

Project Title: To Supply Leftover Food to Poor

1. Project overview:

This project aims to connect food donors with underprivileged communities through a streamlined platform. It facilitates the collection and distribution of leftover food from restaurants, events, and households to local shelters and charities. The system ensures efficient management of donations, pickup schedules, and transportation. Real-time notifications and tracking enhance transparency and coordination. By minimizing food waste and addressing hunger, the project fosters sustainability and community welfare. It is a step towards building a compassionate society where surplus food reaches those in need.

2. Objectives

Business Goals:

1. **Efficient Volunteer and Resource Management:** Streamline the process of managing volunteers, venues, drop-off points, and tasks, ensuring better coordination and resource allocation.
2. **Improved Reporting and Insights:** Provide actionable insights through custom reports and dashboards to aid decision-making.
3. **Enhanced Accessibility:** Ensure easy access to critical information for NGOs through a centralized platform, enhancing collaboration and transparency.
4. **Automation of Key Processes:** Reduce manual efforts by implementing automation (e.g., triggers, flows) for data handling and sharing.

Specific Outcomes:

1. **Centralized Data System:**
 - Creation of custom objects (Venue, Drop-Off Point, Task, Volunteer, Execution Details) with associated fields and relationships.
 - Seamless integration of relationships between objects to ensure data coherence.
2. **Streamlined User Roles and Access Control:**
 - Creation of custom user profiles, public groups, and sharing rules to ensure role-based data access.
3. **Custom Reports and Dashboards:**
 - Development of reports such as "Venue with DropOff with Volunteer" and

"Volunteers with Execution Details and Tasks."

- Creation of dashboards like "Organization Details" for real-time insights into operations.

4. **Enhanced User Interface:**

- Design and deployment of a custom Lightning App (FoodConnect) to provide a user-friendly interface for managing the organization's data.
- Custom Home Page layout with embedded flows, dashboards, and relevant components.

5. **Automation Features:**

- Implementation of triggers and flows for automating tasks such as calculating distances or creating records.

6. **Effective Collaboration Tools:**

- Sharing rules and public groups that enable secure and efficient data sharing among different NGOs.

3.Salesforce Key Features and Concepts Utilized

1. Custom Objects and Relationships

- **Custom Objects:** Created five key objects (Venue, Drop-Off Point, Task, Volunteer, Execution Details) to represent the organizational structure and operational data.
- **Relationship Fields:**
 - Lookup and Master-Detail relationships to connect objects, enabling relational data storage.
 - Example: Drop-Off Points linked to Venues, Tasks linked to Volunteers and Execution Details.

2. Custom User Profiles and Access Control

- **User Profiles:** Customized profiles for NGOs to define user permissions and access levels.
- **Public Groups and Sharing Rules:**
 - Created groups for different NGOs and defined criteria-based sharing rules to control data visibility.
 - Example: Sharing Drop-Off Point records based on distance thresholds.

3. Custom Reports and Dashboards

- **Custom Report Types:**
 - Example: "Venue with DropOff with Volunteer" and "Volunteers with Execution Details and Tasks."
- **Dashboards:**
 - Example: "Organization Details" dashboard with components like charts and tables to visualize reports.

4. Automation Tools

- **Triggers:**
 - Example: Trigger on the Drop-Off Point object to auto-assign Distance values based on calculations.
- **Flows:**
 - Implemented Venue Flow for streamlined data handling through the Lightning App Builder.

5. Lightning App and Page Customization

- **Custom Lightning App (FoodConnect):**
 - Consolidated navigation with tabs for objects, reports, and dashboards.
- **Custom Home Page:**
 - Integrated flows, dashboards, and quick links to enhance usability and accessibility.

6. Advanced Field Types and Formulas

- **Geolocation Fields:** Used for Venues and Drop-Off Points to store coordinates.
- **Formula Fields:**
 - Example: Calculating distances between Venues and Drop-Off Points using `DISTANCE()` function.

7. Data Management

- **Validation Rules:** Ensured data accuracy for fields like Distance and State.
- **Required Fields:** Defined critical fields (e.g., Contact Email, Contact Phone) to maintain data integrity.

