style" section with five color-coded tabs: Cup (purple), Cell phone (green), Airplane (blue), Apple (orange), and Bottle (yellow). Below the tabs are sections for "Web Tabs" and "Visualforce Tabs", both of which currently show "No Web Tabs have been defined" and "No Visualforce Tabs have been defined".

## Step 4: Lightning App Development

- Developed a Lightning App named "FoodConnect" using Salesforce App Manager.
- Included essential navigation items like custom objects, reports, and dashboards to provide a user-friendly interface.

The screenshot shows the Salesforce Setup Apex Triggers page. The left sidebar has a search bar with 'apex' typed in. Under the 'Apex Triggers' section, 'DropOffTrigger' is selected. The main area displays the Apex Trigger Detail for 'DropOffTrigger'. The trigger code is:

```
1trigger DropOffTrigger on Drop_Off_point__c (before insert) {
2    for(Drop_Off_point__c Drop : Trigger.new){
3        Drop.Distance__c = Drop.distance_calculation__c;
4    }
5}
```

- Assigned user profiles to ensure role-based access and security

## Step 5: Establishing Data Relationships

- Defined relationships between objects using Master-Detail and Lookup fields.

For example:

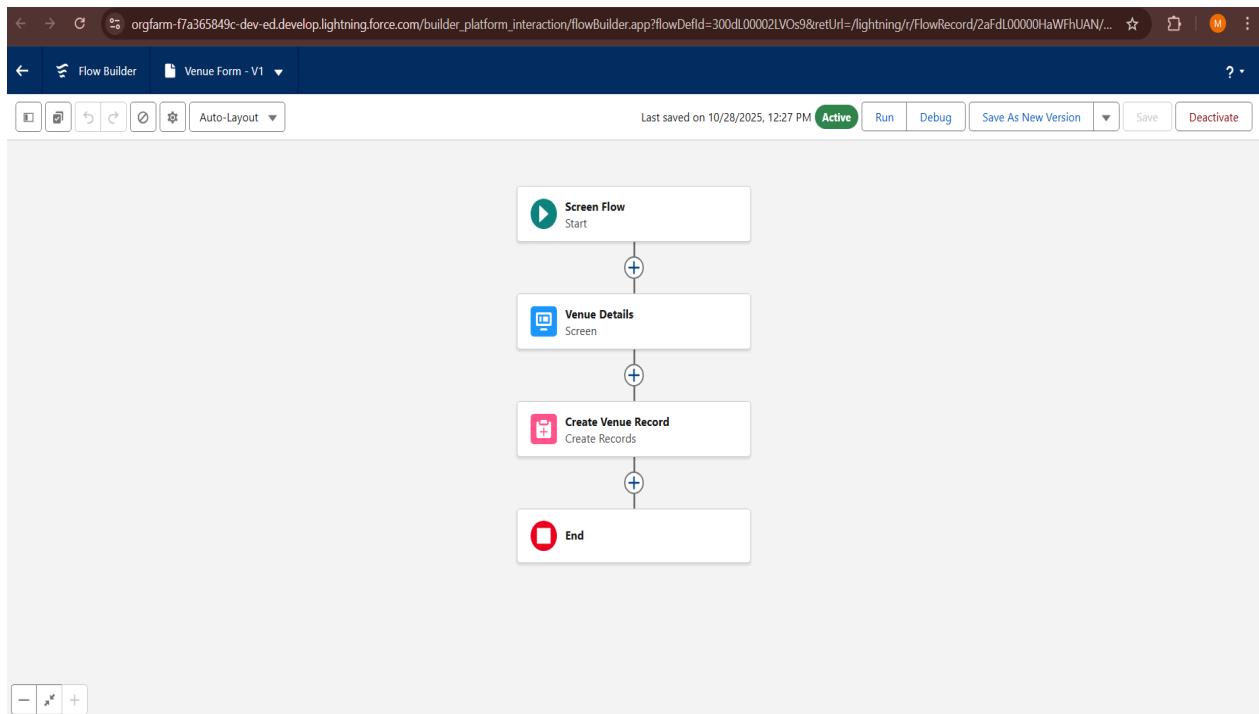
- Master-Detail between Tasks and Execution Details to track completed activities.
- Lookup between Volunteers and Drop-Off Points to assign tasks efficiently.

## Step 6: Field Configuration

- Configured fields for each custom object to capture data accurately. For instance:
  - Venue: Name, Address, Capacity, Contact Information.
  - Tasks: Description, Due Date, Assigned Volunteer
  - Volunteers: Contact Details, Availability.

## Step 7: Flow Design

- Designed a guided screen flow to simplify the process of entering Venue information.
- Automated record creation to ensure



data accuracy and reduce manual errors

## Step 8: Trigger Implementation

- Developed Apex triggers to enhance automation, such as calculating distances between venues and volunteers.
- These triggers help assign tasks based on proximity, improving logistical efficiency

The screenshot shows the Salesforce Setup Apex Triggers page. The left sidebar has a search bar and categories: Email (Apex Exception Email), Custom Code (Apex Classes, Apex Settings, Apex Triggers - highlighted in blue), Application Test Execution, Application Test History, Environments, and Jobs (Apex Flex Queue, Apex Jobs). The main area shows the Apex Trigger Detail for 'DropOffTrigger'. The trigger details table includes Name (DropOffTrigger), sObject Type (Drop-Off Point), Code Coverage (0% (0/2)), Status (Active), Created By (Nithya R., 10/28/2025, 12:02 AM), Last Modified By (Nithya R., 11/1/2025, 3:45 AM), and Namespace Prefix. Below the table is the trigger code:

```
trigger DropOffTrigger on Drop_Off_point__c (before insert) {
    for(Drop_Off_point__c Drop : Trigger.new){
        Drop.Distance__c = Drop.distance_calculation__c;
    }
}
```

At the bottom are Edit, Delete, Download, and Show Dependencies buttons.

