



Department Of Computer Science and Engineering

SB8067-SALES FORCE DEVELOPER

SMARTINTERNZ GUIDED PROJECT REPORT

PROJECT TITLE: To Supply Left Over Food To Poor

TEAM ID: NM2025TMID03892

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Introduction:

The problem of **food waste** exists globally, often in stark contrast to the persistent issue of **food insecurity** and **poverty**. In many communities, edible and nutritious food is discarded daily by restaurants, caterers, events, and even households, while a significant portion of the population goes hungry.

- **Problem Statement:** The massive scale of food waste coexists with widespread hunger, indicating a critical gap in the food distribution system.
- **Goal:** To establish an efficient, hygienic, and scalable system to **rescue surplus, edible food** and redistribute it to those in need, specifically the poor and vulnerable populations.
- **Significance:** This project addresses two major problems simultaneously: reducing environmental burden from food waste and alleviating hunger, promoting social equity and sustainability.

Abstract:

- This project, "**Food Rescue and Redistribution (FRR)**," proposes a systematic, technology-enabled solution to bridge the gap between food surplus and food scarcity. It involves **partnering with food donors** (e.g., hotels, bakeries, corporate cafeterias), establishing a **logistically sound collection and transportation network**, and directly supplying the collected, safe, leftover food to registered **charitable organizations, shelters, or direct distribution points** serving the poor.

Objectives:

The overarching strategic objective of the "**To Supply Leftover Food to the Poor**" initiative is to establish and operate a highly efficient, legally compliant, and sustainable **food rescue ecosystem** designed to simultaneously mitigate local food waste and immediately address pervasive community hunger.

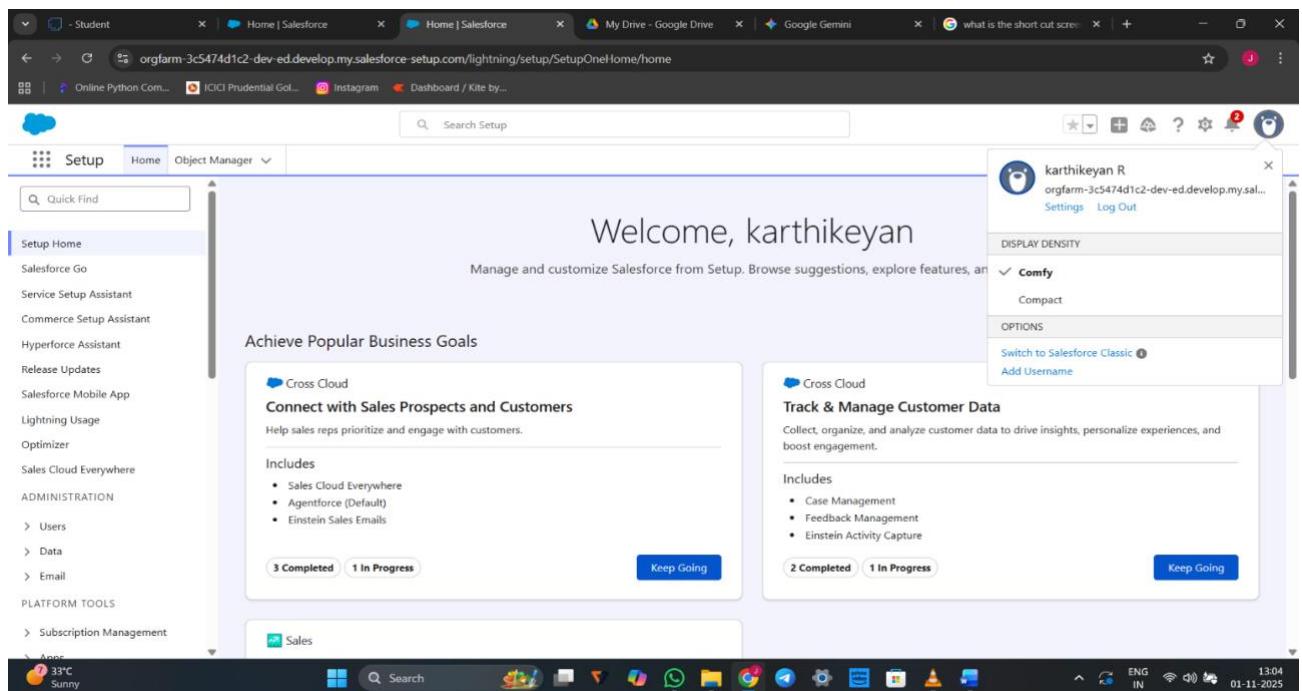
We aim to move beyond simple charitable donations by implementing systemic change: this involves securing formal, high-volume commitments from commercial donors—including grocery retailers, restaurants, and catering services—to recover all safe, surplus, edible food that otherwise faces disposal.

Our commitment is not just volume-based; we will enforce rigorous, measurable standards to ensure that all recovered inventory, especially perishable items, maintains peak quality and safety from the point of pickup to the final distribution.

We will actively cultivate a strong, trained base of **dedicated volunteers** and secure the necessary infrastructure—such as reliable refrigerated transport and secure staging areas—to support scaling operations. This includes developing a **documented, replicable operational manual** that defines food safety protocols, donor onboarding, and optimized routing algorithms, paving the way for future expansion into adjacent service areas within 18 months.

Ultimately, the objective is to cultivate a resilient system that treats surplus food as a valuable resource, fostering community health, reducing economic burden on donors, and instilling dignity in the process of receiving essential nourishment.

Salesforce Account Created:



Create an Object:

A Custom Object is, fundamentally, a database table that allows the application to store and organize specific types of business data.

Creating Custom Objects is essential because the standard Salesforce objects (like Account or Contact) do not fully map the unique entities required by the Food Rescue and Redistribution (FRR) project.

For the **FoodConnect App**, Custom Objects are created to:

1. **Digitize Unique Entities:** Convert physical entities (like a hotel donor or a volunteer) into structured, manageable digital records.
2. **Enable Custom Logic:** Serve as the platform upon which all custom business logic, such as **distance calculation formulas** and **criteria-based sharing rules**, are executed.
3. **Create Custom Relationships:** Form the nodes necessary to link the entire operational process, tracing food from **Venue** to **Drop-Off Point** via a **Task**.

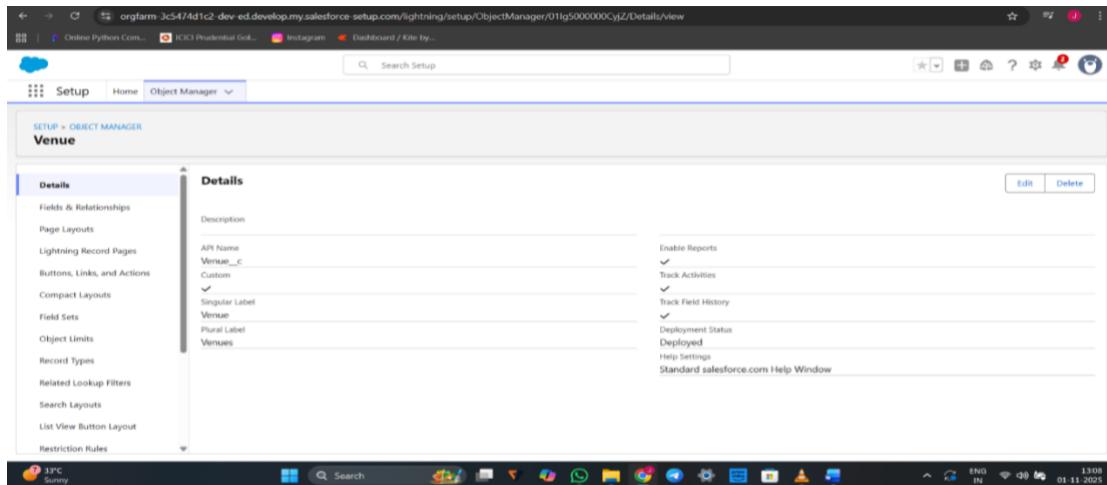
Create Venue Object:

A database table representing the **food donor locations** (e.g., hotels, corporate cafeterias)

Source Tracking & Logistics: To store critical **source data**, including contact details and **Geolocation**.

This information is essential for efficient pickup coordination, as every food rescue starts at a Venue. Coordinators use it to quickly locate the donor, verify **Geolocation** for routing, use **Contact Phone/Email** for communication, and

initiate a new **Task** record.