8. Deployment and Scalability

- **Report and Dashboard Folders:** Organized reports and dashboards for efficient access and scalability.
- **Deployment Status:** All features deployed to be accessible to users for production use.

4.Detailed steps to Solution Design:

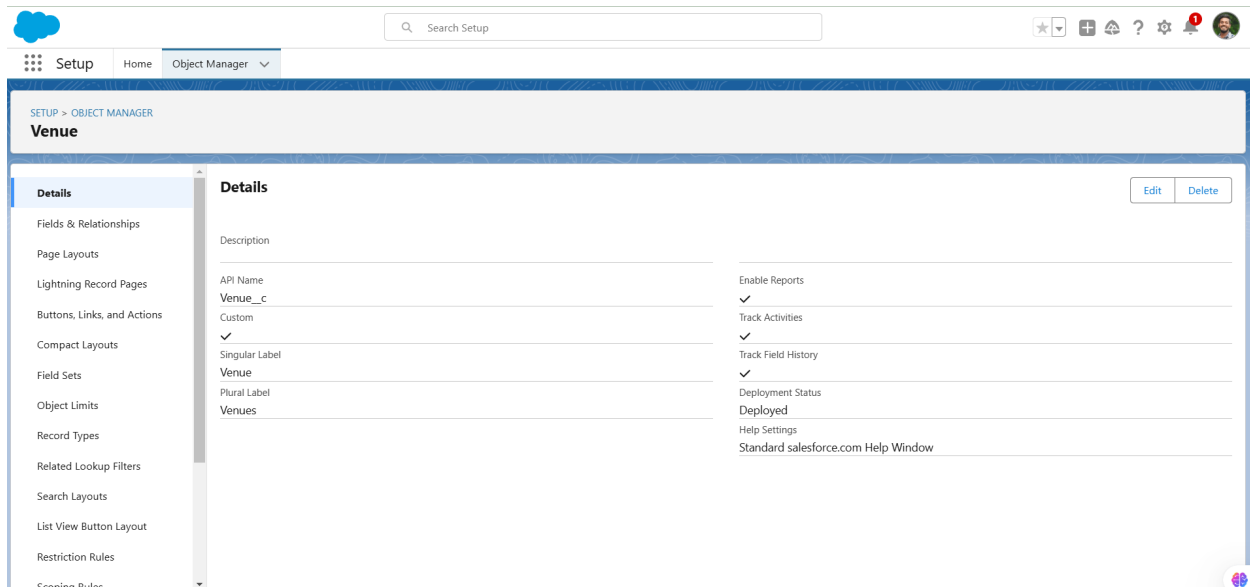
Step - 1:

Data Model Design

The data model focuses on creating and establishing relationships between custom objects for streamlined data management.

Custom Objects and Fields

- **Venue Object**
 - Key Fields: Contact Email, Contact Phone, Location, Venue Location.
 - Relationships: Lookup relationship with Drop-Off Point.



- **Drop-Off Point Object**
 - Key Fields: Location 2 (Geolocation), Distance Calculation (Formula), State.

- Relationships: Lookup relationship with Venue.

The screenshot shows the Salesforce Setup interface for the 'Drop-Off Point' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The 'Details' section is active, showing fields for Description, API Name (Drop_Off_Point__c), Custom (checked), Singular Label (Drop-Off Point), Plural Label (Drop-Off Points), Enable Reports (checked), Track Activities (checked), Track Field History (checked), Deployment Status (Deployed), and Help Settings (Standard salesforce.com Help Window). The top navigation bar includes Setup, Home, and Object Manager tabs, along with a search bar and user profile icon.

