Chettinad
College of Engineering & Technology
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Department of

LOBORATORY RECORD

Name ------------------------------- **Year ----------------------------------**

Branch ---------------------------- **Semester --------------------------**

University Register No. :

Roll No:

Certified that this is the bonafide record of the work done by the above student in

----------------------------- Laboratory during the year----------------------------

Signature of Faculty In-Charge **Signature HoD**

Submitted for Practical Examination held on

--- at Chettinad College of Engineering and Technology

Internal Examiner **External Examiner**

CHETTINAD COLLEGE OF ENGINEERING & TECHNOLOGY, KARUR

Department of Artificial Intelligence and Data Science

Vision and Mission of the Institution and Department

Vision of the Institution:

1. To holistically develop competent and responsible Engineers and Managers as future leaders by providing an enriching, safe and joyful learning environment where students feel empowered.

Mission of the Institution:

1. To impart knowledge and the skills through active learning, industrial exposure and innovative project development.
2. To develop leaders through effective mentoring, SMART goal setting and providing a joyful and safe learning environment.
3. To facilitate research in Engineering and Technology and encourage independent learning.

Vision of the Department

1. To create technically competent professionals who can meet the expectations of industry and society.

Mission of the Department

1. Build competency in advanced computing technologies through project-based learning.
2. Lead impactful change through collaborative research initiatives with industry partners.
3. Empower students with entrepreneurial skills to solve real world problems of society.

I. PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates can

- Apply their technical competence in computer science to solve real world problems, with technical and people leadership.
- Conduct cutting edge research and develop solutions on problems of social relevance.
- Work in a business environment, exhibiting team skills, work ethics, adaptability and lifelong learning.

II. PROGRAM OUTCOMES (POs)

1 **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2 **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3 **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4 **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5 **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6 **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7 **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8 **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9 **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10 **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11 **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12 **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

III. PROGRAM SPECIFIC OUTCOMES (PSOs)

The Students will be able to

1. Exhibit design and programming skills to build and automate business solutions using cutting edge technologies.
2. Strong theoretical foundation leading to excellence and excitement towards research, to provide elegant solutions to complex problems.
3. Ability to work effectively with various engineering fields as a team to design, build and develop system applications.

TO SUPPLY LEFTOVER FOOD TO POOR

Team ID : NM2025TMID02342

Team Size : 4

Team Leader : Dhanush .R

Team member : Chandru .J

Team member : Leegan .S

Team member : Dhileepraj .P

TO SUPPLY LEFTOVER FOOD TO POOR

Introduction:

Salesforce is a leading cloud-based Customer Relationship Management (CRM) platform that provides versatile tools for managing and optimizing customers. relationships, sales processes, and customer service. For this project, aimed at helping supply leftover food to the poor, Salesforce serves as a comprehensive solution that can streamline processes and improve the efficiency of this charitable mission. This chapter will discuss Salesforce's core functions and how they support the goals of the project**.**

Project Overview:

The Food Distribution Project in Salesforce is designed to streamline the process of collecting and distributing leftover food to those in need. The project uses Salesforce objects and automation tools to manage venues (where food is collected), drop-off points (where food is distributed), tasks (for managing food pickup and delivery), volunteers, and execution details for each distribution event. Key objects in the System include Venue, Drop-Off Point, Task, Volunteer, and Execution Details. Each object captures essential data, such as venue locations, volunteer assignments, and food distribution statistics, enabling efficient t racking and coordination of the distribution process.

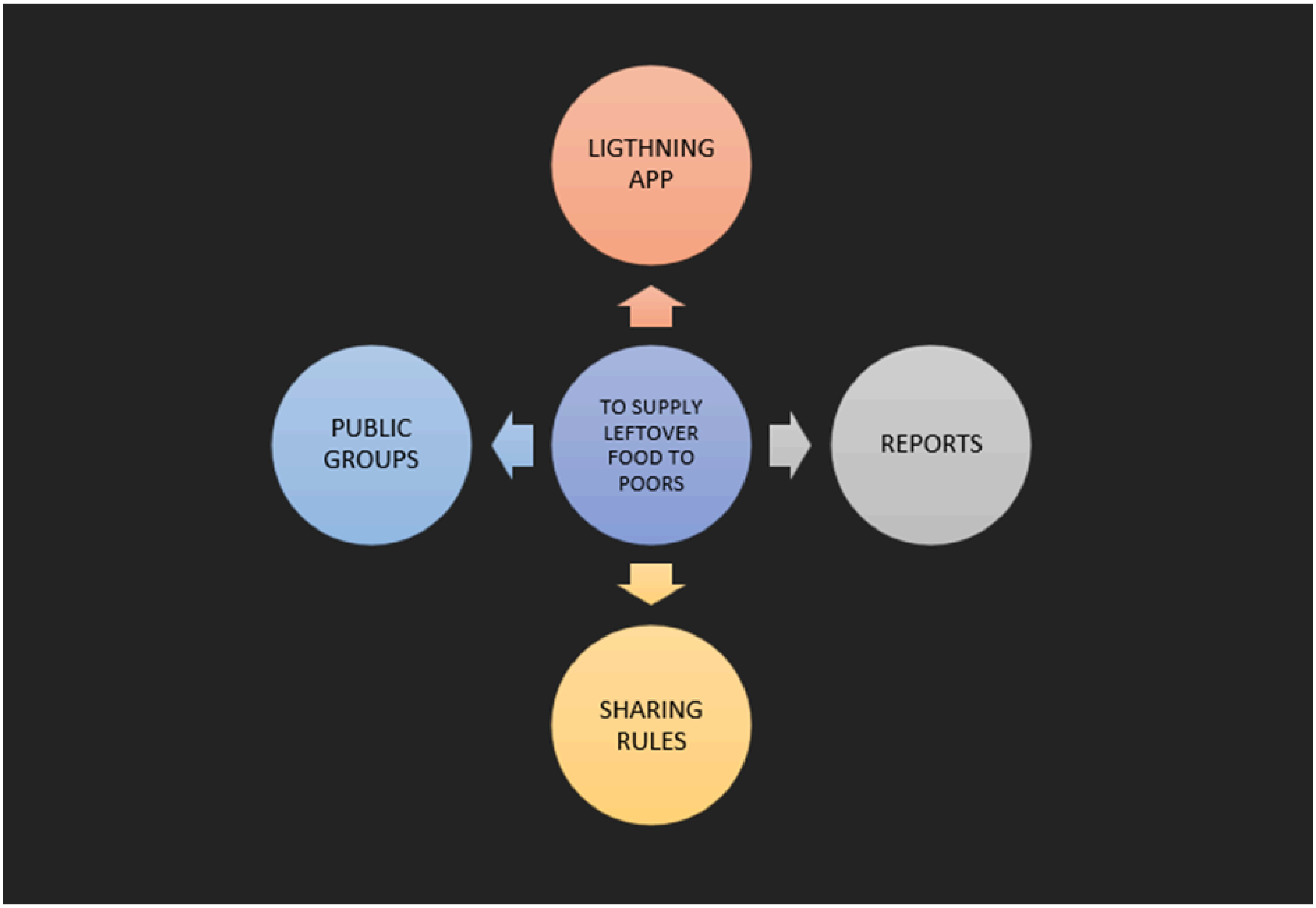
Overview of salesforce:

Salesforce offers a wide array of functionalities that allow organizations to manage interactions and relationships with various stakeholders, including clients, volunteers, and donors. Key modules in Salesforce include:

- **Sales Cloud:** Enhances sales process efficiency through lead tracking and management tools, ensuring effective outreach and engagement.

- **Service Cloud:** Focuses on customer service, providing tools for case management and knowledge sharing that could support the logistics of food distribution.

- **Marketing Cloud:** Automates communication and engagement, including email campaigns and analytics, helping non-profits reach out to donors and partners efficiently.



Key features supporting the project:

For the "Supply Leftover Food to the Poor" project, Salesforce can enhance operations through:

- **Data Management:** Centralized storage of donor information, distribution points, and logistical data.
- **Real-Time Reporting and Analytics:** Allows for monitoring food supply levels, analysing distribution metrics, and generating reports to improve efficiency.

- **Mobile Accessibility:** Ensures volunteers and team members can update and access information on the go, a crucial feature for field operations in food distribution.

Goals:

- ❖ **Streamline Food Collection** – Enable donors to easily register and donate leftover food.

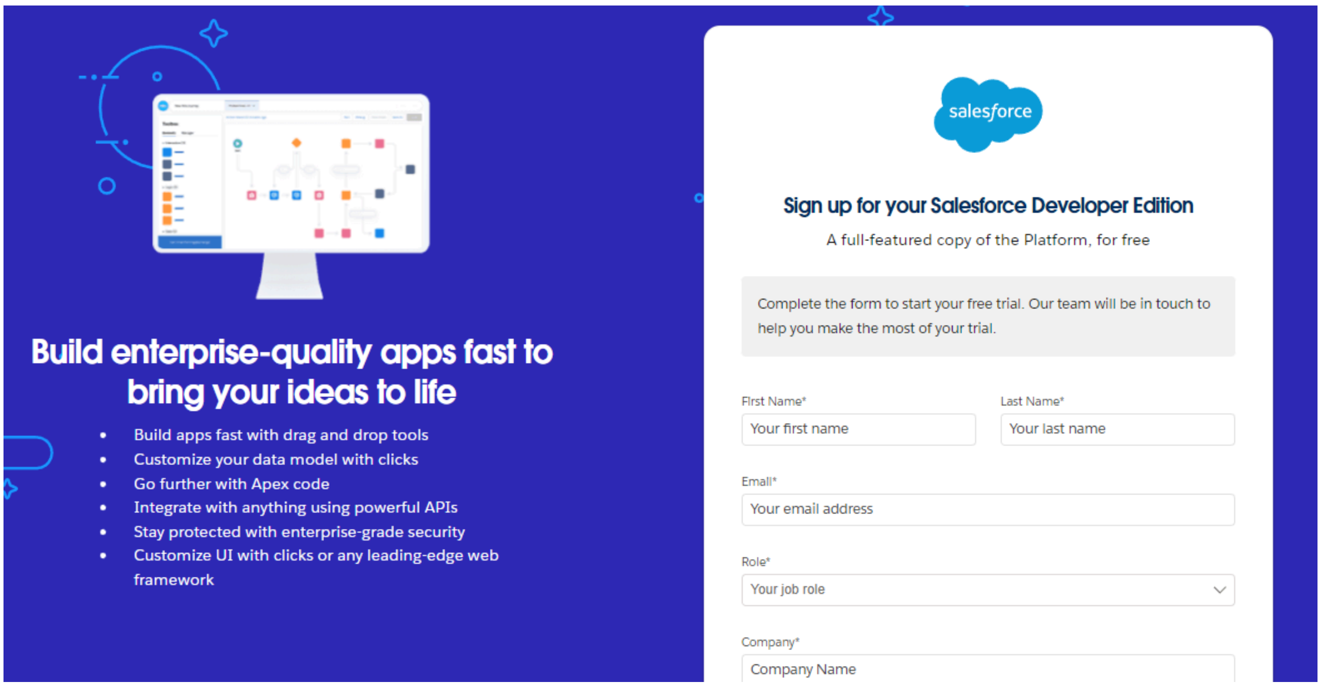
- **Centralize Data Management** – Use Salesforce to store and manage donor, volunteer, and recipient data.
- **Optimize Logistics** – Automate routes and volunteer assignments for efficient food delivery.
- **Track and Report** – Monitor donation flows and generate reports to improve operations.
- **Enhance Communication** – Keep donors and volunteers informed through updates and alerts.
- **Ensure Food Safety** – Maintain quality standards and train volunteers in food handling.
- **Plan for Expansion** – Build a scalable system to support future growth in different regions.

