



# **SRI KRISHNA ADITHYA COLLEGE OF ARTS & SCIENCE**

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Kovaipudur, Coimbatore - 641042



**TOPIC: To Supply Leftover Food to Poor**

**TEAM\_ID: BEBC5787A2608E1878D491B936DD559A**

**TEAM DETAILS:**

**→ Team Lead: SOWPARNIKA ANILKUMAR**

**---E-mail: 23bsct160sowparnikaanilkumar@skacas.ac.in@skacas.ac.in**

**---Reg-no: 2326k0286**

**---NM\_ID: bruag2326K0286**

**→ Team member 1: MOHAMMED NOWFAL A**

**---E-mail: 23bsct133mohammednowfala@skacas.ac.in**

**---Reg-no: 2326k0259**

**---NM\_ID: bruag2326K0259**

**→ Team member 2: NARESH DHARSAN S**

**---E-mail: 23bsct138nareshdharsans@skacas.ac.in**

**---Reg-no: 2326k0264**

**---NM\_ID: bruag2326K0264**

**→ Team member 3: ROHITH N**

**---E-mail: 23bsct144rohithn@skacas.ac.in**

**---Reg-no: 2326k0270**

**---NM\_ID: bruag2326K0270**

# 1. Project Overview

FoodConnect is a transformative initiative that tackles two pressing global issues: food waste and hunger. By leveraging cutting-edge Salesforce technology, we aim to connect surplus food from restaurants, grocery stores, events, and households with underprivileged communities in need of nourishment.

Our vision is simple yet impactful: to create a seamless system that ensures leftover food is not wasted but instead redistributed efficiently to those who need it most. With Salesforce as our backbone, FoodConnect will streamline food collection, optimize volunteer coordination, and ensure timely delivery to designated drop-off points. Through real-time tracking, intelligent task allocation, and insightful reporting, FoodConnect will foster transparency and accountability across the entire process. Volunteers will find it easier to engage, donors will have confidence in the system, and recipients will benefit from reliable access to food. This project isn't just about logistics-it's about building a culture of sharing, reducing environmental impact, and creating a replicable model for other communities. By bridging the gap between surplus and scarcity, FoodConnect aspires to make a meaningful difference, one meal at a time

## 2. Objectives

At the heart of FoodConnect lies a mission to address food waste and hunger while empowering communities through efficient technology. Our objectives are crafted to deliver measurable impact and foster a culture of sharing and accountability.:

### **Business Goals:**

**A. Reduce Food Waste:** Redirect surplus food from donors such as restaurants, grocery stores, and events to those in need, minimizing wastage and maximizing its value.

**B. Combat Hunger:** Build a reliable network that connects food suppliers with non-profits,shelters, and underserved communities, ensuring timely access to nutritious meals.

**C. Streamline Operations:** Simplify and enhance volunteer coordination, task management, and communication to create a seamless experience for all stakeholders.

**D. Promote Transparency and Accountability:** Leverage technology to provide clear tracking, reporting, and insights into food collection, distribution, and impact.

### **Specific Outcomes:**

**a. Comprehensive Web Application:**

- Manage venues and drop-off points efficiently.
- Enable real-time task assignment and tracking for volunteers.
- Provide robust reporting and analytics dashboards to measure performance and impact.

**b. Intelligent Automation:**

Automate the matching of food donations based on location, food type, and urgency to optimize logistics and reduce delays.

**c. Enhanced Communication and Collaboration:**

Foster real-time updates and coordination among donors, volunteers, and recipients through integrated communication tools.

**d. Data-Driven Insights:**

Generate actionable insights to continuously improve operations, measure impact, and refine strategies for food redistribution.

### **3. Salesforce Key Features and Concepts Utilized**

FoodConnect leverages the power of Salesforce to create an efficient, user-friendly platform that streamlines food redistribution and volunteer management. Here's how we've utilized Salesforce features to bring this initiative to life.

**1. Venues:** Store vital information about food donation locations, including address, capacity, and contact details, ensuring organized management of distribution points.

orgfarm-7ccbdfb71c-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000001ykU1/FieldsAndRelationships/view

Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

**Venue**

Details

**Fields & Relationships**  
8 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Contact Email	Contact_Email__c	Email		
Contact Phone	Contact_Phone__c	Phone		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Geolocation		
Owner	OwnerId	Lookup(User, Group)		✓
Venue Location	Venue_Location__c	Long Text Area(32768)		
Venue Name	Name	Text(80)		✓

**2. Drop-Off Points:** Record specific delivery locations, making it easier for volunteers to plan and execute tasks effectively.

orgfarm-7ccbdfb71c-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000001ykXF/FieldsAndRelationships/view

Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

**Drop-Off Point**

Details

**Fields & Relationships**  
9 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Distance	Distance__c	Number(14, 4)		
distance calculation	distance_calculation__c	Formula (Number)		
Drop-Off point Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Location 2	Location_2__c	Geolocation		
Owner	OwnerId	Lookup(User, Group)		✓
State	State__c	Picklist		

**3. Tasks:** Track and manage volunteer assignments with fields for descriptions, deadlines, and responsible individuals.

orgfarm-7ccbdfb71c-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000001yk5/FieldsAndRelationships/view

Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

**Task**

Details

**Fields & Relationships**  
16 Items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

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 (Multi-Select)		

**4. Volunteers:** Maintain a centralized database of volunteers, including their contact details, availability, and assigned tasks.

Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

**Volunteer**

Details

**Fields & Relationships**  
13 Items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Long Text Area(32768)		
Age	Age__c	Number(18, 0)		
Available On	Available_On__c	Date		
Contact Number	Contact_Number__c	Number(18, 0)		
Created By	CreatedById	Lookup(User)		
Date of Birth	Date_of_Birth__c	Date		
Drop-Off Point	Drop_Off_Point__c	Master-Detail(Drop-Off Point)		✓

https://orgfarm-7ccbdfb71c-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000001ykdh/FieldsAndRelationships/view#

**5. Execution Details:** Document completed tasks, linking them to specific volunteers and drop-off points for a detailed activity history.