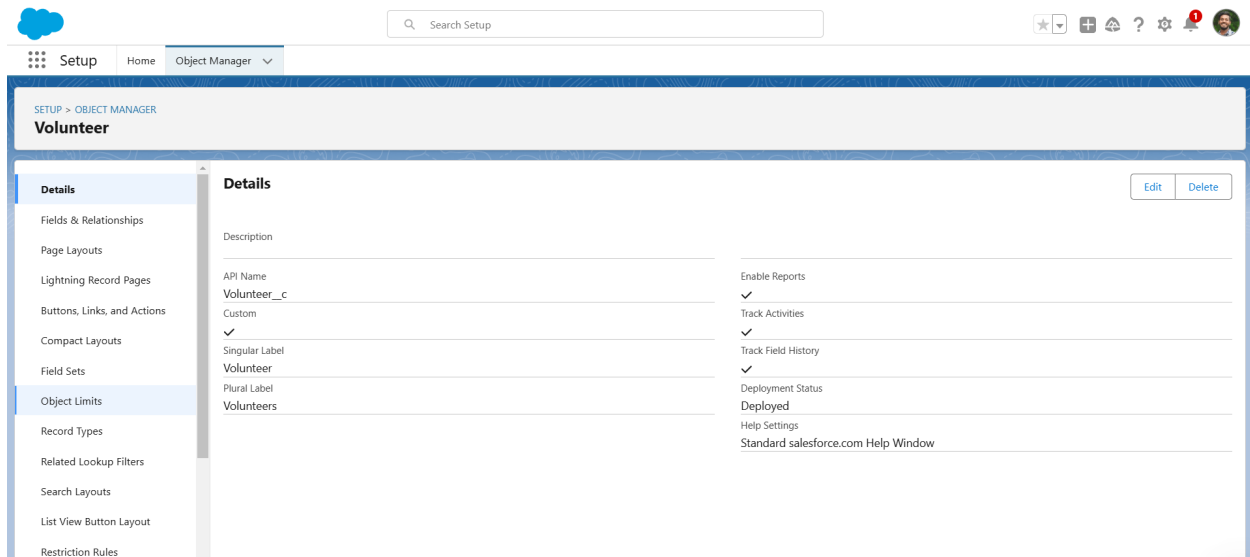
- Task Object

- Key Fields: Sponsored By (Lookup to Venue), Drop-Off Point (Lookup).

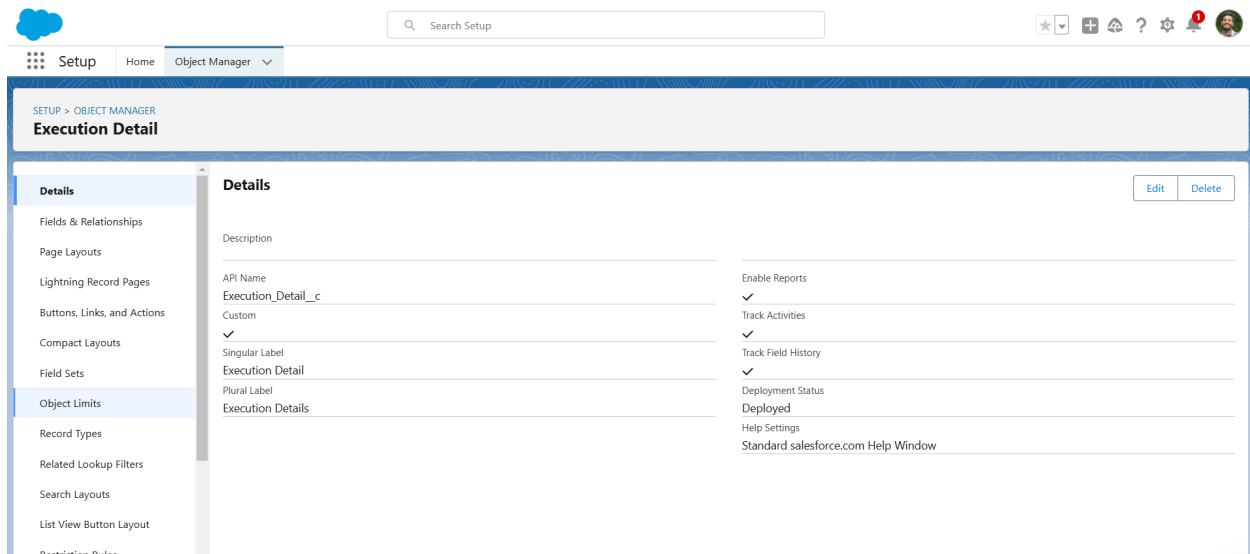
The screenshot shows the Salesforce Setup interface for the 'Task' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The 'Details' section is active, showing fields for Description, API Name (Task__c), Custom (checked), Singular Label (Task), Plural Label (Tasks), Enable Reports (checked), Track Activities (checked), Track Field History (checked), Deployment Status (Deployed), and Help Settings (Standard salesforce.com Help Window). The top navigation bar includes Setup, Home, and Object Manager tabs, along with a search bar and user profile icon.

