

QuickEats

A salesforce - based app to dual challenges of global food waste and local hunger

A project by:

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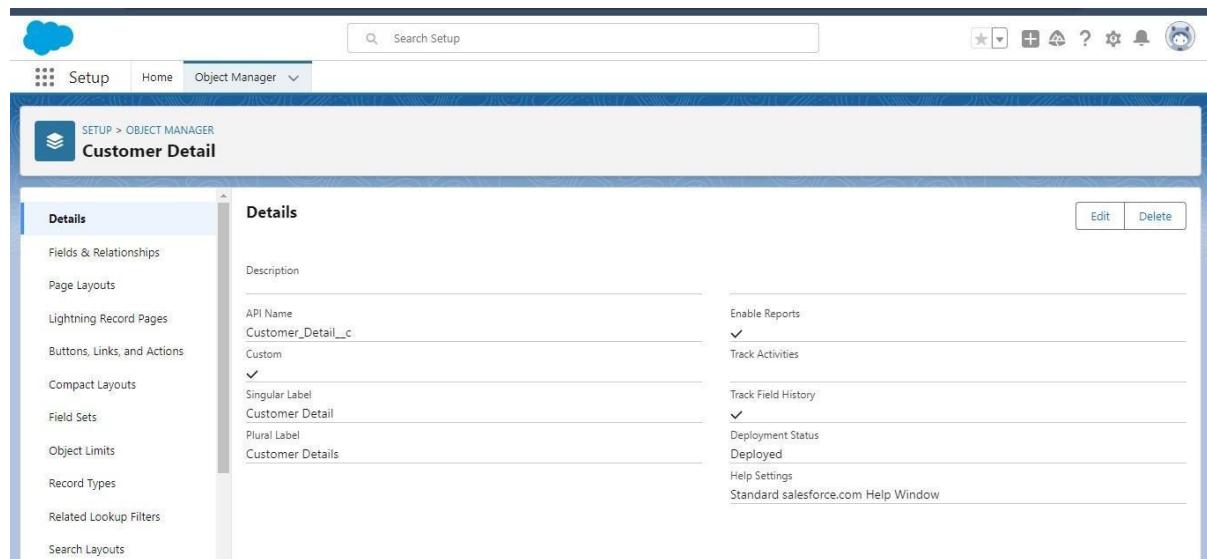
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1. Introduction

The "QuickEats" project is a Salesforce-based platform designed to address the dual challenges of global food waste and local hunger. It provides an organized and efficient solution for food redistribution by connecting food donors, such as restaurants and hotels, with organizations serving the underprivileged, like NGOs and community kitchens. Leveraging Salesforce's automation and CRM capabilities, the system simplifies the donation process, optimizes logistics, and provides real-time tracking to ensure surplus food reaches those in need promptly. The platform's objective is to create a sustainable and replicable model for communities to manage food surplus and combat food insecurity.

2. Object

Data within the platform is managed using Salesforce Objects, which are structured to store specific information. The configuration utilizes Standard Objects such as 'Account' to represent food donors and NGOs, 'Contact' for associated individuals, and 'Case' to manage process issues. Additionally, several Custom Objects were created to meet specific project needs, including 'Venue' (food source locations), 'Dropoff Point' (recipient locations), 'Task' (process actions), 'Volunteer' (helper details), and 'Execution Details' (logistical implementation data).



The screenshot shows the Salesforce Setup interface with the 'Object Manager' selected. A custom object named 'Customer Detail' is being configured. The left sidebar lists various object settings like Fields & Relationships, Page Layouts, and Lightning Record Pages. The main 'Details' tab shows the object's API name as 'Customer_Detail__c', its singular label as 'Customer Detail', and its plural label as 'Customer Details'. The right side of the screen displays standard object configuration options such as Enable Reports (checked), Track Activities, Track Field History (checked), Deployment Status (Deployed), and Help Settings (Standard salesforce.com Help Window). Edit and Delete buttons are located at the top right of the configuration area.