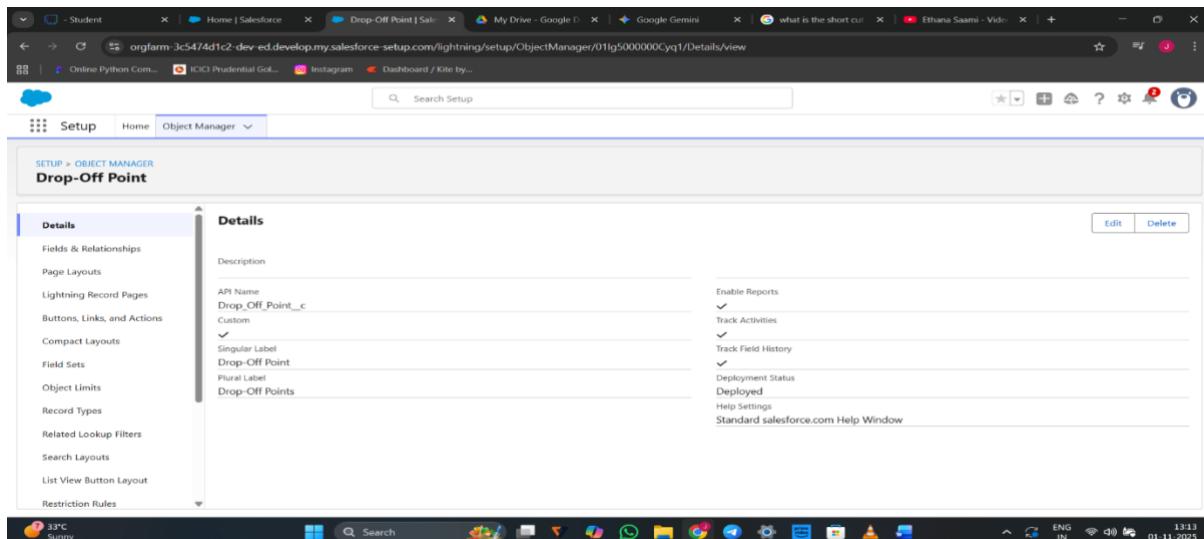
Venue object created

Create Drop-Off Point Object:

A database table representing the recipient organizations (e.g., shelters, food banks, NGOs) where rescued food is delivered. Destination & Filtering:

To track the final destination and serve as the geographical endpoint for the crucial 'distance calculation' formula used in sharing rules. Security & Access:

NGOs are granted access based on their profile and geographic proximity. Coordinators use it to manage recipient eligibility and track food distribution history at the delivery point.



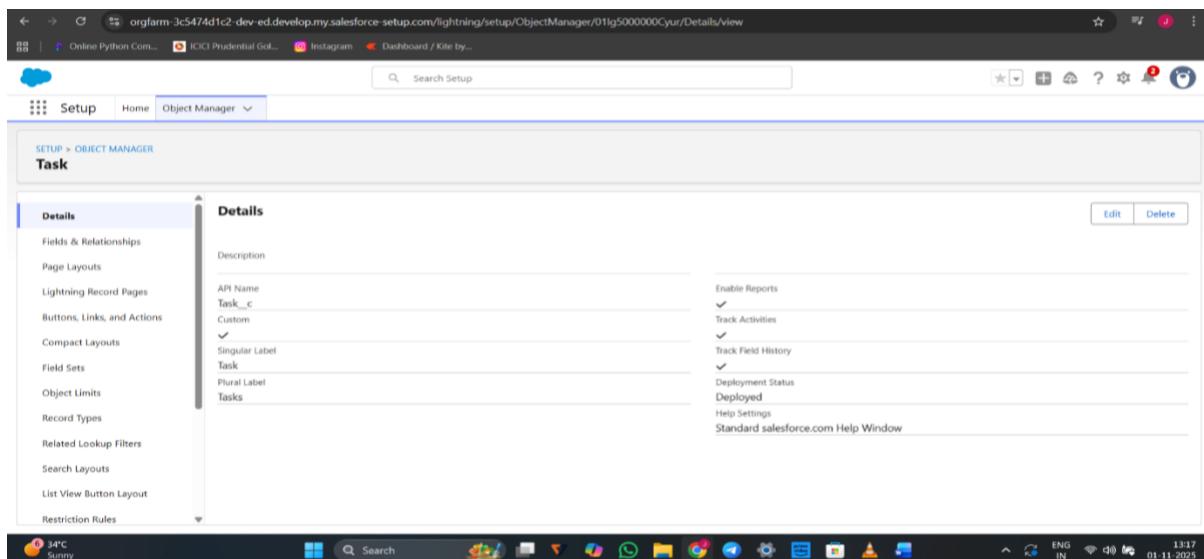
Drop-off point created

To create an object for task:

The central transactional record, representing a single, specific food donation event, from request to completion.

Operational Core: To detail the entire logistics of a specific rescue operation, including the **Food Category**, **Number of People Served** (for impact metrics), status, and feedback.

Workflow Management: Volunteers are assigned to a Task. Coordinators monitor the **Task ID** (Auto Number) and status in real-time to manage the workflow, from initial request to final delivery confirmation



Task object created

Create Volunteer Object:

A database table representing the individuals responsible for performing the food collection and delivery actions.

Personnel Management: To capture and track personnel details, contact information, and **availability**. This data is fundamental for ensuring efficient scheduling and task assignment based on location and time

Coordinators utilize its data to quickly match available personnel to nearby **Tasks** and **Drop-Off Points**. Performance metrics are tracked via the related

Execution Detail records.

The screenshot shows the Salesforce Setup interface under the 'Object Manager'. A new object named 'Volunteer' is being created. The 'Details' tab is selected, showing fields like API Name ('Volunteer_c'), Singular Label ('Volunteer'), and Plural Label ('Volunteers'). The 'Enable Reports' section is checked for Track Activities, Track Field History, and Deployment Status. The status is set to 'Deployed'. The bottom status bar indicates 'Hot days ahead 34°C' and the date '01-11-2025'.

Create Execution Details Object:

A dedicated **Execution Object** (a table linking two master records) that links a specific **Task** record to the **Volunteer** responsible for completing it.

This record is the basis for reports that show a volunteer's history (e.g., "Show all Tasks completed by Volunteer last month"), which is crucial for auditing and review .

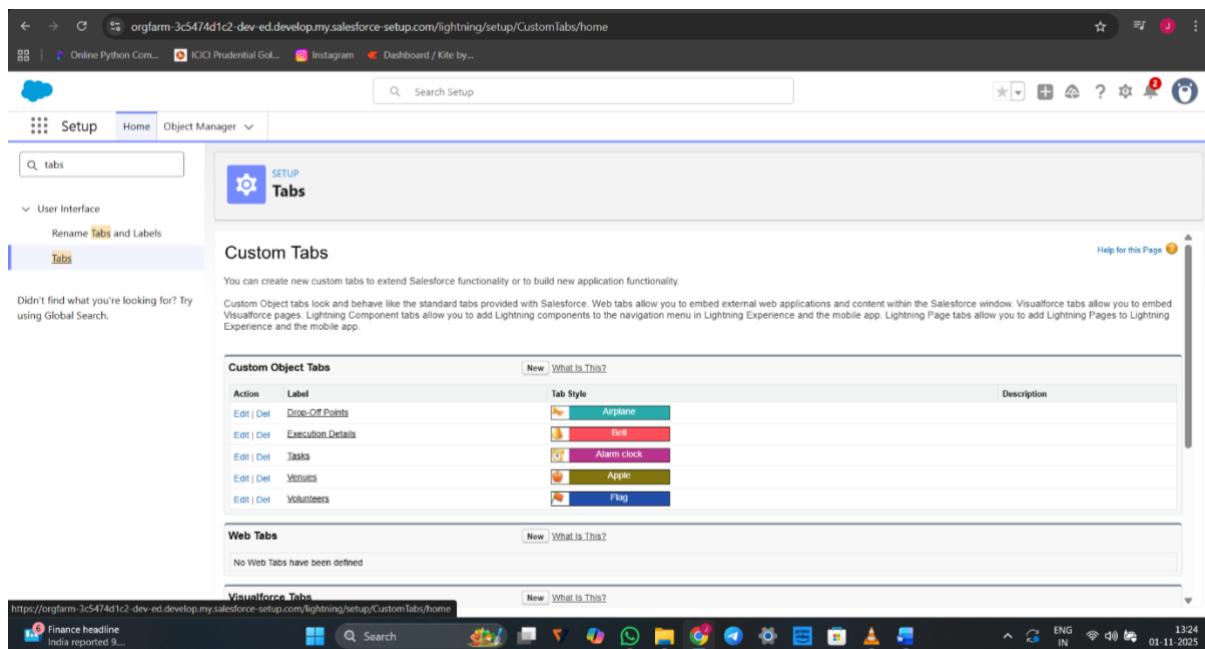
The screenshot shows the Salesforce Setup interface under the 'Object Manager'. A new object named 'Execution Detail' is being created. The 'Details' tab is selected, showing fields like API Name ('Execution_Detail_c'), Singular Label ('Execution Detail'), and Plural Label ('Execution Details'). The 'Enable Reports' section is checked for Track Activities, Track Field History, and Deployment Status. The status is set to 'Deployed'. The bottom status bar indicates 'Hot weather Now' and the date '01-11-2025'.