Detailed Description of Implemented Features:

<u>Creating Developer Account</u> :

Creating a developer org in salesforce.

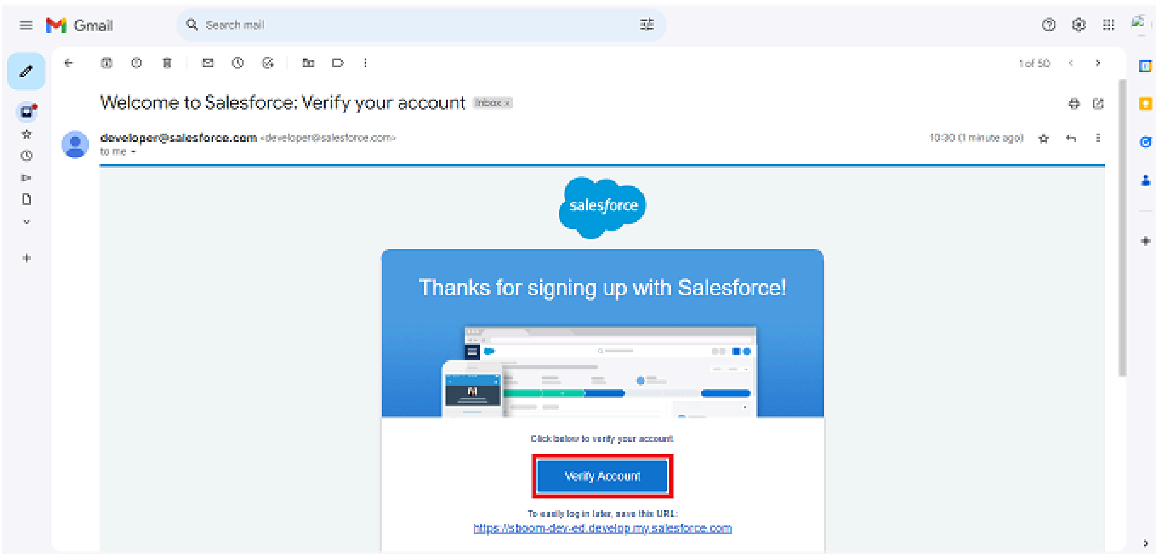
1. Go to https://developer.salesforce.com/signup
2. On the sign up form, enter the following details:



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

Account Activation :

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 5-10mins.



Create Venue Object :

To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >>Click on Custom Object.
    - Enter the label name >> Venue
    - Plural label name >> Venues
    - Enter Record Name Label and Format
    - Record Name >> Venue Name
    - Data Type >> Text
2. Click on Allow reports and Track Field History,Allow Activities.
3. Allow search >> Save.

Create Drop-Off Point Object :

To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.

- Enter the label name >> Drop-Off Point
- Plural label name>> Drop-Off Points
- Enter Record Name Label and Format
- Record Name >> Drop-Off point Name
- Data Type >> Text

2. Click on Allow reports and Track Field History,Allow Activities
3. Allow search >> Save.

<u>Create Task Object</u> :

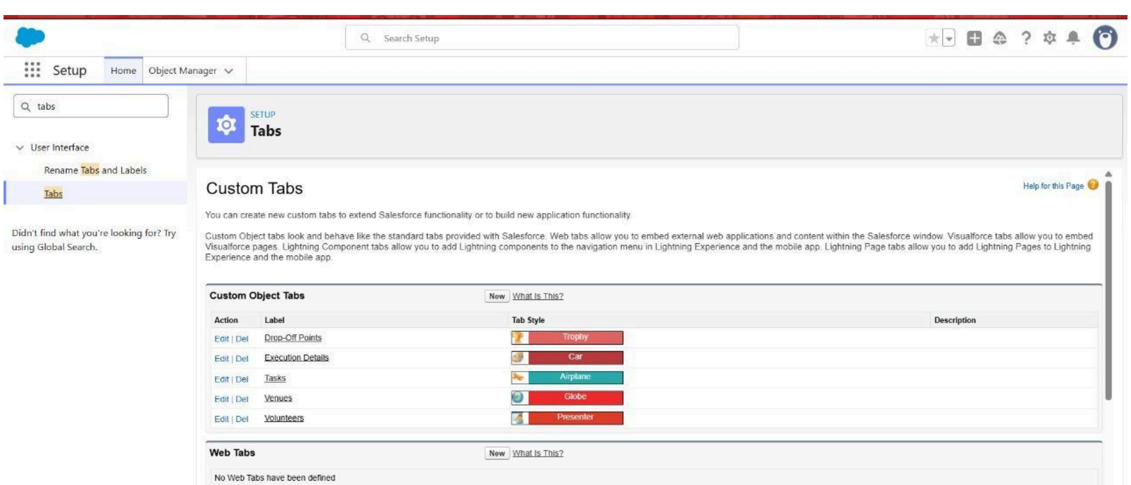
To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.
    - Enter the label name>> Task
    - Plural label name>> Tasks
    - Enter Record Name Label and Format
    - Record Name >> Task Name
    - Data Type >> Text
2. Click on Allow reports and Track Field History,Allow Activities
3. Allow search >> Save.

<u>Creating a Custom Tab</u> :

To create a Tab:(Venue)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)

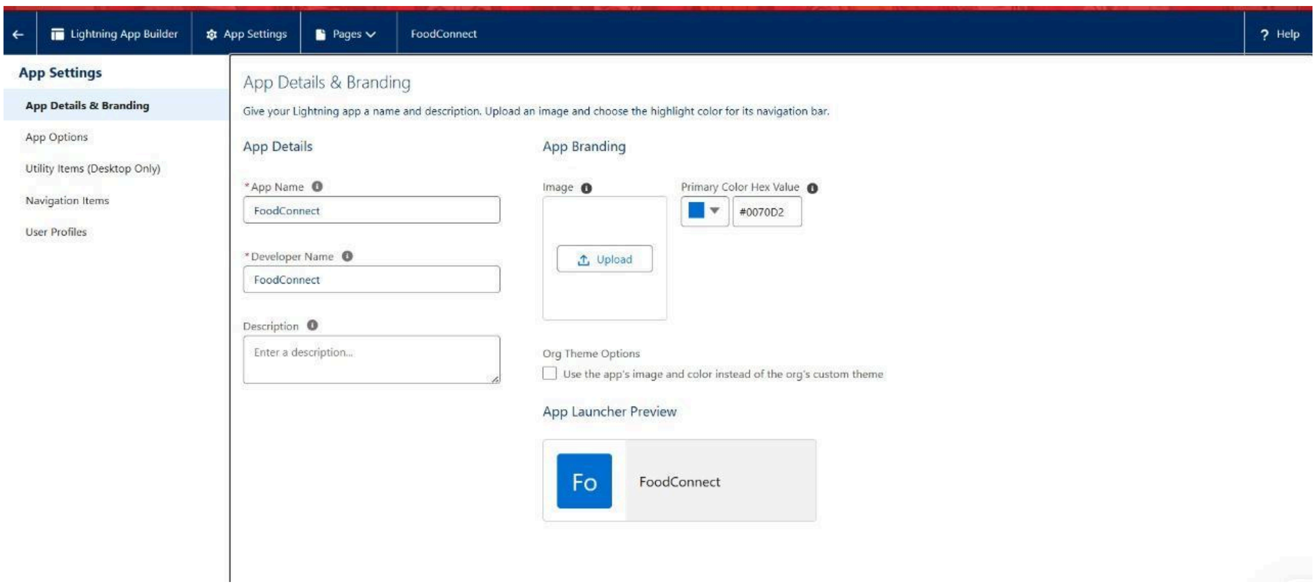


2. Select Object(Venue) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) uncheck the include tab .
3. Make sure that the Append tab to users' existing personal customizations is checked.
4. Click save

<u>Create a Lightning App</u> :