SETUP > OBJECT MANAGER

## Execution Detail

Details

**Fields & Relationships**  
5 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

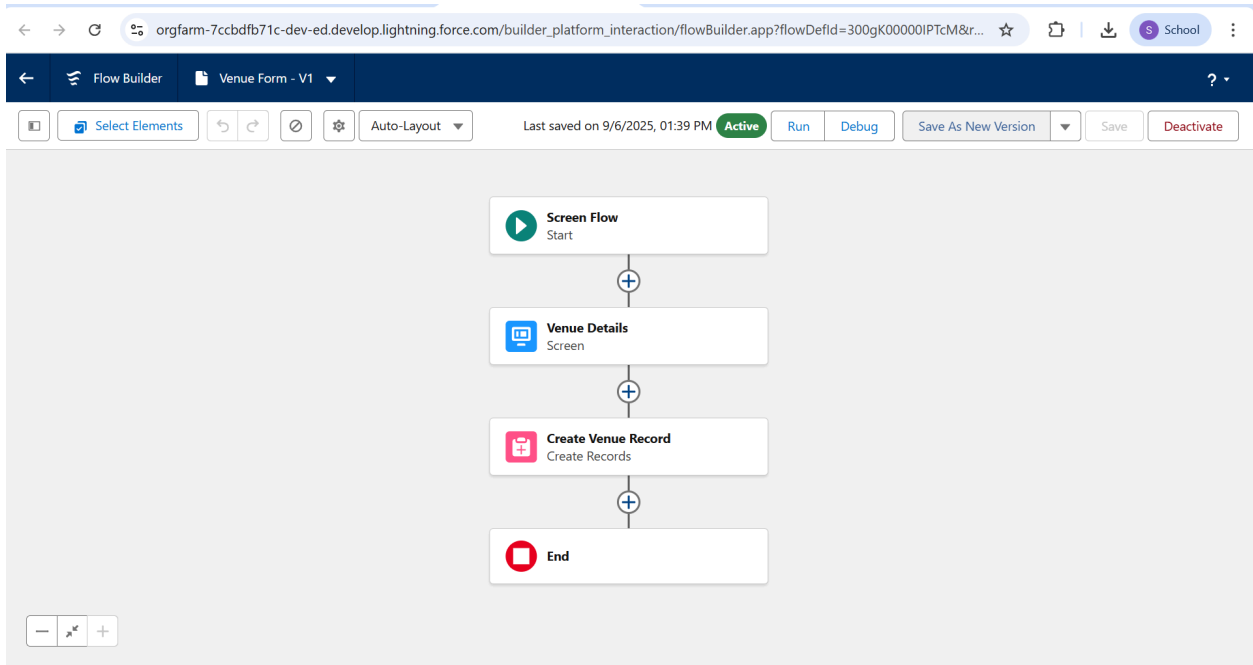
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Execution Detail Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Task	Task__c	Master-Detail(Task)		✓
Volunteer	Volunteer__c	Master-Detail(Volunteer)		✓

## Relationships

- Master-Detail Relationships: Create structured connections, such as linking tasks to their execution details, ensuring data consistency and logical organization.
- Lookup Relationships: Enable flexible associations, like connecting volunteers to drop-off points, allowing for dynamic task allocation based on location and availability.

## Automations and Workflows

1. Flows: Automate processes like creating venue records or assigning tasks, guiding users through step-by-step workflows to ensure accuracy and efficiency



**2. Apex Triggers:** Implement custom logic, such as calculating distances between venues and volunteers, to optimize task assignments and reduce delivery times.

Apex Trigger Detail

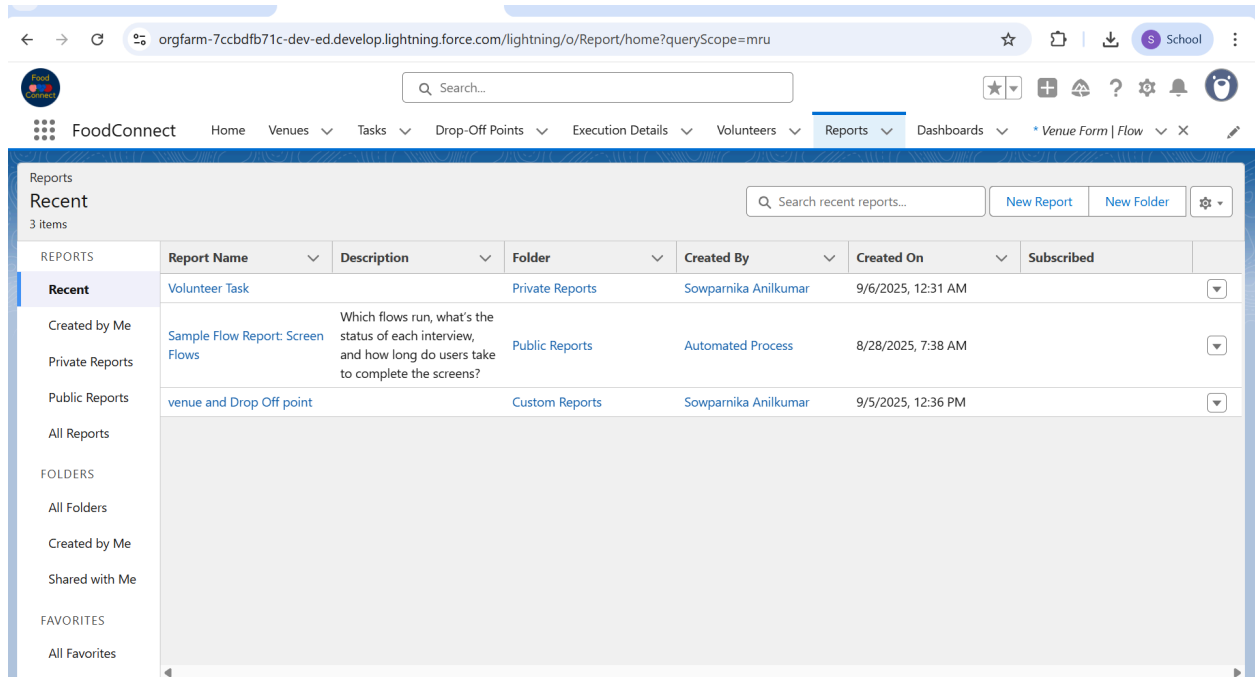
Name	DropOffTrigger	sObject Type	Drop-Off Point
Code Coverage	0% (0/2)	Status	Active
Created By	Sowpamika Anilkumar, 9/4/2025, 11:59 AM	Last Modified By	Sowpamika Anilkumar, 9/4/2025, 12:20 PM
Namespace Prefix			