Execution detail object created

Creating a Custom Tab:

A **Custom Tab** is the **User Interface (UI) component** that makes a custom object accessible within the Salesforce platform. It functions exactly like a clickable **navigation link** or a bookmark in a web application's menu bar. It defines two key elements:

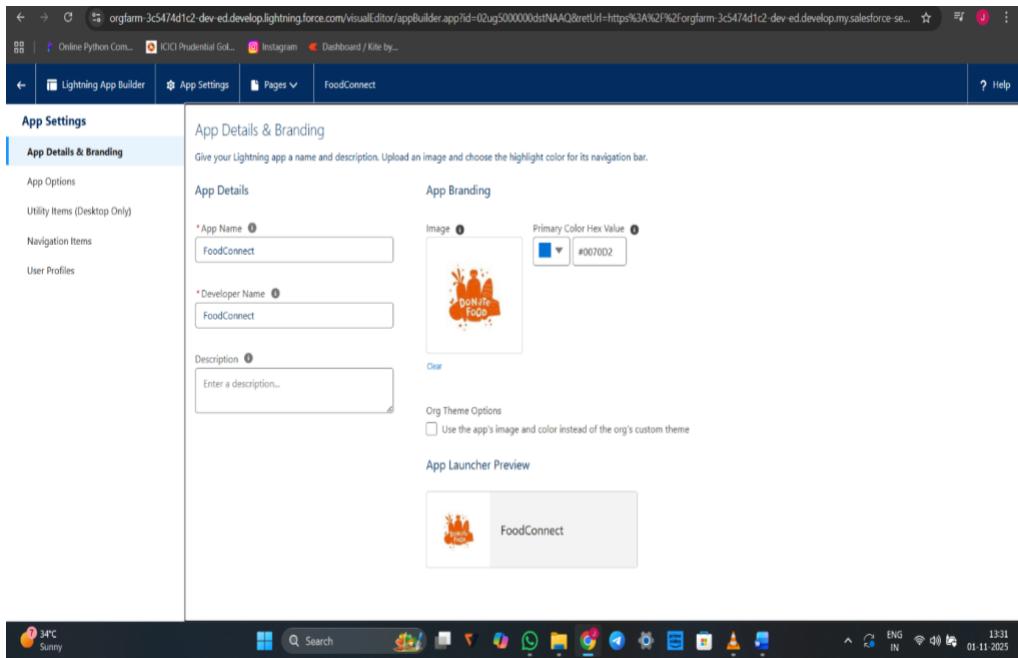
1. The name that appears on the navigation bar (e.g., "Venues" or "Tasks").
2. The icon or visual identifier associated with the object.



Venue tab created

Create a Lightning App:

A **Lightning App** is a custom, branded **application container** within the Salesforce platform. It is a configuration that bundles a specific collection of items, including a **Custom Home Page**, **Custom Tabs**, and standard Salesforce pages, under a unique name and brand (e.g., **FoodConnect**).



Lightning app created

Creation of Relationship fields in objects:

Object relationships are special types of custom fields that link two different Custom Objects together. They establish a defined connection between records, allowing users to navigate from one record (the parent) to related records (the children).

In Salesforce, the two primary relationship types used in the FoodConnect App are:

1. Lookup Relationship: A loose connection used when the related records can exist independently.
2. Master-Detail Relationship: A strong, parent-child connection where the detail record cannot exist without its master record.

Creation of Lookup Relationship Field on Volunteer Object :

To establish a clear connection between volunteer objectives and other related records, a Lookup Relationship field is created. This field helps link the Volunteer Objectives with relevant data, enabling better organization and easier access to associated information within the Salesforce app.

The screenshot shows the Salesforce Setup interface for the Volunteer object. The left sidebar has 'Fields & Relationships' selected. The main area displays a table of fields:

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	CreatedBy	Lookup(User)		
Date of Birth	Date_of_Birth__c	Date		
Drop-Off Point	Drop_Off_Point__c	Lookup(Drop-Off Point)		✓
Email	Email__c	Email		

Creation of Master Detail Relationship Field on Execution Details Object:

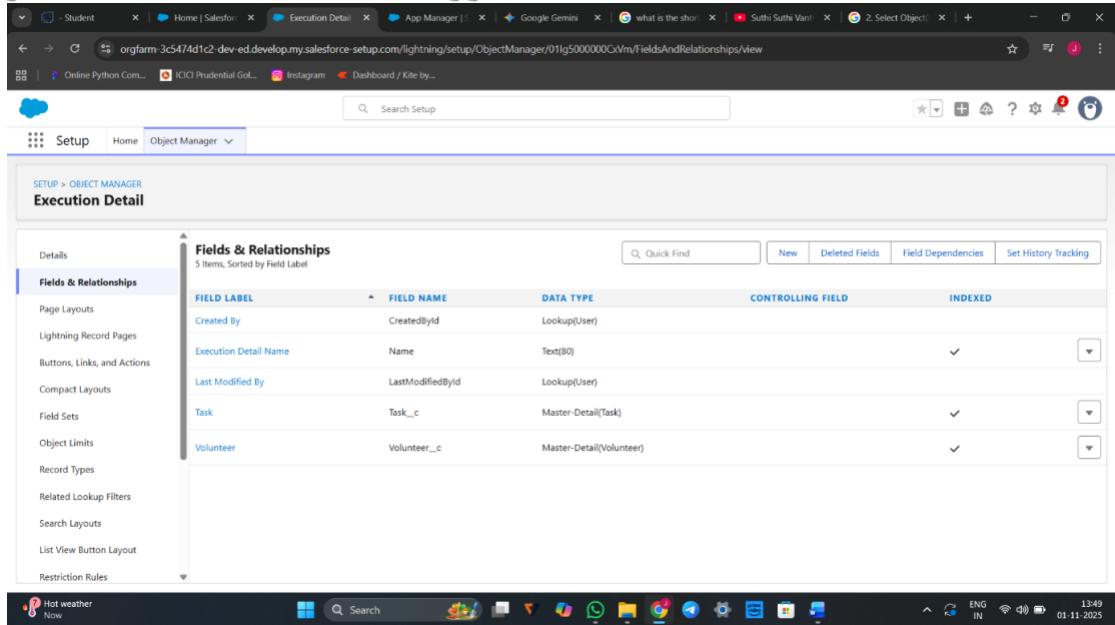
To enforce a strong dependency between Execution Detail and its parent record, a Master-Detail Relationship field is created. This relationship ensures that the Execution Detail records are tightly linked to their parent, allowing for better data integrity, cascading record management, and roll-up summary capabilities within the Salesforce app.

The screenshot shows the creation of a custom field named 'Execution ID' on the Volunteer object. The 'Field Information' section includes:

- Field Label: Execution ID
- Field Name: Execution_ID
- API Name: Execution_ID_c
- Description: (empty)
- Help Text: (empty)
- Data Owner: (empty)
- Field Usage: (empty)
- Data Sensitivity Level: (empty)
- Compliance Configuration: (empty)
- Created By: karthikayen.R (10/28/2025, 11:36 PM)
- Modified By: karthikayen.R (10/28/2025, 11:36 PM)

Creation of Lookup Relationship Field on Drop-Off Point Object:

To associate the Drop-off Point object with related records, a Lookup Relationship field is created. This enables linking drop-off locations to other relevant data, facilitating efficient tracking and management of food distribution points within the Salesforce application.



The screenshot shows the Salesforce Setup interface with the 'Object Manager' selected. Under 'Execution Detail', the 'Fields & Relationships' tab is active. A table lists five fields: 'Created By' (Lookup(User)), 'Execution Detail Name' (Text(80)), 'Last Modified By' (Lookup(User)), 'Task' (Master-Detail[Task]), and 'Volunteer' (Master-Detail[Volunteer]).

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]		✓

Creation of fields for the Venue object:

To capture essential information about each venue involved in the food supply chain, custom fields are created on the Venue object. These fields help store details such as venue name, location, capacity, and contact

information, enabling efficient management of food collection and distribution

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)		✓

sites.

A database table that represents the **food donor locations** (e.g., hotels, corporate cafeterias). It is the record of where the food supply originates.

Creation of Fields for the Drop-Off point object:

The Drop-off Point object is enhanced with custom fields to record vital details about each drop-off location. These fields allow for tracking the address, availability status, contact details, and other relevant information, ensuring effective management of food delivery points.

