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

**NM ID: 09209F3A35811D7BA9F40FC5F32A2414**

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# 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 dropoff 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 nonprofits, 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. 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 realtime 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, userfriendly 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-76ce3b6ce9-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK0000020atZ/FieldsAndRelationship...

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)		✓

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

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

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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		
Venue__c	Venue__c	Lookup(Venue)		✓

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

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

The screenshot shows the Salesforce Setup interface for the 'Task' object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area is titled 'Task' and shows 'Fields & Relationships' for 16 items, sorted by Field Label. A table lists the fields with columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed status.

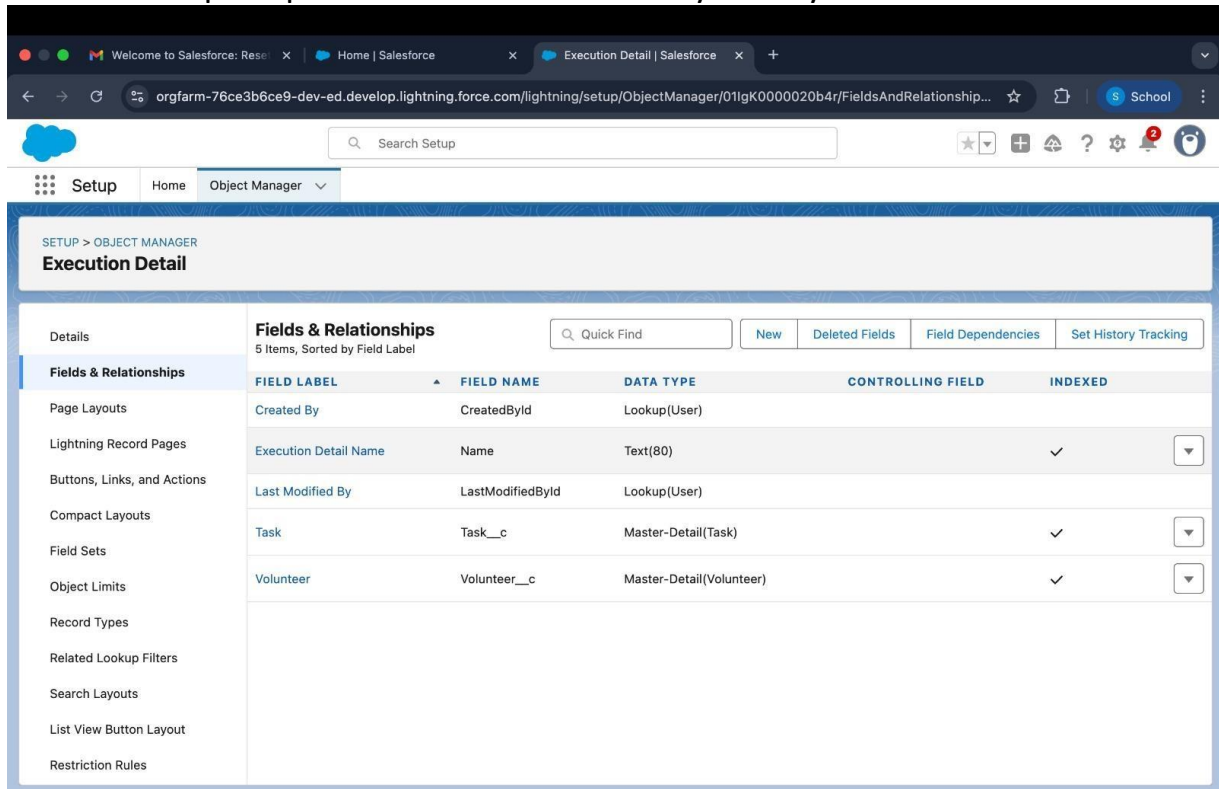
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Date	Date__c	Date		
Distance	Distance__c	Number(14, 4)		
Drop-Off Point	Drop_Off_Point__c	Lookup(Drop-Off Point)		✓
Execution Detail	Execution_Detail__c	Lookup(Execution Detail)		✓
Feedback	Feedback__c	Long Text Area(32768)		
Food Category	Food_Category__c	Picklist (Multi-Select)		
Last Modified By	LastModifiedById	Lookup(User)		
Name of the Person	Name_of_the_Person__c	Text(30)		

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

The screenshot shows the Salesforce Setup interface for the 'Volunteer' object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area is titled 'Volunteer' and shows 'Fields & Relationships' for 13 items, sorted by Field Label. A table lists the fields with columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed status.

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)		✓
Email	Email__c	Email		
Execution ID	Execution_ID__c	Auto Number		

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



The screenshot shows the Salesforce Setup interface. The left sidebar contains a navigation menu with items like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area is titled 'SETUP > OBJECT MANAGER Execution Detail'. It features a 'Fields & Relationships' section with a 'Quick Find' search bar and buttons for 'New', 'Deleted Fields', 'Field Dependencies', and 'Set History Tracking'. Below this is a table with 5 items, sorted by Field Label. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED.