Apex Trigger

```
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 }
```

## Data Sharing and Security

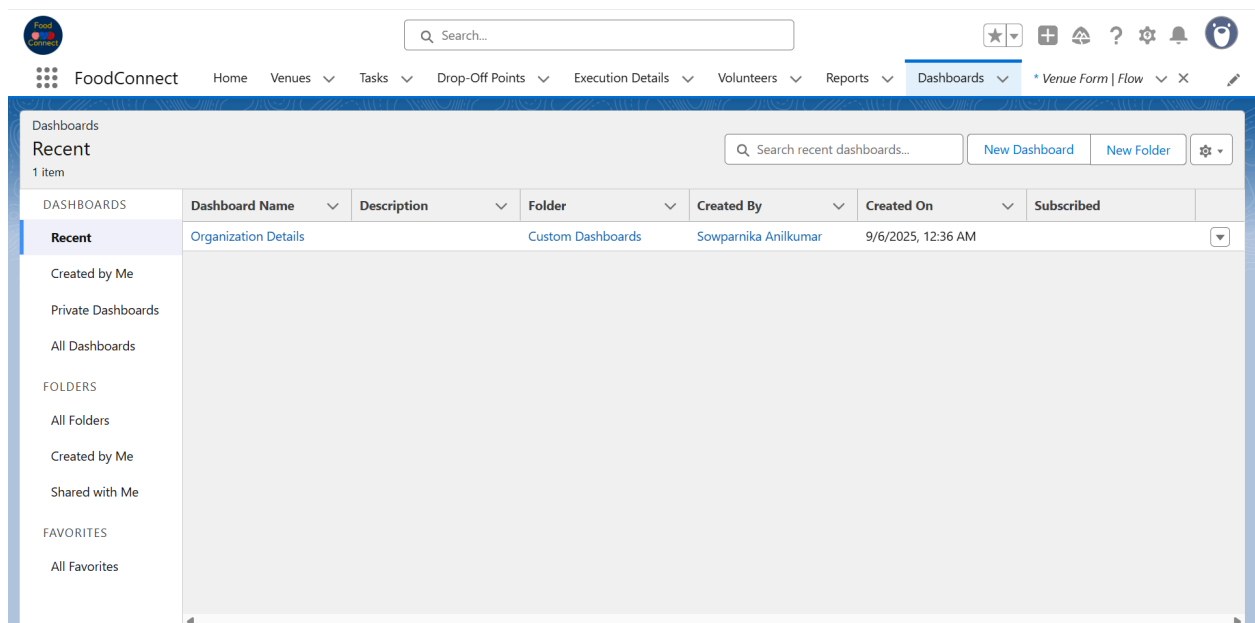
- **Profiles and Roles:** Define user roles with tailored access levels to protect sensitive data while ensuring seamless collaboration.



The screenshot shows the 'Reports' section of the FoodConnect application. The 'Recent' tab is selected, displaying a table of reports. The table has columns for Report Name, Description, Folder, Created By, Created On, and Subscribed. The 'Recent' report is highlighted.

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	Volunteer Task		Private Reports	Sowparnika Anilkumar	9/6/2025, 12:31 AM	
Created by Me	Sample Flow Report: Screen Flows	Which flows run, what's the status of each interview, and how long do users take to complete the screens?	Public Reports	Automated Process	8/28/2025, 7:38 AM	
Private Reports	venue and Drop Off point		Custom Reports	Sowparnika Anilkumar	9/5/2025, 12:36 PM	
Public Reports						
All Reports						
FOLDERS						
All Folders						
Created by Me						
Shared with Me						
FAVORITES						
All Favorites						

- **Dashboards:** Provide visual representations of key data, empowering stakeholders to make informed decisions and track progress in real-time.