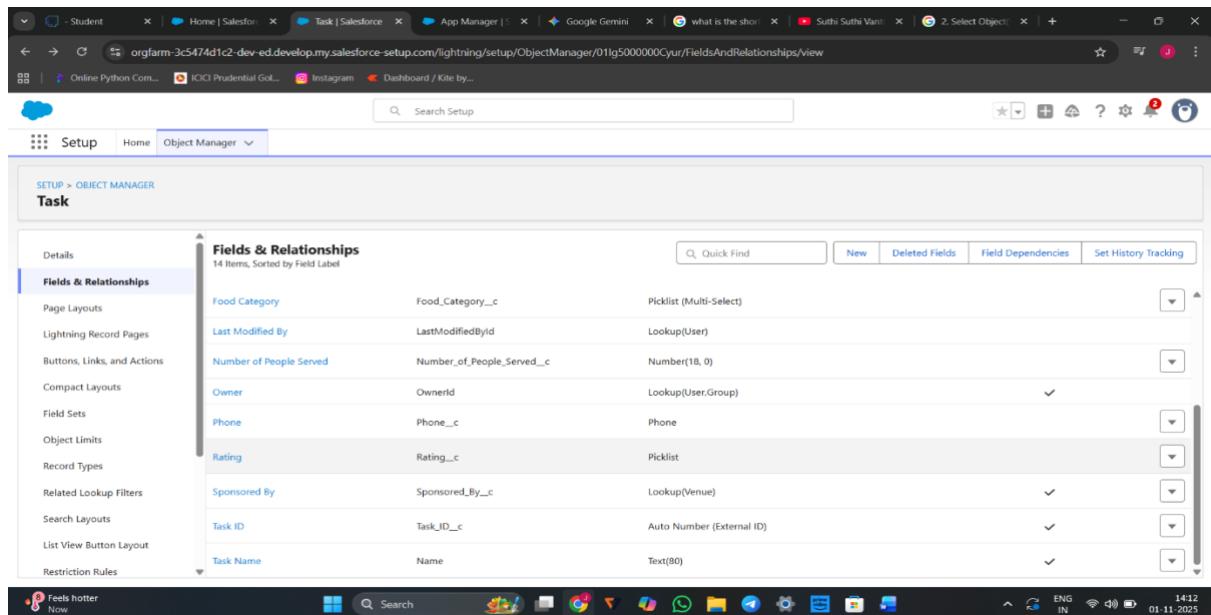
A database table representing the **recipient organizations** (e.g., shelters, food banks, NGOs) where rescued food is delivered for distribution.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Distance	Distance__c	Number(10, 3)		
distance calculation	distance_calculation__c	Formula (Number)		
Drop-Off Point Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Location 2	Location_2__c	Geolocation		
Owner	OwnerId	Lookup(User,Group)		✓
State	State__c	Picklist		

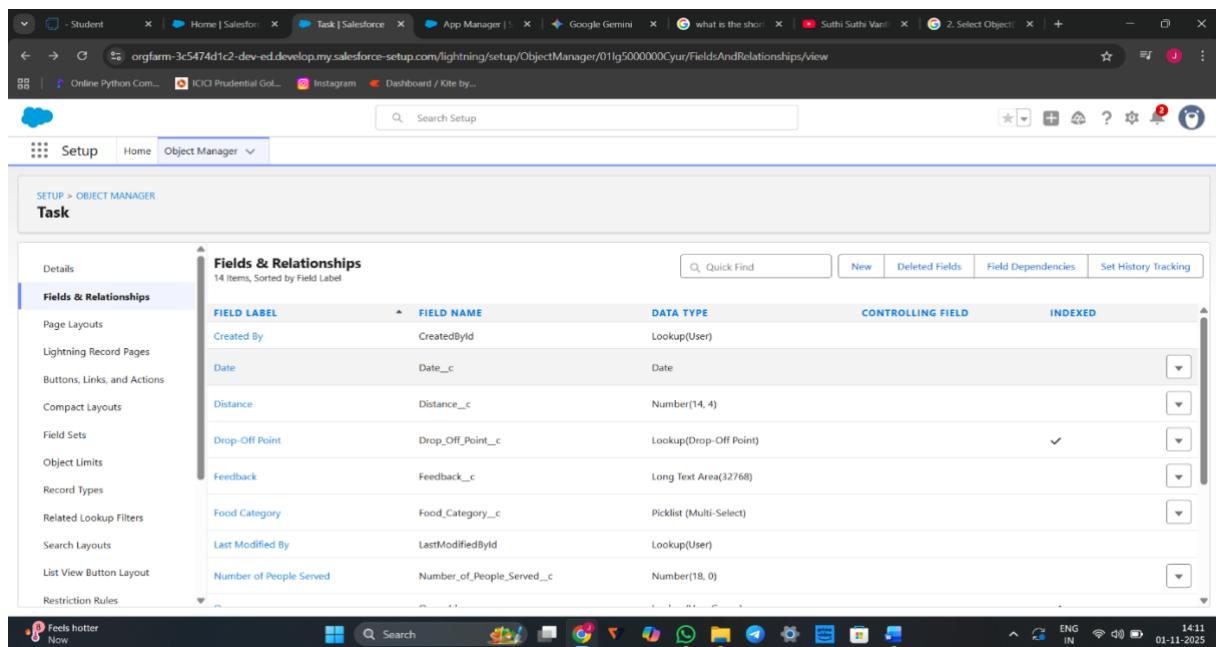
Creation of fields for the Task object:

Custom fields are created on the Task object to track specific activities related to the leftover food supply process. These fields help in defining task details, deadlines, statuses, and assigned personnel, which supports smooth coordination and timely completion of all necessary tasks.

The central **transactional record** representing a single, specific food donation event, from request to completion.



This screenshot shows the Salesforce Object Manager interface for the 'Task' object. The left sidebar lists various setup options like Page Layouts, Lightning Record Pages, and Field Sets. The main area is titled 'Fields & Relationships' and displays 14 items, sorted by Field Label. The fields listed include Food Category, Last Modified By, Number of People Served, Owner, Phone, Rating, Sponsored By, Task ID, and Task Name. Each field has its name, label, and data type listed. The data types include Picklist (Multi-Select), Lookup(User), Number(18, 0), Lookup(User, Group), Phone, Picklist, Lookup(Venue), Auto Number (External ID), and Text(80). The interface includes standard Salesforce navigation buttons and a toolbar at the top.

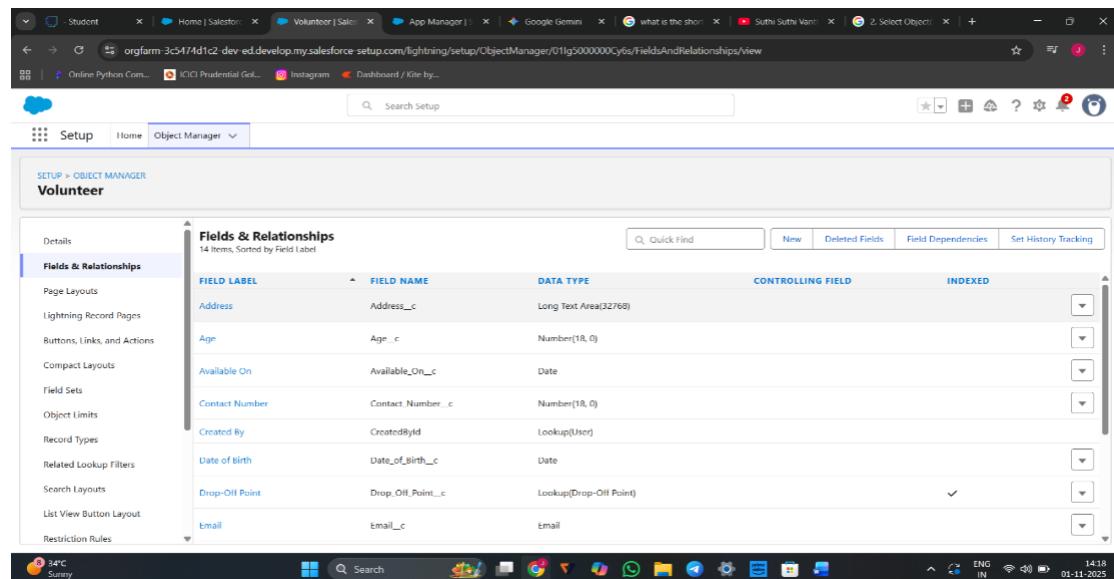


This screenshot shows the same Salesforce Object Manager interface for the 'Task' object, but with a different view. The 'Fields & Relationships' section is now displayed as a table with columns: FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The same 14 fields are listed, providing a more structured view of the customizations. The interface elements like the sidebar, toolbar, and status bar at the bottom are identical to the previous screenshot.