3. Tabs

To ensure user accessibility, custom Tabs were configured for the primary custom objects. A tab serves as the user interface component that allows users to view and create records for a specific object. Following the standard setup process, tabs

were created for 'Venue,' 'Drop-Off Point,' 'Task,' 'Volunteer,' and 'Execution Details'. These tabs were then bundled into the main application to provide a convenient navigation bar for all users.

The screenshot shows the Salesforce Setup interface with the 'Tabs' section selected under 'User Interface'. The page title is 'Custom Tabs'. It includes a search bar, a help link, and various navigation icons. The main content area displays two tables: 'Custom Object Tabs' and 'Web Tabs'. The 'Custom Object Tabs' table lists tabs for 'Drop-Off Points', 'Execution Details', 'Tasks', 'Venues', and 'Volunteers', each with a unique icon and color-coded tab style. The 'Web Tabs' table is currently empty.

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

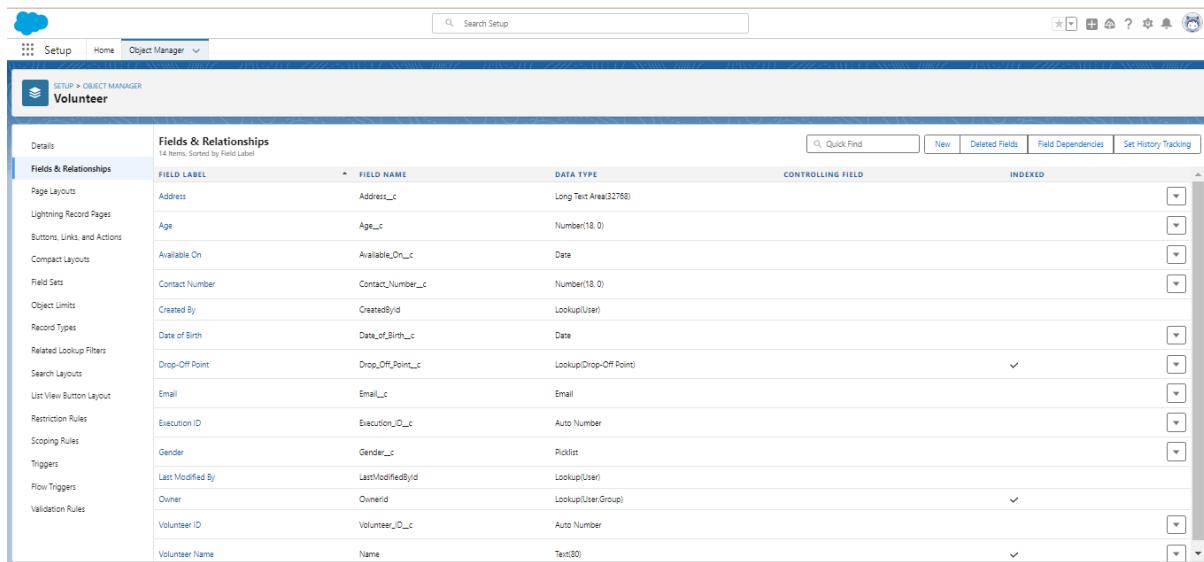
4. The Lightning App

A dedicated Lightning App named "QuickEats" was constructed to serve as the central hub for users. This app bundles all essential components, providing users with access to a curated set of objects, tabs, and other items in a single, convenient navigation bar. The app was configured with standard navigation and includes tabs for 'Home,' 'Venue,' 'Drop-Off Point,' 'Task,' 'Volunteer,' 'Execution Details,' and 'Reports' to streamline the food redistribution workflow.

The screenshot shows the Lightning App Builder interface with the 'Navigation Items' section selected. The left sidebar includes 'App Settings' (App Details & Branding, App Options, Utility Items (Desktop Only)), 'Navigation Items' (selected), and 'User Profiles'. The main content area shows 'Available Items' and 'Selected Items'. The 'Available Items' list contains various Salesforce objects like Accounts, All Sites, Alternative Payment Methods, Analytics, App Launcher, Appointment Categories, Appointment invitations, and Annual Requests. The 'Selected Items' list contains 'Venues', 'Tasks', 'Volunteers', 'Drop-Off Points', and 'Execution Details', which are being moved from the available list to the selected list using arrows.