- Volunteer Object

- Key Fields: Volunteer Name.
 - Relationships: Master-Detail relationship with Execution Details.



- **Execution Details Object**
 - Relationships: Master-Detail with Volunteer and Task.



Step - 2 :

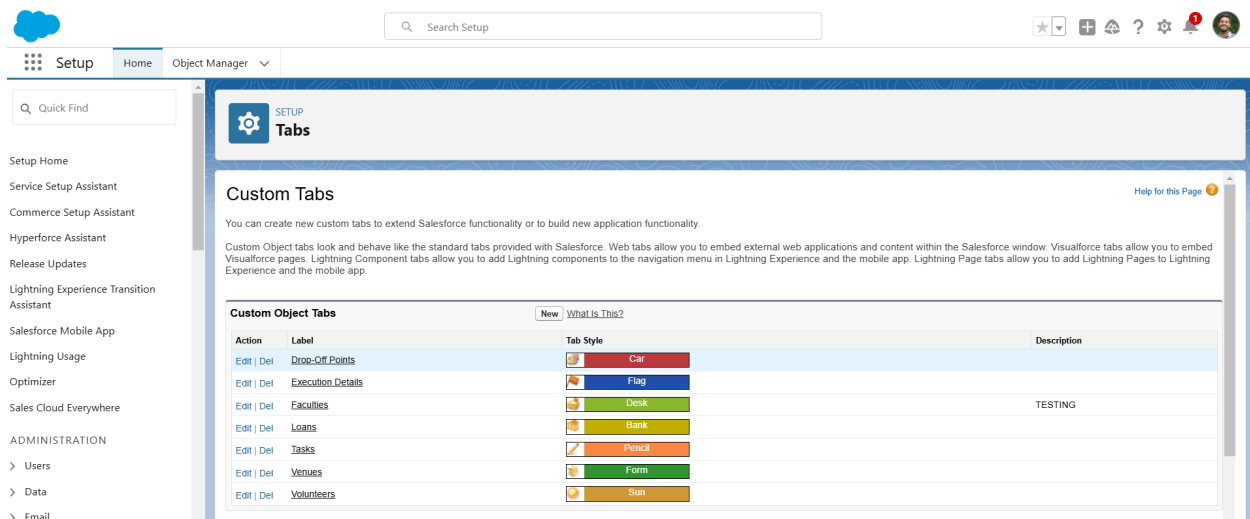
User Interface Design

The user interface prioritizes a seamless user experience using tabs, reports, dashboards, and a

customized home page.

Lightning App: FoodConnect

- Tabs for easy navigation:
 - Home
 - Venue
 - Drop-Off Point
 - Task
 - Volunteer
 - Execution Details
 - Reports and Dashboards



The screenshot shows the Salesforce Setup interface. The left sidebar contains a 'Quick Find' search bar and a list of setup categories: Setup Home, Service Setup Assistant, Commerce Setup Assistant, Hyperforce Assistant, Release Updates, Lightning Experience Transition Assistant, Salesforce Mobile App, Lightning Usage, Optimizer, Sales Cloud Everywhere, and ADMINISTRATION (with sub-items: Users, Data, Email). The main content area is titled 'Custom Tabs' and includes a 'New' button and a 'What Is This?' link. Below this is a table of 'Custom Object Tabs'.

Action	Label	Tab Style	Description
Edit Del	Drop-Off Points	Car	
Edit Del	Execution Details	Flag	
Edit Del	Faculties	Desk	TESTING
Edit Del	Loans	Bank	
Edit Del	Tasks	Pencil	
Edit Del	Venues	Form	
Edit Del	Volunteers	Sun	

Step - 3 :

Build the Lightning App:

- **Setup > App Manager > New Lightning App.**
- Add tabs, reports, and dashboards for navigation.