Creation of fields for the Volunteer object:

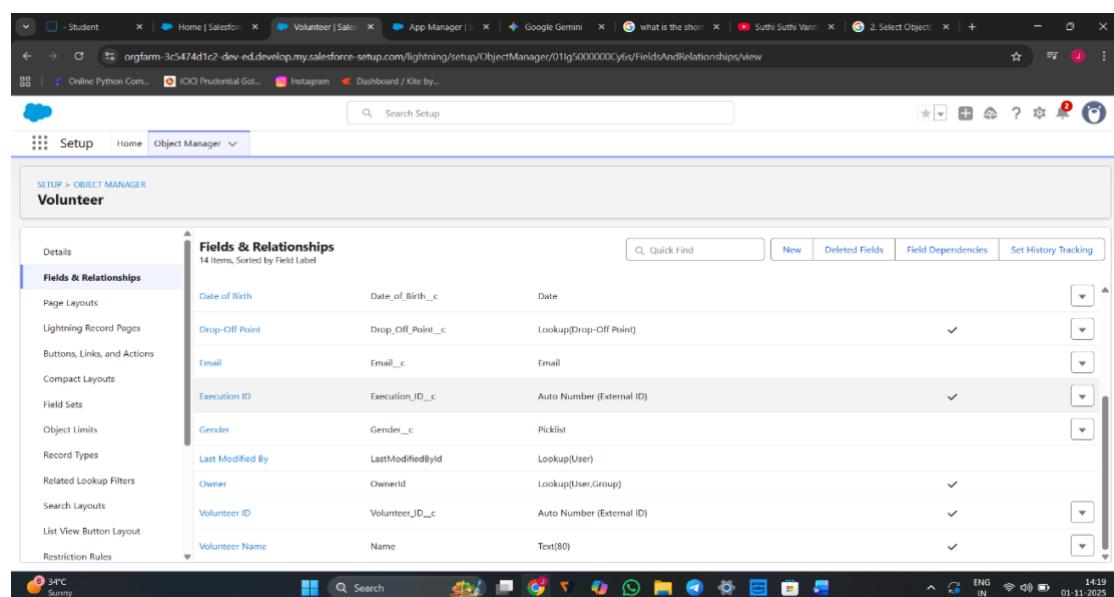
To manage volunteer information efficiently, custom fields are added to the Volunteer object. These fields store data such as volunteer name, contact details, availability, and skills, helping to assign the right volunteers to appropriate tasks within the leftover food supply system.

A database table representing the individuals responsible for performing the food collection and delivery actions.



The screenshot shows the Salesforce Object Manager interface for the 'Volunteer' object. The 'Fields & Relationships' tab is selected. The table lists the following fields:

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	Lookup(Drop-Off Point)		
Email	Email_c	Email		



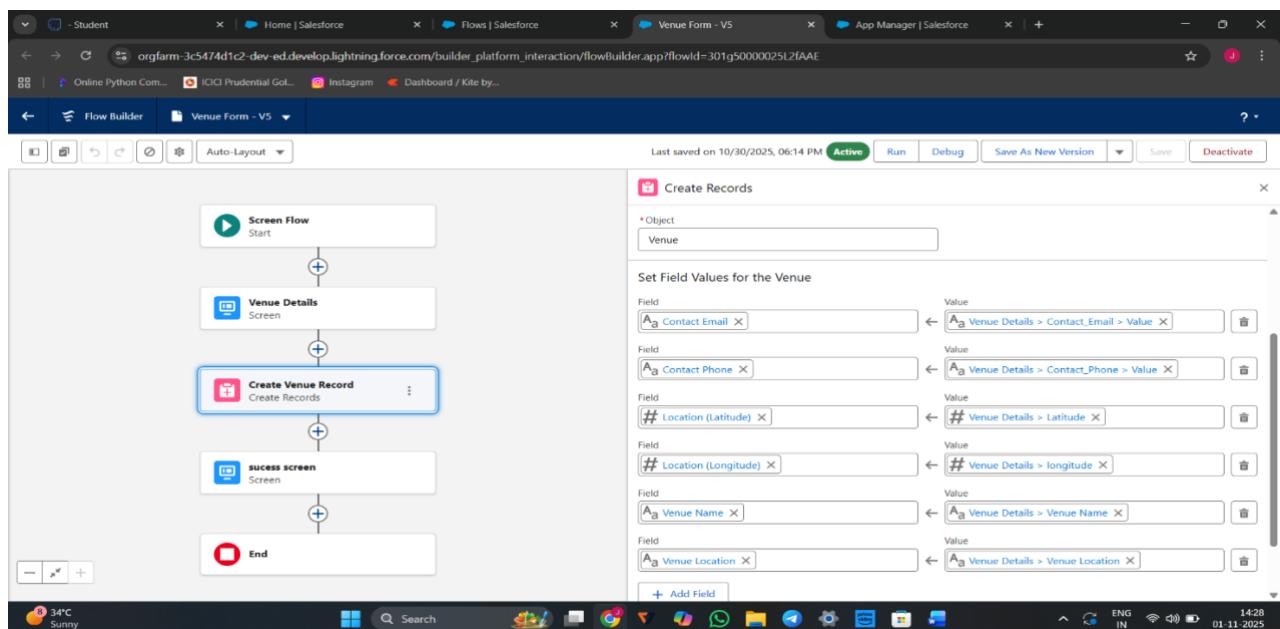
The screenshot shows the Salesforce Object Manager interface for the 'Volunteer' object. The 'Fields & Relationships' tab is selected. The table lists the following fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Date of Birth	Date_of_Birth_c	Date		
Drop-Off Point	Drop_Off_Point_c	Lookup(Drop-Off Point)		
Email	Email_c	Email		
Execution ID	Execution_ID_c	Auto Number (External ID)		
Gender	Gender_c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		
Volunteer ID	Volunteer_ID_c	Auto Number (External ID)		
Volunteer Name	Name	Text(80)		

Create Flow to Create a Record in Venue Object:

A Flow is a powerful declarative automation tool within Salesforce that guides a user through a sequence of screens, inputs, and actions to complete a specific business process. Unlike behind-the-scenes automation, a Screen Flow is user-activated—it requires a user to manually initiate it (e.g., by clicking a button or accessing it from a dedicated component).

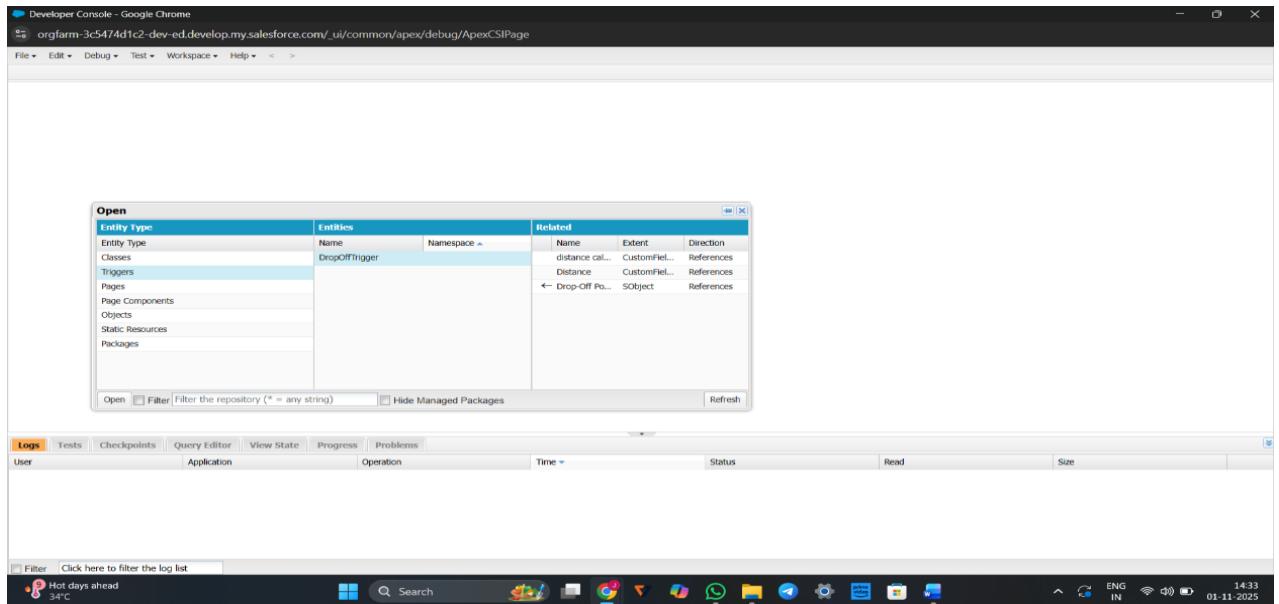
In the FoodConnect App, the specific flow is named "**Venue Form.**"