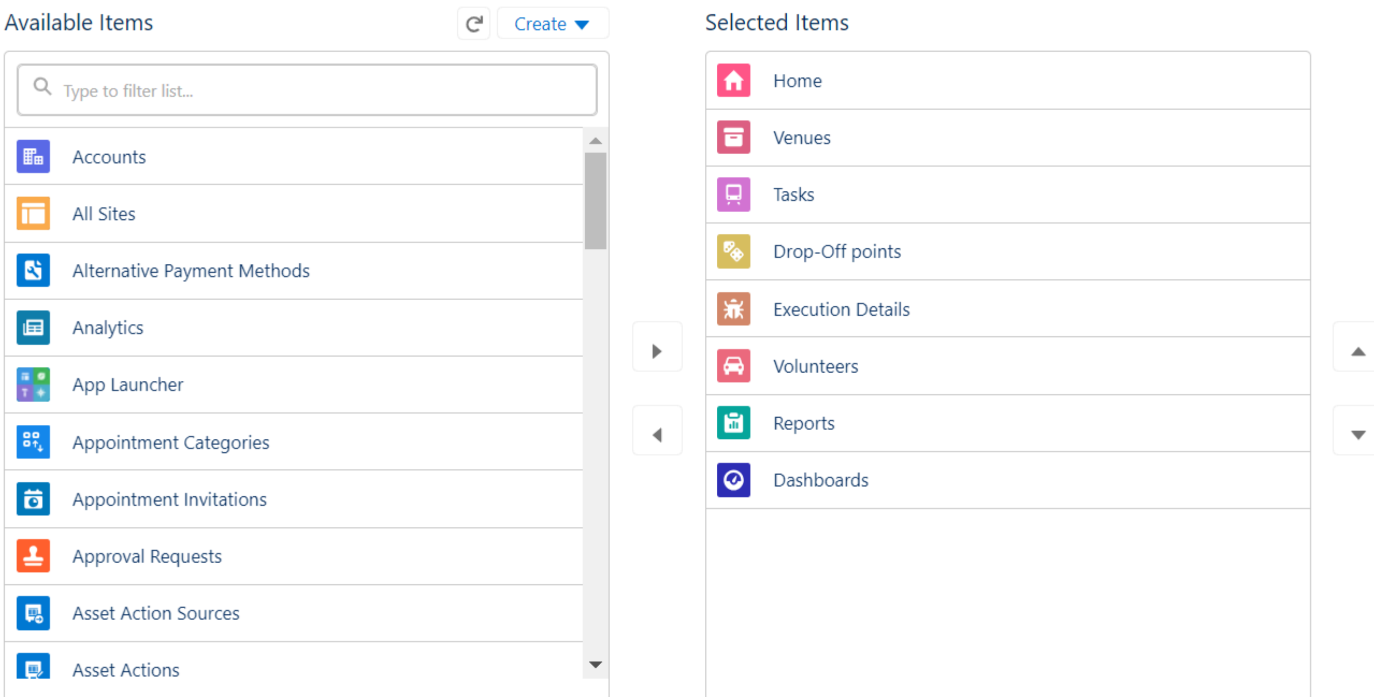
To create a lightning app page:

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

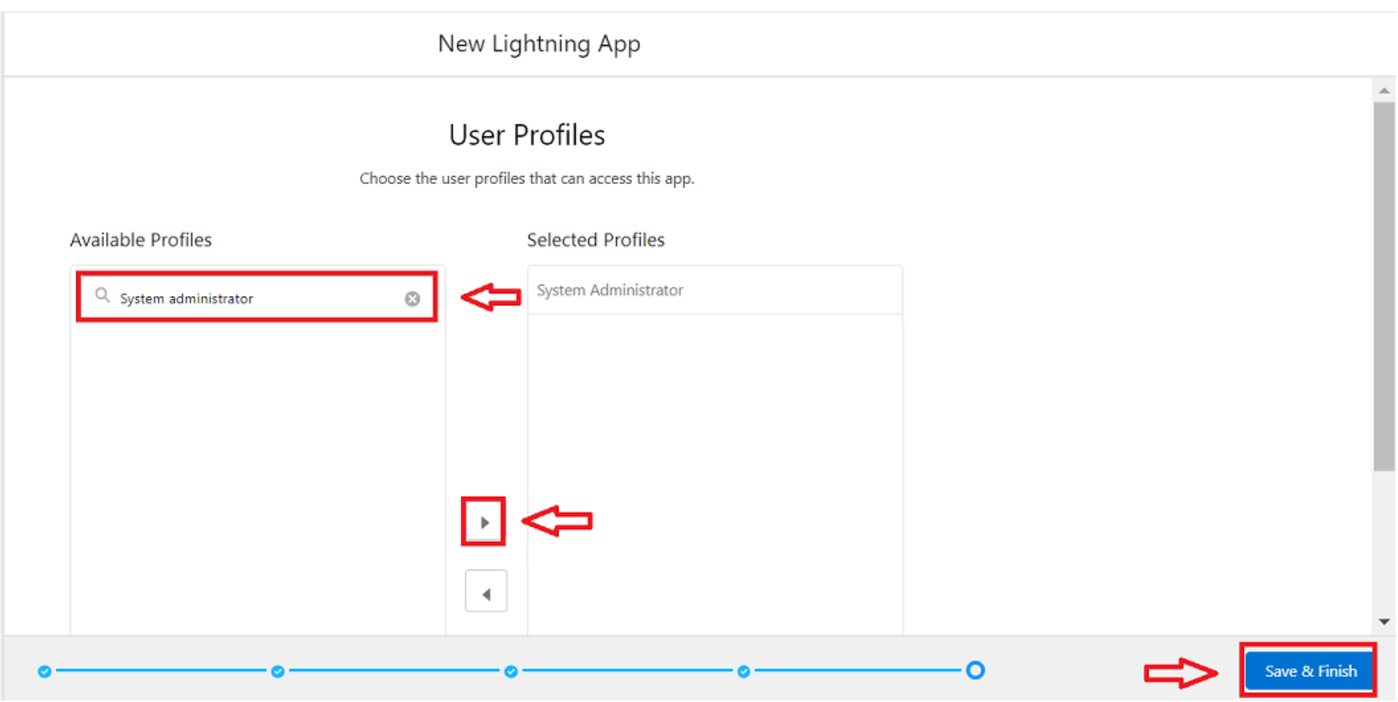


2. Fill the app name in app details and branding as follow
   - App Name : FoodConnect
   - Developer Name : This will auto populated
   - Image : optional (if you want to give any image you can otherwise not mandatory) Primary color hex value : keep this default.
3. Then click Next >> (App option page)Set Navigation Style as Standard Navigation >> Next.
4. (Utility Items) keep it as default >> Next.
5. To Add Navigation Items:
   - Home
   - Venues
   - Tasks
   - Drop-off-points
   - Reports
   - Dashboards

- Volunteers
- Execution Details



6. To Add User Profiles:

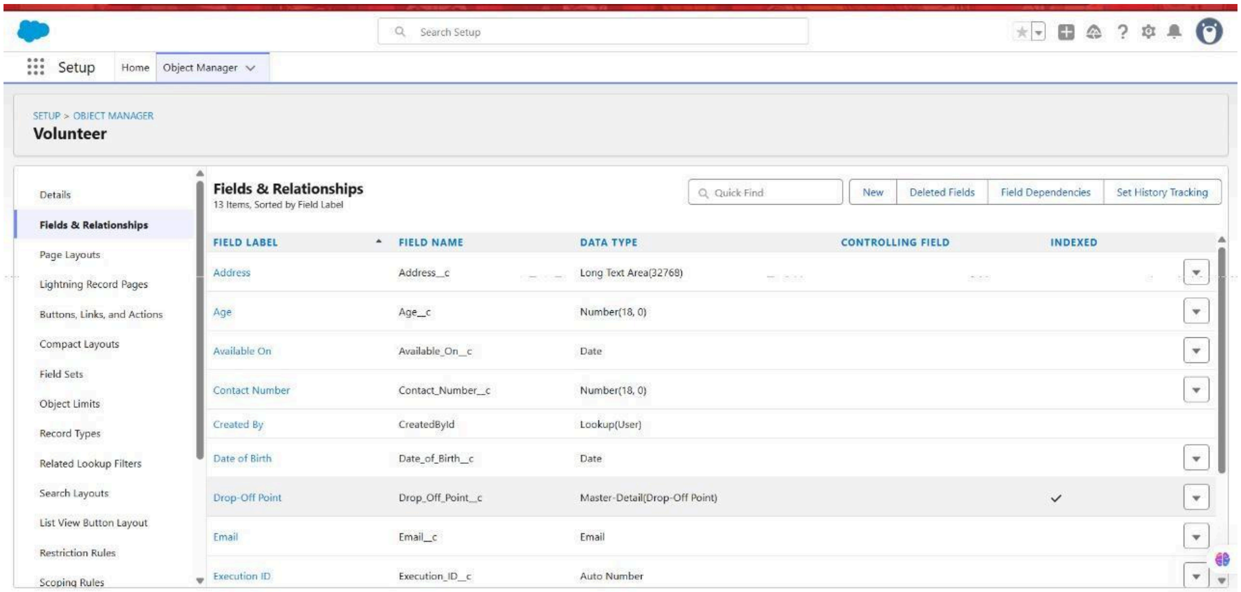


Search profiles (System administrator) in the search bar >> click on the arrow button >> save & finish.

Creation of Relationship fields in objects :

Creation of Lookup Relationship Field on Volunteer Object :

1. Go to setup >> click on Object Manager >> type object name(Volunteer) in the search bar >> click on the object.



2. Now click on “Fields & Relationships” >> New
3. Select Master Detail relationship
4. Select the related object “Drop-Off point” and click next.
5. Field Name : Drop_Off_point
6. Field label : Auto generated
7. Next >> Next >> Save.

Creation of Master Detail Relationship Field on Execution Details Objec

8. Go to setup >> click on Object Manager >> type object name(Execution Details) in the search bar >> click on the object.
9. Now click on “Fields & Relationships” >> New
    - Select Master Detail relationship
    - Select the related object “Volunteer” and click next.
    - Field Name : Volunteer
    - Field label : Auto generated
    - Next >> Next >> Save.

<u>Creation of Lookup Relationship Field on Drop-Off Point Object</u> :

10. Go to setup >> click on Object Manager >> type object name(Drop-Off Point) in the search bar >> click on the object.
11. Now click on “Fields & Relationships” >> New
12. Select Lookup relationship
13. Select the related object “Venue” and click next.
14. Field Name : Venue
15. Field label : Venue__c
16. Next >> Next >> Save.