5. Fields

Custom fields and relationships were established to link objects and capture necessary data for the application's processes. A key implementation involved creating a Master-Detail relationship on the 'Volunteer' object. This field establishes a direct link to the 'Drop-Off point' object, allowing for structured data management that associates specific volunteers with their assigned delivery locations.

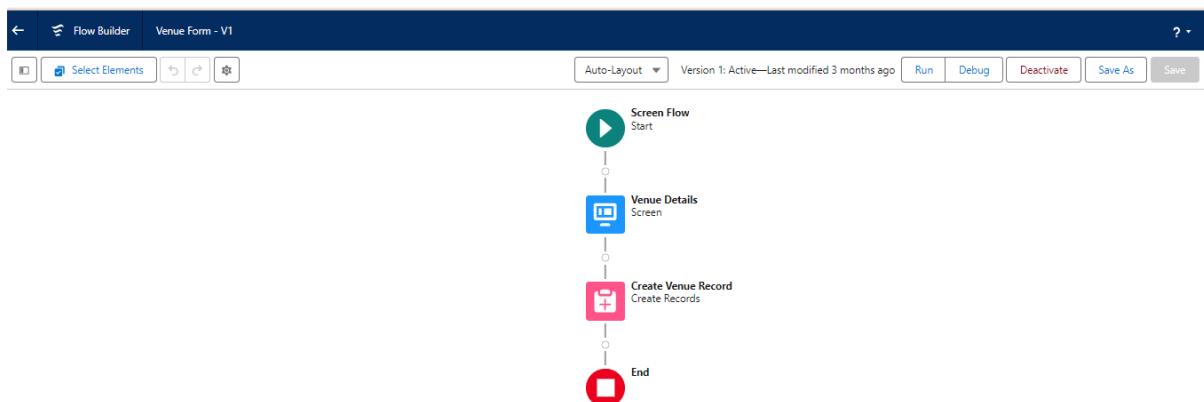


The screenshot shows the Salesforce Object Manager interface for the 'Volunteer' object. The 'Fields & Relationships' tab is selected. The table lists 14 items, sorted by Field Label. The columns include FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. Key entries include:

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	Lookup(Drop-Off Point)		
Email	Email__c	Email		
Execution ID	Execution_Id__c	Auto Number		
Gender	Gender__c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User Group)		
Volunteer ID	Volunteer_Id__c	Auto Number		
Volunteer Name	Name	Text(80)		