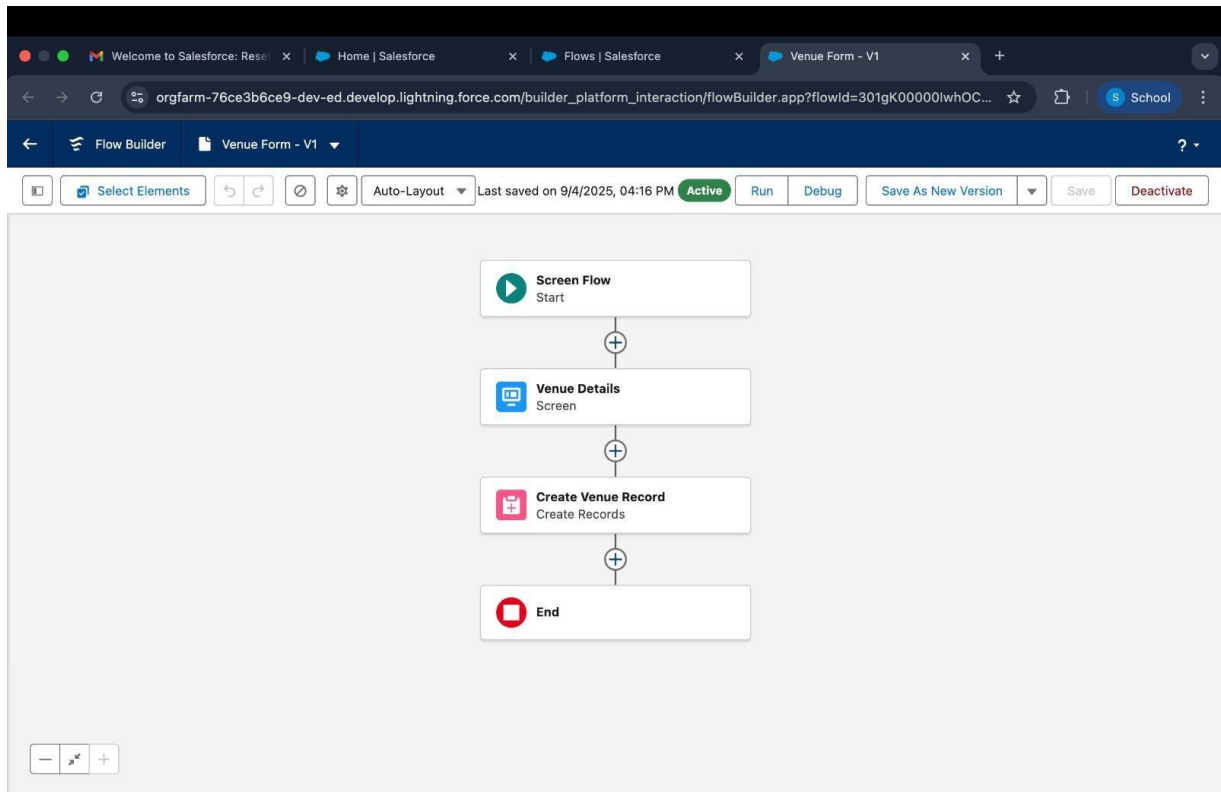
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Execution Detail Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Task	Task__c	Master-Detail(Task)		✓
Volunteer	Volunteer__c	Master-Detail(Volunteer)		✓

## Relationships

- **MasterDetail 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 dropoff 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.