<u>Creation of Lookup Relationship Field on Task Object</u> :

17. Go to setup>> click on Object Manager >> type object name(Task) in the search bar >> click on the object.
18. Now click on “Fields & Relationships” >> New
19. Select Lookup relationship
20. Select the related object “Venue” and click next.
21. Field Name : Sponsored By
22. Field label : Auto generated
23. Next >> Next >> Save.

<u>Creation of Lookup Relationship Field on Task Object</u> :

24. Go to setup>> click on Object Manager >> type object name(Task) in the search bar >> click on the object.
25. Now click on “Fields & Relationships” >> New
26. Select Lookup relationship
27. Select the related object “Drop-Off point” and click next.
28. Field Name : Drop-Off point
29. Field label : Auto generated
30. Next >> Next >> Save.

<u>Creation of fields for the Venue object</u> :

1. Go to setup>> click on Object Manager >> type object name(Venue) in search bar >> click on the object.

2. Now click on “Fields & Relationships” >> New

3. Select Data type as a “Email” and Click on Next

4. Fill the Above as following:

- Field Label : Contact Email
- Field Name : Contact Email
- Click on required check box
- Click on Next >> Next >> Save and new.

<u>To create another fields in an object</u>:

5. Go to setup >> click on Object Manager >> type object name(Venue) in search bar >> click on the object.
6. Now click on "Fields & Relationships" >> New
7. Select Data type as a "Phone" and Click on Next

8. Fill the Above as following:
   - Field Label : Contact Phone
   - Field Name : Contact Phone
   - Click on required check box
   - Click on Next >> Next >> Save and new.

<u>To create another fields in an object</u> :

9. Go to setup >> click on Object Manager >> type object name(Venue) in search bar >>click on the object.
10. Now click on "Fields & Relationships" >> New
11. Select Data type as a "Geolocation" and Click on Next
12. Fill the Above as following:
    - Field Label : Location
    - Decimal Places : 4
    - Field Name : Location
    - Description : Enter the Geolocation of your Venue
    - Click on Next >> Next >> Save and new.

<u>To create another fields in an object</u>:

Go to setup >> click on Object Manager >> type object name(Venue) in search bar >> click on the object.

1. Now click on "Fields & Relationships" >> New
2. Select Data type as a "Long Text Area" and Click on Next
3. Fill the Above as following:
   - Field Label : Venue Location

- Field Name : Venue_Location
- Click on Next >> Next >> Save and new.

<u>Creation of fields for the Volunteer object</u> :

1. Go to setup >> click on Object Manager >> type object name(Volunteer) in search bar >> click on the object.
2. Now click on “Fields & Relationships” >> New
3. Select Data type as a “Auto Number” and Click on Next
4. Fill the Above as following:
    - Field Label : Volunteer ID
    - Field Name : gets auto generated
    - Click on required check box

    - Click on Next >> Next >> Save and new.
    - Click on Next >> Next >> Save and new.

<u>To create another fields in an object</u>:

1. Go to setup >> click on Object Manager >> type object name(Volunteer) in search bar >> click on the object.

2. Now click on “Fields & Relationships” >> New

3. Select Data type as a “Picklist” and Click on Next

4. Fill the Above as following:

    - Field Label : Gender
    - Field Name : Gender
    - Enter values, with each value separated by a new line :
        a) Female
        b) Male
    - Click on Next >> Next >> Save and new.

<u>To create another fields in an object</u>:

5. Go to setup >> click on Object Manager >> type object name(Volunteer) in search bar >> click on the object.
6. Now click on “Fields & Relationships” >> New
7. Select Data type as a “Date” and Click on Next
8. Fill the Above as following:
    - Field Label : Available On
    - Field Name : Available On

- Click on required check box
- Click on Next >> Next >> Save and new.

To create another fields in an object:

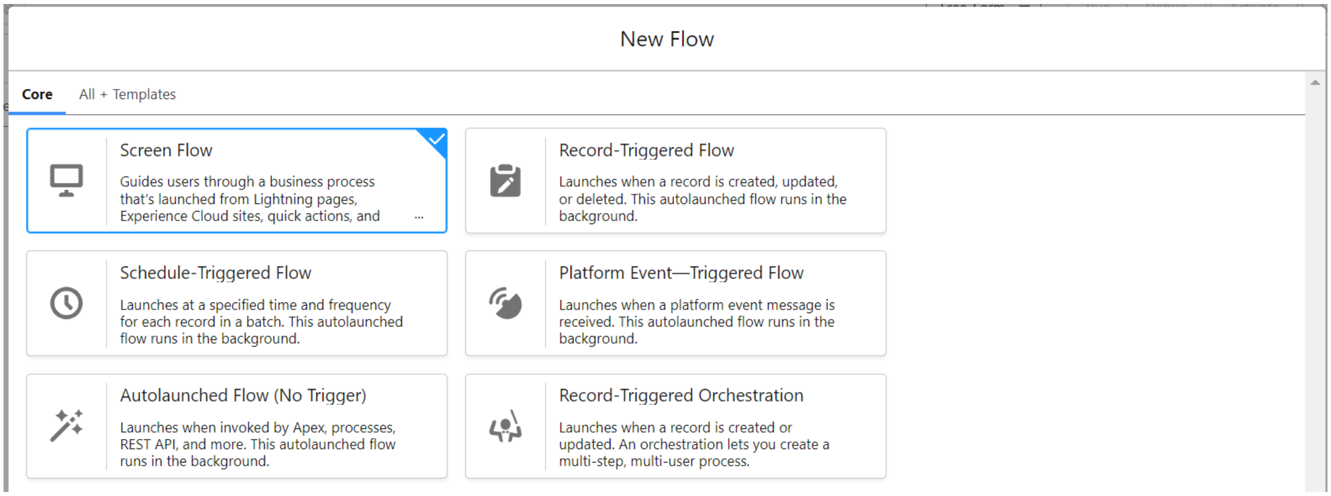
9. Go to setup >> click on Object Manager >> type object name(Volunteer) in search bar >> click on the object.
10. Now click on “Fields & Relationships” >> New
11. Select Data type as a “Number” and Click on Next
12. Fill the Above as following:
    - Field Label : Age
    - Field Name : Age
    - Click on required check box
    - Click on Next >> Next>> Save and new.

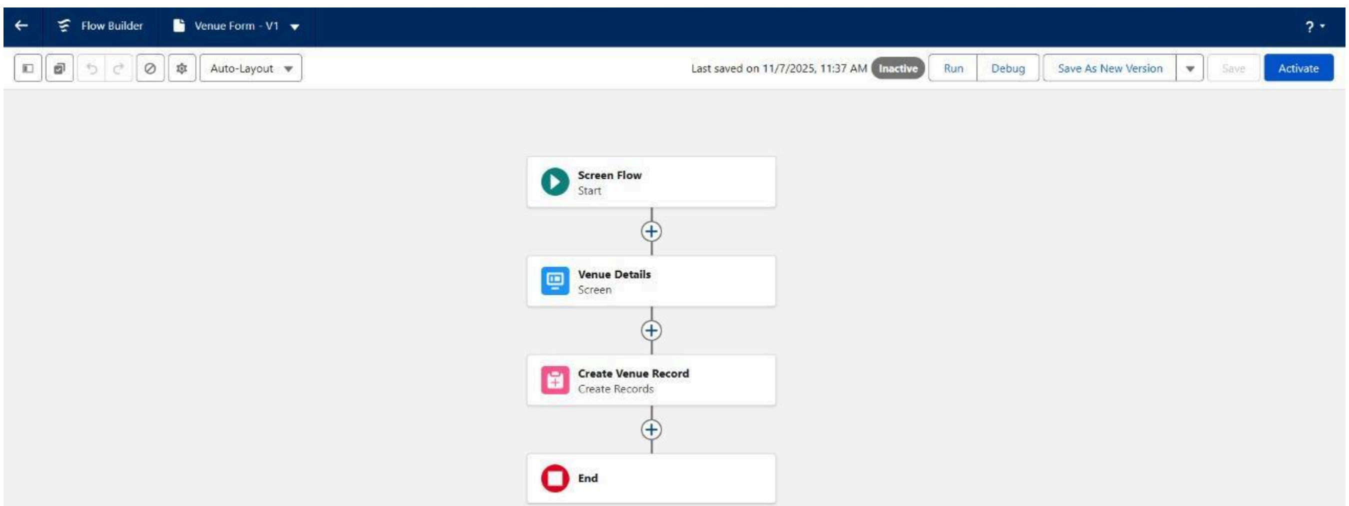
To create another fields in an object:

13. Go to setup >> click on Object Manager >> type object name(Volunteer) in search bar >> click on the object.
14. Now click on “Fields & Relationships” >> New
15. Select Data type as a “Email” and Click on Next
16. Fill the Above as following:
    - Field Label : Email
    - Field Name : Email
    - Click on required check box
    - Click on Next>> Next >> Save and new.

Create Flow to create a record in Venue object :

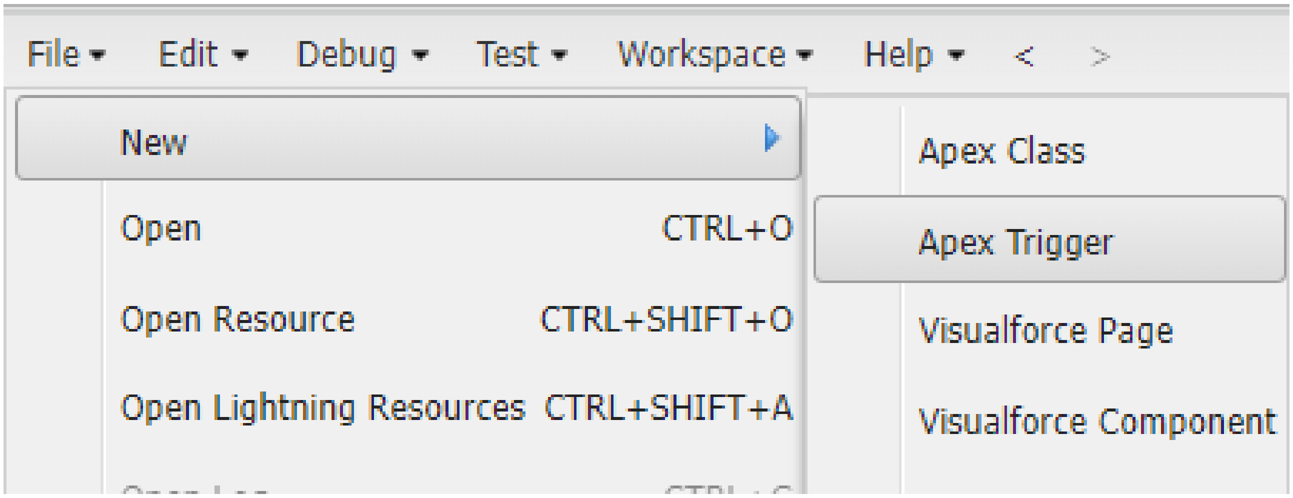
1. Go to setup >> type Flow in quick find box >> Click on the Flow and Select the New Flow.
2. Select the Screen flow. Click on create.
3. Click on the ‘+’ icon in between start and end, and click on screen element.



