

Project Title :- to supply leftover food to poor

1. Project Overview:-

The "Food for All" project aims to address the dual challenges of food waste and hunger by creating a sustainable system for collecting and redistributing leftover food. It seeks to partner with restaurants, grocery stores, food manufacturers, and households to gather surplus food that is safe to consume but would otherwise go to waste. This food will be distributed to underserved communities through collaboration with local charities, shelters, and volunteer networks. The initiative promotes environmental sustainability by reducing food waste and fosters social responsibility by encouraging individuals and organizations to contribute. By connecting excess food with those in need, the project aspires to create a more equitable and compassionate society.

2. Objectives:-

Business Goals:-

- **Efficient Resource Utilization:** Develop a streamlined system to collect, store, and distribute surplus food to minimize waste and ensure timely delivery to those in need.
- **Sustainable Operations:** Establish a financially and environmentally sustainable model by leveraging donations, grants, and partnerships with food businesses, ensuring long-term impact.
- **Brand and Community Building:** Enhance the reputation of participating businesses as socially responsible organizations while fostering a strong sense of community involvement and goodwill.
- **Technology Integration:** Implement digital tools, such as apps or platforms, to match surplus food sources with distribution channels, optimize logistics, and track impact.
- **Scaling and Replication:** Create a scalable model that can be replicated in other cities or regions, maximizing the reach and impact of the project.

Specific Outcomes:-

- **Reduction in Food Waste:** Redirect a significant percentage (e.g., 30-50%) of edible surplus food from landfills to people in need within the first year.
- **Meals Provided:** Deliver a targeted number of meals (e.g., 50,000 meals annually) to underserved individuals and families.
- **Community Partnerships:** Establish collaborations with at least 50 food businesses, including restaurants, grocery stores, and catering companies, in the first year.
- **Volunteer Engagement:** Recruit and train a dedicated team of at least 100 volunteers to support food collection, packaging, and distribution.

3. Salesforce Key Features and Concepts Utilized:-

1. Custom Objects and Relationships :-

- **Custom Objects:** Created five key objects (Venue, Drop-Off Point, Task, Volunteer, Execution Details) to represent the organizational structure and operational data.

- **Relationship Fields:**

- Lookup and Master-Detail relationships to connect objects, enabling relational data storage.
- Example: Drop-Off Points linked to Venues, Tasks linked to Volunteers and Execution Details.

2. Custom User Profiles and Access Control:

- **User Profiles:** Customized profiles for NGOs to define user permissions and access levels.

- **Public Groups and Sharing Rules:**

- Created groups for different NGOs and defined criteria-based sharing rules to control data visibility.

- Example: Sharing Drop-Off Point records based on distance thresholds.

3. Custom Reports and Dashboards:-

- **Custom Report Types:**

- Example: "Venue with DropOff with Volunteer" and "Volunteers with Execution Details and Tasks."

- **Dashboards:**

- Example: "Organization Details" dashboard with components like charts and tables to visualize reports.

4. Automation Tools:

- **Triggers:**

- Example: Trigger on the Drop-Off Point object to auto-assign Distance values based on calculations.

- **Flows:**

- Implemented Venue Flow for streamlined data handling through the Lightning App Builder.

5. Lightning App and Page Customization :-

- **Custom Lightning App (FoodConnect):**

- Consolidated navigation with tabs for objects, reports, and dashboards.

- **Custom Home Page:**

- Integrated flows, dashboards, and quick links to enhance usability and accessibility.

6. Advanced Field Types and Formulas:-

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

7. Data Management:-

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

8. Deployment and Scalability:

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

4.Detailed steps to Solution Design:

Step - 1:

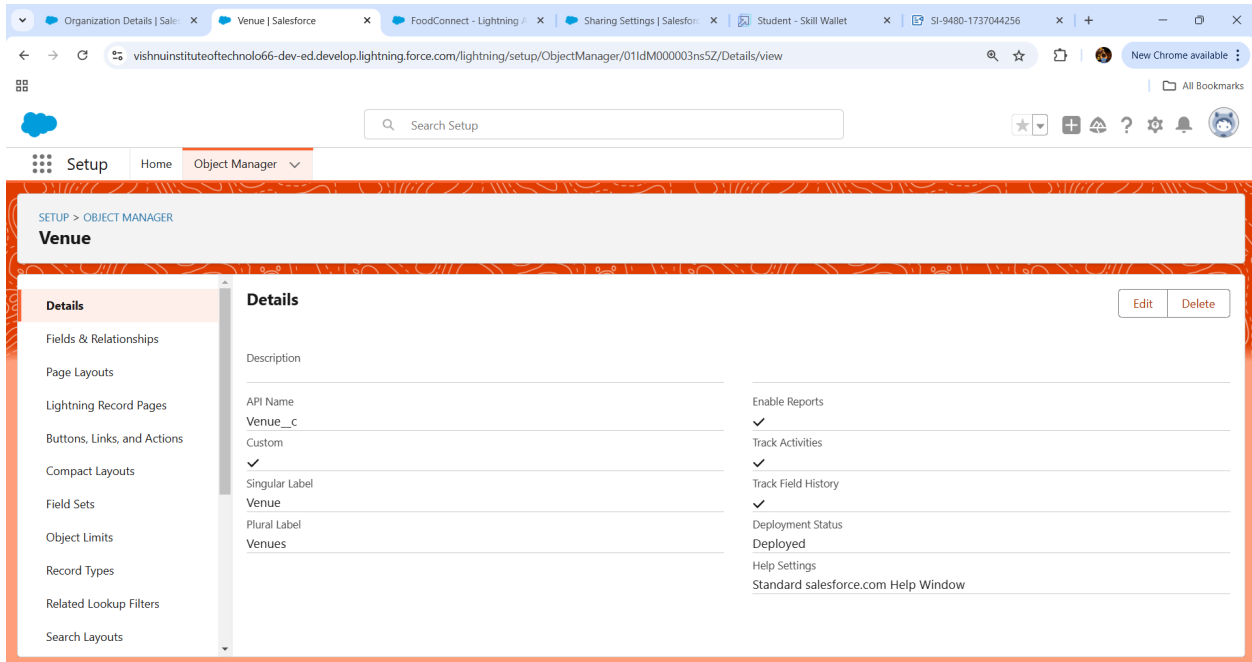
Data Model Design

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

- **Venue Object:-**

■ Key Fields: Contact Email, Contact Phone, Location, Venue Location.

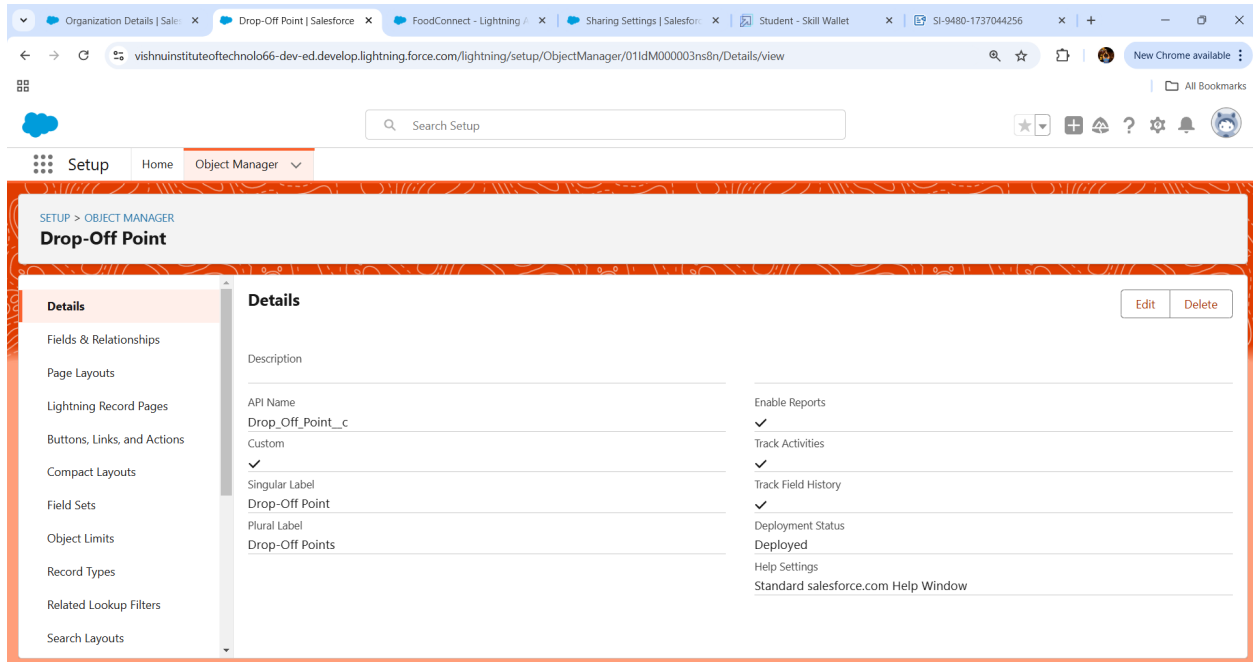
■ Relationships: Lookup relationship with Drop-Off Point.