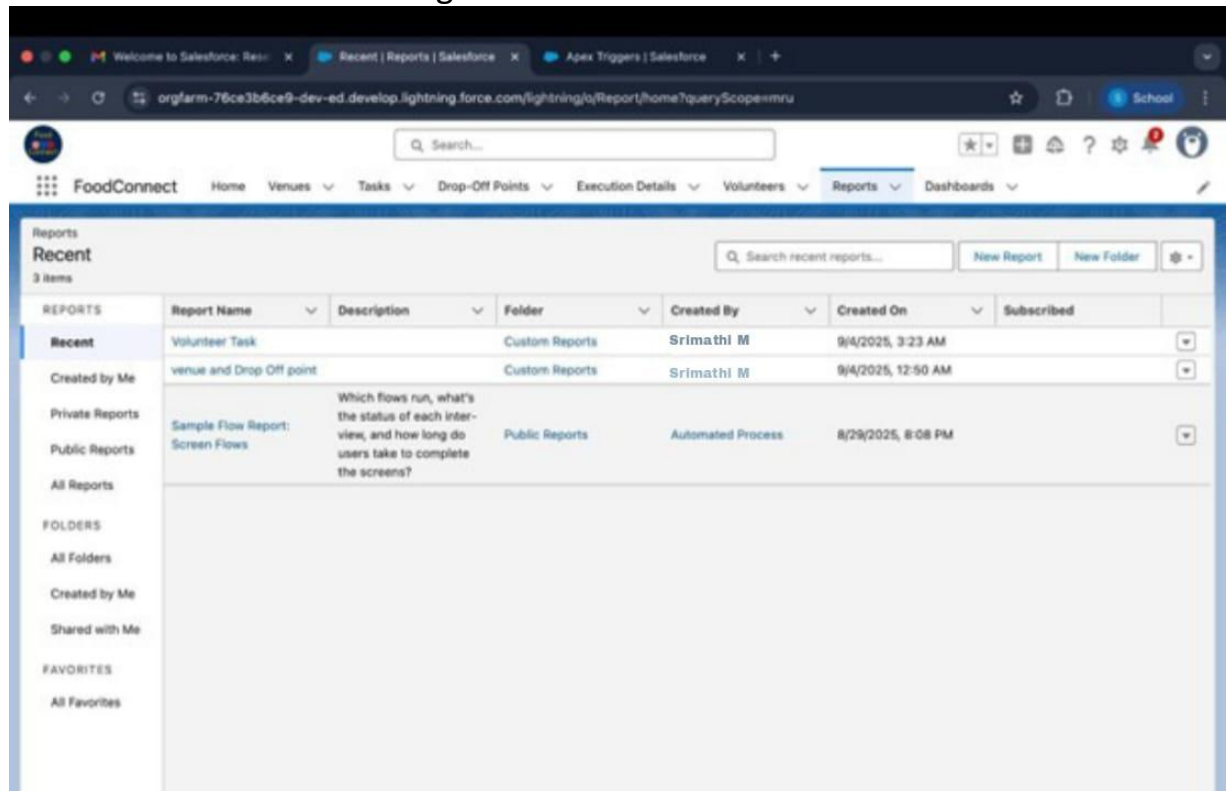
The screenshot shows the Salesforce Setup page for Apex Triggers. The trigger 'DropOffTrigger' is shown, which is active and was created on 9/3/2025. The trigger code is displayed, showing logic for calculating distances between venues and volunteers.

Name	DropOffTrigger	Object Type	Drop-Off Point
Code Coverage	0% (0/2)	Status	Active
Created By	Strathi M	Last Modified By	Strathi M
Created	9/3/2025, 11:25 PM	Last Modified	9/4/2025, 12:02 AM
Namespace Prefix			

```
1 trigger DropOffTrigger on Drop_Off_point__c (Before insert) {
2   for(Drop_Off_point__c Drop : Trigger.new){
3     Drop.Distance__c = Drop.distance_calculation__c;
4   }
5 }
```

## Data Sharing and Security

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



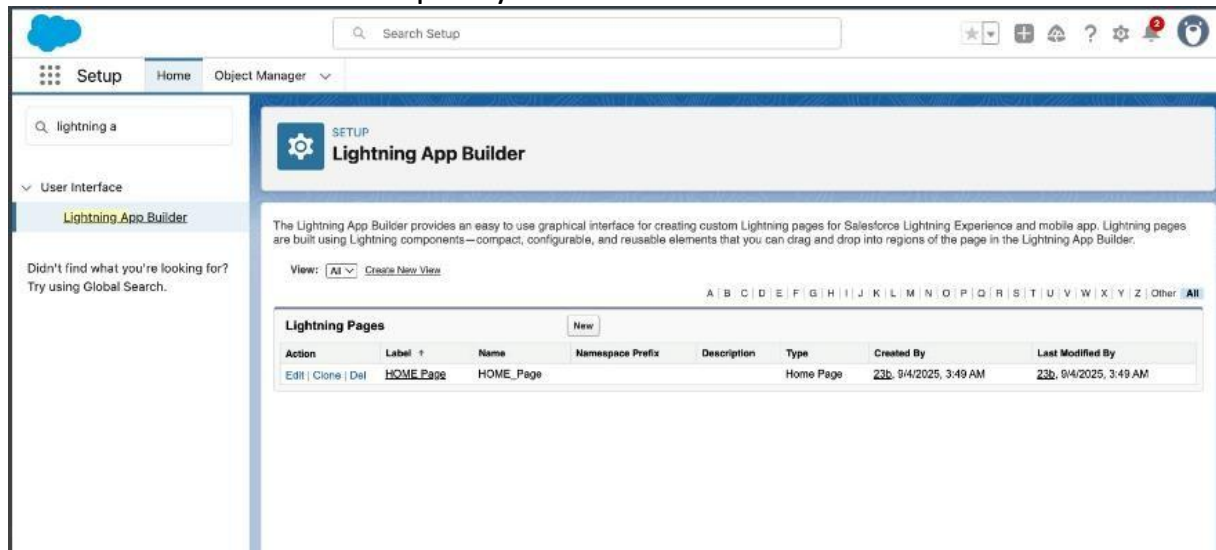
- **Dashboards:** Provide visual representations of key data, empowering stakeholders to make informed decisions and track progress in real-time.