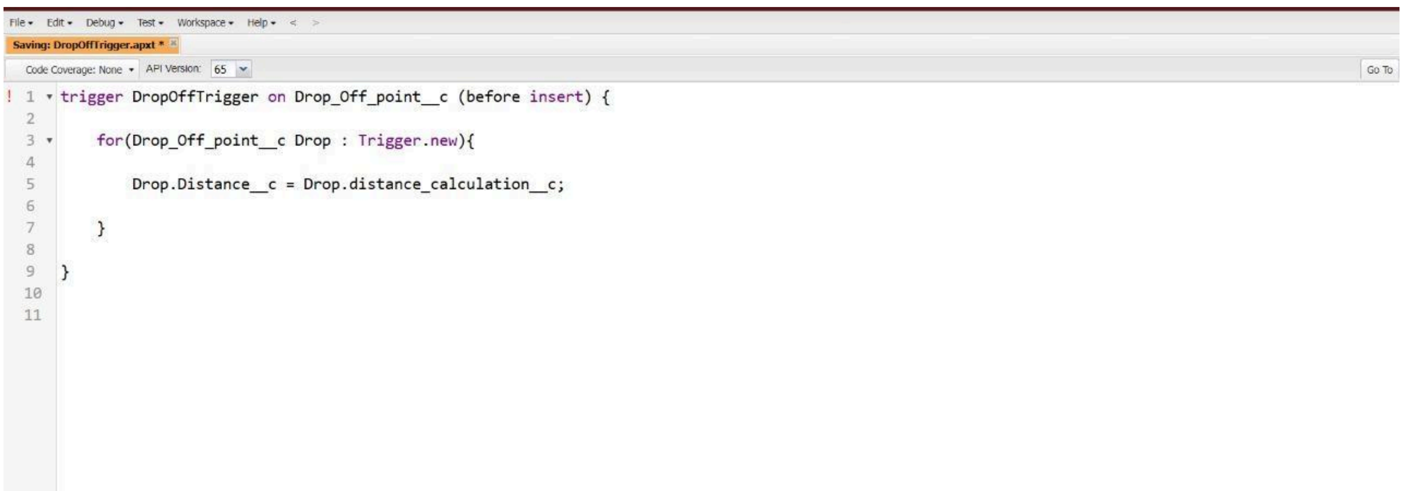


<u>Create a Trigger</u>:

1. Log into the trailhead account, navigate to the gear icon in the top right corner.
2. Click on developer console and you will be navigated to a new console window.
3. Click on the File menu in the toolbar, and click on new >> Trigger.
4. Enter the trigger name and the object to be triggered.
5. Enter Name : DropOffTrigger
   sObject: Drop-Off Point
6. Click on Submit.



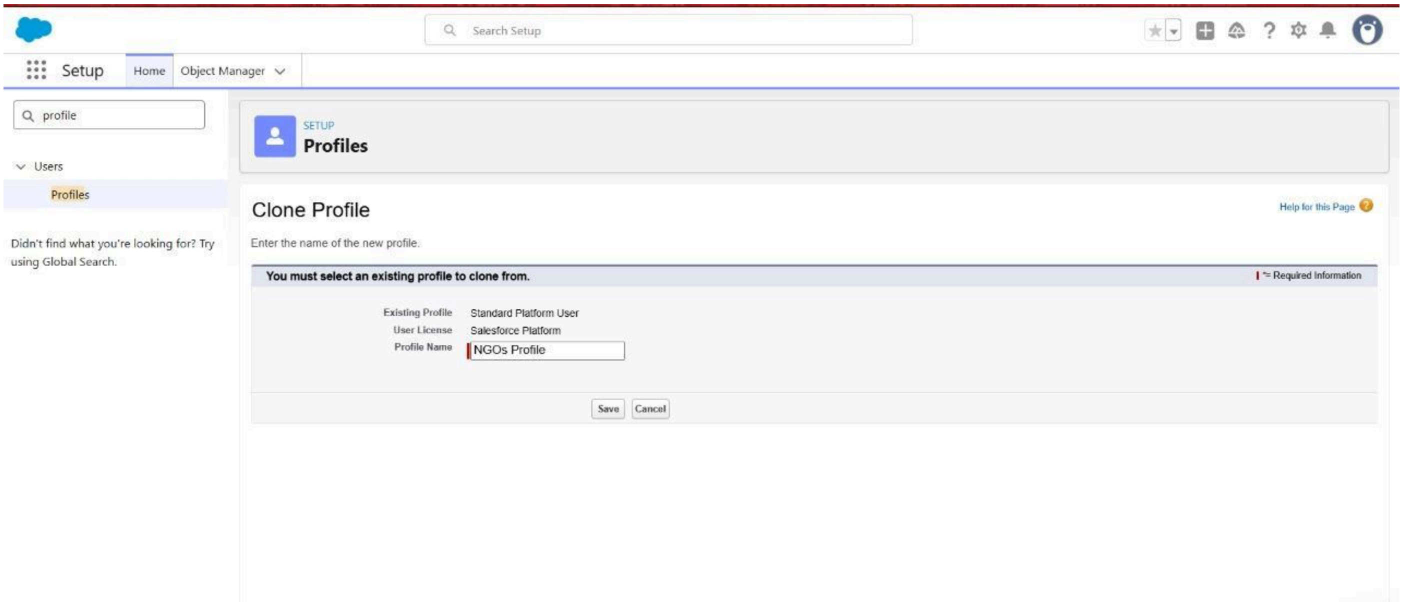
<u>Trigger Code</u> :




```
trigger DropOffTrigger on Drop_Off_point__c (before insert) {

    for(Drop_Off_point__c Drop : Trigger.new){

        Drop.Distance__c = Drop.distance_calculation__c;

    }

}
```

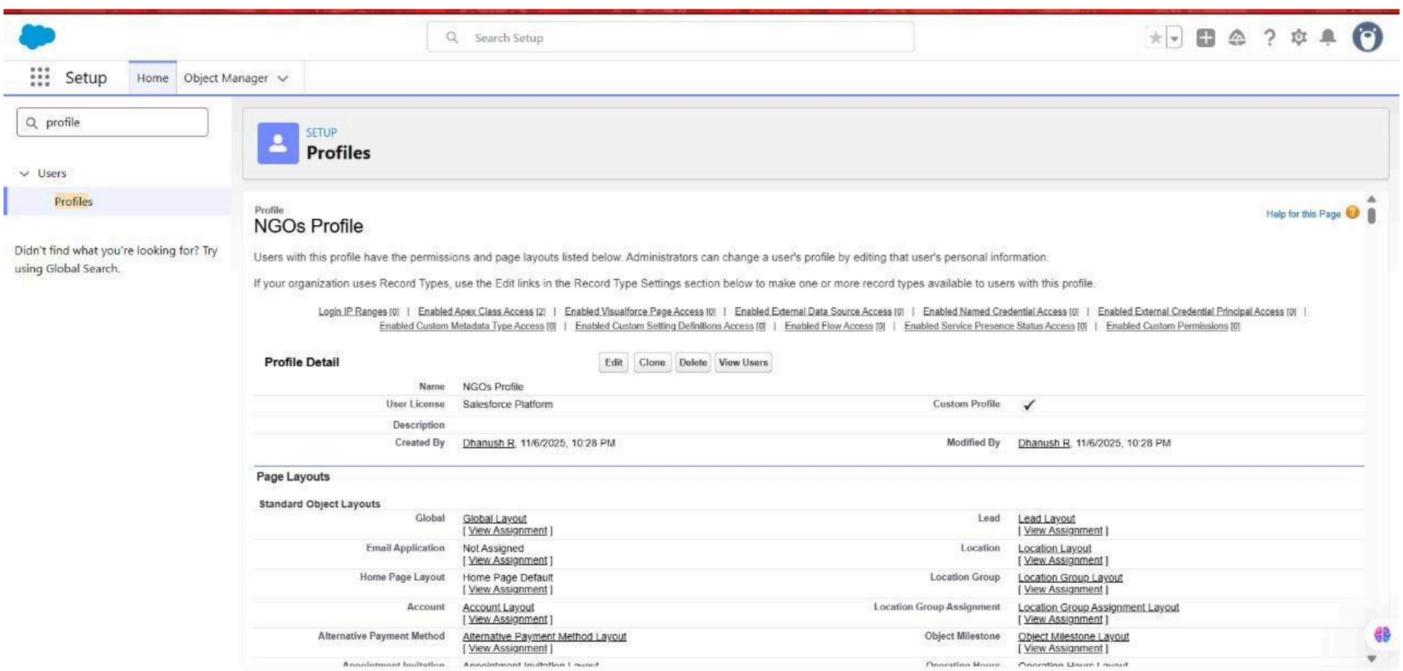
<u>Profiles</u> :

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
   - Then click on Save



Creation of User1:

1. Go to setup page >> type users in Quick Find bar >> click on users>> New user.
2. In General Information give details as: (Note : create users as per your wish NGO's).



