



To Supply Leftover Food To Poor

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1. Project Overview

This project focused on To Supply Leftover Food to the Poor, designed to address the widespread issue of food wastage and the difficulty of efficiently distributing leftover food to those in need. The project aims to create an organized, sustainable solution that minimizes food waste by redistributing surplus food to vulnerable communities, alleviating hunger, and promoting social equity. The goal is to deliver a comprehensive solution by leveraging Salesforce's powerful CRM capabilities, which include Lightning Apps, Flows, Triggers, and Reports, to automate key processes such as food collection, volunteer management, and real-time tracking of food distribution. By integrating these tools, the project will facilitate streamlined workflows, ensure data accuracy, and enable seamless coordination between volunteers, donors, and recipients.

Through this project, we aim to enhance operational efficiency by automating the distribution process, reducing manual effort, and ensuring timely delivery of food to those in need. The automation and real-time reporting provided by Salesforce will also improve data accuracy, enabling better decision-making and more effective management of resources. Additionally, the project is designed to enhance the user experience for all stakeholders involved, including donors, volunteers, and recipients, by providing an easy-to-use platform for managing food donations and tracking the distribution process.

By addressing food wastage and hunger simultaneously, this project supports the long-term goals of promoting sustainability, reducing food waste, and improving access to nutritious food. It aims to foster community engagement, empowering individuals and organizations to actively participate in addressing hunger, while also contributing to broader sustainability and corporate social responsibility initiatives. The project has the potential to scale, creating a replicable model for food redistribution that can be adopted by other communities and organizations to drive lasting change in food security and waste reduction.

2. Objectives:

2.1 Business Goals:

1. Reduce Food Waste:

This project aims to create an efficient system to redirect surplus food from restaurants, events, and households to those in need. By leveraging Salesforce, the platform will ensure timely identification, collection, and redistribution of edible food. This minimizes food waste, reducing the environmental impact caused by discarded food in landfills.

2. Enhance Community Engagement:

The project encourages active participation by allowing individuals, businesses, and organizations to contribute food, volunteer time, or provide resources. A user-friendly platform will facilitate easy registration, tracking, and recognition of contributions. This fosters a sense of belonging and shared responsibility in tackling hunger and food waste.

2.2 Specific Outcomes:

1. Centralized Data Management:

A Salesforce-powered system will track food donations, volunteer registrations, and delivery records in real-time. It ensures data is organized, accessible, and secure, eliminating manual processes to reduce errors and enhance coordination.

2. Automated Workflows:

Automation through Salesforce Flows will streamline operations, handling tasks such as volunteer assignments, pickup scheduling, and recipient notifications. This reduces administrative effort and ensures timely and reliable food delivery.

3.Volunteer Management:

A dedicated module will manage volunteer recruitment, onboarding, and task assignments. A user-friendly portal enables volunteers to view schedules, sign up for tasks, and stay informed, ensuring high engagement and efficiency.

4.Food Redistribution Network:

A structured network of volunteers, drop-off points, and routes will ensure efficient food collection and distribution.

5.Analytics and Reporting:

Dashboards and reports will track volunteer tasks, volunteers with execution details and tasks. These insights help measure impact, identify areas for improvement, and demonstrate success to stakeholders.

3. Salesforce Key Features and Concepts Utilized

The project to supply leftover food to the poor leveraged several key features and concepts within Salesforce to ensure efficiency, transparency, and scalability. Below are the main functionalities used:

1. Custom Objects and Relationships

- Objects such as **Venue**, **Drop-Off Point**, **Task**, **Volunteer**, and **Execution Details** were created to manage data related to food donations, volunteer activities, and delivery tasks.
- Relationships like **Master-Detail** and **Lookup** were used to establish connections between objects, ensuring smooth data flow and accountability.

2. Automation with Flows and Triggers

- Salesforce **Flows** were designed to automate processes like volunteer assignment, food pickup scheduling, and notification alerts.
- A **Trigger** was implemented to calculate distances for efficient route planning, ensuring food deliveries were optimized.

3. Geolocation Features

- The **Geolocation** field type was used for tracking and calculating distances between donor locations, drop-off points, and beneficiaries.
- The **DISTANCE()** formula was applied to automate route optimization and delivery planning.

4. Reports and Dashboards

- Custom **Reports** provided insights into metrics like the amount of food donated, number of deliveries completed, and volunteer engagement.
- **Dashboards** visually displayed key performance indicators, enabling real-time monitoring and decision-making.

5. Sharing Rules and Security

- **Public Groups** and **Sharing Rules** ensured that data access was restricted appropriately, maintaining privacy for sensitive donor and recipient information.
- **Profiles** and **Permissions** were tailored to provide role-based access for admins, volunteers, and donors.

6. Lightning App

- A **custom Lightning App** was created to provide a centralized and user-friendly interface for managing donations, tasks, and volunteer activities.
- Tabs and layouts were customized to improve the user experience.

7. User Management

- Multiple user profiles, including donors, volunteers, and administrators, were created to cater to the diverse needs of stakeholders.
- User roles were aligned with their responsibilities, ensuring seamless collaboration.

8. Data Validation and Accuracy

- **Validation Rules** were implemented to ensure accurate data entry, such as proper location inputs and realistic task assignments.
- Formula fields calculated dynamic values, like distances, to reduce manual errors.

9. Scalability and Customization

- The solution was designed to be scalable, allowing the project to expand to new regions or accommodate more stakeholders without performance issues.
- The system can be customized to adapt to specific community needs, ensuring long-term sustainability.

10. Impact Tracking and Transparency

- Salesforce ensured full accountability by tracking every donation, task, and delivery.
- Reports and logs provided transparency, showing donors and stakeholders how their contributions were being utilized.

By utilizing these Salesforce features and concepts, the project created an organized, automated, and transparent solution to address food waste and hunger effectively.

4. Detailed Steps to Solution Design :

STEP 1:

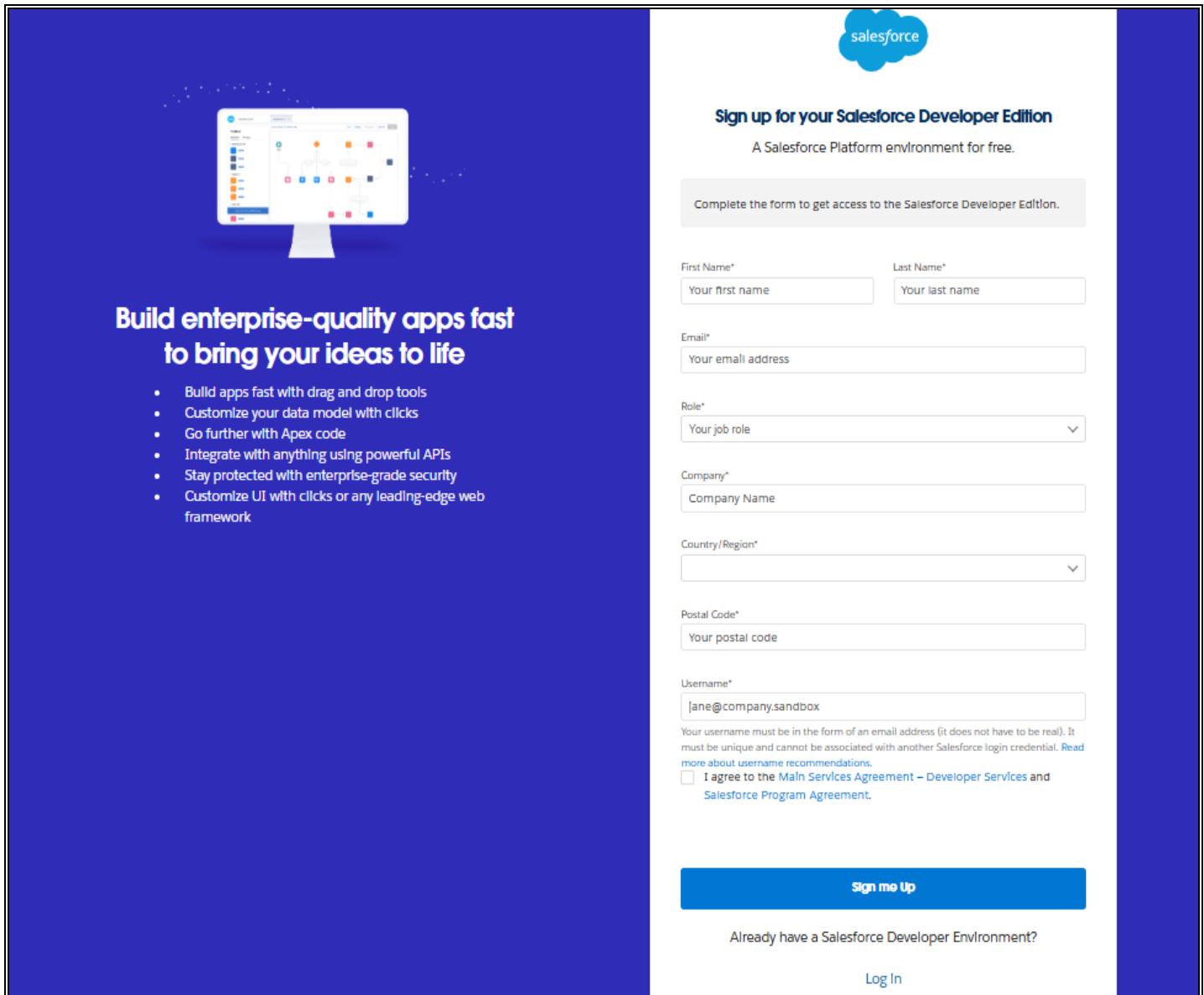
Salseforce Developer Account Creation:

To start the project, first we have to create a salesforce developer org.

A free Salesforce account that provides access to a development environment for building, testing, and deploying Salesforce applications.

- **Creating Developer Account :**

1. Go to <https://developer.salesforce.com/signup>



The image shows a screenshot of the Salesforce Developer Edition sign-up page. The page has a blue header with the Salesforce logo. Below the header, there's a heading "Sign up for your Salesforce Developer Edition" and a sub-instruction "A Salesforce Platform environment for free." A large call-to-action button at the bottom says "Sign me Up". To the left of the form, there's a sidebar with a "Build enterprise-quality apps fast to bring your ideas to life" section containing a bulleted list of features.

Sign up for your Salesforce Developer Edition
A Salesforce Platform environment for free.

Complete the form to get access to the Salesforce Developer Edition.

First Name*

Last Name*

Email*

Role*

Company*

Country/Region*

Postal Code*

Username*

Your username must be in the form of an email address (it does not have to be real). It must be unique and cannot be associated with another Salesforce login credential. [Read more about username recommendations.](#)

I agree to the [Main Services Agreement – Developer Services](#) and [Salesforce Program Agreement](#).