● **Drop-Off Point Object :-**

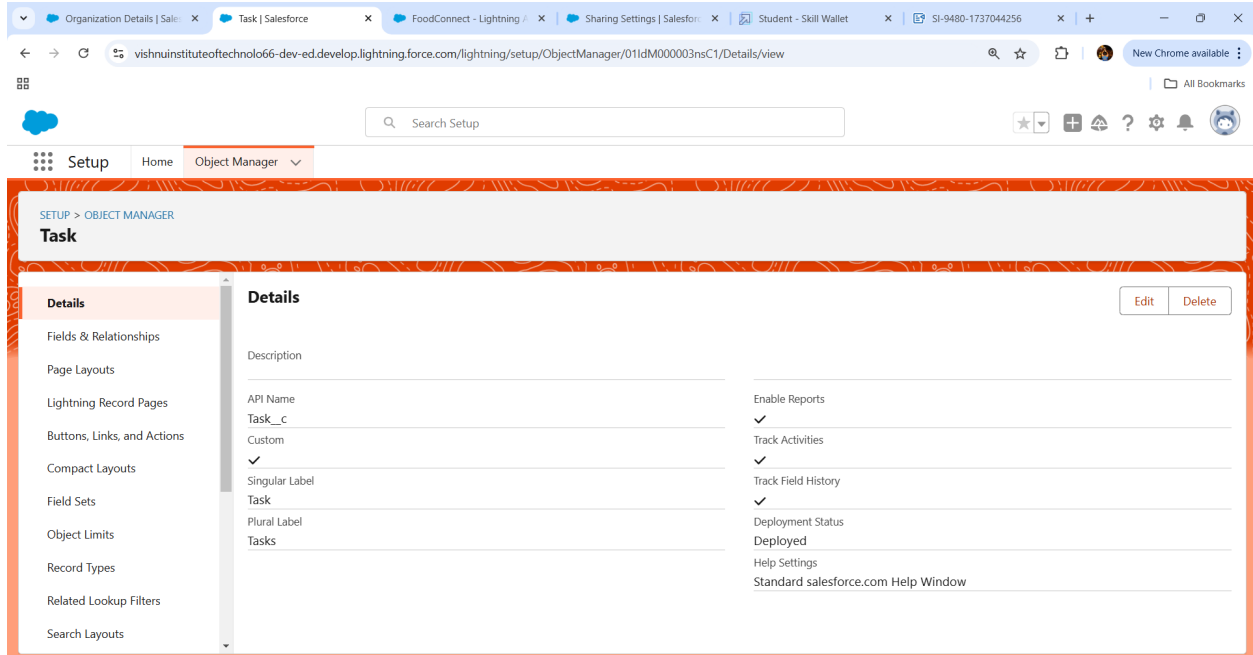
■ Key Fields: Location 2 (Geolocation), Distance Calculation (Formula), State.

■ Relationships: Lookup relationship with Venue.



● **Task Object:-**

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



● **Volunteer Object:-**

■ Key Fields: Volunteer Name.