## **Step 9: User Management and Permissions**

- Set up user profiles for administrators, volunteers, and other stakeholders.
- Configured permissions to ensure secure and role-appropriate access to data and functionalities.

## **Step 10: Reporting and Dashboards**

- Created custom report types to analyze key metrics, such as volunteer participation, task completion rates, and food distribution impact.
- Built interactive dashboards to visualize data trends and provide actionable insights, empowering stakeholders to make informed decisions

## **Key Scenarios Addressed by Salesforce in the Implementation Project**

The FoodConnect project leverages Salesforce's capabilities to address a variety of real-world scenarios, ensuring efficient food redistribution and volunteer management. Below are the key scenarios tackled during the implementation:

Salesforce can handle during the implementation.

### **Efficient Management of Food Donation Venues**

- Scenario: A donor provides surplus food, and the details of the donation venue need to be recorded accurately.
- Salesforce Solution: Custom objects and fields were created to capture critical venue details, including name, address, capacity, and contact information, ensuring seamless record-keeping and accessibility.

## **Task Assignment and Tracking for Volunteers**

- Scenario: Volunteers need to be assigned tasks based on their availability and proximity to venues or drop-off points
- Salesforce Solution: Using Master-Detail relationships and Apex triggers, tasks are automatically assigned to the most suitable volunteers, and progress is tracked in real-time through the Tasks object.

## **Coordination of Food Drop-Off Points**

- Scenario: Food needs to be delivered to designated drop-off points efficiently and reliably.
- Salesforce Solution: Drop-Off Points were managed as a custom object, with detailed fields for location, capacity, and operational hours, enabling smooth coordination and tracking.

## **Volunteer Engagement and Management**

- Scenario: Volunteers need to view their assignments, update their availability, and track their contributions.
- Salesforce Solution: A Volunteers object with a user-friendly interface allows volunteers to manage their profiles and view task details, enhancing engagement and retention.

## **Real-Time Communication and Notifications**

- Scenario: Stakeholders require updates on task assignments, delivery schedules, or any changes in plans.
- Salesforce Solution: Automated workflows and notifications ensure that all participants are informed promptly, reducing delays and misunderstandings.

## **Data Integrity and Reporting**

- Scenario: Stakeholders need to analyze the impact of food distribution efforts and identify areas for improvement.
- Salesforce Solution: Custom report types and dashboards provide actionable insights into task completion rates, volunteer participation, and food distribution metrics, ensuring data-driven decision-making.

## **Automation of Logistical Calculations**

- Scenario: Volunteers need to be assigned to venues or drop-off points based on proximity to minimize travel time and enhance efficiency.
- Salesforce Solution: Apex triggers calculate distances between venues and volunteers, automating task assignments and optimizing logistics.

## **2. Secure and Role-Based Data Access**

- Scenario: Different stakeholders require access to specific information based on their roles.
- Salesforce Solution: Profiles, sharing rules, and public groups ensure that users only access data relevant to their roles, maintaining security and confidentiality.

The screenshot shows the FoodConnect Lightning App interface. At the top, there's a navigation bar with links for Home, Venues, Drop-Off Points, Tasks, Volunteers, Execution Details, Reports, and Dashboards. Below the navigation is a search bar and a toolbar with various icons. The main content area has a title "Task Execution Details" and a timestamp "As of Nov 1, 2025, 12:38 AM". It displays two cards: "venue and Drop Off point" (listing three locations with distances) and "Volunteer Task" (a chart showing record counts for different volunteer IDs). To the right is a "Venue Form" section with fields for Venue Name, Email, Phone, Venue Location, Latitude, and Longitude, along with a "Next" button.

## Conclusion

### Summary of Achievements:

The FoodConnect project successfully delivered a comprehensive solution to address food waste and hunger by leveraging the power of Salesforce technology. Key accomplishments include:

- **Streamlined Food Distribution:** Developed a robust system to manage the collection, allocation, and delivery of surplus food to underserved communities.
- **Enhanced Volunteer Management:** Implemented efficient task assignment and tracking mechanisms to optimize volunteer engagement and contributions.
- **Data-Driven Insights:** Created detailed reports and dashboards, providing actionable insights into food redistribution metrics, volunteer participation, and overall impact.
- **User-Friendly Interface:** Designed an intuitive Lightning App, ensuring a seamless experience for all users, including donors, volunteers, and administrators.

- **Operational Efficiency:** Automated workflows and triggers to reduce manual effort, improve accuracy, and ensure timely execution of tasks.

Screenshot of the FoodConnect application dashboard showing organization details and volunteer tasks.

**Organization Details:**

Venue Name	Drop-Off Point Name	distance calculation
Chennai	Guindy	325.03
hyd	-	
Vizag	High tech city	531.67

As of Nov 1, 2025, 12:38 AM | Viewing as Nithya R

**Volunteer Task:**

Record Count: 2\*

Volunteer ID: 1

View Report (Volunteer Task) | As of Nov 1, 2025, 12:38 AM