## 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 realtime 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.

Search Setup

Setup Home Object Manager

SETUP Object Manager  
53+ Items, Sorted by Label

Quick Find Schema Builder Create

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Account	Account	Standard Object			
Activity	Activity	Standard Object			
Address	Address	Standard Object			
Agent Work	AgentWork	Standard Object			
Alternative Payment Method	AlternativePaymentMethod	Standard Object			
API Anomaly Event Store	ApiAnomalyEventStore	Standard Object			
Appointment Category	AppointmentCategory	Standard Object			
Appointment Invitation	AppointmentInvitation	Standard Object			
Appointment Invitee	AppointmentInvitee	Standard Object			
Appointment Topic Time Slot	AppointmentTopicTimeSlot	Standard Object			
Approval Submission	ApprovalSubmission	Standard Object			
Approval Submission Detail	ApprovalSubmissionDetail	Standard Object			

https://orgfarm-76ce3b6ce9-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01gk0000020b4r/FieldsAndRelationships/view

### 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.

Search Setup

Setup Home Object Manager

tabs

User Interface

Rename Tabs and Labels

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

SETUP Tabs

Custom Tabs

You can create new custom tabs to extend Salesforce functionality or to build new application functionality.

Custom Object tabs look and behave like the standard tabs provided with Salesforce. Web tabs allow you to embed external web applications and content within the Salesforce window. Visualforce tabs allow you to embed Visualforce pages. Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app. Lightning Page tabs allow you to add Lightning Pages to Lightning Experience and the mobile app.

Action	Label	Tab Style	Description
Edit   Del	Drop-Off Points	Airplane	
Edit   Del	Execution Details	Apple	
Edit   Del	Tasks	Ballo	
Edit   Del	Venues	Alarm clock	
Edit   Del	Volunteers	Bank	

Web Tabs

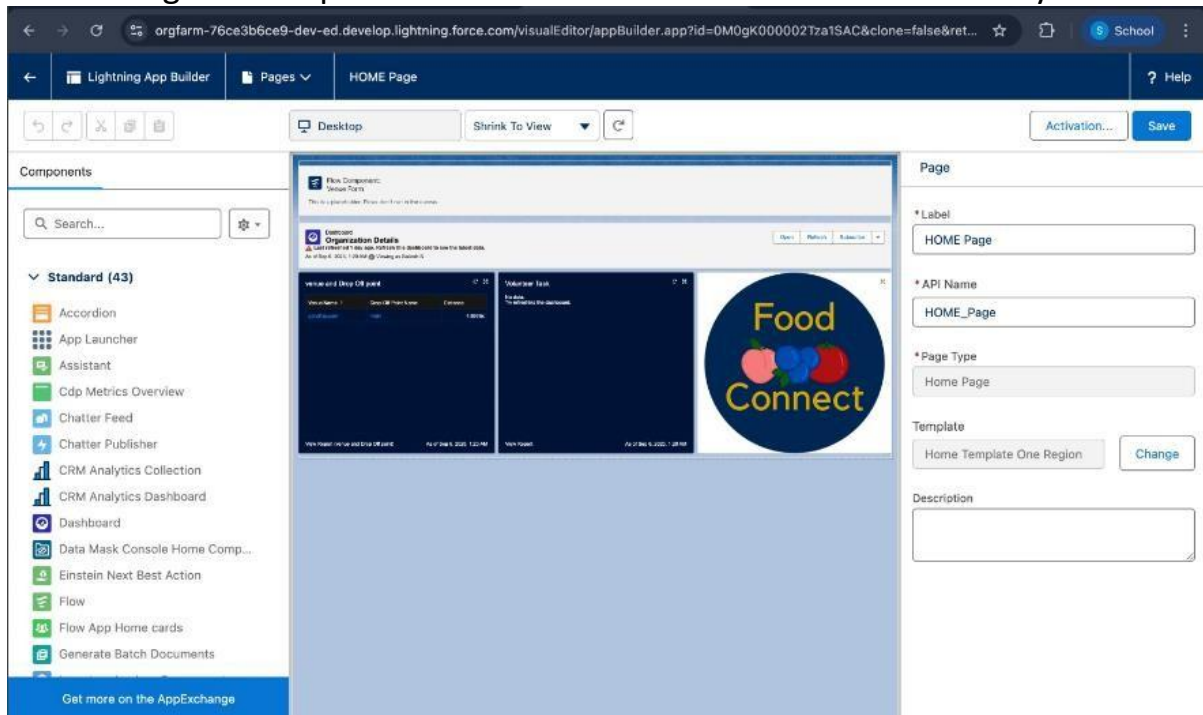
No Web Tabs have been defined

Visualforce Tabs

https://orgfarm-76ce3b6ce9-dev-ed.develop.lightning.force.com/lightning/setup/CustomTabs/home