Sign me Up

Already have a Salesforce Developer Environment?
[Log In](#)

Build enterprise-quality apps fast to bring your ideas to life

- Build apps fast with drag and drop tools
- Customize your data model with clicks
- Go further with Apex code
- Integrate with anything using powerful APIs
- Stay protected with enterprise-grade security
- Customize UI with clicks or any leading-edge web framework

2. On the sign up form, enter the following details :

1. First name & Last name
2. Email
3. Role : Developer
4. Company : College or Company Name
5. County : India
6. Postal Code : pin code
7. Username : should be a combination of your name and company

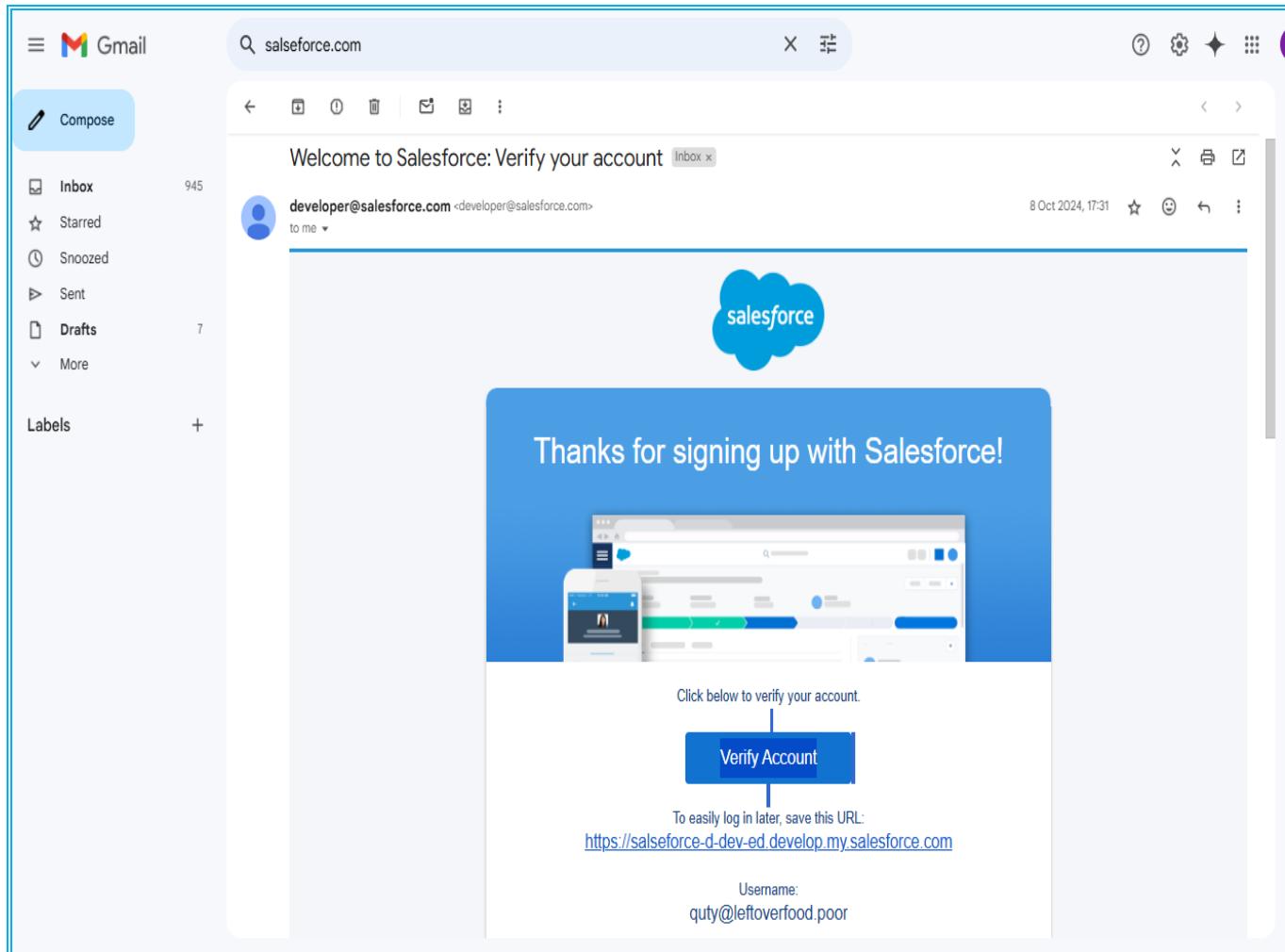
This need not be an actual email id, you can give anything in the format :

username@organization.com

Click on sign me up after filling these.

● Account Creation :

1. Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account. The email may take 5-10 mins.
2. Click on verify Account



3. Give a password and answer a security question and click on change password.
As I have already changed the password, showing here an example screen.

Change Your Password

Enter a new password for lead@sb.oom.
Make sure to include at least:

- 8 characters
- 1 letter
- 1 number

* New Password
..... Good

* Confirm New Password
..... Match

Security Question
In what city were you born?

* Answer
asdfghjkl

Change Password

4. Then you will redirect to your salesforce setup page.

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

ADMINISTRATION

> Users

> Data

> Email

Most Recently Used

10 items

NAME TYPE OBJECT

STEP 2:

Objects Creation:

Object: A database table in Salesforce that stores specific data, such as custom objects for unique business needs or standard objects like Accounts and Contacts.

We can create objects in several ways in Salesforce; here, I have created objects by using the object manager. While creating objects, check the options (enable reports, track actions, and track field reports).

1.Venue:

- **Purpose:** Represents the location where leftover food is collected or sourced. This could be a restaurant, event venue, or other food donation source.

Creation of Venue Object :

After creating the object, we can find it in the object manager for further modifications.

The screenshot shows the Salesforce Object Manager interface. At the top, there's a navigation bar with icons for Setup, Home, and Object Manager. The main title is 'SETUP > OBJECT MANAGER' followed by the object name 'venue'. On the left, a sidebar lists various configuration options: Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main panel is titled 'Details' and contains fields for Description, API Name (set to 'venue_c'), Custom (checked), Singular Label (set to 'venue'), and Plural Label (set to 'venues'). To the right of these fields are checkboxes for 'Enable Reports' (checked), 'Track Activities' (checked), 'Track Field History' (checked), and 'Deployment Status' (set to 'Deployed'). Below these checkboxes are 'Help Settings' and a link to 'Standard salesforce.com Help Window'. At the bottom right of the main panel are 'Edit' and 'Delete' buttons.

These are the fields to be created.

➤ **Fields :**

- **Venue Name** : A text field to represent the name of the location (e.g., "City Banquet Hall").
- **Venue Location** :A long text area field to represent the location of the venue.
- **Location** : A geolocation field to represent the location of the venue.
- **Contact Email** : An email field to represent the email of the owner.
- **Contact Phone** : A Phone field to represent the number of the owner.

The screenshot shows the Salesforce Object Manager Fields & Relationships page for the 'venue' object. The page title is 'SETUP > OBJECT MANAGER venue'. On the left, there's a sidebar with various navigation links: Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled 'Fields & Relationships' and shows a table of 8 items, sorted by Field Label. The table has columns: FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The data is as follows:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Contact Email	Contact_Email_c	Email		
Contact Phone	Contact_Phone_c	Phone		
Created By	CreatedBy	Lookup(User)		
Last Modified By	LastModifiedBy	Lookup(User)		
Location	Location_c	Geolocation		
Owner	OwnerId	Lookup(User,Group)		✓
Venue Location	Venue_Location_c	Long Text Area(32768)		
venue Name	Name	Name		✓

2. Drop-Off Point:

- **Purpose** : Represents the location where food is temporarily stored or distributed to recipients.

Creation of Drop-Off Point Object :

After creating the object, we can find it in the object manager for further modifications.

The screenshot shows the Salesforce Setup interface with the 'Object Manager' selected. The left sidebar lists various configuration options like Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main panel displays the 'Drop-Off Point' object details. The 'Details' tab is selected, showing the API Name as 'Drop__c', Singular Label as 'Drop-Off Point', and Plural Label as 'Drop-Off Points'. On the right, there are checkboxes for enabling Reports, Activities, Field History, and Deployment Status, all of which are checked. Buttons for 'Edit' and 'Delete' are located at the top right of the details panel.

These are the fields to be created.

➤ **Fields :**

- **Drop-Off Point Name** : A text field to represent the name of the location (e.g., "Community Shelter A").
- **Location 2** : A geolocation field to represent the location of the drop-off point.
- **Distance** : A Number field to represent the distance.
- **Distance Calculation** : A formula field to calculate the distance between the drop-off point and venue in km.
Formula : DISTANCE(Location_2_c , venue_r.Location_c , 'km')
- **State** : A picklist field to select from the list of state names.

➤ **Relationships :**

- **Venue** : A lookup relationship to the venue object.

The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes links for Setup, Home, and Object Manager. The main title is 'SETUP > OBJECT MANAGER Drop-Off Point'. On the left, a sidebar lists various configuration options: Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled 'Fields & Relationships' and displays a table of nine fields. The table columns are: FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Distance	Distance_c	Number(18, 0)		
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		

3. Execution Detail:

- **Purpose:** Captures the details about the execution specifications of food collection and distribution.

Creation of Execution Detail Object :

After creating the object, we can find it in the object manager for further modifications.

The screenshot shows the Salesforce Setup interface with the 'Object Manager' selected. The page title is 'Execution Detail'. On the left, a sidebar lists various setup categories like Fields & Relationships, Page Layouts, and Lightning Record Pages. The main content area displays the 'Details' tab for the Execution Detail object. It includes fields for API Name (Execution_Detail__c), Singular Label (Execution Detail), and Plural Label (Execution Details). To the right, there are checkboxes for enabling Reports, Activities, Field History, and Deployment Status, all of which are checked. Buttons for 'Edit' and 'Delete' are located at the top right of the details section.

These are the fields to be created.

➤ **Fields :**

- **Execution ID**: A number field to represent the unique identifier for the task.
- **Execution Detail Name** : A text field to represent the task name.
- **Task Count** : List of volunteers responsible for the task.
- **Status** : Execution status (e.g., Pending, In Progress, Completed).

➤ **Relationships :**

- **Task** : A master-detail relationship to the task object.
- **Volunteer** : A master-detail relationship to the volunteer object.
- **Drop-Off Point** : A lookup relationship to the drop-off point object.

The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes links for Setup, Home, and Object Manager. The main title is "SETUP > OBJECT MANAGER" followed by "Execution Detail". On the left, there is a sidebar with various options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, etc. The main content area is titled "Fields & Relationships" and displays a table of nine items, sorted by Field Label. The table columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are:

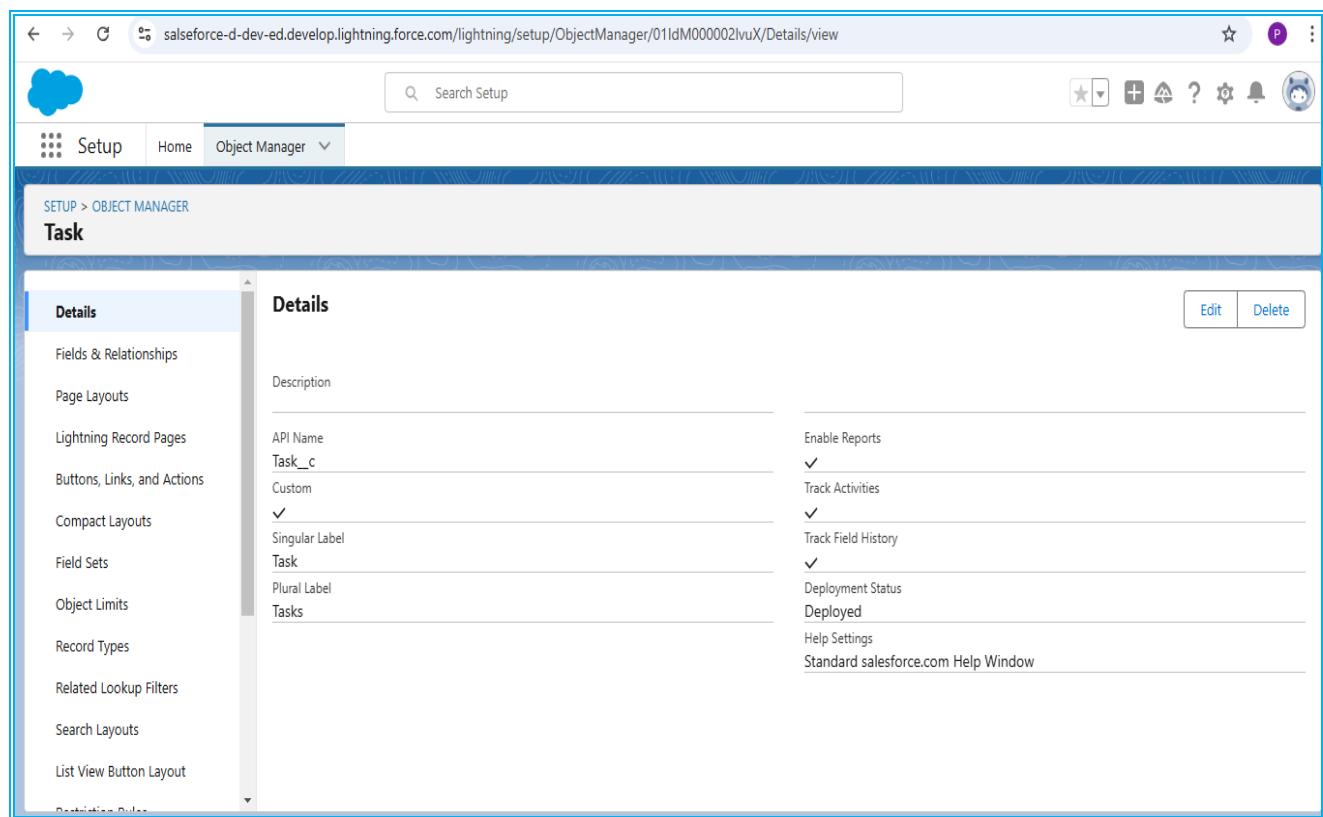
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Drop-Off Point	Drop_Off_Point_c	Lookup(Drop-Off Point)		✓
Execution Detail Name	Name	Text(80)		✓
Execution ID	Execution_ID_c	Number(18, 0)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Status	Status_c	Picklist		
Task	Task_c	Master-Detail(Task)		✓
Task Count	Task_Count_c	Number(18, 0)		

4. Task:

- **Purpose:** Represents individual assignments needed for the successful redistribution of food.