■ Relationships: Master-Detail relationship with Execution Details.

The screenshot shows the Salesforce Setup interface for the 'Volunteer' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Volunteer' and includes a 'Details' section with the following fields:

Field	Value
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

Buttons for 'Edit' and 'Delete' are located in the top right corner of the details section.

● Execution Details Object :-

■ Relationships: Master-Detail with Volunteer and Task.

The screenshot shows the Salesforce Setup interface for the 'Execution Detail' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Execution Detail' and includes a 'Details' section with the following fields:

Field	Value
Description	
API Name	Execution_Detail__c
Custom	✓
Singular Label	Execution Detail
Plural Label	Execution Details
Enable Reports	✓
Track Activities	✓
Track Field History	✓
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

Buttons for 'Edit' and 'Delete' are located in the top right corner of the details section.

URL at the bottom: <https://vishnuinstituteoftechnolo66-dev-ed.develop.lightning.force.com/one/app#/setup/ObjectManager/01dM000003ngxG/view>

Step - 2 :

User Interface Design

The user interface prioritizes a seamless user experience using tabs, reports, dashboards, and a customized home page.

Lightning App: FoodConnect

● **Tabs for easy navigation:**

- Home
- Venue
- Drop-Off Point
- Task
- Volunteer
- Execution Details
- Reports and Dashboards

The screenshot shows the Salesforce Lightning Setup interface. The browser tabs include 'Organization Details | Sale...', 'Tabs | Salesforce', 'FoodConnect - Lightning', 'Sharing Settings | Salesfor...', 'Student - Skill Wallet', and 'SI-9480-1737044256'. The address bar shows the URL: 'vishnuinstituteoftechnology06-dev-ed.develop.lightning.force.com/lightning/setup/CustomTabs/home'. The page title is 'Setup' with a 'Home' tab selected. A search bar is present with the text 'Search Setup'. The main content area is titled 'SETUP Tabs' and contains a table with columns: Action, Label, Tab Style, and Description. The table lists various tabs with their respective styles and descriptions. Below the table, there is a section for 'Web Tabs' with a 'New' button and the text 'What Is This?'. The left sidebar shows a 'Quick Find' search bar and a list of setup categories: Setup Home, Service Setup Assistant, Commerce Setup Assistant, Hyperforce Assistant, Release Updates, Lightning Experience Transition Assistant, Salesforce Mobile App, Lightning Usage, Optimizer, Sales Cloud Everywhere, and ADMINISTRATION (Users, Data, Email).

Action	Label	Tab Style	Description
Edit Del	Activities	Trophy	
Edit Del	Departments	Gears	
Edit Del	Drop-Off Points	Airplane	
Edit Del	Execution Details	Checkboard	
Edit Del	Faculties	Computer	sample
Edit Del	leave requests	Heart	
Edit Del	studentactivityenrollments	Apple	
Edit Del	students	Laptop	
Edit Del	Tasks	Books	
Edit Del	Venues	Castle	
Edit Del	Volunteers	IP Phone	