## 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

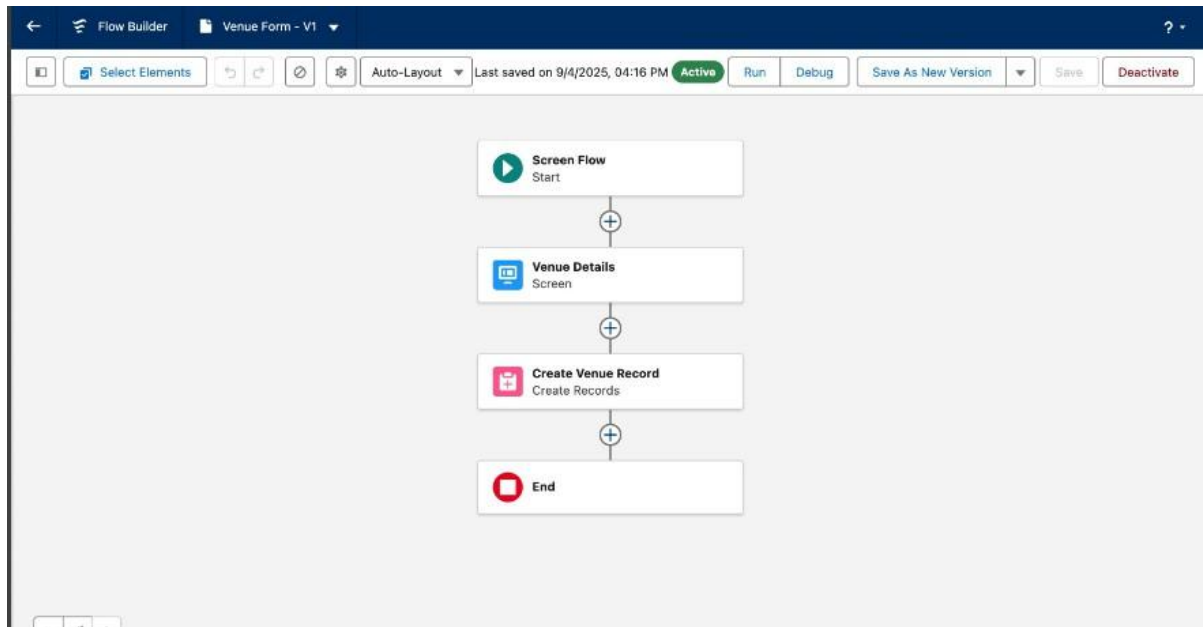
- Defined relationships between objects using MasterDetail and Lookup fields  
For example:
  - MasterDetail between Tasks and Execution Details to track completed activities.
  - Lookup between Volunteers and Drop- Off Points to assign tasks efficiently

## 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.

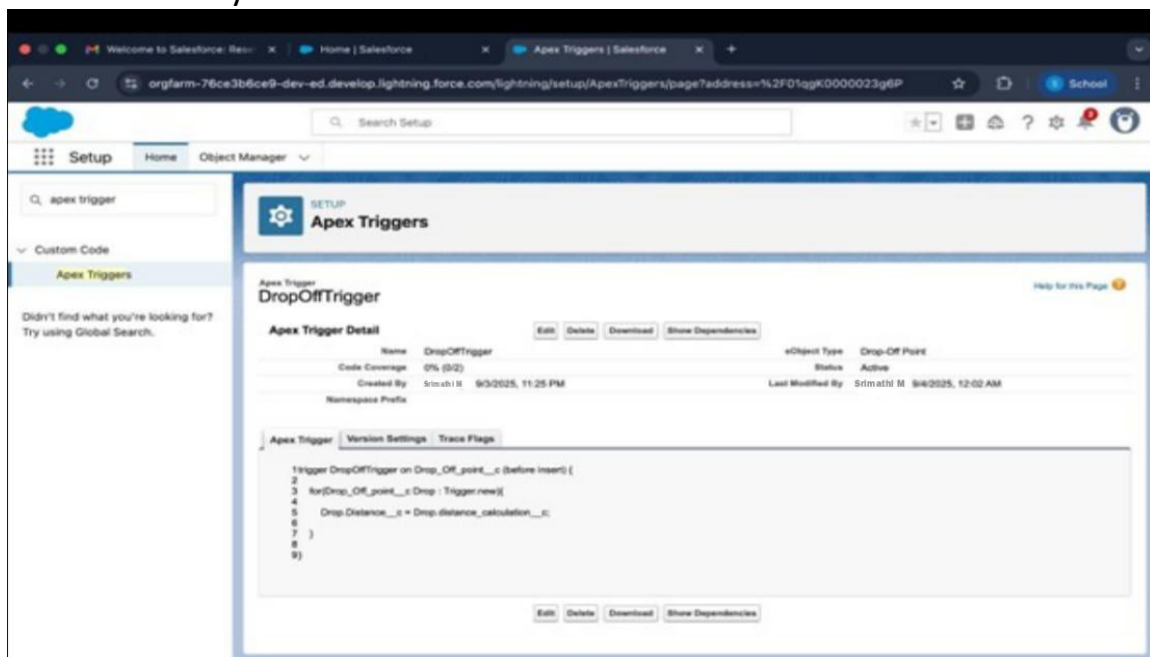
## Step 7: Flow Design

- 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.