First Name : Iksha Foundation

Last Name : Iksha_Foundation

Alias : iiksh

Email : Give Your Email

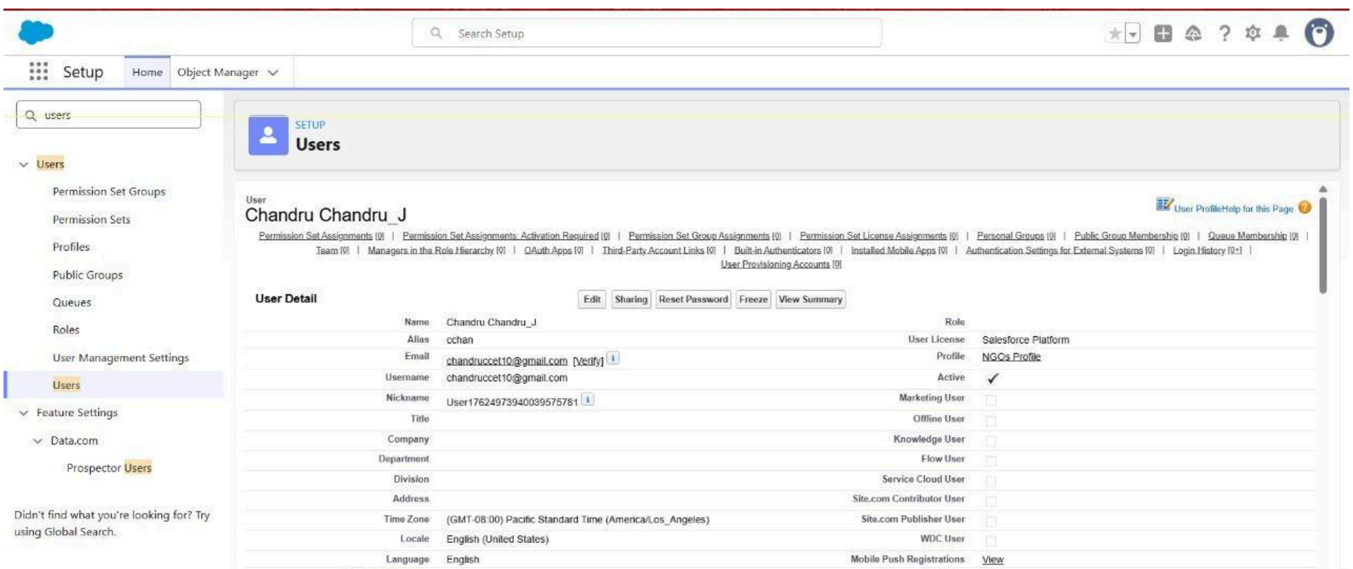
Username : ikshafoundation@sb.com (give the username different)

Nickname : Auto Populated

User License : Salesforce Platform

Profile : NGOs Profile

Active : Check



Creation of User2, User3 :

1. Create another Two Users by following steps in Activity - 1 with similar User License and Profile.
2. Give Different First Name, Last Name based on Different NGO's.

Creation of Public Group 1 :

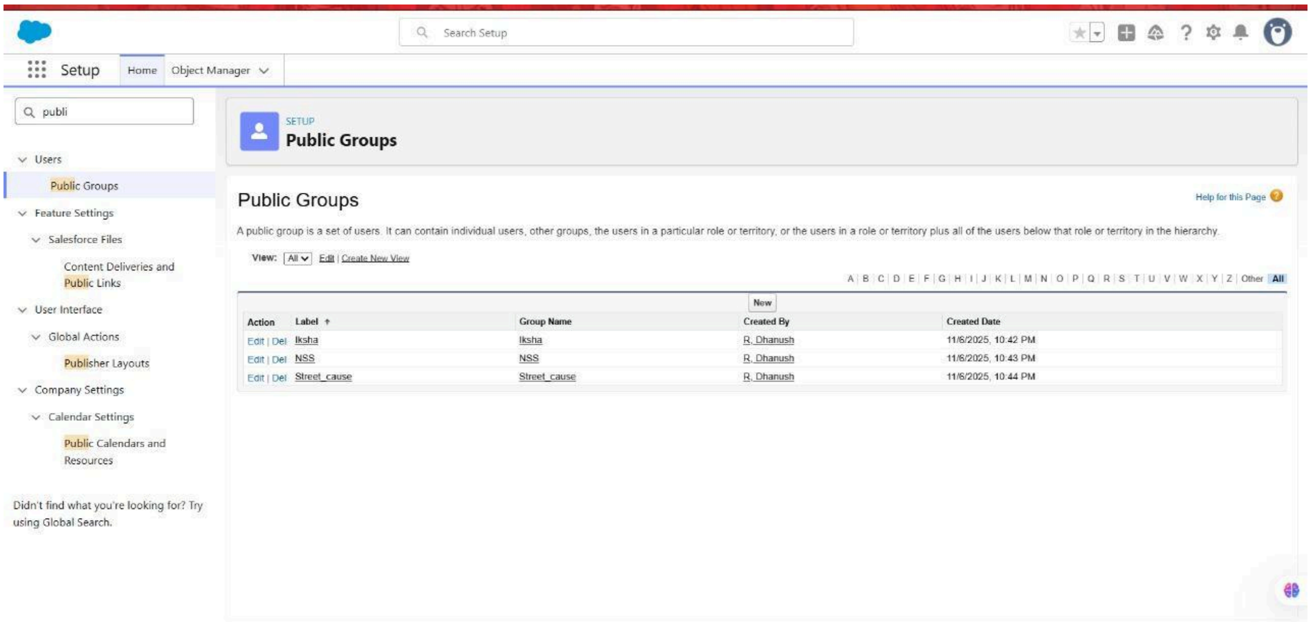
1. Go to setup page >> type Public Groups in Quick Find bar >> click on Public Groups >> click on New.
2. Under Group Information:

- 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.

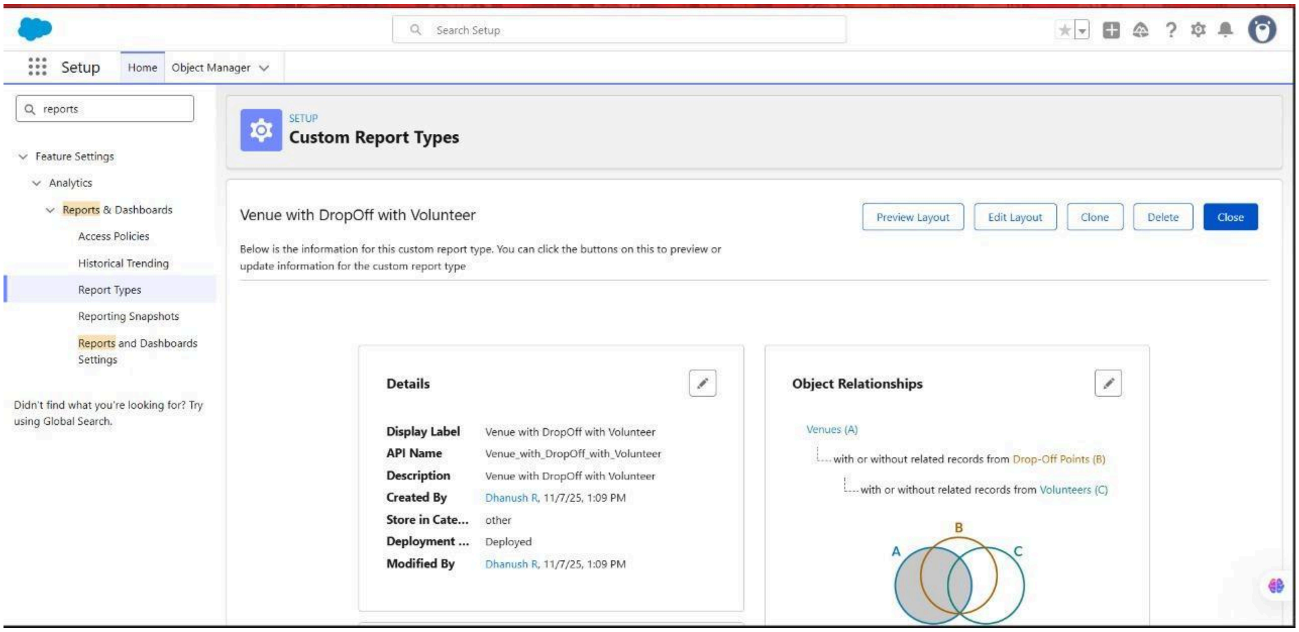
Creation of Public Group 2 :

1. By Following Steps in Activity 1, Create other two Public Groups for other two users.
2. After Saving this would look like this.