Create a Trigger:

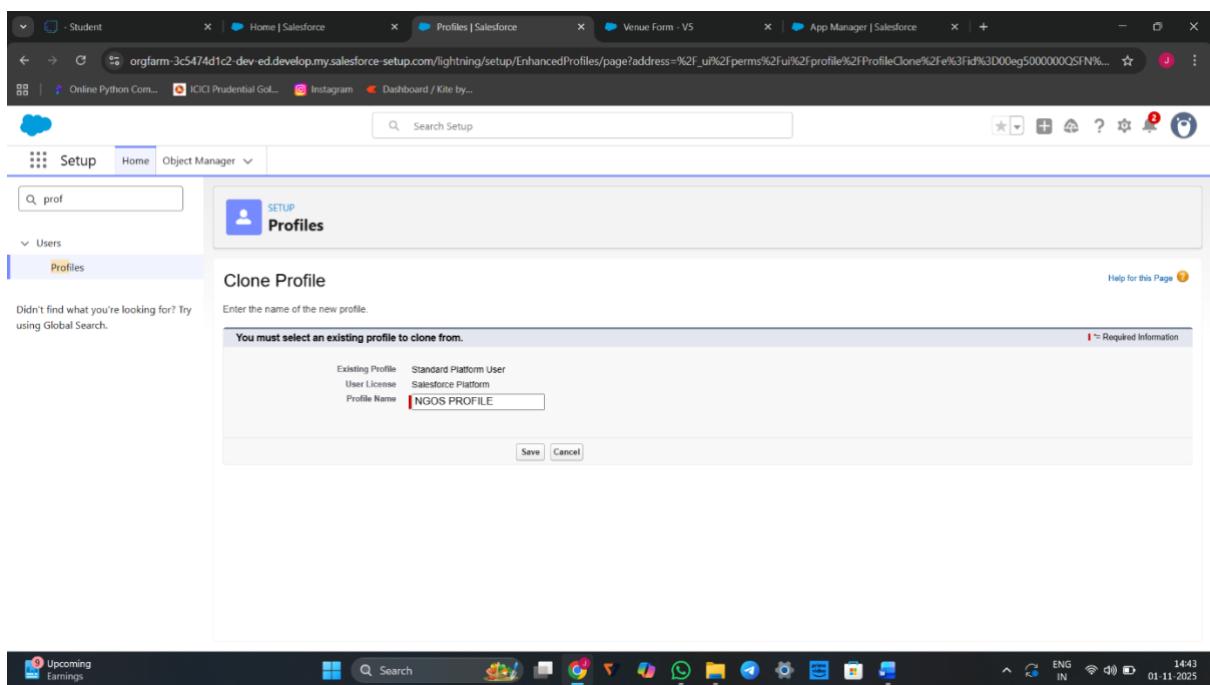
An **Apex Trigger** is a powerful programmatic unit that executes before or after a Data Manipulation Language (DML) event occurs on Salesforce records (e.g., insert, update, delete). It is written in **Apex**, which is Salesforce's proprietary, Java-like programming language.

In the FoodConnect App, a placeholder trigger named DropOffTrigger is created on the **Drop-Off Point** object.



Profiles:

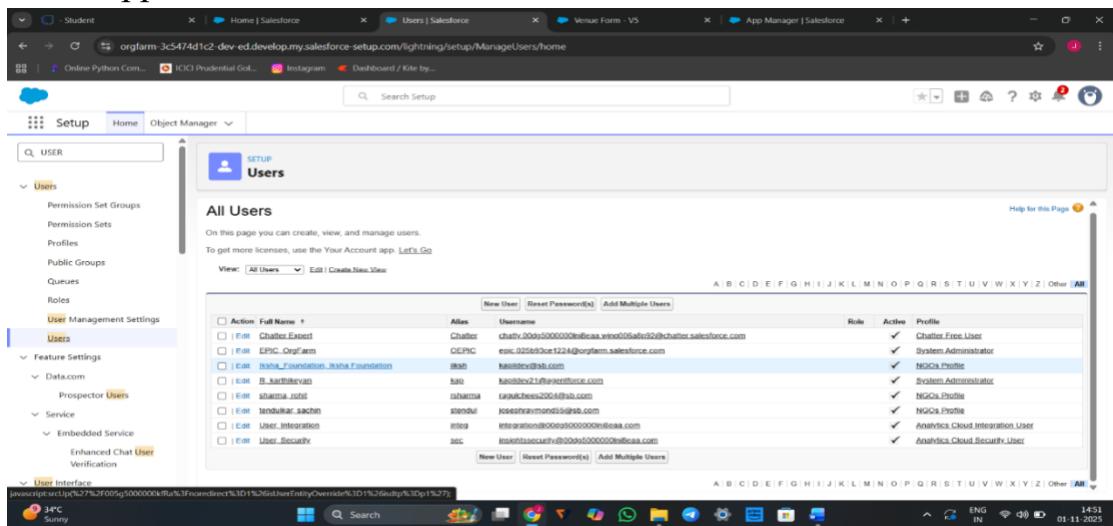
A **Profile** is a foundational security setting that defines a user's **permissions, access settings, and user interface** across the Salesforce platform. It acts as the primary gatekeeper for what users can **do** (permissions) and what they can **see** (object and field access). Every single user in Salesforce must be assigned exactly one Profile.



Creation of Users:

In order to manage the leftover food supply efficiently and securely, it is essential to create users in the Salesforce app with appropriate roles and permissions. Each user represents a stakeholder involved in the process, such as volunteers, coordinators, and administrators. By creating these users, we ensure that only authorized personnel have access to the system, allowing smooth coordination of food collection, distribution, and tracking.

The user creation process involves setting up user profiles, assigning roles, and configuring permissions to fit the requirements of the food supply chain. This step is crucial for maintaining data integrity, security, and operational efficiency in our application.

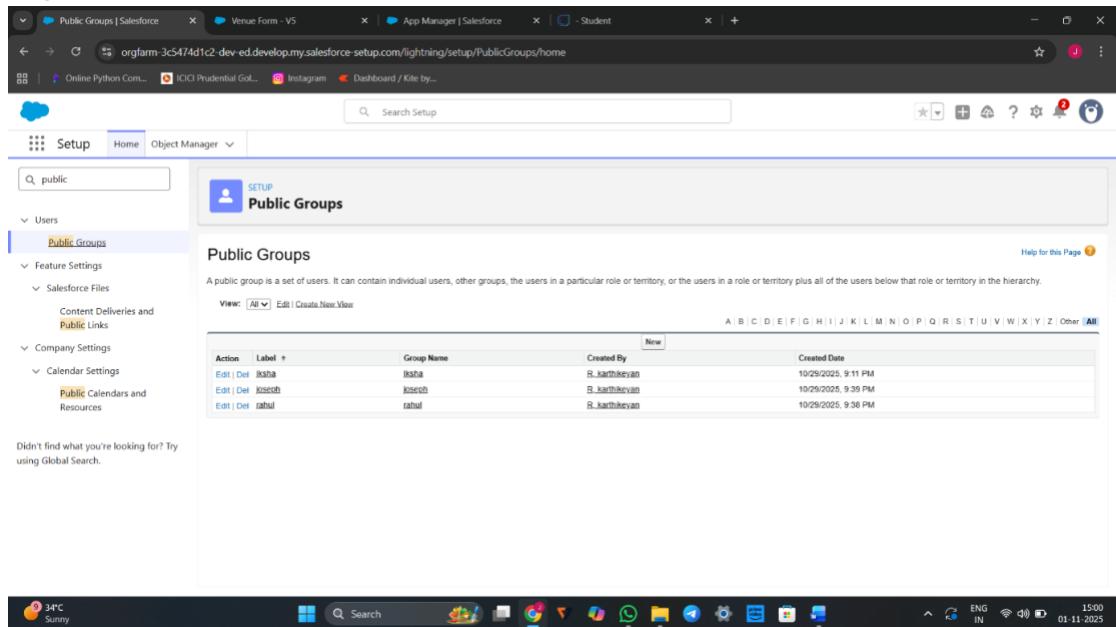


Three users created (Iksha,Sharma ,Rohit,Tendulkar,Sachin)

Public Groups:

A Public Group is a Salesforce security feature that allows an administrator to logically **bundle together a collection of users**, other Public Groups, or users in specific Roles and Territories. It acts as a single reference point for granting or restricting access. In the FoodConnect App, Public Groups (e.g., "Iksha", "sharma", "Tendulkar") are created to represent the different recipient

organizations or volunteer cohorts



The screenshot shows the Salesforce Setup interface with the 'Public Groups' page selected. The left sidebar shows navigation options like 'Users', 'Feature Settings', 'Salesforce Files', 'Company Settings', and 'Calendar Settings'. The main area displays a table of public groups with columns for Action, Label, Group Name, Created By, and Created Date. Three groups are listed: 'Iksha' (Created by R.karthkeyan on 10/29/2025, 9:11 PM), 'Joseph' (Created by R.karthkeyan on 10/29/2025, 9:39 PM), and 'rahul' (Created by R.karthkeyan on 10/29/2025, 9:36 PM). A search bar at the top is set to 'public'. The bottom of the screen shows a Windows taskbar with various icons and system status.