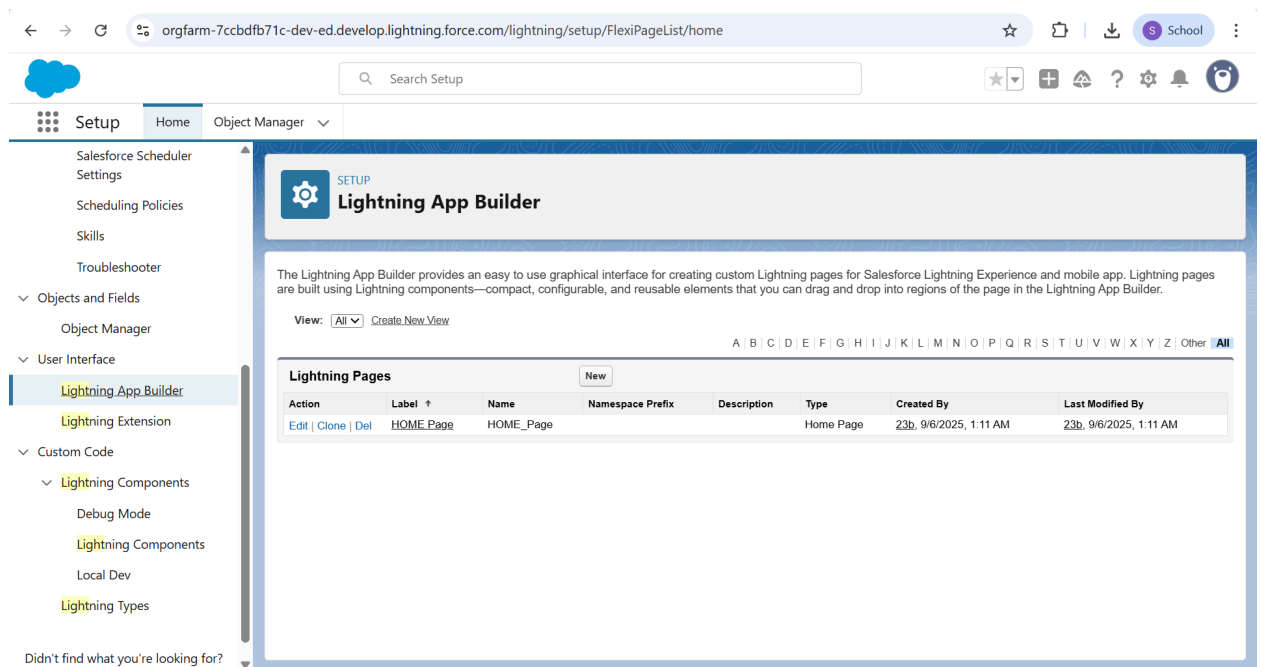
The screenshot shows the 'Dashboards' section of the FoodConnect application. The 'Recent' tab is selected, displaying a table of dashboards. The table has columns for Dashboard Name, Description, Folder, Created By, Created On, and Subscribed. The 'Recent' dashboard is highlighted.

DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent	Organization Details		Custom Dashboards	Sowparnika Anilkumar	9/6/2025, 12:36 AM	
Created by Me						
Private Dashboards						
All Dashboards						
FOLDERS						
All Folders						
Created by Me						
Shared with Me						
FAVORITES						
All Favorites						



## User Experience Enhancements

- Lightning App: Deliver a sleek, intuitive interface that simplifies navigation and ensures users can quickly access essential features.



- Automated Notifications: Keep stakeholders informed with real-time alerts about task updates, food collection schedules, and delivery statuses.

## 4. Detailed Steps to Solution Design

Building FoodConnect involved a structured and thoughtful approach to ensure the platform meets the needs of donors, volunteers, and recipients while leveraging the robust capabilities of Salesforce. Below is a step-by-step breakdown of the design and implementation process:

### Step 1: Developer Account Setup

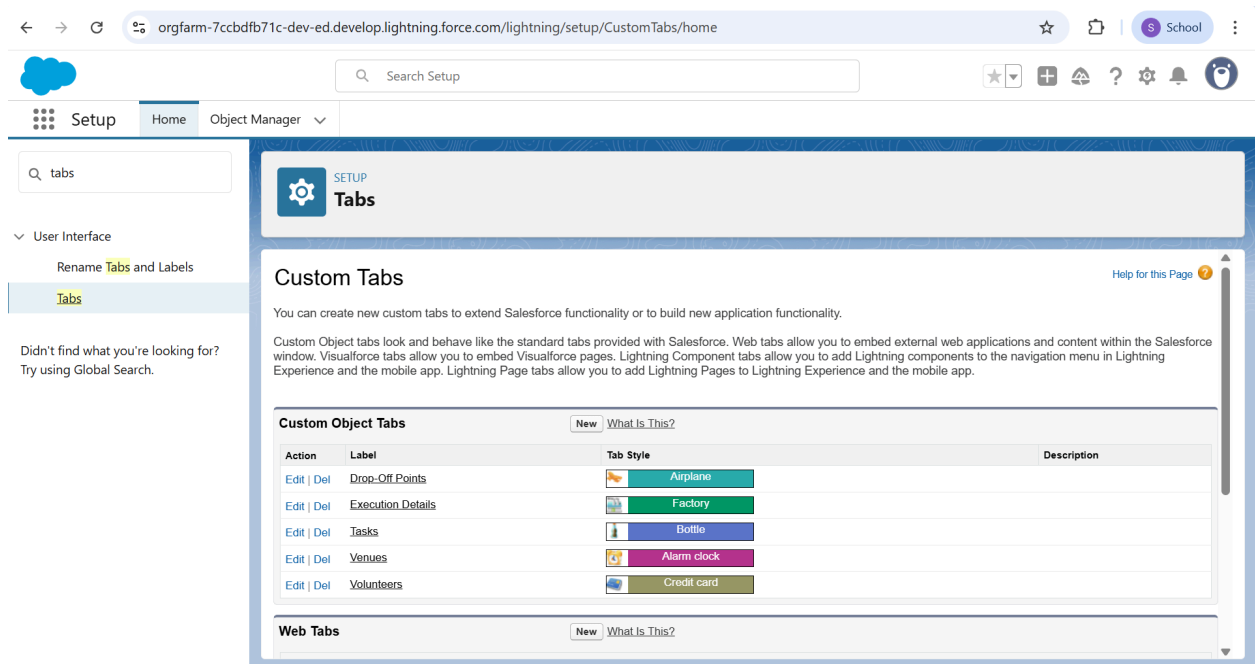
- Registered for a Salesforce Developer account to create a dedicated environment for development and testing.
- Verified the account to unlock full access to Salesforce features, ensuring a smooth setup process.

## Step 2: Custom Object Creation

- Used Salesforce Object Manager to design custom objects for Venues, Drop-Off Points, Tasks, Volunteers, and Execution Details.
- Configured fields such as text, numbers, dates, and relationships to capture all relevant data, ensuring each object reflects the real-world requirements of food distribution logistics.