Creation of Report Types :

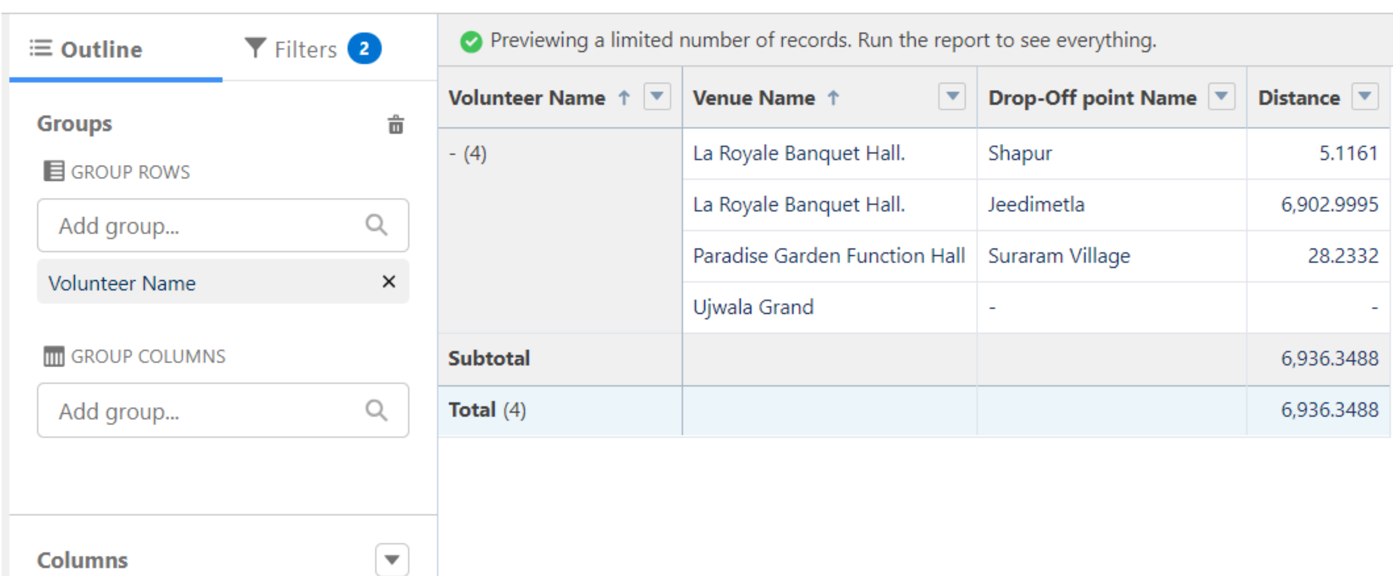
1. Go to setup page >> type Report Types in Quick Find bar >> click on Report Types >> click on Continue   >> Click on New Custom Report Type.
2. In Define the Custom Report Type:
   - Primary Object : Select Venues
   - Report Type Label : Venue with DropOff with Volunteer
   - Report Type Name : Venue_with_DropOff_with_Volunteer
   - Description : Venue with DropOff with Volunteer
   - Store in Category : Select Other Reports
   - Deployment Status : Deployed
3. Click on Next
4. Near Click to relate another Object Select Drop-Off Points.
5. And also select "A" records may or may not have related "B" records.
6. Now again Near Click to relate another Object Select Volunteers.
7. Now click on Save.



<u>Creation of Report on Venue with DropOff with Volunteer</u> :

1. Go to the app(FoodConnect) >> click on the reports tab
2. Click on New Folder.
   - Folder Label : Custom Reports
   - Folder Unique Name : CustomReports
3. Open Custom Reports and click on New Report.

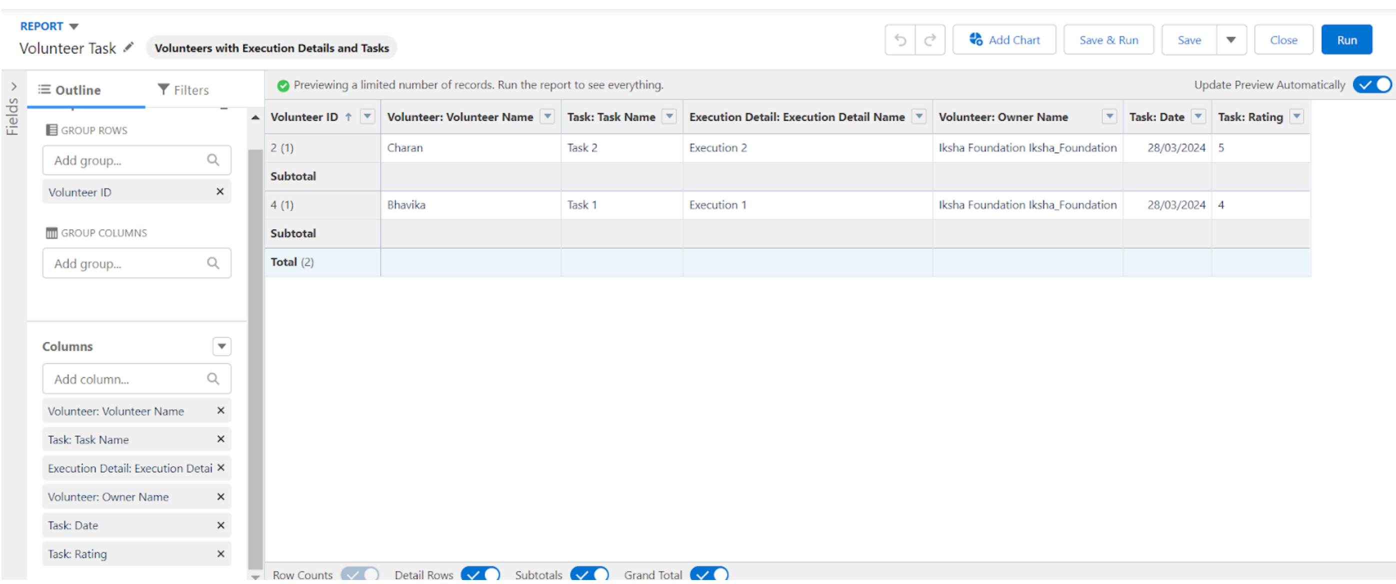
4. Select Report Type : Venue with DropOff with Volunteer
5. Then click on Start Report.
6. In GROUP ROWS : Add Volunteer Name.
7. In Columns : Add Venue Name, Drop-Off point Name, Distance.



8. Now click on Save & Run.
9. Give Label as :
    - Report Name : venue and Drop Off point
    - Report Unique Name : Auto Populated
    - Click on Select Folder and select Custom Report, then click on Save.

<u>Creation of Report on Volunteers with Execution Details and Tasks</u> :

1. Go to the app(FoodConnect) >> click on the reports tab
2. Click on Custom Reports Folder and click on New Report
3. Select Report Type : Volunteers with Execution Details and Tasks.
4. Then click on Start Report.
5. In GROUP ROWS : Volunteer ID
6. In Columns : Add Volunteer : Volunteer Name, Task : Task Name, Execution Detail : Execution Detail Name, Volunteer: Owner Name, Task: Date, Task : Rating.

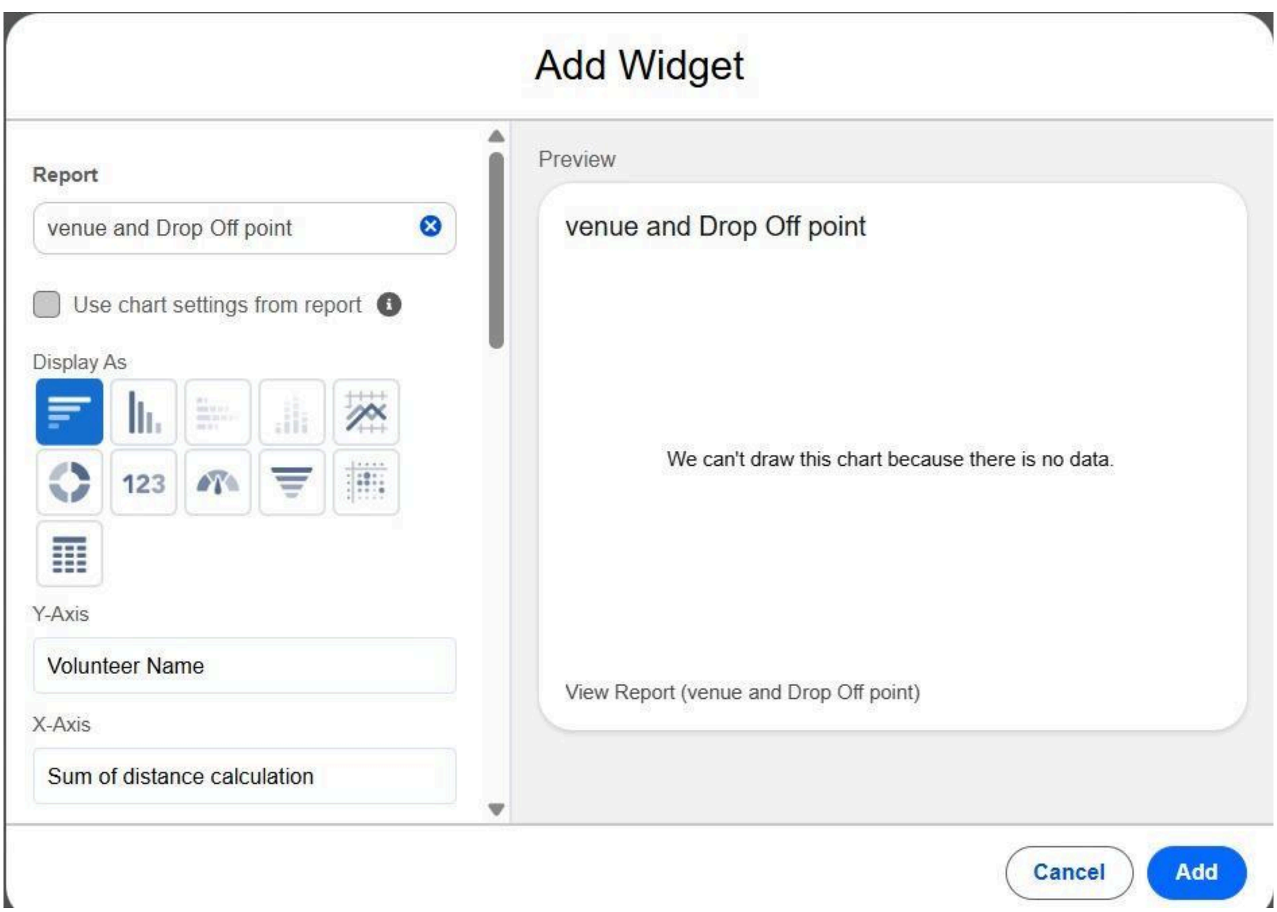


7. Now click on Save & Run.
8. Give Label as :
    - Report Name : Volunteer Task
    - Report Unique Name : Auto Populated
9. Click on Select Folder and select Custom Report, then click on Save.