Creation of Task Object :

After creating the object, we can find it in the object manager for further modifications.



The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes a cloud icon, a search bar labeled "Search Setup", and various navigation links like "Setup", "Home", and "Object Manager". The main area displays the "Task" object details. On the left, a sidebar lists various configuration tabs: "Fields & Relationships", "Page Layouts", "Lightning Record Pages", "Buttons, Links, and Actions", "Compact Layouts", "Field Sets", "Object Limits", "Record Types", "Related Lookup Filters", "Search Layouts", and "List View Button Layout". The main "Details" section shows the following fields:

Description	API Name	Enable Reports
	Task_c	✓
Custom		Track Activities
✓	Singular Label	✓
Task	Plural Label	Track Field History
	Tasks	✓
		Deployment Status
		Deployed
		Help Settings
		Standard salesforce.com Help Window

At the bottom right of the main area are "Edit" and "Delete" buttons.

These are the fields to be created.

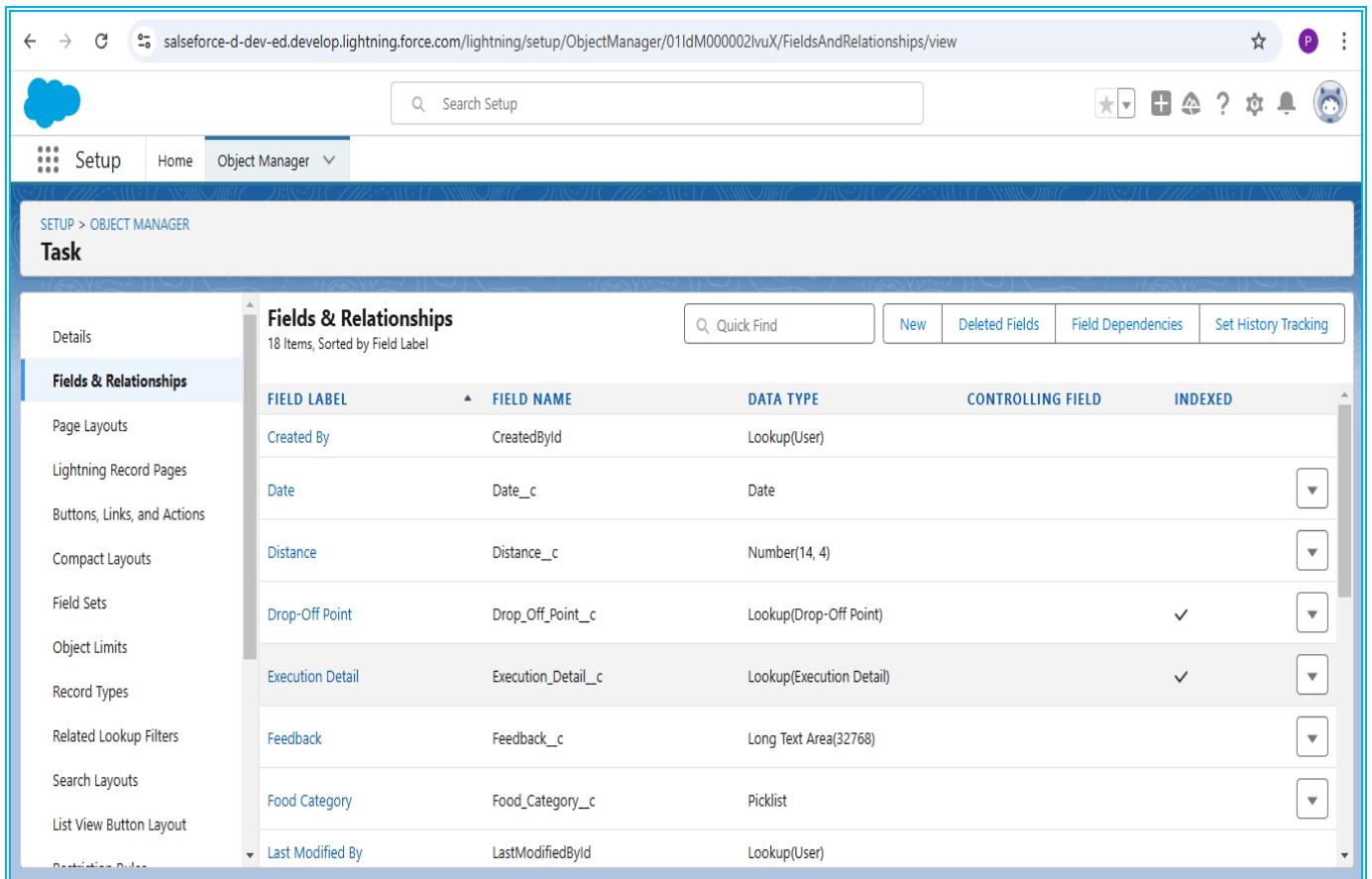
➤ Fields :

- **Task Name** : A text field to represent the task name or description of the task (e.g., "Pickup from Venue A").
- **Task ID** : A auto number field to represent the unique identifier for the task.
- **Food Category** : A picklist field to select from the list of food categories(e.g., "veg, non-veg, salad or snacks").
- **Name of the person** : A text field to represent the name of the person.

- **Number of people served** : A number field to represent the no.of people to be served.
- **Distance** : A number field to represent the distance.
- **Date** : A date field to represent the execution date of the task.
- **Status** : Current task status (e.g., Not Started, In Progress, Completed).
- **Rating** : A picklist field to select a rating value from 1 to 5.
- **Phone** : A phone field to represent the phone number.
- **Feedback** : A long text area field to represent the feedback.

➤ **Relationships :**

- **Venue** : A lookup relationship to the drop-off point object.
- **Volunteer** : A master-detail relationship to the volunteer object.
- **Execution Detail** : A lookup relationship to the execution-detail object.
- **Drop-Off Point** : A lookup relationship to the drop-off point object



The screenshot shows the Salesforce Object Manager interface for the 'Task' object. The left sidebar lists various setup options like Page Layouts, Lightning Record Pages, Buttons, etc. The main content area is titled 'Fields & Relationships' and displays a table of fields. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The indexed column contains checkmarks for most fields except 'Date'. The table data is as follows:

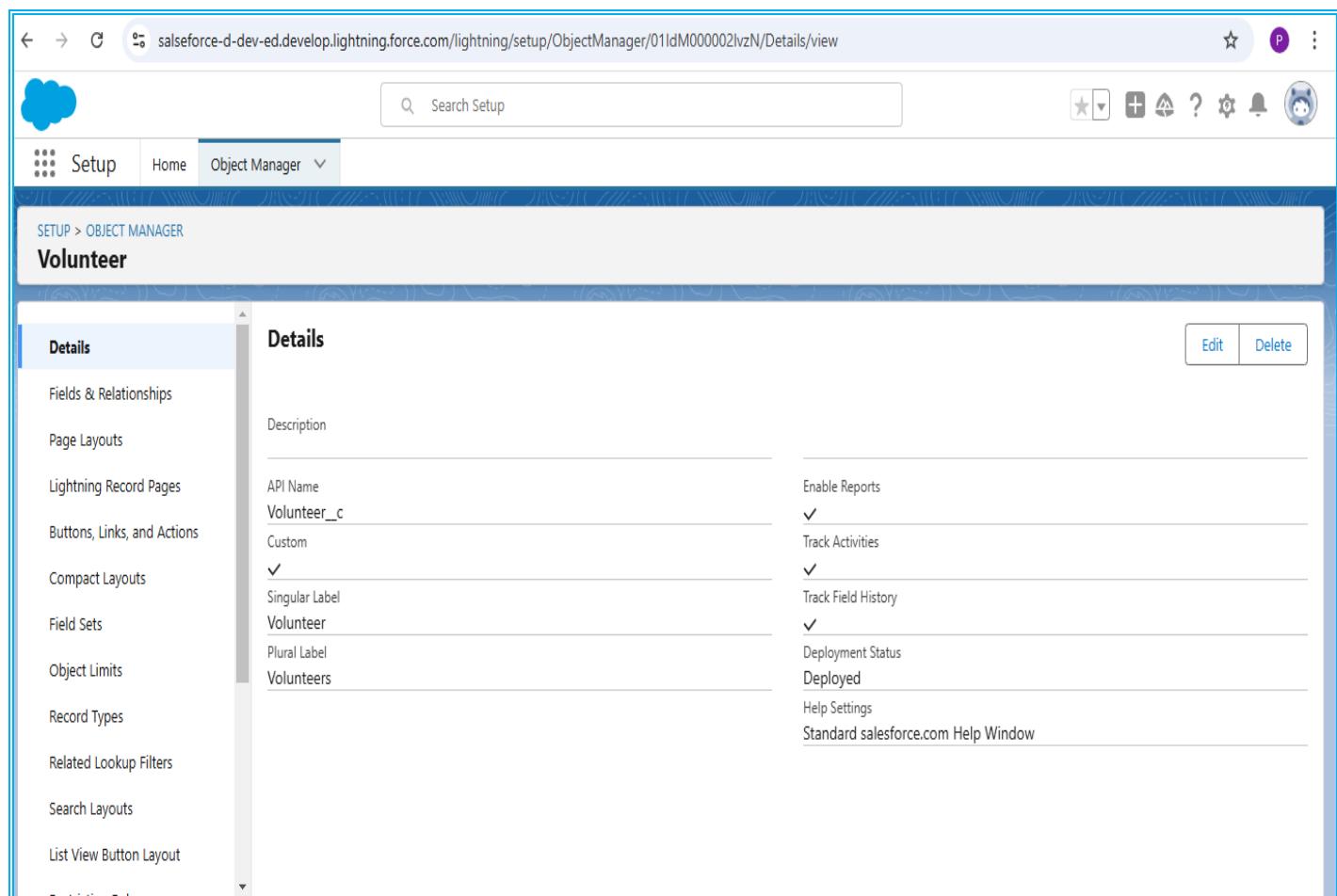
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Date	Date_c	Date		
Distance	Distance_c	Number(14, 4)		
Drop-Off Point	Drop_Off_Point_c	Lookup(Drop-Off Point)		✓
Execution Detail	Execution_Detail_c	Lookup(Execution Detail)		✓
Feedback	Feedback_c	Long Text Area(32768)		
Food Category	Food_Category_c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		

5. Volunteer:

- **Purpose:** Captures details about individuals who participate in food redistribution activities.

Creation of Volunteer Object :

After creating the object, we can find it in the object manager for further modifications.