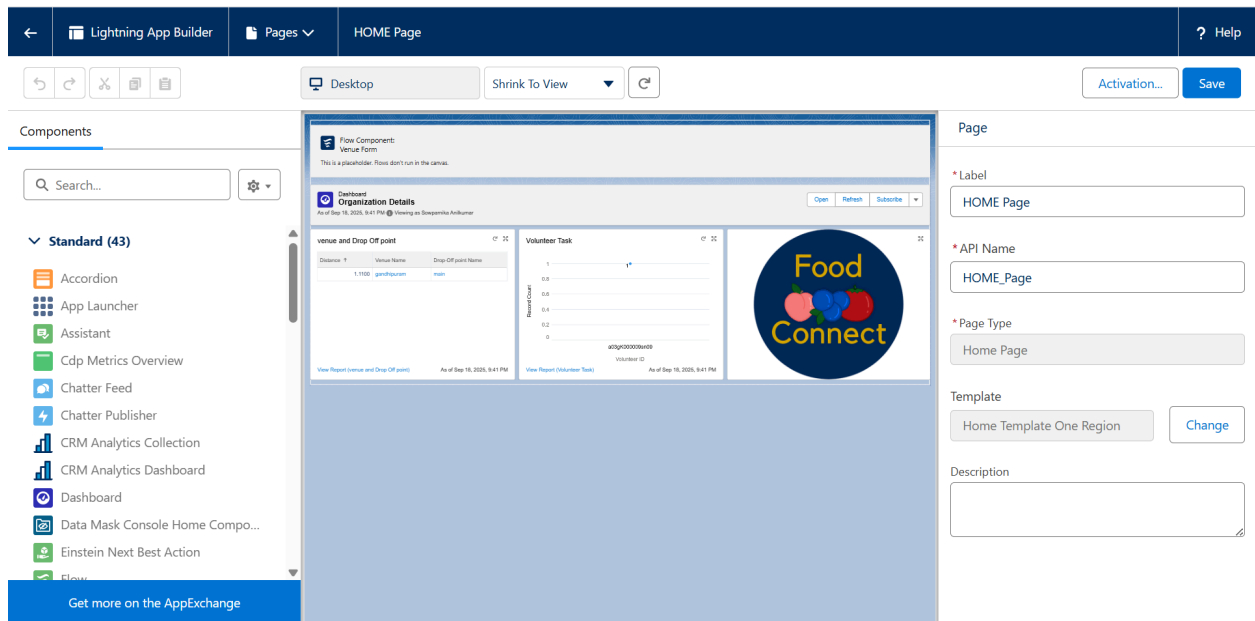
## Step 3: Custom Tabs for Navigation

Created custom tabs for each object, improving navigation and making it easier for users to access and manage data.



## Step 4: Lightning App Development

- Developed a Lightning App named "FoodConnect" using Salesforce App Manager.
- Included essential navigation items like custom objects, reports, and dashboards to provide a user-friendly interface.
- Assigned user profiles to ensure role-based access and security



## Step 5: Establishing Data Relationships

- Defined relationships between objects using Master-Detail and Lookup fields. For example:
  - Master-Detail between Tasks and Execution Details to track completed activities.
  - Lookup between Volunteers and Drop-Off Points to assign tasks efficiently.

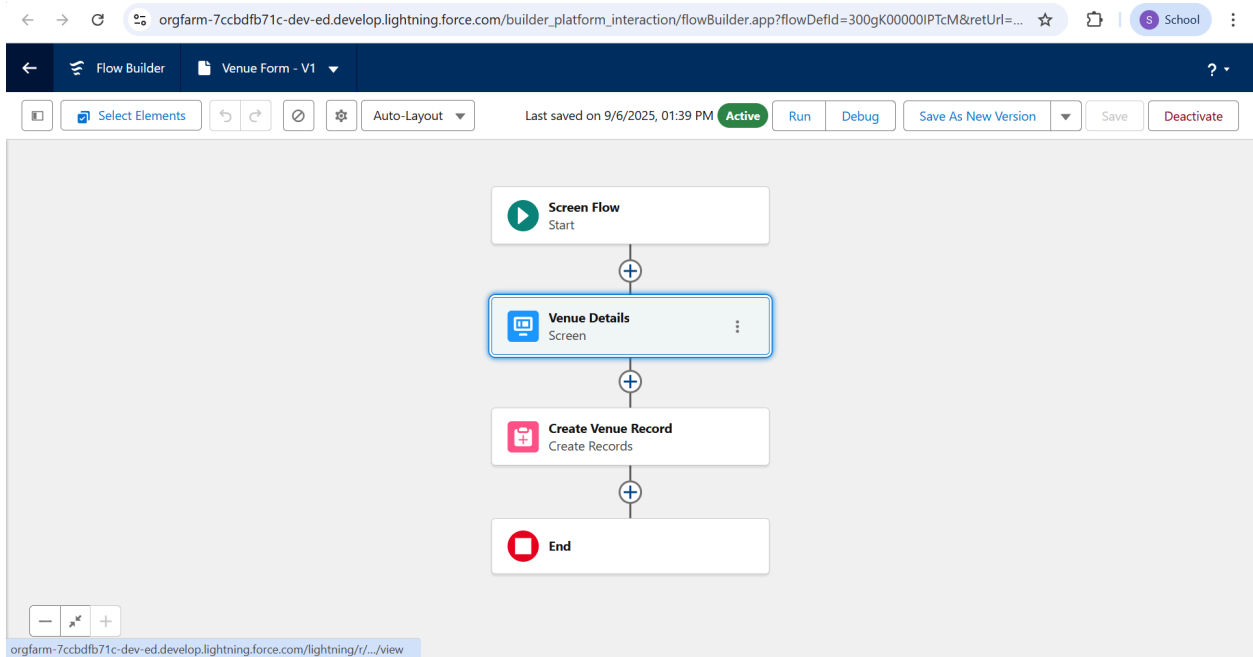
## Step 6: Field Configuration

Configured fields for each custom object to capture data accurately. For instance:

- Venue: Name, Address, Capacity, Contact Information.
- Tasks: Description, Due Date, Assigned Volunteer.
- Volunteers: Contact Details, Availability.