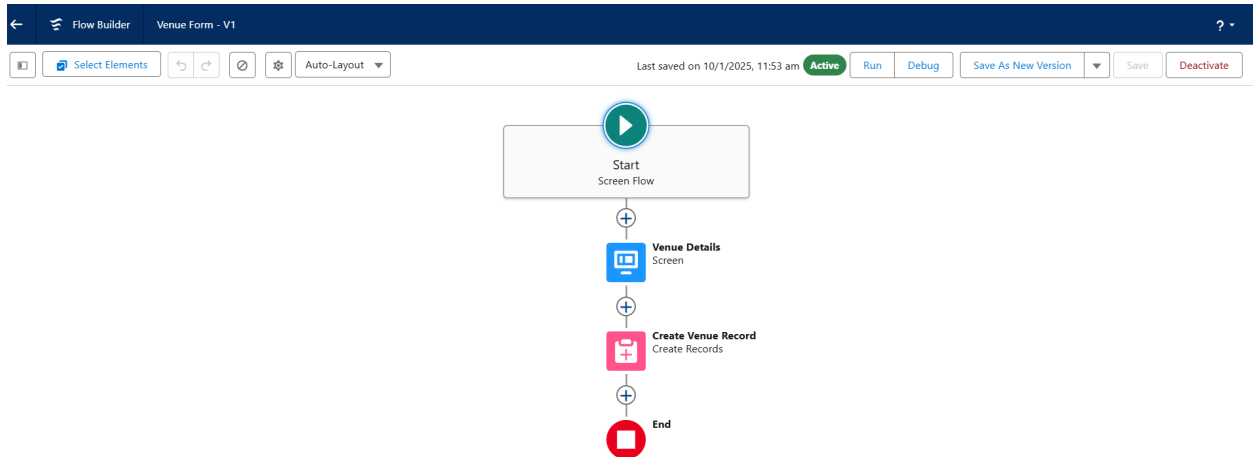
The screenshot shows the FoodConnect Lightning App interface. The top navigation bar includes a search bar, a 'Search...' button, and a user profile icon. The main navigation bar shows the app name 'FoodConnect' and a list of tabs: Home, Venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, and Dashboards. The user's name 'CHANDRA SEKHAR INDALA' is displayed on the right side of the navigation bar.

Step - 4 :

Automations and Business Logic

Flows:

- Venue Flow: Streamlines venue creation and updates.
- **Setup > Flow Builder > New Flow.**



Triggers:


- **DropOffTrigger:** Automates assigning the calculated distance to the Distance field

```
File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >
DropOffTrigger.apxt x
Code Coverage: None ▾ API Version: 62 ▾
1 trigger DropOffTrigger on Drop_Off_point__c (before insert) {
2
3   for(Drop_Off_point__c Drop : Trigger.new){
4
5       Drop.Distance__c = Drop.distance_calculation__c;
6
7   }
8
9 }
```


Step - 5 :

Create Users:

- Navigate to **Setup > Users > New User**.

 **SETUP**
Users

All Users

On this page you can create, view, and manage users.

To get more licenses, use the Your Account app. [Let's Go](#)

View: All Users Edit Create New View

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Other | **All**


New User Reset Password(s) Add Multiple Users

<input type="checkbox"/> Action	Full Name ↑	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	Chatter Expert	Chatter	chatty.00ddi000008u0maua0.vevm54nyg8gm@chatter.salesforce.com		✓	Chatter Free User
<input type="checkbox"/> Edit	Iksha_Foundation Iksha Foundation	iksh	sekharindala4230@gmail.com		✓	NGOs Profile
<input type="checkbox"/> Edit	INDALA CHANDRA SEKHAR	CINDA	sekharindala20@gmail.com		✓	System Administrator
<input type="checkbox"/> Edit	Indala Sai	sinda	sekharindala620@gmail.com		✓	NGOs Profile
<input type="checkbox"/> Edit	Indala Sekhar	sinda	sekharindala250@gmail.com		✓	NGOs Profile
<input type="checkbox"/> Edit	Manager_Sales	smana	sekharism@gmail.com		✓	sales manager
<input type="checkbox"/> Edit	User_Integration	integ	integration@00ddi000008u0maua0.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> Edit	User_Security	sec	insightssecurity@00ddi000008u0maua0.com		✓	Analytics Cloud Security User