## 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.

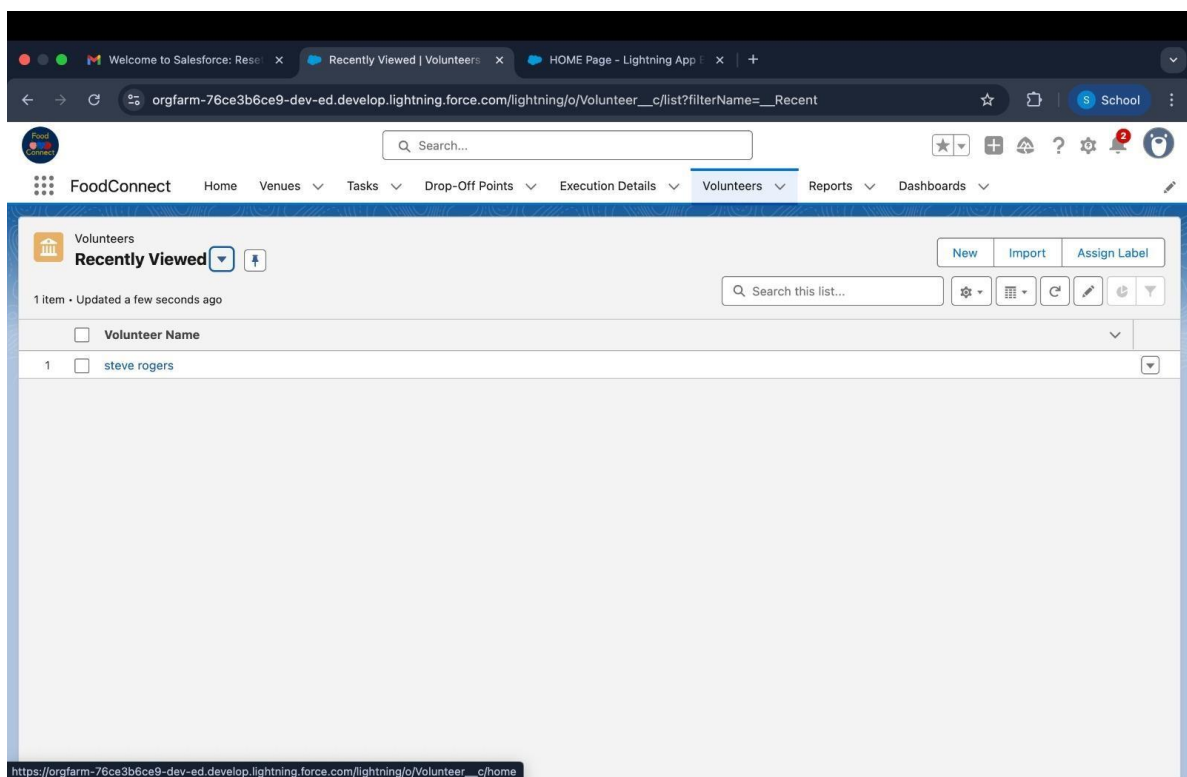
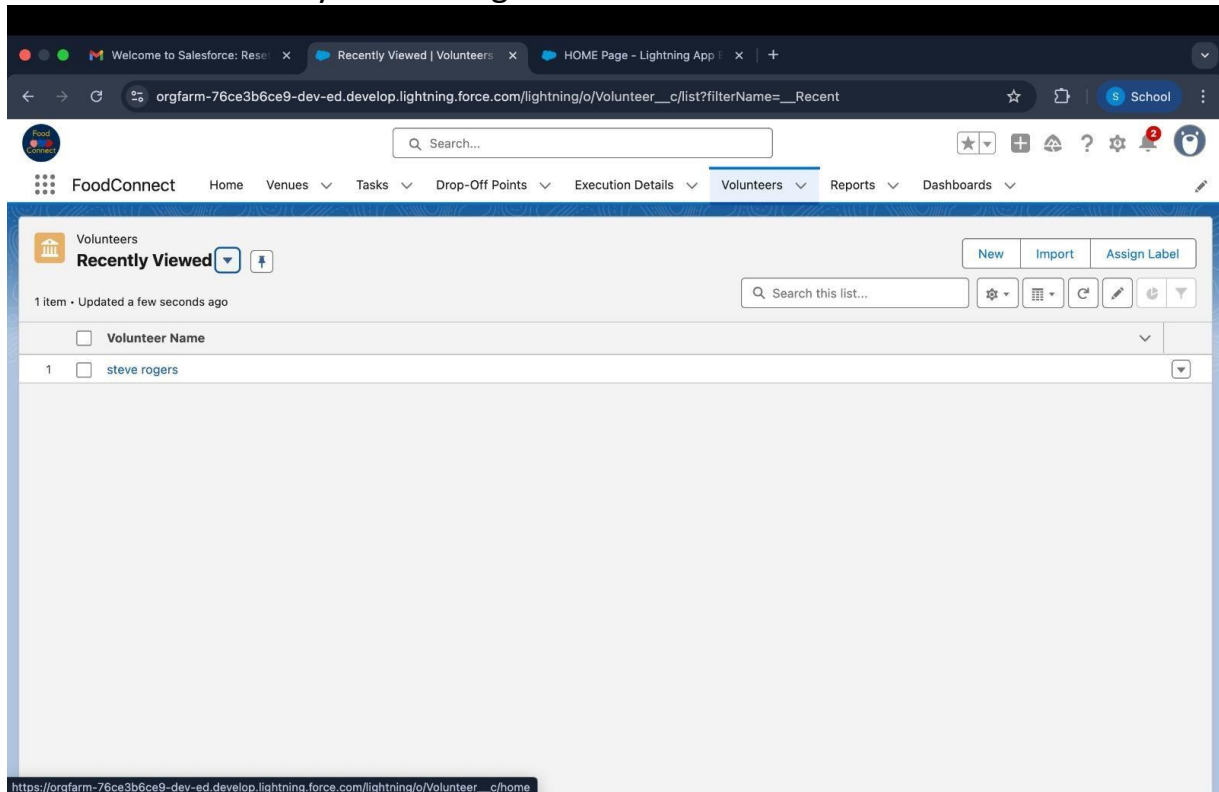
## 1. Unit Testing