The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes a back arrow, forward arrow, a refresh icon, and the URL 'salesforce-d-dev-ed.lightning.force.com/lightning/setup/ObjectManager/01lM000002lvzN/Details/view'. Below the URL is a search bar labeled 'Search Setup' and a toolbar with icons for star, plus, minus, question mark, gear, bell, and user profile. The main header says 'SETUP > OBJECT MANAGER' and 'Volunteer'. On the left, a sidebar lists various configuration tabs: Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled 'Details' and shows the following fields:
Description
API Name: Volunteer_c
Custom: ✓
Singular Label: Volunteer
Plural Label: Volunteers
Enable Reports: ✓
Track Activities: ✓
Track Field History: ✓
Deployment Status: Deployed
Help Settings: Standard salesforce.com Help Window

These are the fields to be created.

➤ **Fields :**

- **Volunteer Name:** A text field to represent the volunteer name.
- **Volunteer ID:** An auto number field to represent the unique identifier for the volunteer.
- **Gender:** Phone number and email address.

- **Email** : An email field to represent the email of the volunteer.
 - **Contact Number** : A Phone field to represent the phone number of the volunteer.
 - **Age** : A number field to represent the age of the volunteer.
 - **Date Of Birth**: A date field to represent the DOB of the volunteer.
 - **Available On** : A date field to represent the availability of the volunteer for the help.
 - **Address**: A long text area field to represent the address of the volunteer.
- **Relationships :**
- **Drop-Off Point** : A master-detail relationship to the drop-off point object.

The screenshot shows the Salesforce Object Manager interface for the 'Volunteer' object. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main content area is titled 'Fields & Relationships' and displays a table of 12 items, sorted by Field Label. The table columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The 'CONTROLLING FIELD' column for the 'Drop-Off Point' row contains a dropdown arrow icon, indicating it is a master-detail relationship.

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	Phone		
Created By	CreatedBy	Lookup(User)		
Date Of Birth	DateOfBirth_c	Date		
Drop-Off Point	Drop_Off_Point_c	Master-Detail(Drop-Off Point)	▼	
Email	Email_c	Email		

STEP 3:

Tabs Creation:

Tab : A tab is like a user interface that is used to build records for objects and to view the records in the objects.

Custom Tab Creation:

To create a Tab:

1. Go to the setup page >> type Tabs in the Quick Find bar >> click on tabs >> New (under the custom object tab)
2. Select Object >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) uncheck the include tab.
3. Make sure that the Append tab to users' existing personal customizations is checked.
4. Click save

The screenshot shows the Salesforce Setup interface with the following details:

- Header:** Search Setup, Exit full screen (Esc).
- Left Navigation:** Setup, Home, Object Manager, User Interface (selected), Rename Tabs and Labels, Tabs.
- Message:** Didn't find what you're looking for? Try using Global Search.
- Section:** **Custom Tabs** (under SETUP).
- Description:** You can create new custom tabs to extend Salesforce functionality or to build new application functionality.
- Table:** **Custom Object Tabs**

Action	Label	Tab Style	Description
Edit Del	Drop-Off Points	Hands	
Edit Del	Execution Details	Factory	
Edit Del	Tasks	People	
Edit Del	venues	Building	
Edit Del	Volunteers	Umbrella	
- Section:** **Web Tabs**

No Web Tabs have been defined.
- Section:** **Visualforce Tabs**

No Visualforce Tabs have been defined.
- Section:** **Lightning Component Tabs**

New What Is This?

STEP 4:

Create a Lightning App:

The Lightning App: A collection of tabs, objects, and features grouped together in Salesforce's Lightning Experience for specific business functions.

To create a lightning app page:

1. Go to the setup page >> search “app manager” in quick find >> select “app manager” >> click on New lightning App.

The screenshot shows the Salesforce Lightning Experience App Manager. The URL in the browser is <https://salesforce-d-dev-ed-develop.lightning.force.com/lightning/setup/NavigationMenus/home>. The page title is "Lightning Experience App Manager". On the left, there is a sidebar with a search bar containing "app manager" and a list of categories: "Apps" (selected), "App Manager" (highlighted in yellow), and "External Client Apps" (with a sub-item "External Client App Manager"). Below this, a message says "Didn't find what you're looking for? Try using Global Search.". The main content area displays a table titled "Lightning Experience App Manager" with 24 items. The columns are: App Name, Developer Name, Description, Last Modified, Type, and Status. The data is as follows:

App Name	Developer Name	Description	Last Modified	Type	Status
1 All Tabs	AllTabSet	Build CRM Analytics dashboards and apps	08/10/2024, 4:54 pm	Classic	✓
2 Analytics Studio	Insights	Build CRM Analytics dashboards and apps	08/10/2024, 4:54 pm	Classic	✓
3 App Launcher	AppLauncher	App Launcher tabs	08/10/2024, 4:54 pm	Classic	✓
4 Automation	FlowsApp	Automate business processes and repetitive tasks.	08/10/2024, 4:58 pm	Lightning	✓
5 Bolt Solutions	LightningBolt	Discover and manage business solutions designed for your ind...	08/10/2024, 4:56 pm	Lightning	✓
6 Business Rules Engine	ExpressionSetConsole	Create and maintain business rules that perform complex look...	12/12/2024, 10:54 ...	Lightning	✓
7 Community	Community	Salesforce CRM Communities	08/10/2024, 4:54 pm	Classic	✓
8 Content	Content	Salesforce CRM Content	08/10/2024, 4:54 pm	Classic	✓
9 Data Manager	DataManager	Use Data Manager to view limits, monitor usage, and manage r...	08/10/2024, 4:54 pm	Lightning	✓
10 Digital Experiences	SalesforceCMS	Manage content and media for all of your sites.	08/10/2024, 4:54 pm	Lightning	✓
11 FoodConnect	FoodConnect		08/10/2024, 6:15 pm	Lightning	✓
12 Lightning Usage App	LightningInstrumentation	View Adoption and Usage Metrics for Lightning Experience	08/10/2024, 4:54 pm	Lightning	✓

2. Fill the app name in app details and branding as follow

App Name : FoodConnect

Developer Name : This will be auto populated

Image : optional (if you want to give any image, you can otherwise not mandatory)

Primary color hex value : keep this default.

3. Then click Next >> (App option page) Set Navigation Style as Standard Navigation >>

Next.

The screenshot shows the 'New Lightning App' setup screen. It has two main sections: 'App Details' and 'App Branding'. In 'App Details', there are fields for 'App Name' (placeholder 'Name your app...'), 'Developer Name' (placeholder 'Enter a developer name...'), and 'Description' (placeholder 'Enter a description...'). In 'App Branding', there is a 'Image' field with a placeholder 'Upload' button, a 'Primary Color Hex' field set to '#0070D2', and an 'Org Theme Options' checkbox. At the bottom right is a 'Next' button.

4. (Utility Items) keep it as default >> Next.

5. To Add Navigation Items:

The screenshot shows the 'Navigation Items' configuration screen. It has two main sections: 'Available Items' and 'Selected Items'. The 'Available Items' section contains a search bar and a list of items: Accounts, All Sites, Alternative Payment Methods, Analytics, App Launcher, Appointment Categories, Appointment Invitations, and Approval Requests. The 'Selected Items' section contains a list of items: venues, Tasks, Home, Drop-Off Points, Execution Details, Volunteers, Reports, and Dashboards. There are also up and down arrows to rearrange the selected items.

Search for the item in the (Home, Venue, Drop-Off Point, Task, Volunteer, Execution Details, Reports) from the search bar and move it using the arrow button >> Next >> Next.

6. To Add User Profiles:

The screenshot shows a user interface for managing user profiles. On the left, under 'Available Profiles', there is a list of profile names. A search bar at the top of this list allows filtering. On the right, under 'Selected Profiles', a single profile named 'System Administrator' is listed. Two arrows between the two sections allow for moving profiles between them. The entire interface is contained within a light blue-bordered box.

User Profiles

Choose the user profiles that can access this app.

Available Profiles

Type to filter list...

Analytics Cloud Integration User

Analytics Cloud Security User

Authenticated Website

Authenticated Website

B2B Reordering Portal Buyer Profile

Contract Manager

Custom: Marketing Profile

Custom: Sales Profile

Custom: Support Profile

Selected Profiles

System Administrator

Search profiles (System administrator) in the search bar >> click on the arrow button >> save & finish.

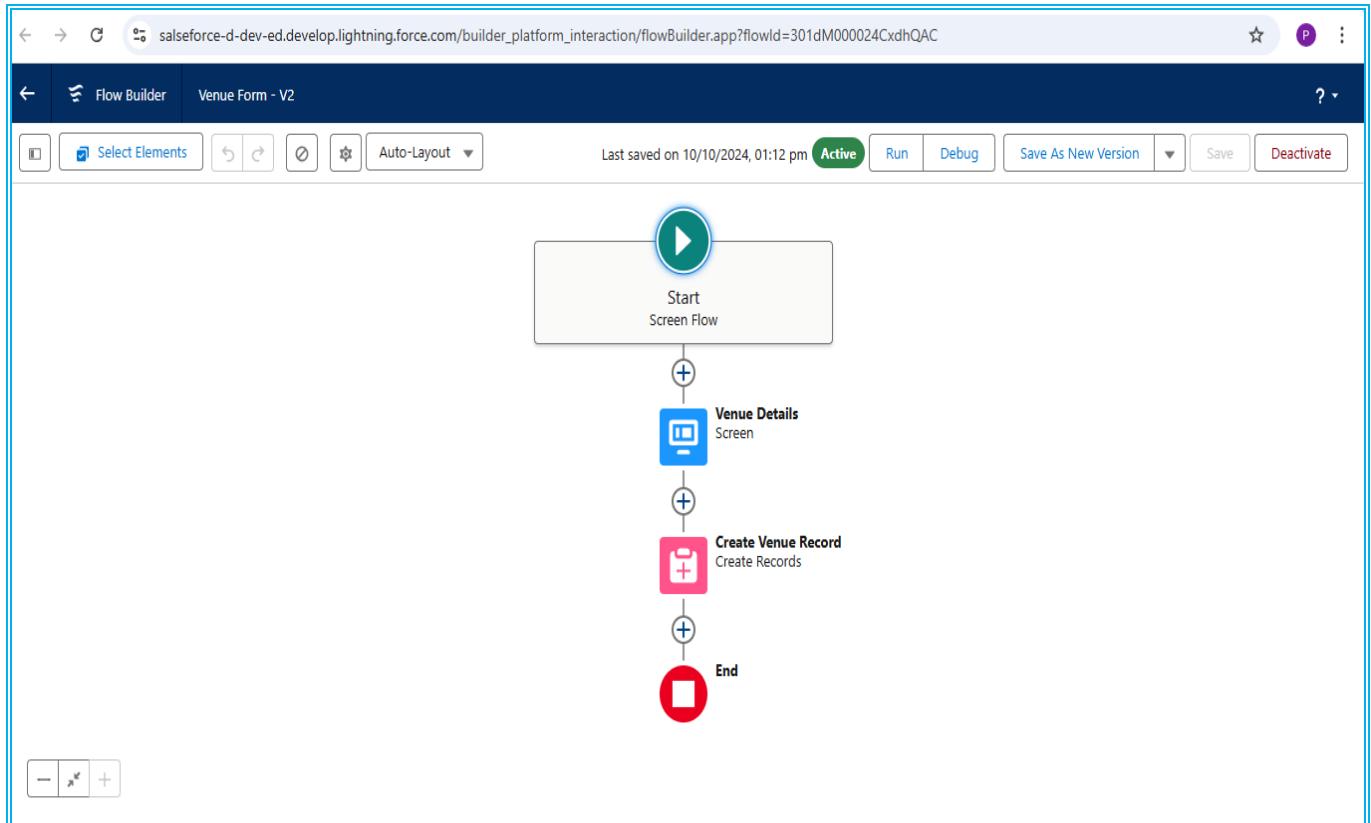
STEP 5:

Flow Creation :

Flows: Declarative automation tools in Salesforce are used to automate complex business processes through visual workflows.