Action	Label	Group Name	Created By	Created Date
Edit Det	Iksha	Iksha	R.karthkeyan	10/29/2025, 9:11 PM
Edit Det	Joseph	Joseph	R.karthkeyan	10/29/2025, 9:39 PM
Edit Det	rahul	rahul	R.karthkeyan	10/29/2025, 9:36 PM

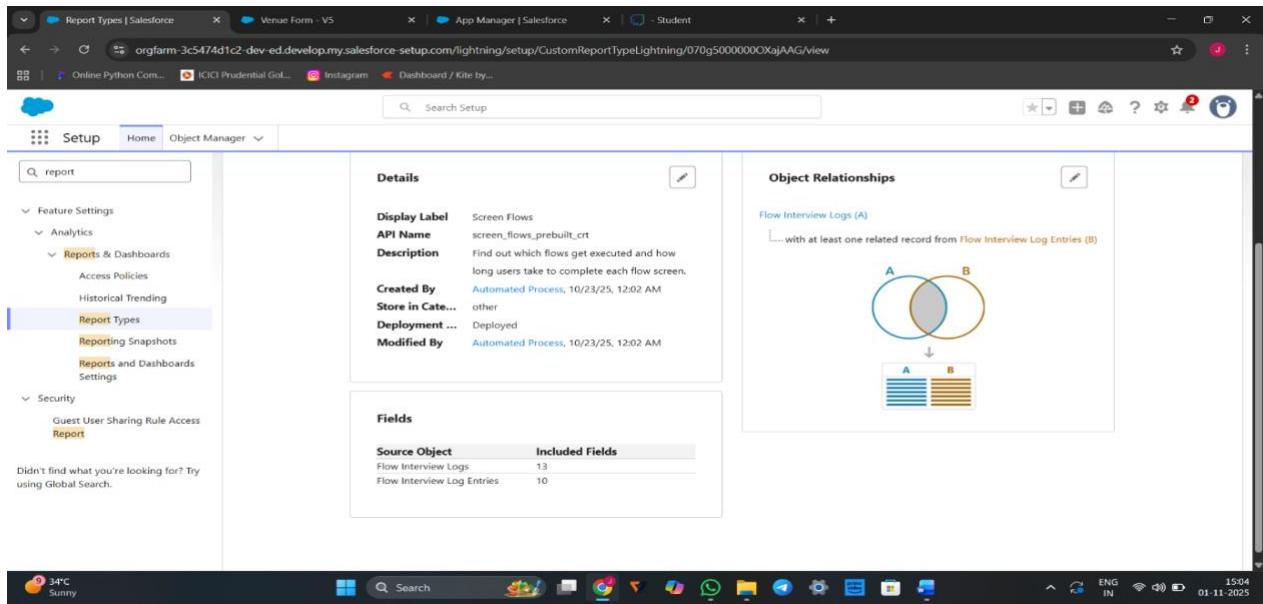
Public groups created namely (“Iksha”, “Joseph”, “Rahul”)

Report Types:

A **Custom Report Type** is a **blueprint** or a template that defines the structure and field access available when users build a report in Salesforce. It is the crucial step that determines **which objects can be linked together** and **how they relate** within a single report.

In the FoodConnect App, the key structure created is the "**Venue with DropOff with Volunteer**" Report Type.

Creation of Report Types:



Reports:

A **Report** is a list of records retrieved from your Salesforce database that meets specific criteria defined by the user. It organizes and summarizes data based on the structure provided by the **Report Type** (either Standard or Custom). Reports are the primary tool used to extract meaningful, summarized information from the operational data stored in the Custom Objects.

In the FoodConnect App, the key structure created is the "**Venue with DropOff with Volunteer**" Report Type.

FoodConnect

Recent

REPORTS

Recent

Created by Me

Private Reports

Public Reports

All Reports

FOLDERS

All Folders

Created by Me

Shared with Me

FAVORITES

All Favorites

Report Name Description Folder Created By Created On Subscribed

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	10/22/2025, 11:32 AM	
Volunteer Task		Custom Reports	karthikeyan R.	10/29/2025, 10:41 PM	
venue and Drop Off point		Custom Reports	karthikeyan R.	10/29/2025, 10:34 PM	

Venue with DropOff with Volunteer report created

Dashboards:

A **Dashboard** is a powerful visual tool that presents a **real-time, snapshot view** of key operational metrics and performance indicators. It is composed of various visual components (charts, gauges, metrics, tables) that draw their underlying data directly from one or more saved **Reports**.

In the FoodConnect App, the key dashboard created is the "**Organization Details**" Dashboard.

As of Nov 1, 2025, 2:49 AM Viewing as karthikeyan R

venue and Drop Off point

Venue Name	Drop-Off Point Name	Distance
a0Dg000000HsrZT	-	-
a0Dg000000HsrFP	-	-
a0Dg000000HsrGr	-	-
helping hands NGO	-	-
helping hands NGO	-	-
helping hands NGO	-	-

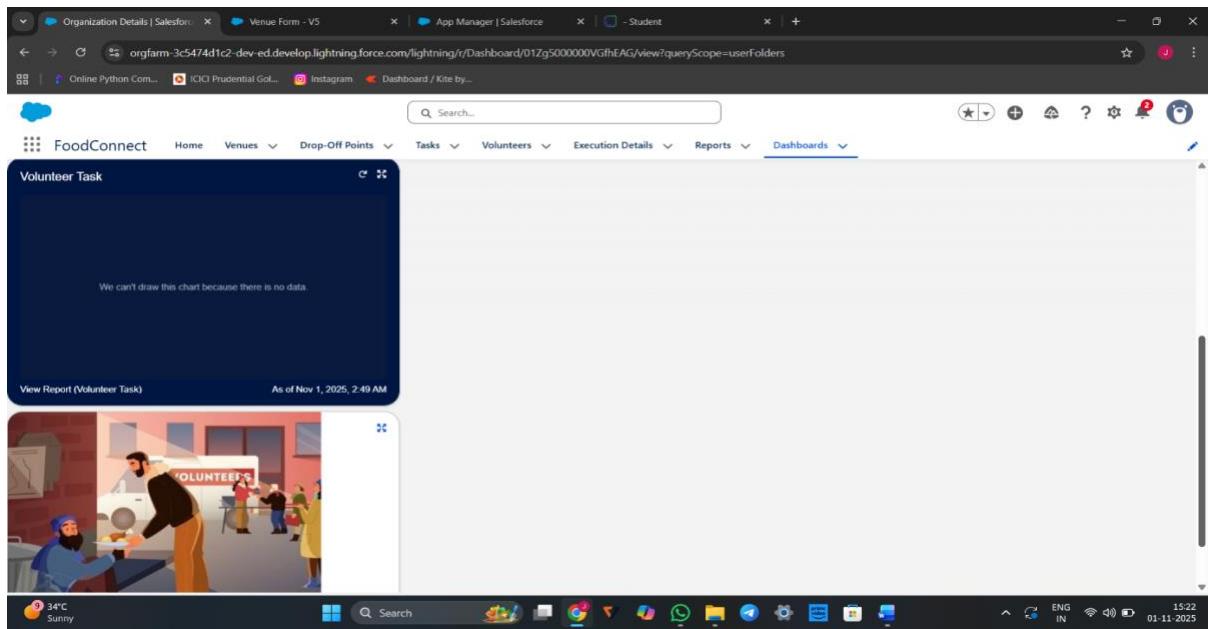
View Report (venue and Drop Off point)

As of Nov 1, 2025, 2:49 AM

Volunteer Task

We can't draw this chart because there is no data.

Added Venue and Drop Off point Report to the Dashboard



Added Volunteer Task Report to the Dashboard

Sharing Rules:

Sharing Rules are an automated security feature used to **grant exceptions** to the organization-wide sharing defaults (which typically restrict record access). They are defined rules that automatically expand access to specific records based on the record's **owner** or, more commonly for the FoodConnect App, based on **criteria** (field values).

The rules created here are **Criteria-Based Sharing Rules** on the **Drop-Off Point** object, which leverage the calculated distance field.