- **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.



FoodConnect

Home Venues Tasks Drop-Off Points Execution Details Volunteers Reports Dashboards

### Execution Details

Recently Viewed

1 item • Updated a few seconds ago

Search this list...

New Import Assign Label

	Execution Detail Name	
1	Food Delivery	

FoodConnect

Home Venues Tasks Drop-Off Points Execution Details Volunteers Reports Dashboards

### Drop-Off Points

Recently Viewed

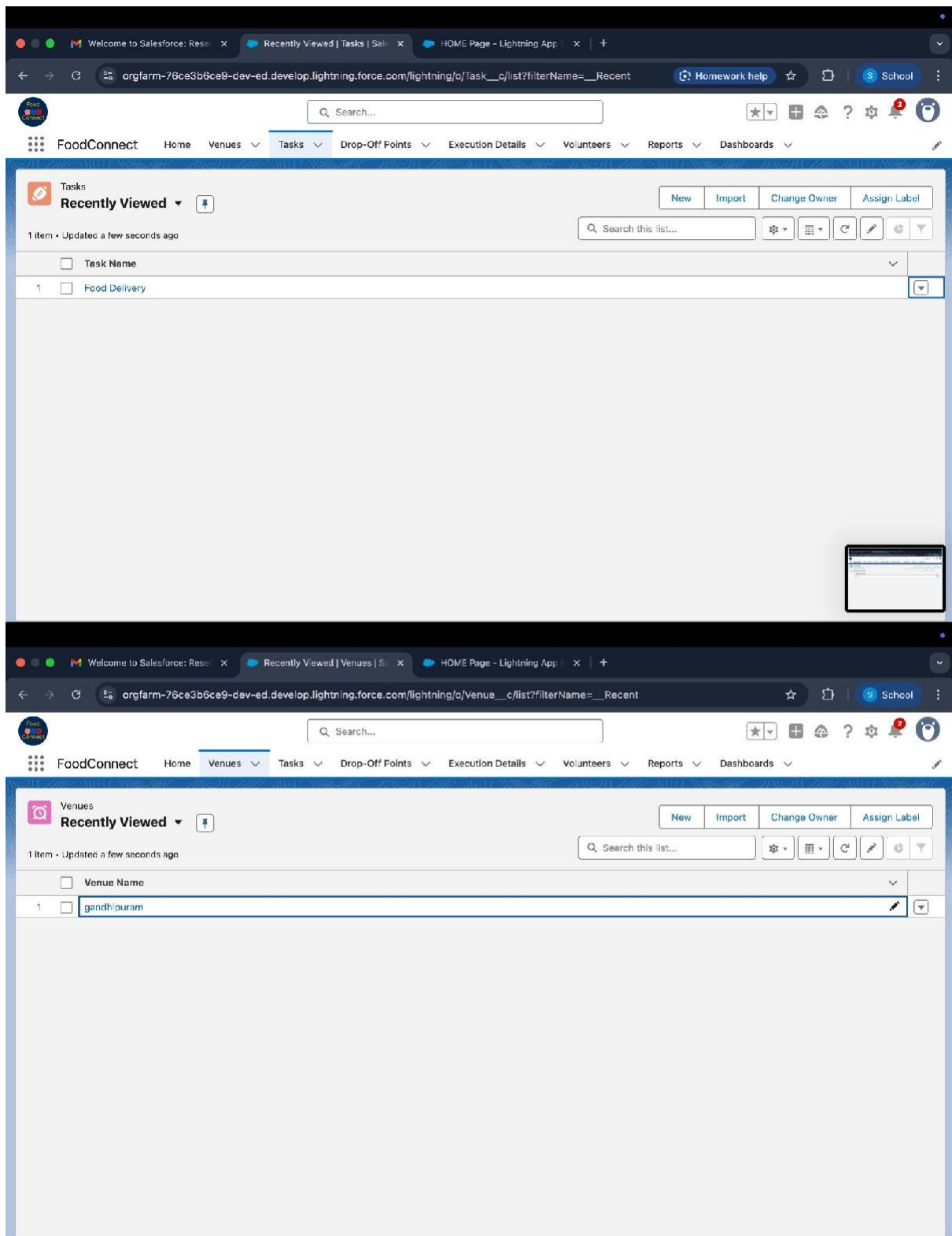
1 item • Updated a few seconds ago

Search this list...

New Import Change Owner Assign Label

	Drop-Off Point Name	
1	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. 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.