1.Create Flow to create a record in Venue object:

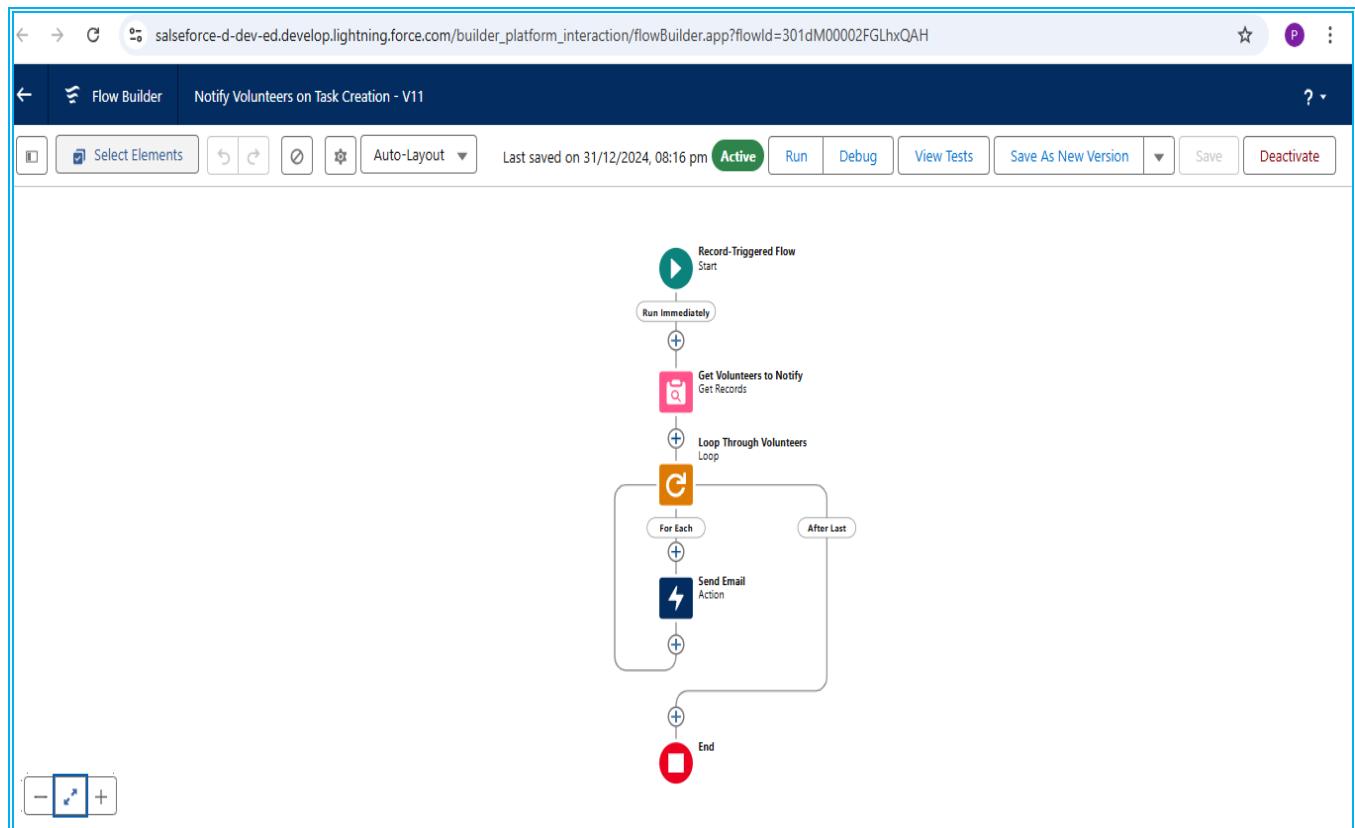
- Select screen flow
- It displays start and end elements; we have to insert elements between these elements in order to create a record for venue object.
- Add screen element and also add the components (venue name, email, phone, location, latitude and longitude)
- Then add the create records element and set field values for the venue.
- Save it as **venue form** and activate the flow.



2.Create Flow to notify Volunteers on new Task Creation and it's Update:

- Select Record-triggered flow
- It displays start and end elements; we have to insert elements between these elements in order to notify volunteers on task creation/updation.
- Object: Task,
Trigger: A record is created or updated
Condition: 1 (Task__c = Not completed)
Optimize for: Actions and related records
- Add get records element to retrieve the volunteer records.
- Then add the loop element to loop through the retrieved records and add send email action inside the loop.

Save it as **Notify Volunteers on Task Creation** and activate the flow.



After activation, the flow works when a task is created or updated.
Email will be sent automatically as shown below.

The screenshot shows a Gmail inbox interface. On the left, there's a sidebar with navigation links like 'Compose', 'Inbox' (965), 'Starred', 'Snoozed', 'Sent', 'Drafts' (8), and 'More'. Below that is a 'Labels' section with a '+' sign. The main area displays an email message. At the top of the message, it says '13 of 1,596'. The email is from 'P Varshitha via fo45zmu4hhnr.dim-ddeihua5.ind136.bnc.salesforce.com' and was sent on 'Tue, 31 Dec 2024, 20:17 (2 days ago)'. The subject of the email is '<p>New Task Assigned: Donation</p>'. The body of the email contains the following text:
<p>Hello Lakshmi</p>
<p>A new task has been assigned to you: Donation</p>
<p>Please log in to Salesforce to check more details.</p>
<p>Regards,
Your Organization</p>

STEP 6:

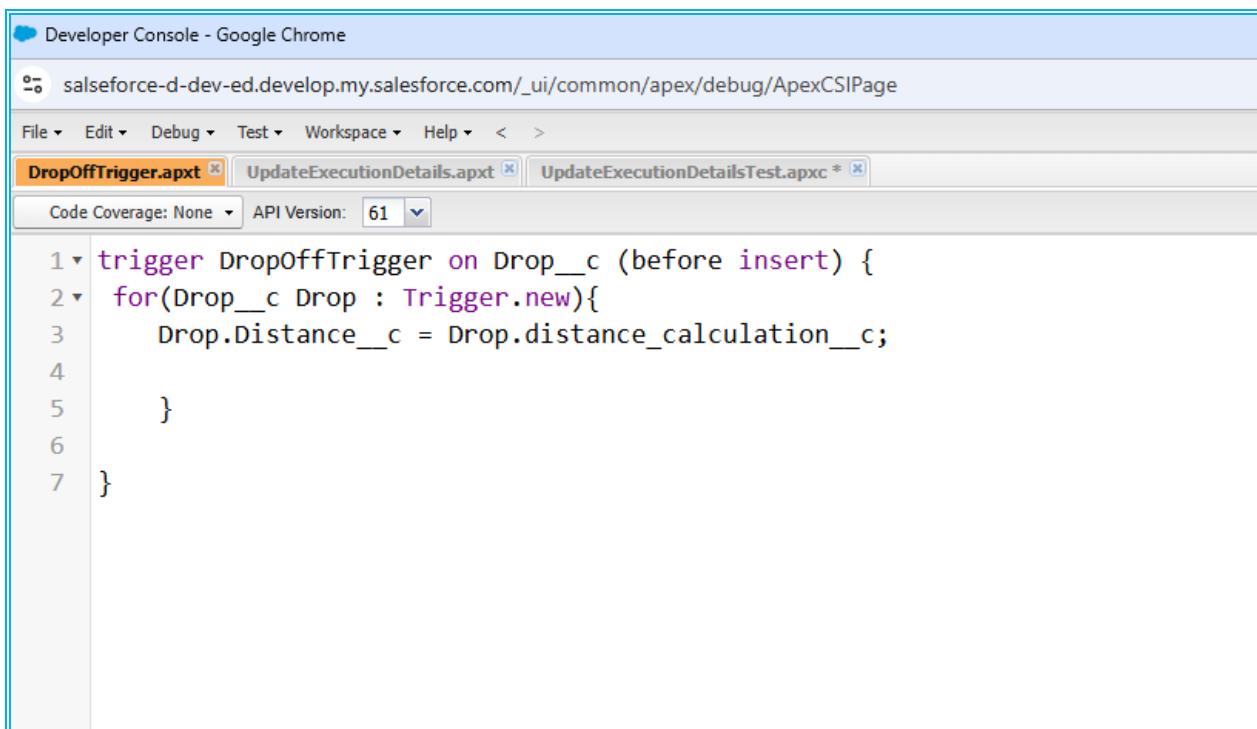
Trigger Creation :

Trigger: Apex code that executes automatically before or after database events like record creation, update, or deletion.

Create a trigger on the Drop-Off Point object:

This trigger is to assign the Distance field to the Distance Calculation field. So that we can assign the distance in the sharing rules.

- Trigger Code :



The screenshot shows the Salesforce Developer Console interface. The title bar says "Developer Console - Google Chrome" and the URL is "salseforce-d-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage". The menu bar includes "File", "Edit", "Debug", "Test", "Workspace", "Help". Below the menu is a tab bar with "DropOffTrigger.apxt" (selected), "UpdateExecutionDetails.apxt", and "UpdateExecutionDetailsTest.apxc". A dropdown for "Code Coverage" is set to "None" and the "API Version" is set to "61". The main code editor area contains the following Apex trigger code:

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

STEP 7:

Profile Creation:

Profiles: Sets of permissions and settings in Salesforce that determine what users can see and do within the platform.

1. Go to setup page >> type Profiles in Quick Find bar >> click on Profiles >> click on 'S'
2. Click on Clone beside Standard Platform User.
3. Under Clone Profile:
Profile Name : NGOs Profile
4. Then click on Save

The screenshot shows the Salesforce Setup interface with the following details:

- Header:** The URL is `salseforce-d-dev-ed.develop.lightning.force.com/lightning/setup/EnhancedProfiles/home`. The page title is "Profiles".
- Left Sidebar:** A search bar with "profiles" typed in. Below it, under "Users", there is a link to "Profiles". A message says "Didn't find what you're looking for? Try using Global Search."
- Central Content:** The "Profiles" page. At the top, there are buttons for "New Profile" and "Edit". Below is a table with one row:

Action	Profile Name	User License	Custom
Edit Del	NGOs Profile	Salesforce Platform	<input checked="" type="checkbox"/>

- Bottom:** Navigation links for "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". Page navigation shows "1-1 of 1" and "Page 1 of 1".

STEP 8:

User Creation:

Purpose: Adding individual accounts in Salesforce to provide login access and assign specific roles and permissions.