New User Reset Password(s) Add Multiple Users

Create Public Groups:

- **Setup > Public Groups > New.**

 **SETUP**
Public Groups

Group

Iksha

Edit Delete View Summary

Label	Iksha
Group Name	Iksha
Grant Access Using Hierarchies	✓
Description	
Created By	CHANDRA SEKHAR INDALA, 10/01/2025, 12:45 pm
Modified By	CHANDRA SEKHAR INDALA, 10/01/2025, 12:45 pm

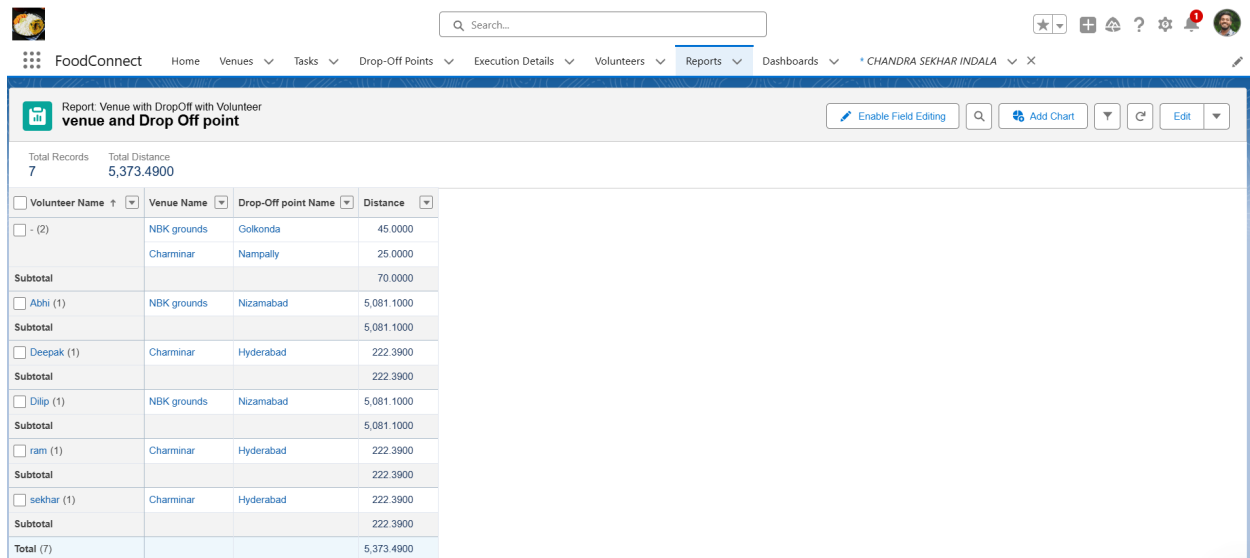
View All Users

Name	Type
CHANDRA SEKHAR INDALA	User
Iksha Foundation Iksha_Foundation	User

Step - 6 :

Create Reports:

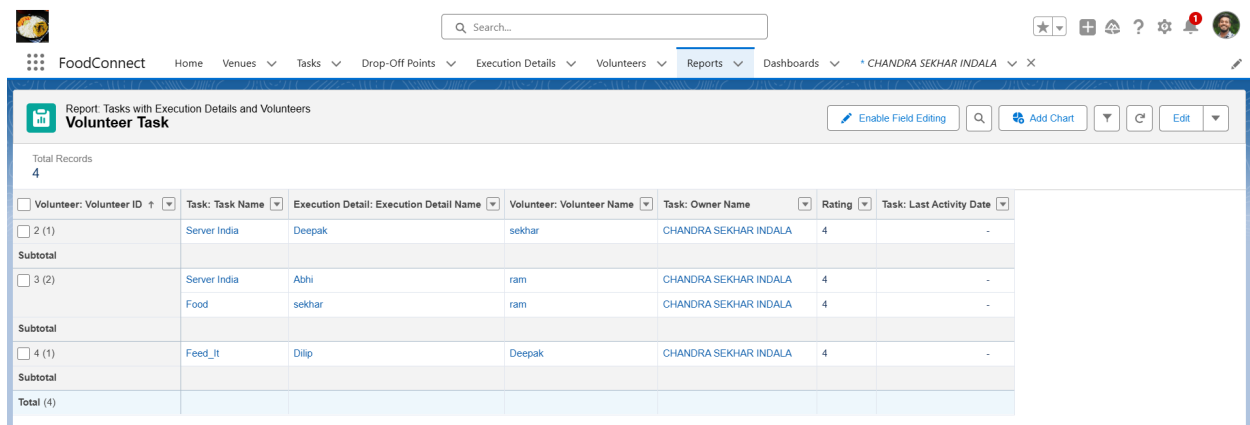
- **Report 1: Venue with Drop-Off Points and Volunteers.**
 - Group Rows: Volunteer Name.
 - Columns: Venue Name, Drop-Off Point Name, Distance.