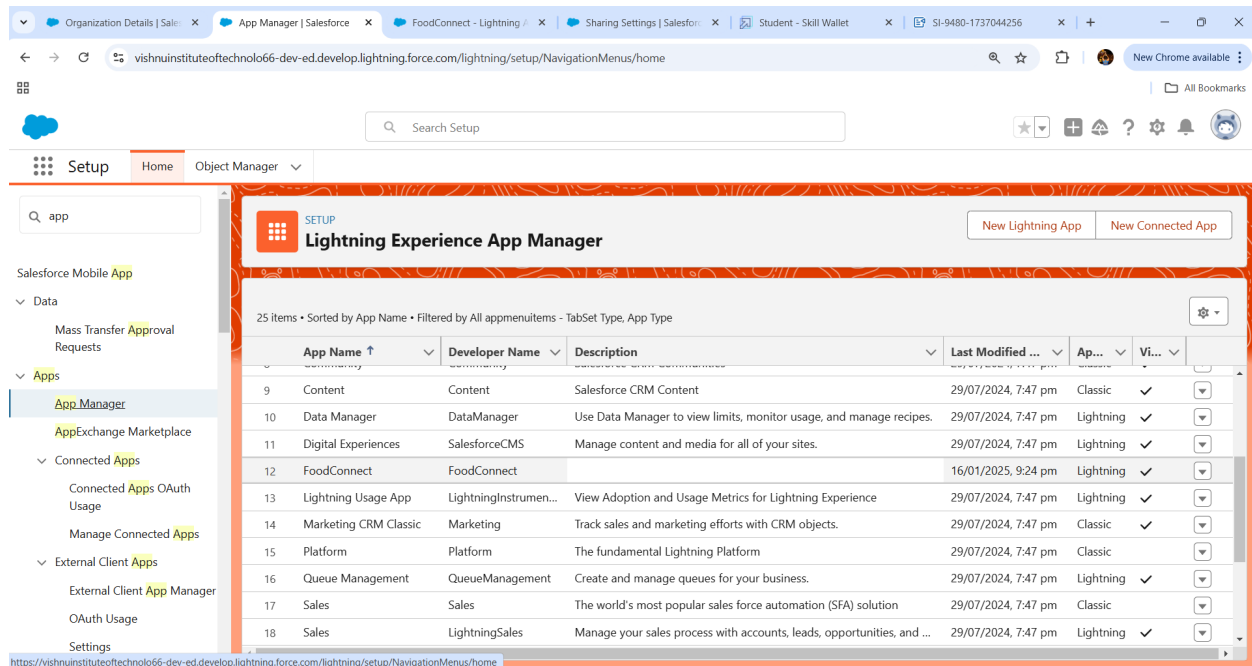
Web Tabs [New](#) [What Is This?](#)

No Web Tabs have been defined

Step - 3 :

Build the Lightning App:

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



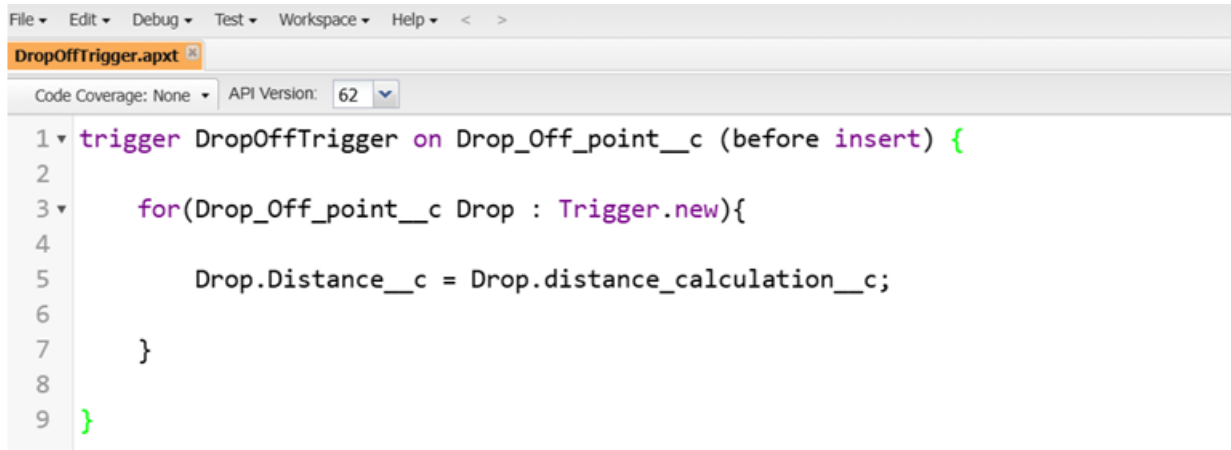
Step - 4 :

Automations and Business Logic Flows:

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

Triggers:

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



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

Step - 5 :

Create Users:

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

Organization Details | Sales | Users | Salesforce | Venue Form - V1 | Sharing Settings | Salesforce | Student - Skill Wallet | SI-9480-1737044256

vishnuinstituteoftechnolo66-dev-ed.develop.lightning.force.com/lightning/setup/ManageUsers/home