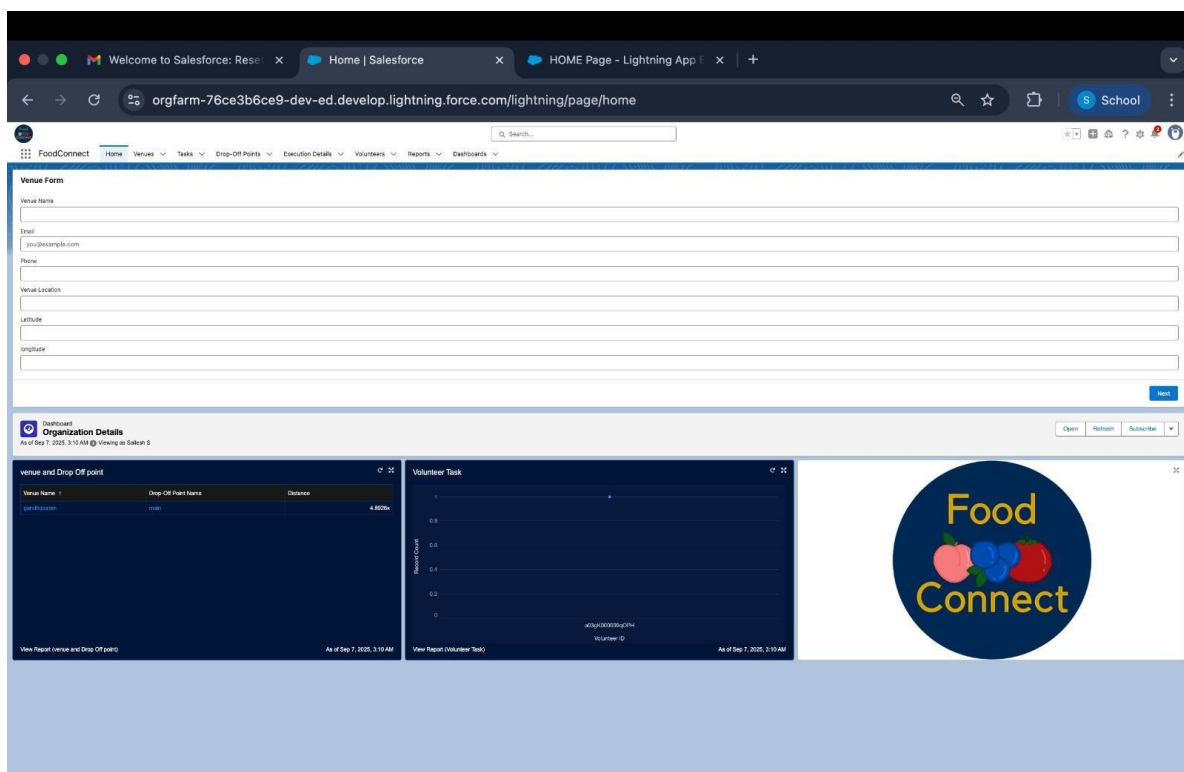
- Salesforce Solution: Custom report types and dashboards provide actionable insights into task completion rates, volunteer participation, and food distribution metrics, ensuring data-driven decision-making.

## 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.



## 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.
- **DataDriven Insights:** Created detailed reports and dashboards, providing actionable insights into food redistribution metrics, volunteer participation, and overall impact.
- **UserFriendly 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.