The screenshot shows the FoodConnect interface with the 'Reports' tab selected. The report title is 'Report: Venue with Drop-Off with Volunteer venue and Drop Off point'. It displays a table with 7 total records and a total distance of 5,373.4900. The table is grouped by Volunteer Name, with columns for Venue Name, Drop-Off point Name, and Distance.

Volunteer Name	Venue Name	Drop-Off point Name	Distance
- (2)	NBK grounds	Golkonda	45.0000
	Charminar	Nampally	25.0000
Subtotal			70.0000
Abhi (1)	NBK grounds	Nizamabad	5,081.1000
Subtotal			5,081.1000
Deepak (1)	Charminar	Hyderabad	222.3900
Subtotal			222.3900
Dilip (1)	NBK grounds	Nizamabad	5,081.1000
Subtotal			5,081.1000
ram (1)	Charminar	Hyderabad	222.3900
Subtotal			222.3900
sekhar (1)	Charminar	Hyderabad	222.3900
Subtotal			222.3900
Total (7)			5,373.4900

- **Report 2: Volunteers with Execution Details and Tasks.**
 - Group Rows: Volunteer ID.
 - Columns: Volunteer Name, Task Name, Execution Detail Name



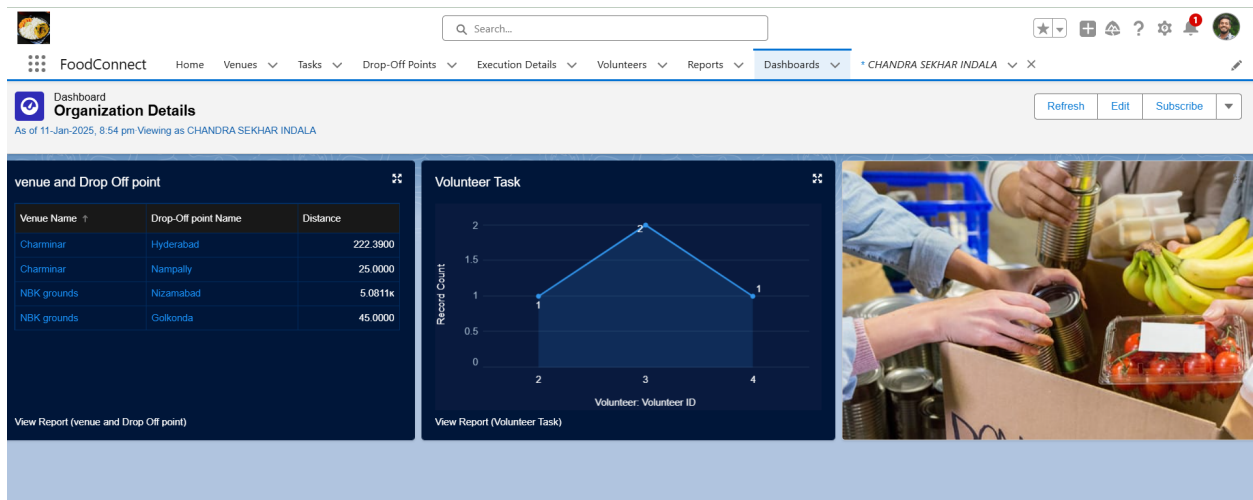
The screenshot shows the FoodConnect interface with the 'Reports' tab selected. The report title is 'Report: Tasks with Execution Details and Volunteers Volunteer Task'. It displays a table with 4 total records. The table is grouped by Volunteer ID, with columns for Task Name, Execution Detail Name, Volunteer Name, Task Owner Name, Rating, and Task Last Activity Date.