## Step 7: Flow Design

- Designed a guided screen flow to simplify the process of entering Venue information.
- Automated record creation to ensure data accuracy and reduce manual errors.



## Step 8: Trigger Implementation

- Developed Apex triggers to enhance automation, such as calculating distances between venues and volunteers.

These triggers help assign tasks based on proximity, improving logistical efficiency.

The screenshot shows the Salesforce Setup page for Apex Triggers. The page displays the details of the "DropOffTrigger" Apex Trigger. The trigger is active and was last modified by Sowpamika Anilkumar on 9/4/2025, 12:20 PM. The trigger code is as follows:

```
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 9: User Management and Permissions**

- Set up user profiles for administrators, volunteers, and other stakeholders.
- Configured permissions to ensure secure and role-appropriate access to data and functionalities.

### **Step 10: Reporting and Dashboards**

- Created custom report types to analyze key metrics, such as volunteer participation, task completion rates, and food distribution impact.
- Built interactive dashboards to visualize data trends and provide actionable insights, empowering stakeholders to make informed decisions.

## **5. Testing and Validation**

- To ensure the FoodConnect solution functions seamlessly and meets all project requirements, a thorough testing and validation process was implemented. This approach focused on verifying both the technical and user-facing aspects of the system.

### **1. Unit Testing**

- Objective: Validate the functionality of individual components, such as Apex triggers, workflows, and custom objects.
- Actions:
  - Tested forms for venues, tasks, and drop-off points to ensure accurate data capture and validation.
  - Verified data storage and retrieval processes for volunteers, ensuring that all records were consistent and error-free.
  - Confirmed the proper execution of automated calculations, such as distance-based task assignments.

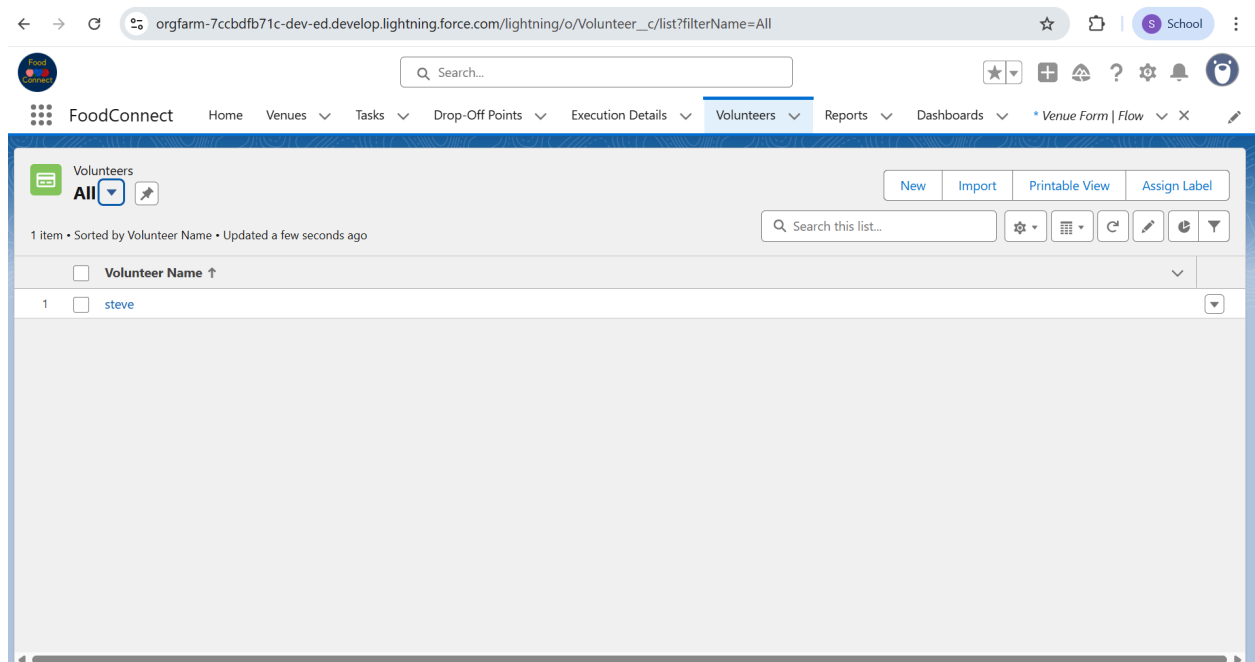
### **2. User Interface Testing**

- **Objective:**

Ensure the system is intuitive and user-friendly for all stakeholders, including donors, volunteers, and administrators.

- **Actions:**

- Conducted extensive testing across all pages to confirm responsive design and seamless navigation.
- Verified that reports and dashboards displayed accurate and up-to-date data in an easily interpretable format.
- Ensured compatibility across various devices, with a focus on mobile accessibility for field agents.



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FoodConnect

Home

Venues

Tasks

Drop-Off Points

Execution Details

Volunteers

Reports

Dashboards

\* Venue Form | Flow

✕

✎

Reports

Recent

3 items

Search recent reports...

New Report


New Folder

⚙️


REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed	
Recent							
Created by Me	<a href="#">Sample Flow Report: Screen Flows</a>	Which flows run, what's the status of each interview, and how long do users take to complete the screens?	Public Reports	Automated Process	8/28/2025, 7:38 AM		⌵