Adding venue and Drop Off point Report to the Dashboard :

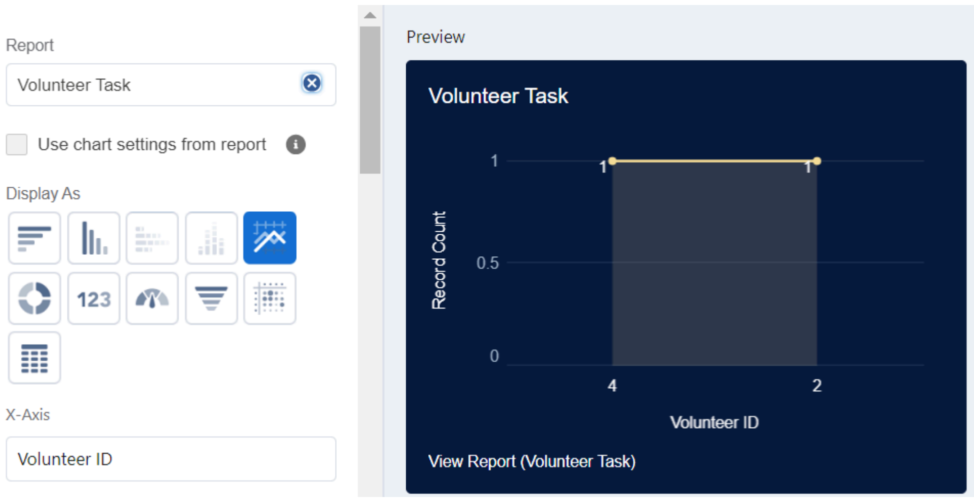
1. Go to the app(FoodConnect) >> click on the Dashboards tab.
2. Click on New Folder.
    - Folder Label : Custom Dashboards
    - Folder Unique Name : Auto Populated

0. Open Custom Dashboards and click on New Dashboards
0. Name : Organization Details
0. Click on Widget and select Chart or Table
0. In Select Report : Select venue and Drop Off point Report.
0. Then click on select
0. In Add Component:
    - Display As : Select Lightning Table
    - Component Theme : Select Dark (Optional)
    - Now click on save.



Adding Volunteer Task Report to the Dashboard :

1. Click on Widget and select Chart or Table
2. In Select Report : Select Volunteer Task Report.
3. Then click on select
4. In Add Component:
    - Display As : Select Line Chart
    - Component Theme : Select Dark (Optional)



Creation of sharing rules :

1. Go to setup >> type Sharing Settings in quick find box >> Click on the Sharing Settings.
2. Scroll down and find Drop-Off point Sharing Rules.
3. Click on new near Drop-Off point Sharing Rules and Name it as:
    - Label : Rule 1
    - Rule Name : Rule_1
4. Select your rule type : Select Based on criteria.
5. Select which records to be shared:
    - Field : Operator : Value = Distance : less than : 15
6. Select the users to share with : Near Share WithPublic Groups : Iksha
7. Click on Save.
8. Click on new near Drop-Off point Sharing Rules and Name it as:
    - Label : Rule 2
    - Rule Name : Rule_2

9. Select your rule type : Select Based on criteria.
10. Select which records to be shared:
    Field : Operator : Value = Distance : greater than : 15
    Field : Operator : Value = Distance : less or equal : 30
11. Select the users to share with : Near Share With

    Public Groups : NSS

12. Click on Save.
13. Click on new near Drop-Off point Sharing Rules and Name it as:

    Label : Rule 3

    Rule Name : Rule_3
14. Select your rule type : Select Based on criteria.
15. Select which records to be shared:
    Field : Operator : Value = Distance : greater than : 30
    Field : Operator : Value = Distance : less or equal : 50
16. Select the users to share with : Near Share With
    Public Groups : Street Cause
17. Click on Save.

Drop-Off point Sharing Rules New Recalculate Drop-Off point Sharing Rules Help

Action	Criteria	Shared With	Access Level
Edit | Del	Drop-Off point: Distance LESS OR EQUAL 15	Group: Iksha	Read/Write
Edit | Del	(Drop-Off point: Distance GREATER THAN 15) AND (Drop-Off point: Distance LESS OR EQUAL 30)	Group: NSS	Read/Write
Edit | Del	(Drop-Off point: Distance GREATER THAN 30) AND (Drop-Off point: Distance LESS OR EQUAL 50)	Group: Street Cause	Read/Write

Creation of Home Page :

1. Go to setup >> type Lightning App Builder in quick find box >> Click on the Lightning App Builder and Select the New.

2. Select Home Page and give Label as HOME Page.

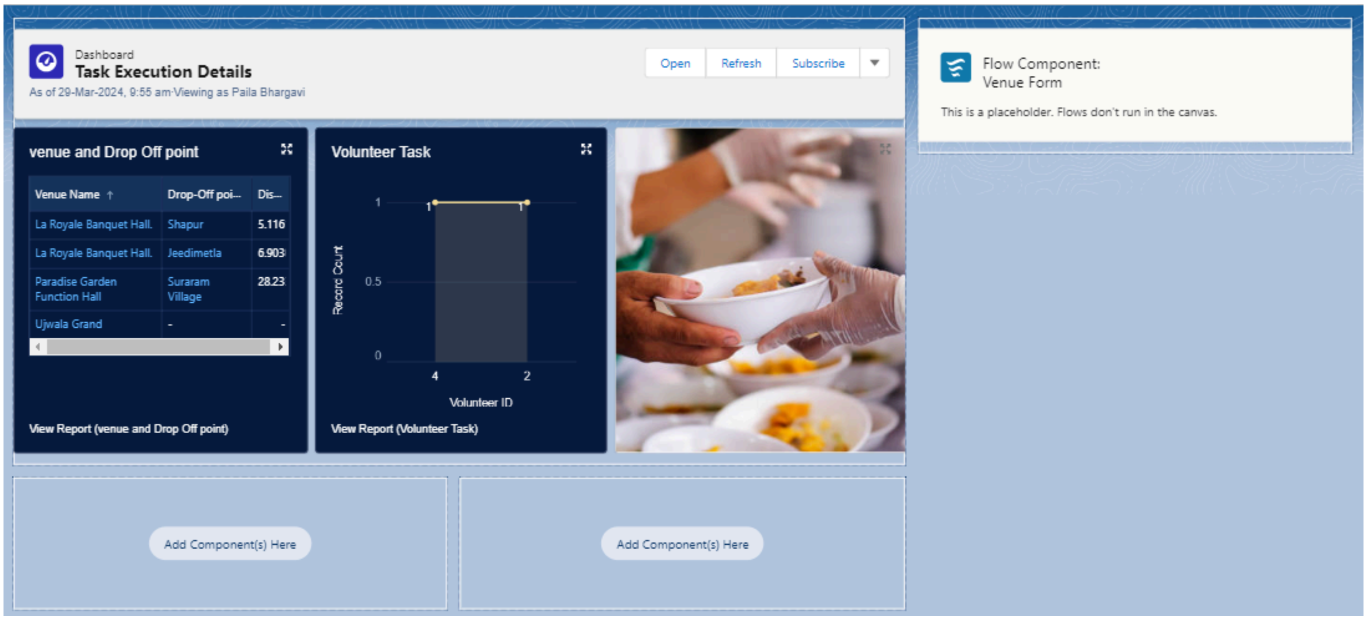
3. Select Standard Home Page.

4. Near Components search for Flow and Drag and Drop in Right Side Section..

5. On the right hand side:

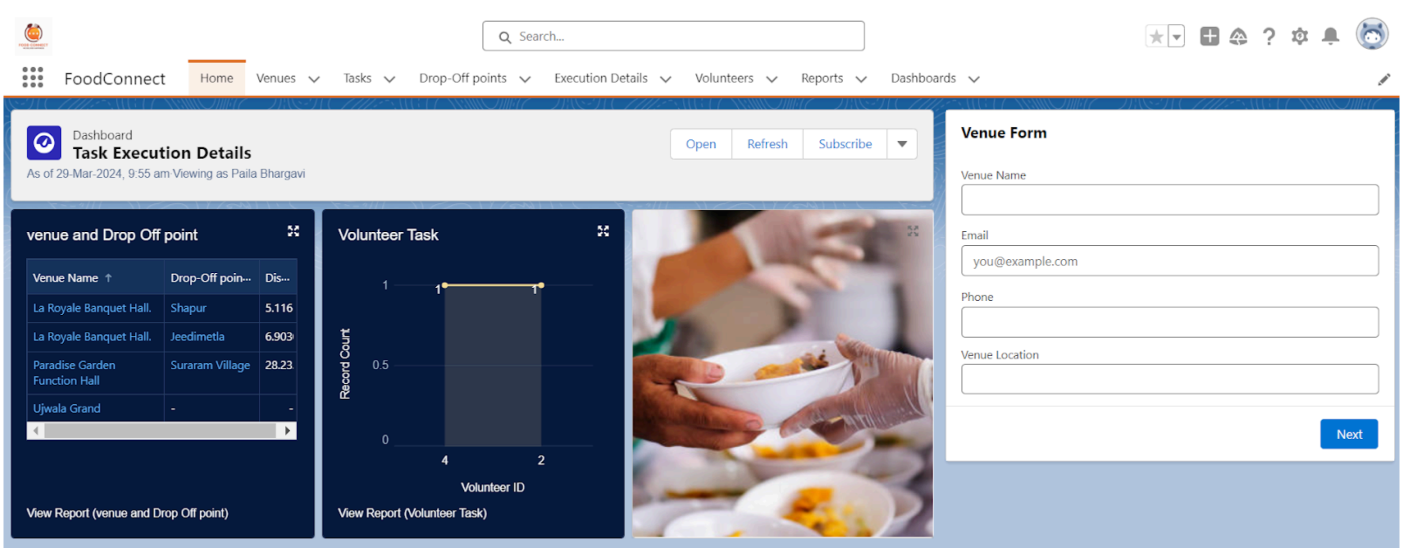
    - Flow : Venue Flow

6. Near Components search for Dashboard, then Drag and Drop it in first Section.



7. Click on Save and Activation, then click on App Default, then Add Assignments.

8. Add FoodConnect App and then Save.



9. FoodConnect Home Page would Look Like this.

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.Supplying leftover food to the poor is a meaningful step toward reducing hunger and food waste. By sharing what we have, we not only nourish lives but also build a more compassionate and responsible society.

- **Outcome:** A functional Salesforce application that enhances food distribution efficiency.
- **Impact:** Improved coordination and transparency in food donation efforts.