1. Go to the setup page >> type users in the Quick Find bar >> click on users>> New user.
2. Give details as per the below example:

First Name : Iksha Foundation

Last Name : Iksha_Foundation

Alias : iiksh

Email : Give Your Email

Username : ikshafoundation@sb.com (give the username different)

Nickname : Auto Populated

User License : Salesforce Platform

Profile : NGOs Profile

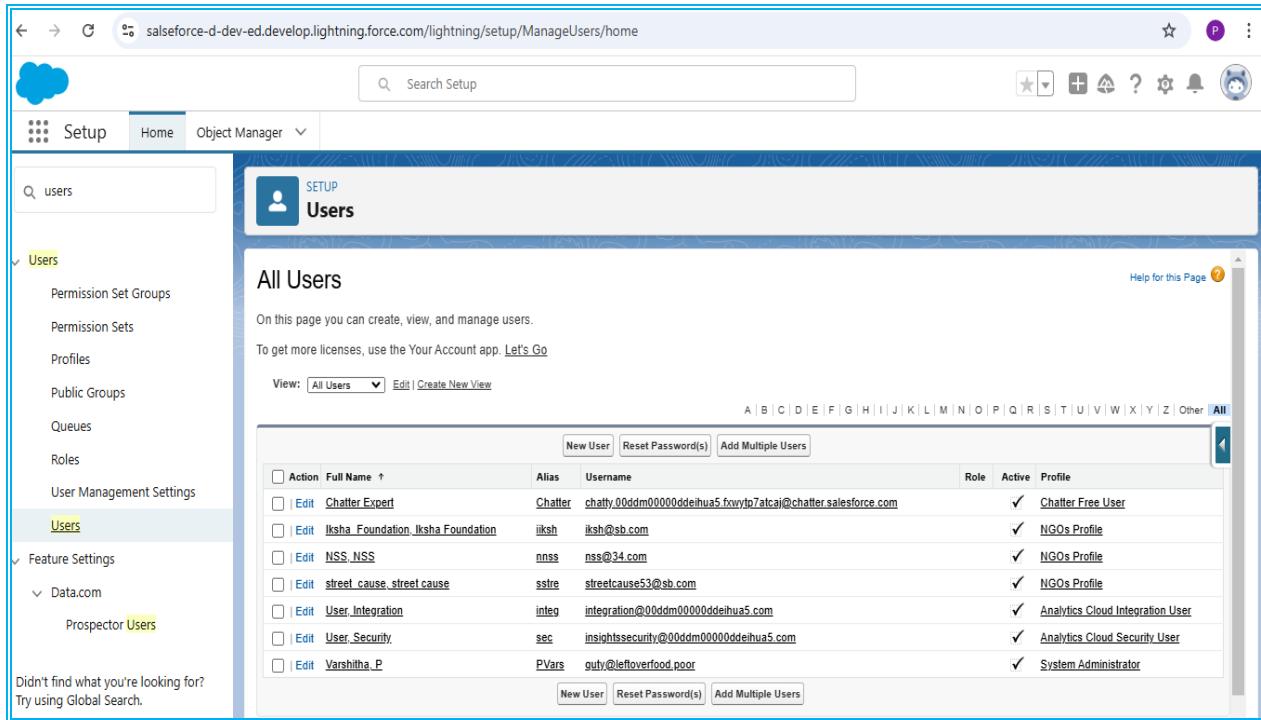
Active : Check

The screenshot shows the Salesforce Setup interface with the following details:

- Page Header:** salseforce-d-dev-ed.develop.lightning.force.com/lightning/setup/ManageUsers/page?address=%2F005dM000008QyNJ%2Fe%3FisUserEntityOverride%3D1%26retURL%3D%...
Setup Home Object Manager
- Left Sidebar:** Users (selected), Feature Settings, Data.com, Prospector Users.
- Search Bar:** users
- Current Page:** Users (Setup)
- User Edit Screen:**
 - General Information:** First Name: Iksha Foundation, Last Name: Iksha_Foundation, Alias: iiksh, Email: puruvarshitha@gmail.com, Username: iksh@sb.com, Nickname: User1728479744850565505, Title: (empty), Company: (empty), Department: (empty), Division: (empty).
 - Role:** <None Specified>
 - User License:** Salesforce Platform
 - Profile:** NGOs Profile
 - Active:**
 - Marketing User:**
 - Offline User:**
 - Knowledge User:**
 - Flow User:**
 - Service Cloud User:**
 - Site.com Contributor User:**
 - Site.com Publisher User:**
 - WDC User:**
 - Data.com User Type:** -None--

Create another two users:

We are created NSS, Iksha Foundation and Street Cause.



The screenshot shows the Salesforce Setup interface for managing users. The left sidebar is titled 'Users' and includes links for Permission Set Groups, Permission Sets, Profiles, Public Groups, Queues, Roles, User Management Settings, and Feature Settings. Under Feature Settings, 'Data.com' and 'Prospector Users' are listed. A note at the bottom says 'Didn't find what you're looking for? Try using Global Search.' The main content area is titled 'All Users' and displays a table of existing users. The table columns are Action, Full Name, Alias, Username, Role, Active, and Profile. The users listed are:

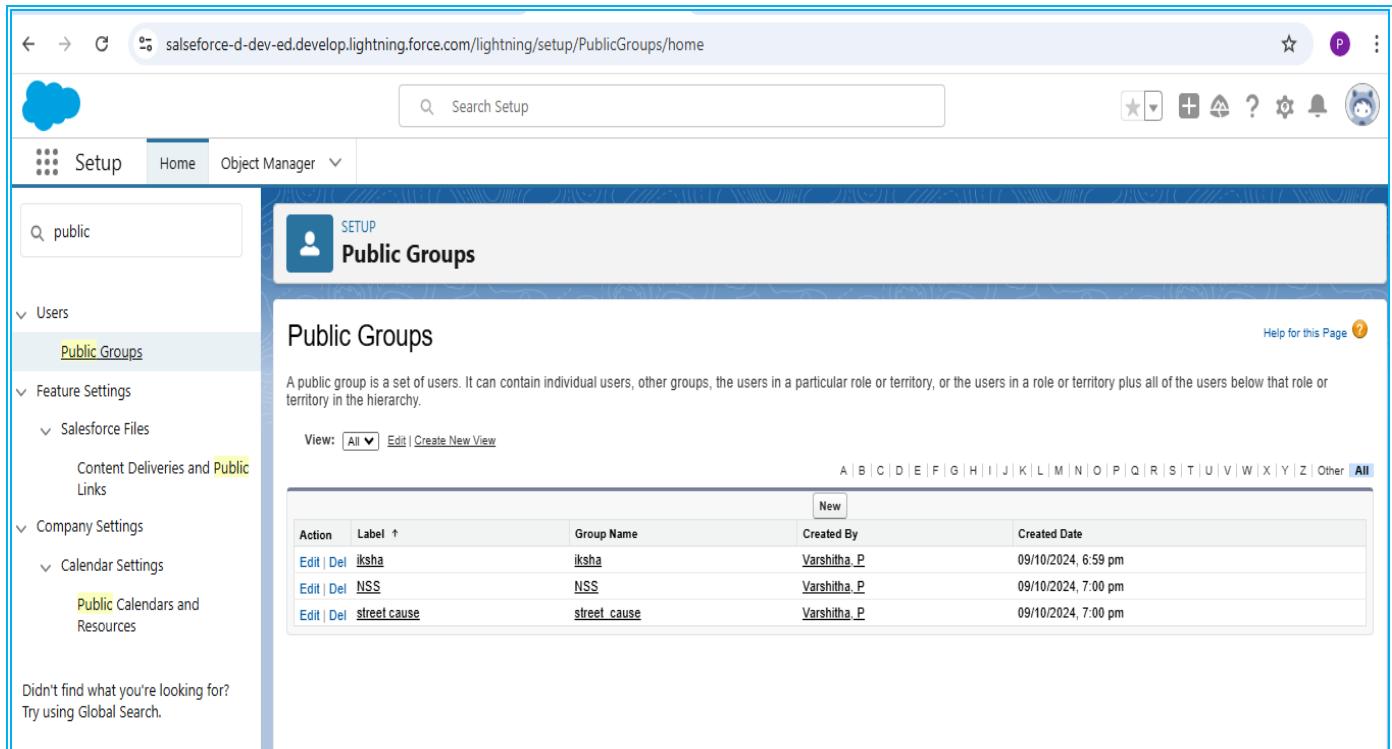
Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/>	Chatter Expert	Chatter	chatty.00ddm0000ddeihua5.fwylo7atcaj@chatter.salesforce.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Chatter Free User
<input type="checkbox"/>	Iksha_Foundation_Iksha Foundation	iksh	iksh@sb.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NGOs Profile
<input type="checkbox"/>	NSS_NSS	nsss	nsss@34.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NGOs Profile
<input type="checkbox"/>	street_cause_street cause	ssire	streetcause53@sb.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NGOs Profile
<input type="checkbox"/>	User_Integration	integ	integration@00ddm0000ddeihua5.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Analytics Cloud Integration User
<input type="checkbox"/>	User_Security	sec	insightssecurity@00ddm0000ddeihua5.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Analytics Cloud Security User
<input type="checkbox"/>	Varshitha_P	PVars	guty@leftoverfood.poor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	System Administrator

STEP 9:

Public Groups Creation:

Public Groups: Collections of users in Salesforce grouped together to simplify sharing rules and access permissions.

1. Go to the setup page >> type Public Groups in Quick Find bar >> click on Public Groups >> click on New.
2. Under Group Information:
 - Label : Iksha
 - Group Name : Iksha
 - Grant Access Using Hierarchies : Check
3. In Search, Select Users.
4. In Selected Members Add Iksha Foundation and System Administrator



The screenshot shows the Salesforce Public Groups page. The left sidebar has a search bar with 'public' typed in. Under 'Users', 'Public Groups' is selected. The main area title is 'Public Groups'. It says: 'A public group is a set of users. It can contain individual users, other groups, the users in a particular role or territory, or the users in a role or territory plus all of the users below that role or territory in the hierarchy.' Below this is a table of created groups:

Action	Label	Group Name	Created By	Created Date
Edit Del	iksha	iksha	Varshitha_P	09/10/2024, 6:59 pm
Edit Del	NSS	NSS	Varshitha_P	09/10/2024, 7:00 pm
Edit Del	street cause	street cause	Varshitha_P	09/10/2024, 7:00 pm

These are the created public groups.

STEP 10:

Report Type Creation:

Report Types: Templates in Salesforce that define the relationships between objects and fields for generating custom reports.

1. Venue with Drop-Off with Volunteer:

- Primary Object : Select Venues
- Report Type Label : Venue with Drop-Off with Volunteer
- Report Type Name : Venue_with_Drop-Off_with_Volunteer
- Description : Venue with Drop-Off with Volunteer
- Store in Category : Select Other Reports
- Deployment Status : Deployed

The screenshot shows the Salesforce Setup interface with the following details:

Custom Report Type: **Venue with DropOff with Volunteer**

Custom Report Type Definition:

Report Type Label	Venue with DropOff with Volunteer	Report Type Category	Other Reports
Report Type Name	Venue_with_DropOff_with_Volunteer	Deployment Status	Deployed
Description	Venue with DropOff with Volunteer	Created By	P Varshitha, 09/10/2024, 7:22 pm
Created By	P Varshitha, 09/10/2024, 7:22 pm	Modified By	P Varshitha, 09/10/2024, 7:22 pm

Object Relationships:

venues (A) with or without related records from Drop-Off Points (B) with or without related records from Volunteers (C)

A Venn diagram illustrates the relationships:

- Circle A (Blue): venues
- Circle B (Orange): Drop-Off Points
- Circle C (Green): Volunteers
- The intersection of A and B is shaded grey.
- The intersection of A and C is shaded grey.
- The intersection of B and C is shaded grey.
- The regions outside all circles are white.

2. Volunteers with execution Details and Tasks :

- Primary Object : Select Volunteer
- Report Type Label : Volunteers with execution details and tasks
- Report Type Name : Volunteers_with_execution_details_and_tasks
- Description : Volunteers with execution details and tasks
- Store in Category : Select Other Reports
- Deployment Status : Deployed

The screenshot shows the Salesforce Setup interface with the following details:

Custom Report Type: **Volunteers with Execution Details and Tasks.**

Custom Report Type Definition:

Report Type Label	Volunteers with Execution Details andTasks.	Report Type Category	Other Reports
Report Type Name	Volunteers_with_Execution_Details_and_Tasks	Deployment Status	Deployed
Description	Volunteers with Execution Details and Tasks.	Modified By	P Varshitha, 13/12/2024, 10:48 pm
Created By	P Varshitha, 09/10/2024, 8:56 pm		

Object Relationships: A diagram illustrates the relationships between three objects: **Volunteers (A)**, **Tasks (B)**, and **Execution Details (C)**. The diagram shows overlapping circles labeled A, B, and C, with a shaded intersection area indicating records that belong to all three objects. Below the diagram is a legend with colored bars corresponding to the objects: A (blue), B (orange), and C (green).

Fields Available for Reports: This section allows users to edit or preview the report layout, with tabs for **Source** and **Selected Fields**.

STEP 11:

Report Creation:

Reports: Tabular or graphical summaries of data in Salesforce, built from specific objects and fields for analysis.

1. Creation of a report on Venue with Drop-Off with Volunteer:

- We have to create the reports in the food connect app.
- create and save it as venue and drop-off point.