Private Reports	<a href="#">Volunteer Task</a>		Private Reports	Sowparnika Anilkumar	9/6/2025, 12:31 AM		⌵
Public Reports	<a href="#">venue and Drop Off point</a>		Custom Reports	Sowparnika Anilkumar	9/5/2025, 12:36 PM		⌵
All Reports							
FOLDERS							
All Folders							
Created by Me							
Shared with Me							
FAVORITES							
All Favorites							

← → ↻ orgfarm-7ccbdfb71c-dev-ed.develop.lightning.force.com/lightning/o/Execution\_Detail\_c/list?filterName=All ☆ ⌵ | S School ⋮

FoodConnect Home Venues Tasks Drop-Off Points Execution Details Volunteers Reports Dashboards Venue Form | Flow ✕

Execution Details All  New Import Printable View Assign Label



0 items • Sorted by Execution Detail Name • Updated a few seconds ago




Nothing to see here

← → ↻ orgfarm-7ccbdfb71c-dev-ed.develop.lightning.force.com/lightning/o/Drop\_Off\_Point\_c/list?filterName=\_Recent ☆ ⌵ | S School ⋮

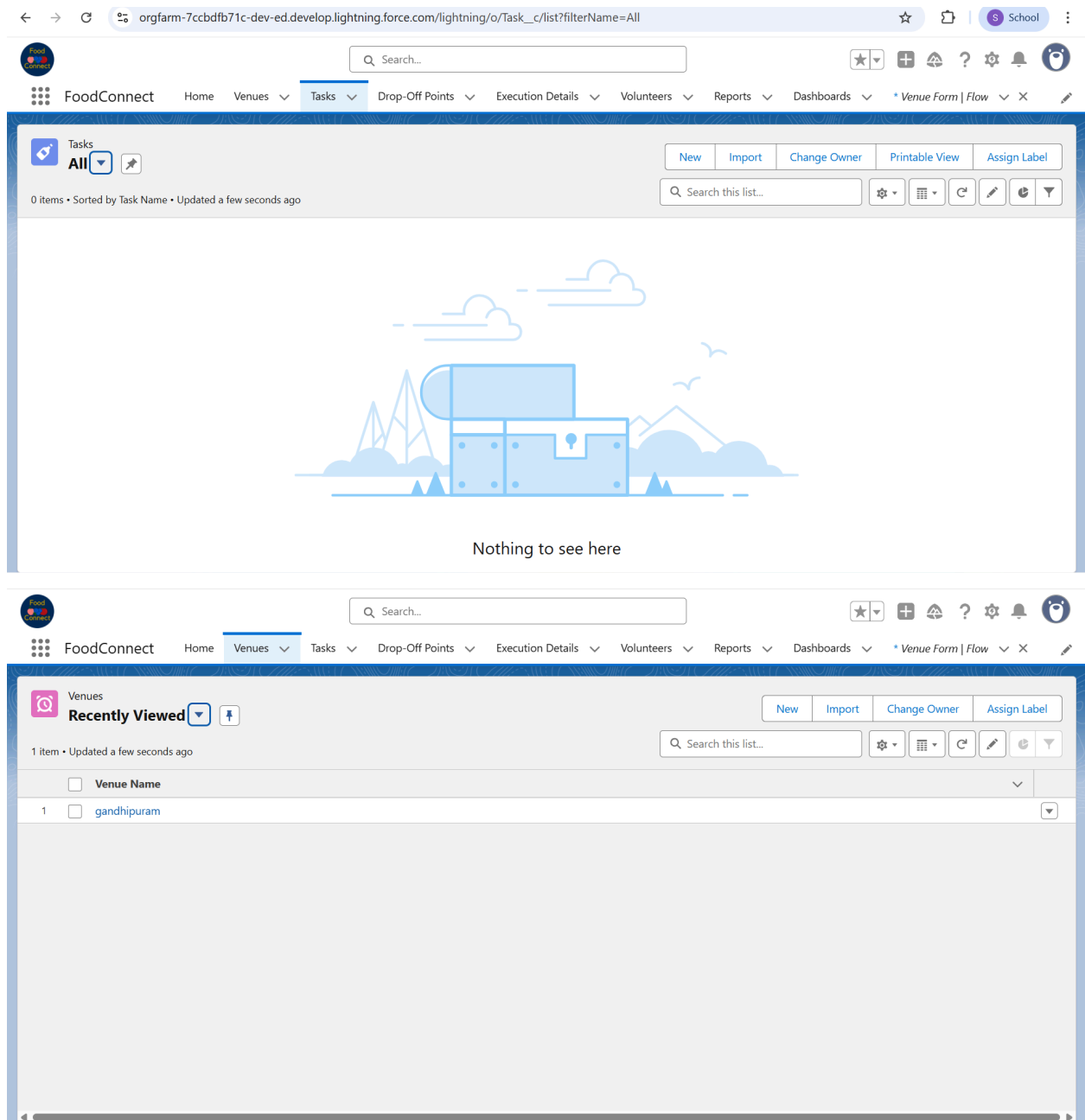
FoodConnect Home Venues Tasks Drop-Off Points Execution Details Volunteers Reports Dashboards Venue Form | Flow ✕

Drop-Off Points Recently Viewed   New Import Change Owner Assign Label

1 item • Updated a few seconds ago

	<input type="checkbox"/> Drop-Off point Name	
1	<input type="checkbox"/> main	





## 6. Key Scenarios Addressed by Salesforce in the Implementation Project

The FoodConnect project leverages Salesforce's capabilities to address a variety of realworld scenarios, ensuring efficient food redistribution and volunteer management. Below are the key scenarios tackled during the implementation: Salesforce can handle during the implementation.

## **1. Efficient Management of Food Donation Venues**

- Scenario: A donor provides surplus food, and the details of the donation venue need to be recorded accurately.
- Salesforce Solution: Custom objects and fields were created to capture critical venue details, including name, address, capacity, and contact information, ensuring seamless record-keeping and accessibility.

## **2. Task Assignment and Tracking for Volunteers**

- Scenario: Volunteers need to be assigned tasks based on their availability and proximity to venues or drop-off points.
- Salesforce Solution: Using Master-Detail relationships and Apex triggers, tasks are automatically assigned to the most suitable volunteers, and progress is tracked in real-time through the Tasks object.

## **3. Coordination of Food Drop-Off Points**

- Scenario: Food needs to be delivered to designated drop-off points efficiently and reliably.
- Salesforce Solution: Drop-Off Points were managed as a custom object, with detailed fields for location, capacity, and operational hours, enabling smooth coordination and tracking.

## **4. Volunteer Engagement and Management**

- Scenario: Volunteers need to view their assignments, update their availability, and track their contributions.
- Salesforce Solution: A Volunteers object with a user-friendly interface allows volunteers to manage their profiles and view task details, enhancing engagement and retention.