Setup Home Object Manager

users

Users

Permission Set Groups

Permission Sets

Profiles

Public Groups

Queues

Roles

User Management Settings

Users

Feature Settings

Data.com

Prospector Users

Didn't find what you're looking for? Try using Global Search.

https://vishnuinstituteoftechnolo66-dev-ed.develop.lightning.force.com/lightning/setup/ManageUsers/home

SETUP Users

To get more licenses, use the Your Account app. Let's Go

View: All Users Edit Create New View

New User Reset Password(s) Add Multiple Users

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	User_Integration	integ	integration@00ddm000008wxdquau.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> Edit	Chatter_Expert	Chatter	chatty00ddm000008wxdquau.umdaxnc8hj@chatter.salesforce.com		✓	Chatter Free User
<input type="checkbox"/> Edit	User_Security	sec	insightssecurity@00ddm000008wxdquau.com		✓	Analytics Cloud Security User
<input type="checkbox"/> Edit Login	Street_Cause_Street_Cause	street	sporththead@gmail.com		✓	NGOs Profile
<input type="checkbox"/> Edit Login	NSS_NSS	nss	onlyranger123@gmail.com		✓	NGOs Profile
<input type="checkbox"/> Edit Login	Iksha_Foundation_Iksha_Foundation	iksh	iksfoundation@sb.com		✓	NGOs Profile
<input type="checkbox"/> Edit Login	I_aegon	at	sasanapuriadarsh28@gmail.com	Operational Head	✓	operational head
<input type="checkbox"/> Edit	SASANAPURI ADARSH	ASASA	adarsh@vyl.text	system admin	✓	System Administrator

New User Reset Password(s) Add Multiple Users

Create Public Groups:

- Setup > Public Groups > New.

Organization Details | Sales | Public Groups | Salesforce | Venue Form - V1 | Sharing Settings | Salesforce | Student - Skill Wallet | SI-9480-1737044256

vishnuinstituteoftechnolo66-dev-ed.develop.lightning.force.com/lightning/setup/PublicGroups/page?address=%2Fsetup%2Fown%2Fgroupdetail.jsp%3Fid%3D00Gd...

Setup Home Object Manager

gro

Users

Permission Set Groups

Public Groups

Feature Settings

Chatter

Groups

Group Layouts

Group Member Triggers

Group Record Triggers

Group Triggers

Record Types

User Interface

Record Page Settings

Environments

SETUP Public Groups

Group Iksha Help for this Page

Edit Delete View Summary

Label	Iksha
Group Name	Iksha
Grant Access Using Hierarchies	✓
Description	
Created By	ADARSH SASANAPURI, 11/01/2025, 12:08 am
Modified By	ADARSH SASANAPURI, 11/01/2025, 12:08 am

View All Users

Name	Type
ADARSH SASANAPURI	User
Iksha Foundation Iksha_Foundation	User

Step - 6 :

Create Reports:

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

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

Enable Field Editing Add Chart Edit

Total Records: 4 Total distance calculation: 12,515.62

<input type="checkbox"/> Volunteer Name ↑	Venue Name	Drop-Off Point Name	distance calculation
<input type="checkbox"/> - (1)	vzm	-	-
Subtotal			0.00
<input type="checkbox"/> arjun (1)	psa	ghjk	9,647.82
Subtotal			9,647.82
<input type="checkbox"/> kiran (1)	bvrt	jki	2,867.80
Subtotal			2,867.80
<input type="checkbox"/> sai (1)	psa	ghjk	9,647.82
Subtotal			9,647.82
Total (4)			12,515.62