The screenshot shows the FoodConnect application interface with the 'Reports' tab selected. A report titled 'venue and Drop Off point' is displayed, with a sub-tab 'Venue with DropOff with Volunteer'. The report preview shows a table with the following data:

Volunteer Name	venue Name	Drop-Off Point Name	Distance
- (1)	paradise function hall	jeedimetta	-
Subtotal			0
Akshitha (1)	Banquet Hall	suraram	1,284
Subtotal			1,284
Harshith (1)	Banquet Hall	Orphanage	-
Subtotal			0
P Ramesh (1)	Banquet Hall	shapur	65
Subtotal			65
Total (4)			1,350

The report interface includes sections for 'Outline' (Groups, Columns), 'Filters' (Volunteer Name, venue Name, Drop-Off Point Name, # Distance), and various reporting options like 'Add Chart', 'Save & Run', 'Save', 'Close', and 'Run'.

2. Creation of a report on volunteers with execution details and tasks :

- We have to create the reports in the food connect app.
- create and save it as volunteer task.

REPORT ▾

Volunteer Task ➔ Volunteers with Execution Details and Tasks.

Outline Filters i

Groups

GROUP ROWS Add group... 🔍

Volunteer ID X

GROUP COLUMNS Add group... 🔍

Columns

Add column... 🔍

Volunteer: Volunteer Name X

Task Name X

Execution Detail Name X

Rating X

Previewing a limited number of records. Run the report to see everything.

Volunteer ID	Volunteer: Volunteer Name	Task Name	Execution Detail Name	Rating	Date
a03dM000006bCpx (2)	P Ramesh	Distribution	Distribution	5	12/10/2024
	P Ramesh	Supply Food	Supply Food	5	26/12/2024
Subtotal				-	
a03dM000009espL (1)	Harshith	Supply Snacks	Supply Snacks	-	24/12/2024
Subtotal				-	
a03dM000009f3eH (1)	Akshitha	Collecting Food	Collecting Food	5	31/12/2024
Subtotal				-	
Total (4)				-	

Update Preview Automatically

Row Counts Detail Rows Subtotals Grand Total

Search... 🔍

★ ▼ + ⚡ ? ⚙️ 📡 🔍

Home venues Tasks Drop-Off Points Execution Details Volunteers Reports Dashboards Flows

Save & Run Save Close Run

STEP 12:

Dashboard Creation:

Dashboards: Visual displays of reports using charts, tables, and metrics to provide insights into business performance.

1. Adding Venue and Drop-Off Point report to the dashboard:

It displays a table consisting of the details of venue name, drop-off point and distance.

2. Adding the Volunteer Task report to the dashboard:

It displays a pie chart consisting of the details of the volunteer record count.

3. Adding a picture to the dashboard:

It displays the picture to show the concept of food donation.

Save it as Task Execution Details.

The screenshot shows the FoodConnect dashboard interface. At the top, there's a navigation bar with links like Home, venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, Dashboards (which is selected), and Flows. Below the navigation is a search bar and a toolbar with various icons. The main area contains three cards:

- venue and Drop Off point**: A table with four rows showing venue names, drop-off points, and distances.
- Volunteer Task**: A donut chart showing a record count of 4, with three segments labeled by volunteer ID: a03dM000006bCpx (blue), a03dM000009espL (light blue), and a03dM0000093eH (purple).
- A photograph of people at a food donation event, with a child receiving a bag of apples from an adult.

At the bottom left of the dashboard area, there are links to "View Report (venue and Drop Off point)" and "View Report (Volunteer Task)".

STEP 13:

Creation of Sharing Rules for Drop-Off Point Object:

Sharing Rules: Automated rules in Salesforce that extend record access to specific users or groups beyond the organization-wide defaults.

Rule 1:

If the distance is less than 15, then it is shared with IKsha foundation

- Select which records to be shared:
Field : Operator : Value = Distance : less than : 15
- Select the users to share with :
Near Share With Public Groups : Iksha

Rule 2:

If the distance is greater than 15 and less than 30, then it is shared with NSS.

- Select which records to be shared:
Field : Operator : Value = Distance : greater than : 15
- Field : Operator : Value = Distance : less or equal : 30
Select the users to share with :
Near Share With Public Groups : NSS

Rule 3:

If the distance is greater than 30 and less than 50, then it is shared with Street Cause.

- Select which records to be shared:
Field : Operator : Value = Distance : greater than : 30
Field : Operator : Value = Distance : less or equal : 50
- Select the users to share with :
Near Share With Public Groups : Street Cause

After creation, it will look like this.

The screenshot shows the Salesforce Setup interface for Sharing Settings. The left sidebar has a search bar and navigation links for Security (Guest User Sharing Rule Access Report, Sharing Settings), Home, and Object Manager. The main content area is titled "Sharing Settings" under "SETUP".

Organization-Wide Defaults

Object	Default Internal Access	Default External Access	Grant Access Using Hierarchies
Drop-Off Point	Public Read/Write	Private	<input checked="" type="checkbox"/>

Other Settings

Manager Groups	<input type="checkbox"/> i
Secure guest user record access	<input checked="" type="checkbox"/> i
Require permission to view record names in lookup fields	<input type="checkbox"/> i

Sharing Rules

Drop-Off Point Sharing Rules

Action	Criteria	Shared With	Access Level
Edit Del	Drop-Off Point: Distance LESS THAN 15	Group: iksha	Read Only
Edit Del	(Drop-Off Point: Distance GREATER THAN 15) AND (Drop-Off Point: Distance LESS OR EQUAL 30)	Group: NSS	Read Only
Edit Del	(Drop-Off Point: Distance GREATER THAN 30) AND (Drop-Off Point: Distance LESS OR EQUAL 50)	Group: street cause	Read Only

Sharing Overrides

Home Page :

Finally, Our home page will look like this.

It is the landing page in Salesforce, customizable to display key information, components, and navigation links relevant to users.

The screenshot shows the Salesforce Lightning Home Page for the 'FoodConnect' application. The top navigation bar includes links for Home, venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, Dashboards, Flows, and a search bar. A sidebar on the left provides quick access to 'Dashboard', 'Task Execution Details', and a note indicating the view is as P Varshitha on Dec 27, 2024, at 9:25 pm. The main content area features three cards: 'venue and Drop Off point' (listing locations like Banquet Hall and Orphanage), 'Volunteer Task' (a donut chart showing a record count of 4, with three entries for 'a03dM000...' and one for 'a03dM000...'), and a photo of two volunteers. To the right is a 'Venue Form' section with fields for Venue Name, Email, Phone, Venue Location, Latitude, and Longitude, with a 'Next' button at the bottom.

5. Testing and Validation

Unit Testing:

We have to test the Drop-off point trigger; for that, we have to create an Apex test class in the developer console.

- **Purpose of the Test Class :**

The test class, DropOffTriggerTest, is written to:

1. **Verify** the functionality of the DropOffTrigger Apex trigger.
2. **Test** if the Distance_c field on the Drop_c object is correctly populated by the trigger based on the formula field (distance_calculation_c).

- **Apex Test Class Code:**

```
@isTest
public class DropOffTriggerTest {
    @isTest
    static void testDistanceAssignment() {
        // Step 1: Create a test Venue record with a valid geolocation
        Venue_c testVenue = new Venue_c(
            Name = 'Test Venue',
            Contact_Email_c = 'Abc@gmail.com',
            Contact_Phone_c = '6473829019'
        );
        insert testVenue;

        // Set geolocation (Latitude and Longitude) for the Venue
        testVenue.Location__Latitude_s = 37.7749; // Latitude for San Francisco
        testVenue.Location__Longitude_s = -122.4194; // Longitude for San Francisco
        update testVenue;

        // Step 2: Create a Drop_c record with its own geolocation and link to the Venue
        Drop_c testDrop = new Drop_c(
            Name = 'Test Drop-Off Point',
            State_c='Goa',
            Venue_c = testVenue.Id // Lookup to the Venue
        );
    }
}
```

```

// Set geolocation (Latitude and Longitude) for the Drop
testDrop.Location__2__Latitude__s = 34.0522; // Latitude for Los Angeles
testDrop.Location__2__Longitude__s = -118.2437; // Longitude for Los Angeles

// Insert the Drop__c record to invoke the trigger
insert testDrop;

// Step 3: Query the inserted record to verify the Distance field
Drop__c result = [SELECT Distance__c, distance_calculation__c
                  FROM Drop__c
                  WHERE Id = :testDrop.Id];
System.debug('Distance Calculation Formula Field Value: ' + 
result.distance_calculation__c);
System.debug('Trigger Populated Distance Field Value: ' + result.Distance__c);

// Step 4: Assert that Distance__c matches the formula-calculated distance
System.assertEquals(result.distance_calculation__c, result.Distance__c,
'Distance field should match the calculated formula value');
}
}

```

The screenshot shows the Salesforce IDE interface with the following details:

- Page Header:** salesforce-d-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
- Toolbar:** File, Edit, Debug, Test, Workspace, Help
- Tab Bar:** DropOffTrigger.aprx (Active), DropOffTriggerTest.apxc
- Code Coverage:** None, API Version: 62
- Code Area:**

```

1 @isTest
2 public class DropOffTriggerTest {
3     @isTest
4     static void testDistanceAssignment() {
5         // Step 1: Create a test Venue record with a valid geolocation
6         Venue__c testVenue = new Venue__c(
7             Name = 'Test Venue',
8             Contact_Email__c = 'Abc@gmail.com',
9             Contact_Phone__c = '6473829019'
10 );
11         insert testVenue;
12
13         // Set geolocation (Latitude and Longitude) for the Venue
14         testVenue.Location__Latitude__s = 37.7749; // Latitude for San Francisco
15         testVenue.Location__Longitude__s = -122.4194; // Longitude for San Francisco
    
```
- Logs Tab:** Shows a single log entry for a successful run.

User	Application	Operation	Time	Status	Read	Size
P Varshitha	Unknown	/services/data/v62.0/tooling/runT...	12/28/2024, 3:03:39 PM	Success	Unread	8.84 KB

User Interface Testing:

This is the user interface of the Food Connect App

The screenshot shows the user interface of the Food Connect App. At the top, there is a navigation bar with links for Home, venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, Dashboards, and Flows. A search bar is also present. Below the navigation bar, there is a dashboard titled "Task Execution Details". The dashboard includes a message about last refresh being 1 day ago, a timestamp of 27-Dec-2024 at 9:25 pm, and a note that it is viewed by P Varshitha. There are two reports: "venue and Drop Off point" and "Volunteer Task". The "venue and Drop Off point" report shows a table with four rows:

venue Name	Drop-Off Point	Dis...
Banquet Hall	shapur	65
Banquet Hall	suraram	1K
Banquet Hall	Orphanage	-
paradise function hall	jeedimella	-

[View Report \(venue and Drop Off point\)](#)

The "Volunteer Task" report features a circular chart with four segments, labeled "Record Count" and the number "4". It also lists three volunteer IDs: a03dM000... (blue), a03dM000... (blue), and a03dM000... (purple). [View Report \(Volunteer Task\)](#)

On the right side of the dashboard, there is a "Venue Form" section with fields for Venue Name, Email, Phone, Venue Location, Latitude, and Longitude. A "Next" button is located at the bottom right of the form.

If we click on the venue tab, it will look like this, then we have to enter the details.

The screenshot shows the Salesforce Lightning interface for the 'venues' object. The 'Recently Viewed' section on the left lists three items: 'paradise function hall', 'Banquet Hall', and 'Banquet Hall'. The main area displays a modal window for creating a new venue record. The form fields are as follows:

- *venue Name: SVR function hall
- *Contact Email: svr@gmail.com
- *Contact Phone: 3452678903
- Location:
 - Latitude: 17.515209
 - Longitude: 78.445152
- Venue Location: Solapur

The modal has buttons for Cancel, Save & New, and Save. The owner of the record is listed as P Varshitha.

After that venue record will be saved.

The screenshot shows the Salesforce Lightning interface for the 'venues' object. The 'venues' tab is selected in the navigation bar. A venue record for 'SVR function hall' is displayed. The 'Details' tab is active, showing the following information:

venue Name	SVR function hall
Contact Email	svr@gmail.com
Contact Phone	3452678903
Location	17.515209, 78.445152
Venue Location	Solapur

The record was created by P Varshitha on 29/12/2024, 2:51 pm, and last modified by P Varshitha on 29/12/2024, 2:51 pm. The 'Activity' tab is also visible, showing no upcoming or overdue activities.