## **5. Real-Time Communication and Notifications**

- Scenario: Stakeholders require updates on task assignments, delivery schedules, or any changes in plans.
- Salesforce Solution: Automated workflows and notifications ensure that all participants are informed promptly, reducing delays and misunderstandings.

## **6. Data Integrity and Reporting**

- Scenario: Stakeholders need to analyze the impact of food distribution efforts and identify areas for improvement.

- Salesforce Solution: Custom report types and dashboards provide actionable insights into task completion rates, volunteer participation, and food distribution metrics, ensuring data-driven decision-making.

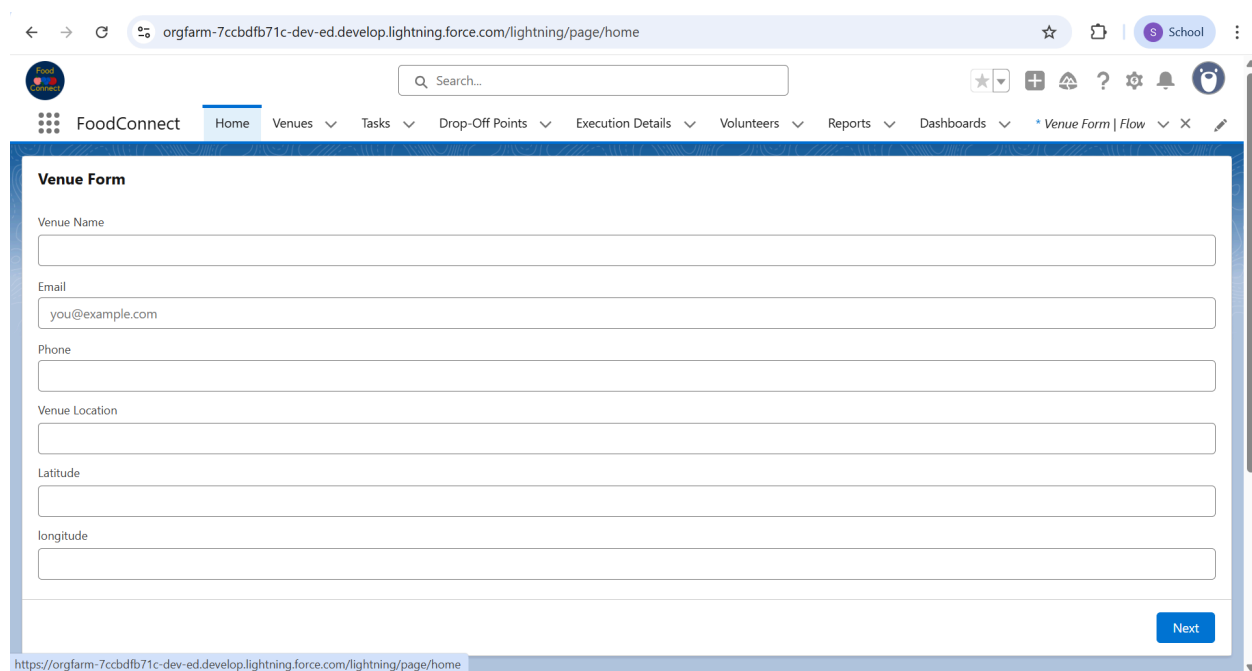
## 7. Automation of Logistical Calculations

- Scenario: Volunteers need to be assigned to venues or drop-off points based on proximity to minimize travel time and enhance efficiency.
- Salesforce Solution: Apex triggers calculate distances between venues and volunteers, automating task assignments and optimizing logistics.

## 8. Secure and Role-Based Data Access

- Scenario: Different stakeholders require access to specific information based on their roles.

Salesforce Solution: Profiles, sharing rules, and public groups ensure that users only access data relevant to their roles, maintaining security and confidentiality.



The screenshot displays the Salesforce Lightning interface for the FoodConnect application. The browser address bar shows the URL: `orgfarm-7ccdbf71c-dev-ed.develop.lightning.force.com/lightning/page/home`. The page header includes the FoodConnect logo, a search bar, and a navigation menu with options: Home, Venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, Dashboards, and a current flow named "Venue Form".

The main content area is titled "Venue Form" and contains several input fields for data entry:

- Venue Name
- Email (pre-filled with `you@example.com`)
- Phone
- Venue Location
- Latitude
- Longitude

A "Next" button is located at the bottom right of the form.

## 7. Conclusion Summary of Achievements:

The FoodConnect project successfully delivered a comprehensive solution to address food waste and hunger by leveraging the power of Salesforce technology. Key accomplishments include:

- **Streamlined Food Distribution:** Developed a robust system to manage the collection, allocation, and delivery of surplus food to underserved communities.
- **Enhanced Volunteer Management:** Implemented efficient task assignment and tracking mechanisms to optimize volunteer engagement and contributions.
- **Data-Driven Insights:** Created detailed reports and dashboards, providing actionable insights into food redistribution metrics, volunteer participation, and overall impact.
- **User-Friendly Interface:** Designed an intuitive Lightning App, ensuring a seamless experience for all users, including donors, volunteers, and administrators.
- **Operational Efficiency:** Automated workflows and triggers to reduce manual effort, improve accuracy, and ensure timely execution of tasks