Creation of sharing rules

Rule 1:

Value = Distance : less than : 15

Rule 2:

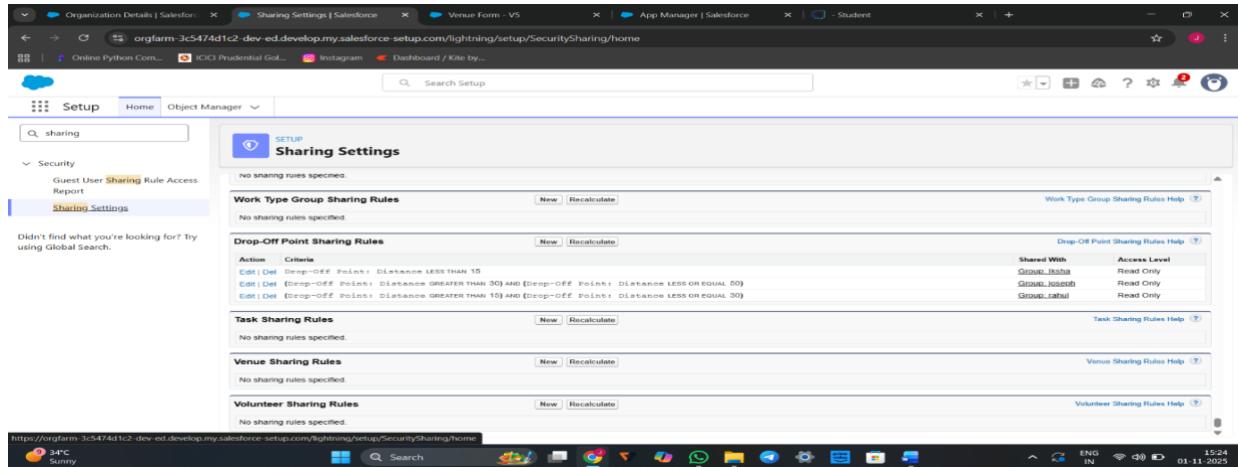
Value = Distance : greater than : 15

Value = Distance : less or equal : 30

Rule 3:

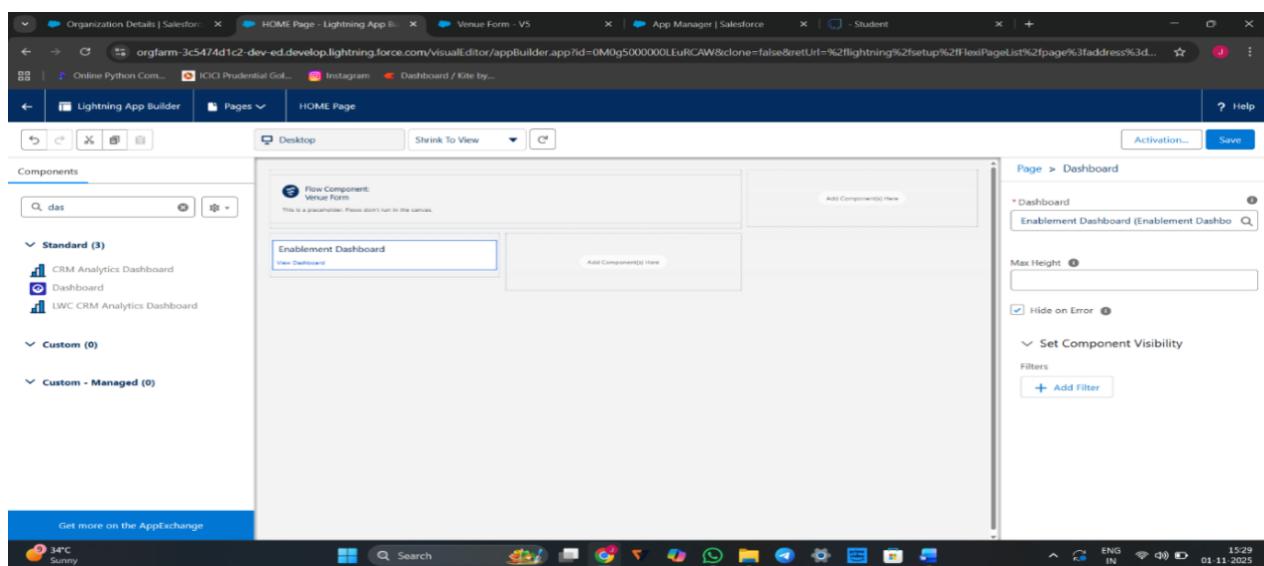
Value = Distance : greater than : 30

Value = Distance : less or equal : 50



Home Page:

The process of building a **Custom Home Page** involves using the **Lightning App Builder** tool to design a specialized screen layout. This is accomplished by giving the page a label (e.g., "HOME Page"), selecting a page structure, and then **dragging and dropping various Lightning Components** (such as the **Flow** component and the **Dashboard** component) onto the canvas. The final step is **assigning** this new, customized layout as the default Home Page for the **FoodConnect Lightning App**.

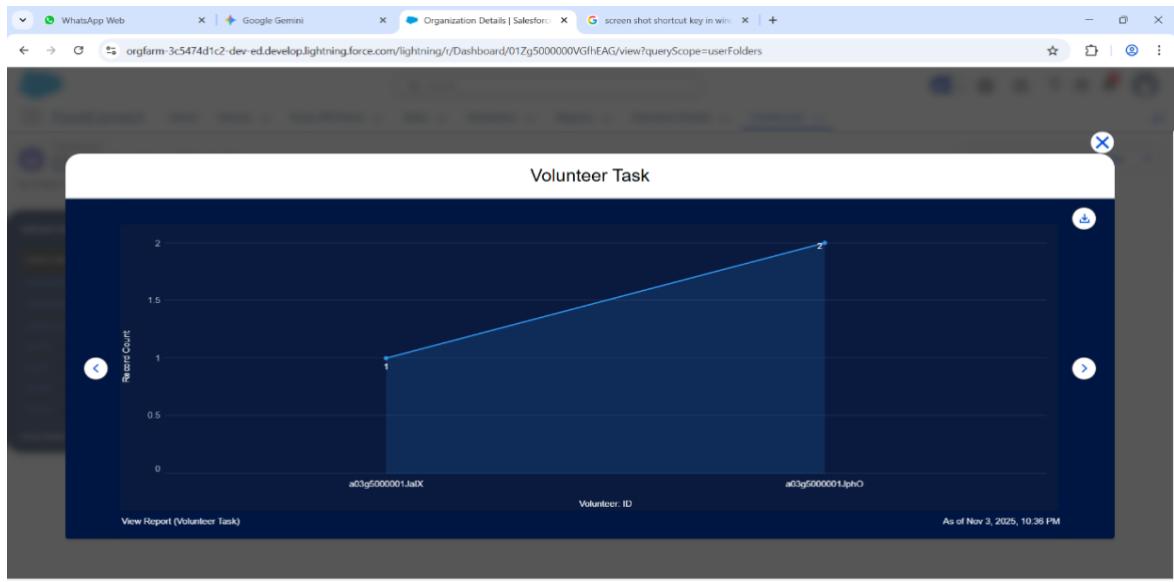


Output:

The screenshot shows a web browser window with multiple tabs open. The active tab is titled 'Recently Viewed | Drop-Off Point' and displays a list of recently viewed drop-off points. The list includes three items: 'trichy', 'nn', and 'guindy'. The interface has a header with a cloud icon and navigation links for Home, Venues, Drop-Off Points, Tasks, Volunteers, Reports, Execution Details, and Dashboards. There are also buttons for New, Import, Change Owner, and Assign Label.

The screenshot shows a web browser window with multiple tabs open. The active tab is titled 'Organization Details | Salesforce' and displays a report titled 'venue and Drop Off point'. The report lists various venues and their corresponding drop-off points along with their distances. The data is presented in a table with columns for Venue Name, Drop-Off Point Name, and Distance. The report indicates that the distance for 'trichy' is 0.000 and for 'nn' is 1.173k. The report is dated 'As of Nov 3, 2025, 5:18 AM'.

Venue Name	Drop-Off Point Name	Distance
a00g5000001bxZT	-	-
a00g5000001bxFF	-	-
a00g5000001bcGr	-	-
asalaribiyani	trichy	0.000
barath	guindy	1.173k
barath	-	-
bheem	nn	1.173k
helping hands NGO	-	-
helping hands NGO	-	-
helping hands NGO	-	-
helping hands NGO	-	-



Conclusion:

By leveraging the Salesforce platform, the project successfully established a streamlined and transparent system for managing surplus food donations. Through efficient coordination with volunteers and timely delivery to beneficiaries, the project effectively addressed food insecurity while maximizing the utilization of available resources.