If we click on the Drop-Off Point tab, it will look like this; then we have to enter the details and click on save.

The screenshot shows the FoodConnect application interface. On the left, there's a sidebar with a cloud icon, the 'FoodConnect' logo, and a 'Drop-Off Points' section. Below that is a 'Recently Viewed' list with items: 1. shapur, 2. jeedimetla, 3. suraram, and 4. Orphanage. The main area is titled 'New Drop-Off Point'. It has a 'Information' section with fields: 'Drop-Off Point Name' (Lakshmi Charitable Trust), 'Owner' (P Varshitha), 'Location 2' (Latitude: 16.059606, Longitude: 80.56469), 'venue' (SVR function hall), and 'State' (Telangana). At the bottom are 'Cancel', 'Save & New', and a large blue 'Save' button.

After that Drop-Off Point record will be saved and it appears as below.

The screenshot shows the FoodConnect application interface after saving the drop-off point. The top navigation bar includes 'Home', 'venues', 'Drop-Off Points' (which is the active tab), 'Volunteers', 'Tasks', 'Execution Details', 'Reports', 'Dashboards', 'Flows', and a search bar. Below the navigation is a toolbar with 'New Contact', 'Edit', and 'New Opportunity' buttons. The main content area displays the details of the 'Lakshmi Charitable Trust' drop-off point. The 'Details' tab is selected, showing fields: Drop-Off Point Name (Lakshmi Charitable Trust), Owner (P Varshitha), Location 2 (16.059606, 80.56469), venue (SVR function hall), Distance Calculation (277.6795), State (Telangana), and Distance (278). Below these are 'Created By' (P Varshitha, 29/12/2024, 7:28 pm) and 'Last Modified By' (P Varshitha, 29/12/2024, 7:28 pm). To the right is an 'Activity' section with a toolbar, filters (All time, All activities, All types), and buttons for Refresh, Expand All, and View All. It also shows sections for 'Upcoming & Overdue' (No activities to show) and 'Past activity' (No past activity. Past meetings and tasks marked as done show up here).

If we click on the volunteer tab, it will look like this; then we have to enter the details and click on save.

New Volunteer

* = Required Information

Information

* Volunteer Name: Lakshmi

Volunteer ID:

Gender: Female

* Available On: 12/01/2025

* Age: 30

* Email: puruvarshitha@gmail.com

Cancel Save & New Save

Recently Viewed

- 1. Volunteer Name: Akshitha
- 2. Harshith
- 3. P Ramesh

After that volunteer record will be saved and it appears as below.

FoodConnect

Volunteer: Lakshmi

Related Details

Volunteer Name	Lakshmi
Volunteer ID	Vol-0008
Gender	Female
Available On	12/01/2025
Age	30
Email	puruvarshitha@gmail.com
Contact Number	08309325659
Address	House no: 9/48/A Undavelli(village & Mandal), Jogulamba Gadwal
Date Of Birth	28/08/2004
Drop-Off Point	Lakshmi Charitable Trust

Created By: P Varshitha, 30/12/2024, 9:33 pm

Last Modified By: P Varshitha, 30/12/2024, 9:33 pm

Activity

Filters: All time • All activities • All types

No activities to show.
Get started by sending an email, scheduling a task, and more.

No past activity. Past meetings and tasks marked as done show up here.

If we click on the task tab, it will look like this then we have to enter the details and click on save.

The screenshot shows the 'FoodConnect' application on the Salesforce Lightning platform. A modal window titled 'New Task' is open, prompting the user to enter task details. The 'Information' section contains the following data:

- *Task Name: Donation
- Sponsored by: SVR function hall
- Drop-Off Point: Lakshmi Charitable Trust
- Venue_c: Lakshmi Charitable Trust
- *Distance: 456.0000

At the bottom of the modal are three buttons: 'Cancel', 'Save & New', and a highlighted 'Save' button.

After that task record will be saved and it appears as below.

The screenshot shows the 'FoodConnect' application on the Salesforce Lightning platform. The 'Tasks' tab is selected in the navigation bar. A specific task record is displayed under the 'Task' section, titled 'Donation'. The 'Details' tab is active, showing the following task details:

Task Name	Donation
Sponsored by	SVR function hall
Drop-Off Point	Lakshmi Charitable Trust
Venue_c	Lakshmi Charitable Trust
Distance	456.0000
Task ID	TASK-11
Date	31/12/2024
Food Category	Snack
Number of people served	100
Name of the person	Lakshmi
Phone	08309325659
Rating	5
Feedback	
Volunteer	Lakshmi

The 'Activity' tab is also present, showing a summary of past and future activities. It indicates 'No activities to show.' and 'No past activity. Past meetings and tasks marked as done show up here.'

If we click on execution detail tab, it will look like this; then we have to enter the details and click on save.

The screenshot shows the Salesforce Lightning interface for creating a new Execution Detail record. The form fields are as follows:

- *Execution Detail Name: Donate Food
- *Volunteer: Lakshmi
- *Task: Donation
- *Execution ID: 5
- Drop-Off Point: Lakshmi Charitable Trust
- Status: --None--
- Task Count: (empty)

At the bottom of the form are three buttons: Cancel, Save & New, and Save.

After that, the execution detail record will be saved and it appears as below.

The screenshot shows the Salesforce Lightning interface displaying the saved Execution Detail record. The record details are:

Field	Value
Execution Detail Name	Donate Food
Volunteer	Lakshmi
Task	Donation
Execution ID	5
Drop-Off Point	Lakshmi Charitable Trust
Status	Not Completed
Task Count	1

Below the details, it shows the Created By and Last Modified By information, both listed as P Varshitha on 30/12/2024, 10:12 pm.

On the right side, there is an Activity section with a header "Activity" and a sub-section "Upcoming & Overdue". It states "No activities to show. Get started by sending an email, scheduling a task, and more." Below this, it says "No past activity. Past meetings and tasks marked as done show up here."

If we click on the reports tab, it will look like this, then we have to select the report which we want to see.

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	Volunteer Task		Custom Reports	P Varshitha	9/10/2024, 11:12 pm	<input checked="" type="checkbox"/>
	venue and Drop Off point		Custom Reports	P Varshitha	9/10/2024, 7:45 pm	<input checked="" type="checkbox"/>

After selecting the report, it will show the report as below.

It is the Volunteer Task report.

Total Records	4				
Volunteer ID	Volunteer: Volunteer Name	Task Name	Execution Detail Name	Rating	Date
a03dM000006bCpx (2)	P Ramesh	Supply Food	Supply Food	5	26/12/2024
	P Ramesh	Distribution	Distribution	5	12/10/2024
Subtotal					
a03dM000009espL (1)	Harshith	Supply Snacks	Supply Snacks	-	24/12/2024
Subtotal					
a03dM000009f3eH (1)	Akshitha	Collecting Food	Collecting Food	5	31/12/2024
Subtotal					
Total (4)					

It is the Venue and drop-Off Point Report.

Report: Venue with DropOff with Volunteer
venue and Drop Off point

Volunteer Name	venue Name	Drop-Off Point Name	Distance
Subtotal			0
Akshitha (1)	paradise function hall	jeedimeta	-
Subtotal			1,284
Harshith (1)	Banquet Hall	suraram	1,284
Subtotal			0
Lakshmi (1)	SVR function hall	Lakshmi Charitable Trust	278
Subtotal			278
P Ramesh (1)	Banquet Hall	shapur	65
Subtotal			65
Total (5)			1,628

If we click on the dashboard tab, it will look like this, then we have to select the dashboard which we want to see.

Dashboards

Recent

2 items

Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Task Execution Details	Custom Dashboards	P Varshitha	10/10/2024, 12:37 pm	✓	
Organisation Details	Custom Dashboards	P Varshitha	10/10/2024, 12:22 pm		

After selecting the dashboard, it will show the dashboard as below.

It is the Task Execution Details Dashboard.

The screenshot shows the Task Execution Details Dashboard in a web browser. The URL is <https://salseforce-d-dev-ed.lightning.force.com/lightning/r/Dashboard/01ZdM000002PETFUA4/view?queryScope=userFolders>. The dashboard has two main sections: "venue and Drop Off point" and "Volunteer Task".

venue and Drop Off point: A table showing the distance between various venues and drop-off points. The data is as follows:

venue Name	Drop-Off Point Name	Distance
Banquet Hall	shapur	65
Banquet Hall	suraram	1k
Banquet Hall	Orphanage	-
paradise function hall	jeedimetta	-
SVR function hall	Lakshmi Charitable Trust	278

Volunteer Task: A donut chart showing the record count for three volunteers. The data is as follows:

Volunteer ID	Record Count
a03dM000006bCpx	1
a03dM000009espL	1
a03dM0000093eH	2

A photograph in the background shows people at a food distribution event.

It is the Organization Details Dashboard.

The screenshot shows the Organization Details Dashboard in a web browser. The URL is <https://salseforce-d-dev-ed.lightning.force.com/lightning/r/Dashboard/01ZdM000002PDtUAG/view>. The dashboard has two main sections: "venue and Drop Off point" and "Volunteer Task".

venue and Drop Off point: A table showing the distance between various venues and drop-off points. The data is as follows:

venue Name	Drop-Off Point Name	Distance
Banquet Hall	shapur	65
Banquet Hall	suraram	1k
Banquet Hall	Orphanage	-
paradise function hall	jeedimetta	-
SVR function hall	Lakshmi Charitable Trust	278

Volunteer Task: A line chart showing the record count for three volunteers over time. The data is as follows:

Volunteer ID	Record Count
a03dM000006bCpx	2
a03dM000009espL	1
a03dM0000093eH	1

6. Key Scenarios Addressed by Salesforce in the Project

1. Streamlined Food Donation Process

Salesforce enables donors to easily log food donations through a user-friendly interface. The system records donation details and triggers automatic notifications to volunteers and recipients for smooth coordination.

2. Volunteer Coordination and Task Assignment

Salesforce automates volunteer task assignments based on availability and location, ensuring efficient food collection and delivery. The system tracks volunteer activities and updates tasks in real-time, minimizing errors.

3. Real-Time Distance and Route Calculation for Efficient Delivery

Using geolocation and formula fields, Salesforce calculates the distance between donor and drop-off points, optimizing delivery routes and reducing transportation costs for quicker, more efficient food distribution.

4. Data Visibility and Reporting for Impact Tracking

Salesforce provides real-time reports and dashboards that track key metrics such as food donations and delivery progress, helping stakeholders assess the project's impact and make data-driven decisions.

5. Managing Multiple Stakeholders and Locations

Salesforce's user and group management capabilities allow the project to scale and manage stakeholders across different regions, ensuring that everyone has the necessary access to relevant data through sharing rules and permissions.

6. Ensuring Accountability and Traceability

Every donation and task is logged in Salesforce, ensuring full traceability of food from donor to recipient. This helps maintain accountability and transparency in the food redistribution process.

7. Scalable and Sustainable Model for Future Growth

Salesforce provides a scalable infrastructure that supports future growth, allowing the project to expand to new regions and accommodate more donors, recipients, and volunteers without compromising performance.

7. Conclusion :

- Using Salesforce, the project set up a clear and efficient system to manage leftover food donations.
- The platform helped organize and track food donations from various donors, making sure they were logged and processed accurately.
- Volunteers were assigned tasks, ensuring they knew when and where to pick up and deliver food.
- Salesforce's automation and real-time updates helped keep everything on schedule. This streamlined coordination allowed food to reach beneficiaries faster and more efficiently.
- By optimizing resources, the project reduced food waste and addressed hunger in the community. The system provided transparency and accountability, allowing the project to track each donation and delivery.
- With Salesforce, the project was able to make a greater impact in reducing food insecurity. The overall process was faster, more organized, and easier to manage. This ensured that surplus food was used to help those in need, maximizing its potential.