Volunteer: Volunteer ID	Task: Task Name	Execution Detail: Execution Detail Name	Volunteer: Volunteer Name	Task: Owner Name	Rating	Task: Last Activity Date
2 (1)	Server India	Deepak	sekhar	CHANDRA SEKHAR INDALA	4	-
Subtotal						
3 (2)	Server India	Abhi	ram	CHANDRA SEKHAR INDALA	4	-
	Food	sekhar	ram	CHANDRA SEKHAR INDALA	4	-
Subtotal						
4 (1)	Feed_It	Dilip	Deepak	CHANDRA SEKHAR INDALA	4	-
Subtotal						
Total (4)						

Step - 7 :

Create Dashboards:

- Dashboard: **Organization Details.**
 - Components:
 - Lightning Table: Venue and Drop-Off Point Report.
 - Line Chart: Volunteer Task Report.



Step - 8 :

Testing and Deployment

Testing:

- Perform unit tests on all triggers and flows.
- Validate sharing rules and report data accuracy.
- Ensure dashboard visualizations align with user needs.

Deployment:

- Deploy the app to production.
- Provide training to users on using FoodConnect, including reports and dashboards

5. Testing and Validation

Unit Testing

Objective:

Validate that the Apex Classes, Triggers, and custom logic function correctly and handle edge cases.

Steps:

Apex Trigger Testing:

- Write test classes for all Apex Triggers (e.g., `DropOffTrigger`).
- Ensure that triggers handle record inserts, updates, and bulk operations.

Flow Testing:

- Debug flows using the **Debug** feature in the Flow Builder.
- Validate expected behavior for both successful and failed scenarios.

Custom Validation Rules Testing:

- Attempt to create or update records violating validation rules.
- Ensure error messages are displayed appropriately.

User Interface Testing

Objective:

Verify the UI is intuitive, functional, and meets user requirements.

Steps:

1. Navigation Testing:

- Ensure all navigation items (Home, Venue, Drop-Off Point, etc.) are accessible in the FoodConnect app.
- Validate that tabs and links redirect to the correct pages.

2. Report and Dashboard Testing:

- Open the **Venue with DropOff with Volunteer** and **Volunteer Task** reports.
- Validate that data is grouped and displayed correctly based on requirements.

- Check the dashboards for proper chart rendering (e.g., Lightning Table, Line Chart).
3. **Home Page Testing:**
- Confirm that the Venue Flow and Organization Details Dashboard appear on the Home Page.
 - Verify that clicking on dashboard components navigates to the correct report

6. Key Scenarios Addressed by Salesforce in the Implementation Project

- **Volunteer and Task Management:** Tracking volunteer activities and assigning tasks through related objects like Volunteers and Execution Details.
- **Location-Based Operations:** Using geolocation fields to calculate distances between Venues and Drop-Off Points for operational efficiency.
- **Data Accessibility:** Implementing sharing rules to provide role-based access to data for Iksha, NSS, and Street Cause users.
- **Custom Reporting:** Enabling detailed insights with reports such as "Venue with DropOff with Volunteer" and "Volunteers with Execution Details and Tasks."
- **Visual Dashboards:** Creating dashboards with Lightning components to provide a consolidated view of organizational performance and volunteer task execution.
- **Process Automation:** Leveraging triggers and flows to automate repetitive tasks like distance assignment and data validation.

7. Conclusion

The Salesforce implementation project streamlined NGO operations by organizing data with custom objects and automating processes like distance calculations. Role-based sharing rules ensured secure access, while custom reports and dashboards provided actionable insights. A user-friendly Lightning App enhanced accessibility and usability. The project successfully met its objectives, showcasing Salesforce's efficiency in addressing complex organizational needs.

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