Row Counts Detail Rows Subtotals Grand Total

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

Report: Tasks with Execution Details and Volunteers
Volunteer Task

Total Records: 2

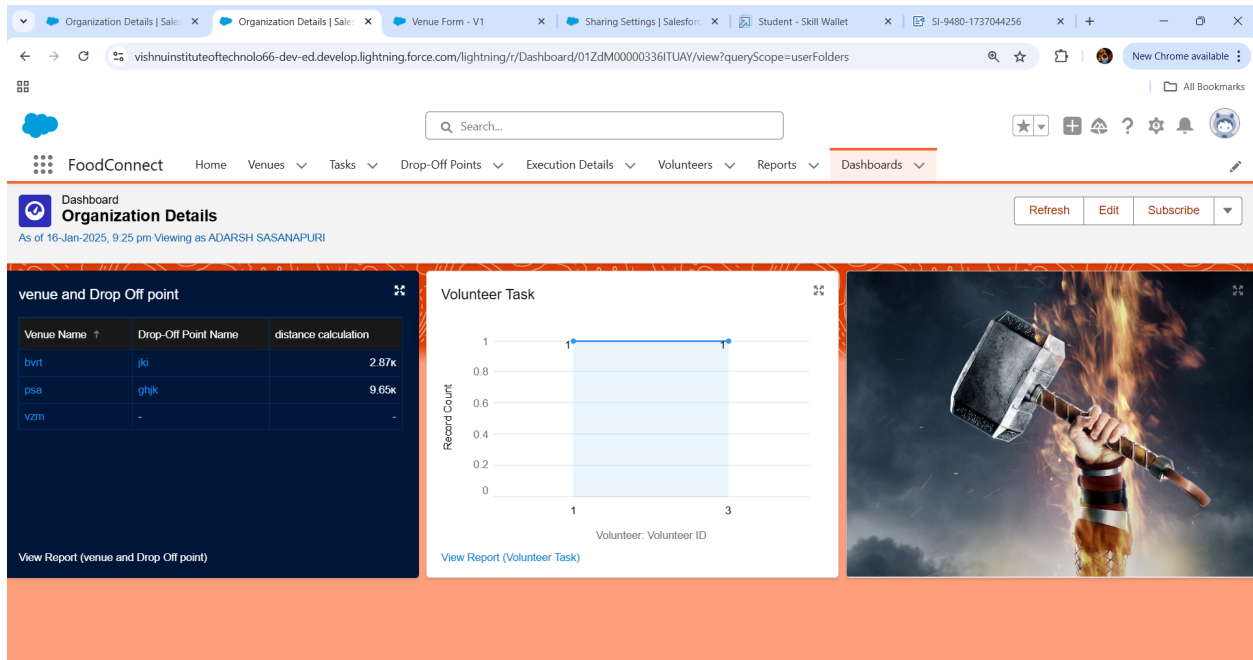
<input type="checkbox"/> Volunteer: Volunteer ID ↑	Volunteer: Volunteer Name	Task: Task Name	Execution Detail: Execution Detail Name	Date	Rating
<input type="checkbox"/> 1 (1)	sai	nhy	beli	30/01/2025	3
Subtotal					
<input type="checkbox"/> 3 (1)	arjun	nhy	bahu	30/01/2025	3
Subtotal					
Total (2)					

Row Counts: ☒ Detail Rows: ☒ Subtotals: ☒ Grand Total: ☒

Step - 7 :

Create Dashboards:

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



Step - 8 :

Testing and Deployment

Testing:

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

Deployment:

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

5. Testing and Validation

Unit Testing

Objective:

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

Steps:

Apex Trigger Testing:

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

Flow Testing:

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

Custom Validation Rules Testing:

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

User Interface Testing

Objective:

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

Steps:

1. Navigation Testing:

- Ensure all navigation items (Home, Venue, Drop-Off Point, etc.) are accessible in

the FoodConnect app.

- Validate that tabs and links redirect to the correct pages.

2. Report and Dashboard Testing:

- Open the Venue with DropOff with Volunteer and Volunteer Task reports.
- Validate that data is grouped and displayed correctly based on requirements.
- Check the dashboards for proper chart rendering (e.g., Lightning Table, Line Chart).

3. Home Page Testing:

- Confirm that the Venue Flow and Organization Details Dashboard appear on the Home Page.
- Verify that clicking on dashboard components navigates to the correct report.

6. Key Scenarios Addressed by Salesforce in the Implementation Project:-

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

7. Conclusion:-

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

SASANAPURI ADARSH

VISHNU INSTITUTE OF TECHNOLOGY