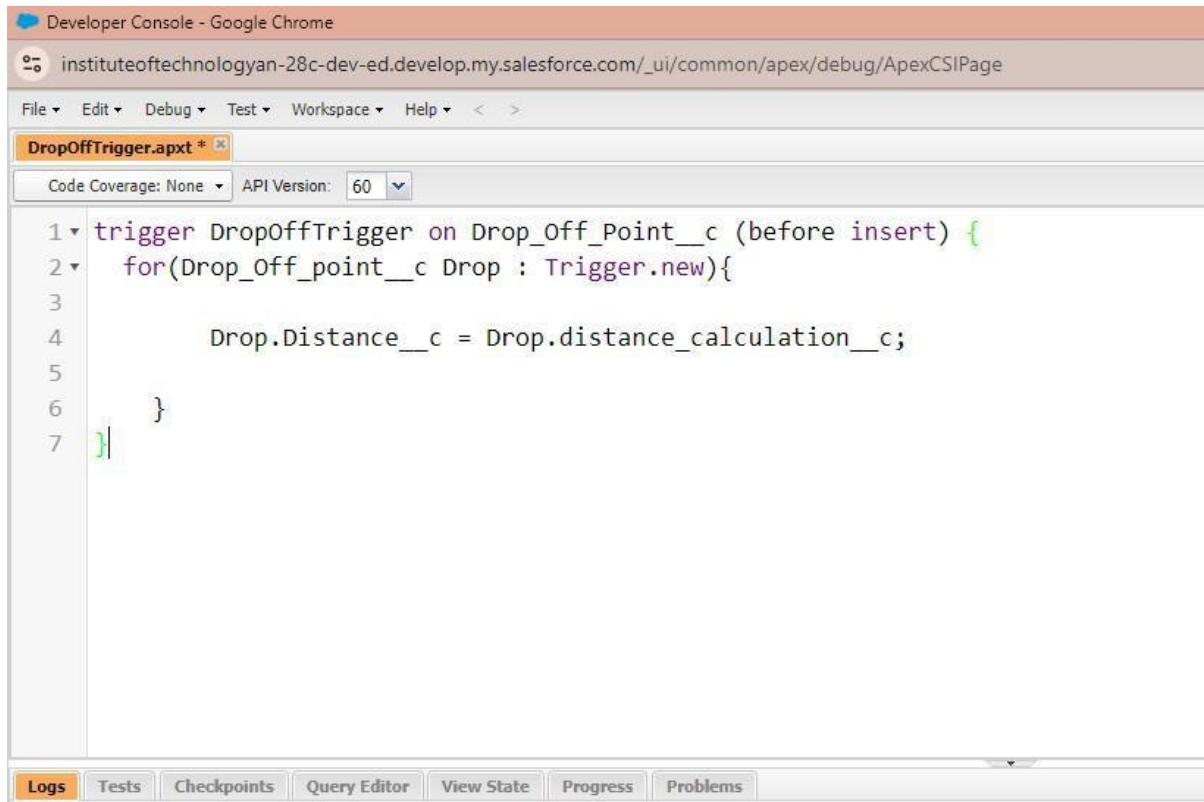
6. Flows

Process automation was implemented using Salesforce Flows to guide users and create records efficiently. A key example is the "Venue Form," a Screen Flow designed to capture new food donor locations. This flow presents a user screen to input venue details, including name, contact information, and location coordinates. Once the user submits the information, the flow automatically executes a "Create Records" element, which generates a new 'Venue' object record with the collected data.



7. Trigger

For more complex, code-based automation, an Apex trigger was developed. A trigger named "DropOffTrigger" was implemented on the 'Drop_Off_Point__c' object, configured to run "before insert" (before a new record is saved). This trigger automatically populates the 'Distance__c' field by copying the value from the 'distance_calculation__c' field for each new record being created.



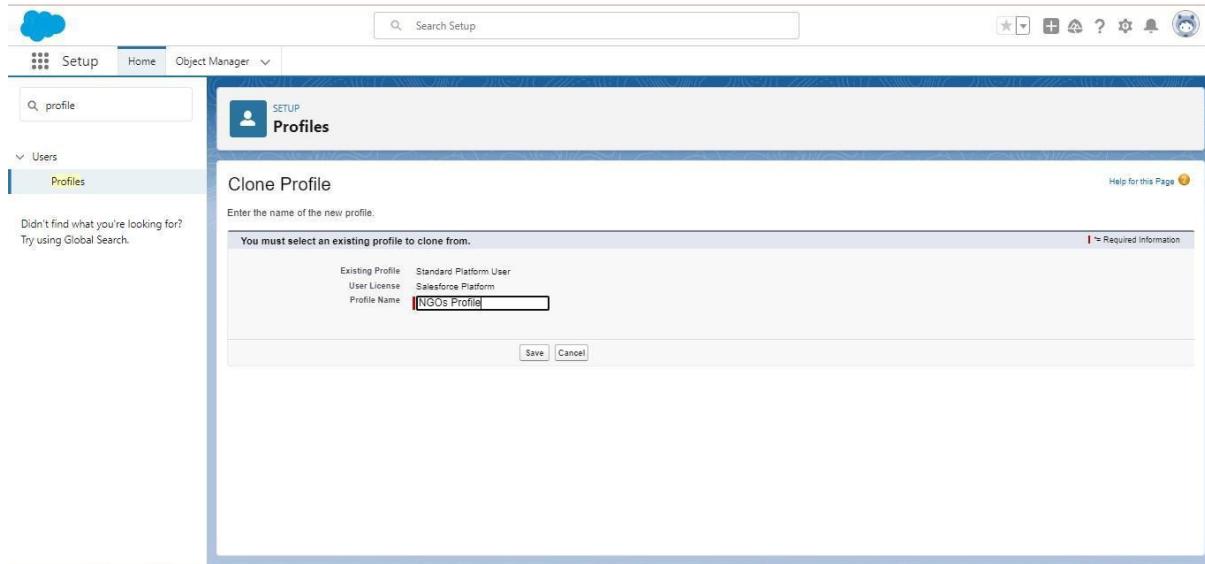
The screenshot shows the Salesforce Developer Console interface. The title bar reads "Developer Console - Google Chrome" and the URL is "instituteoftechnologyan-28c-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage". The menu bar includes File, Edit, Debug, Test, Workspace, Help, and navigation arrows. The main area displays the code for "DropOffTrigger.apxt". The code is as follows:

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

The code editor has a "Code Coverage: None" dropdown and an "API Version: 60" dropdown. Below the code editor is a navigation bar with tabs: Logs (which is selected), Tests, Checkpoints, Query Editor, View State, Progress, and Problems.

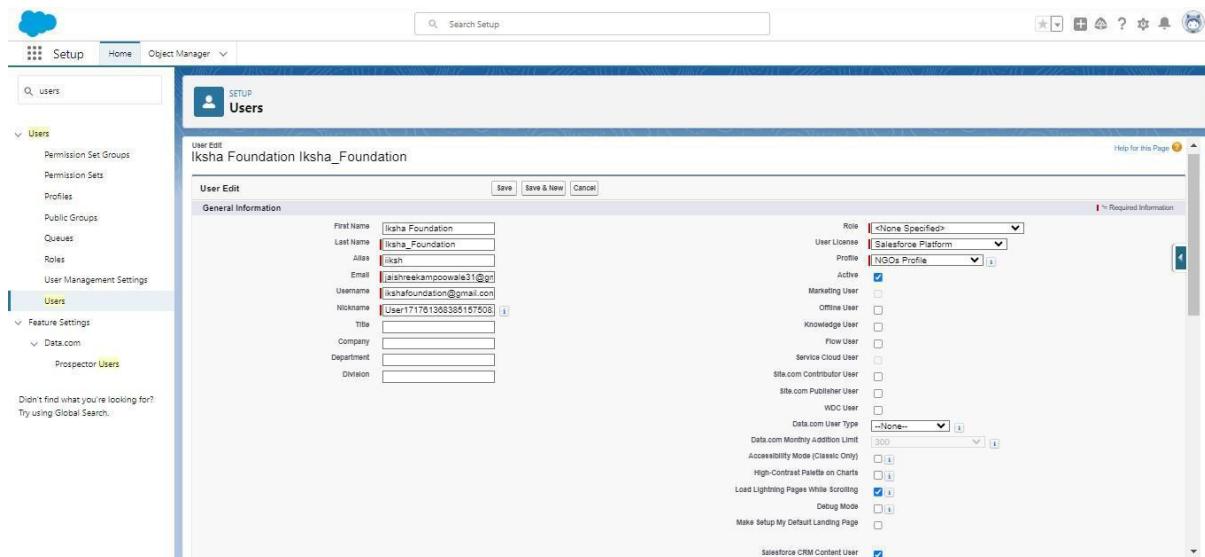
8. Profiles

To manage user permissions and data access levels, a custom profile was established. The "NGOs Profile" was created by cloning the 'Standard Platform User' profile. This custom profile is designed to be assigned to NGO users, ensuring they have the appropriate permissions to access the specific objects, fields, and tabs required for their role in the food distribution process.



9. Creation of Users

New users, representing the NGO partners, were created within the system to grant them access. The standard user creation process was followed, populating general information such as the user's name and email. For example, a user for "Iksha Foundation" was set up and assigned the 'Salesforce Platform' user license and the custom "NGOs Profile". This ensures that all NGO users have the correct, predefined access rights upon logging in.

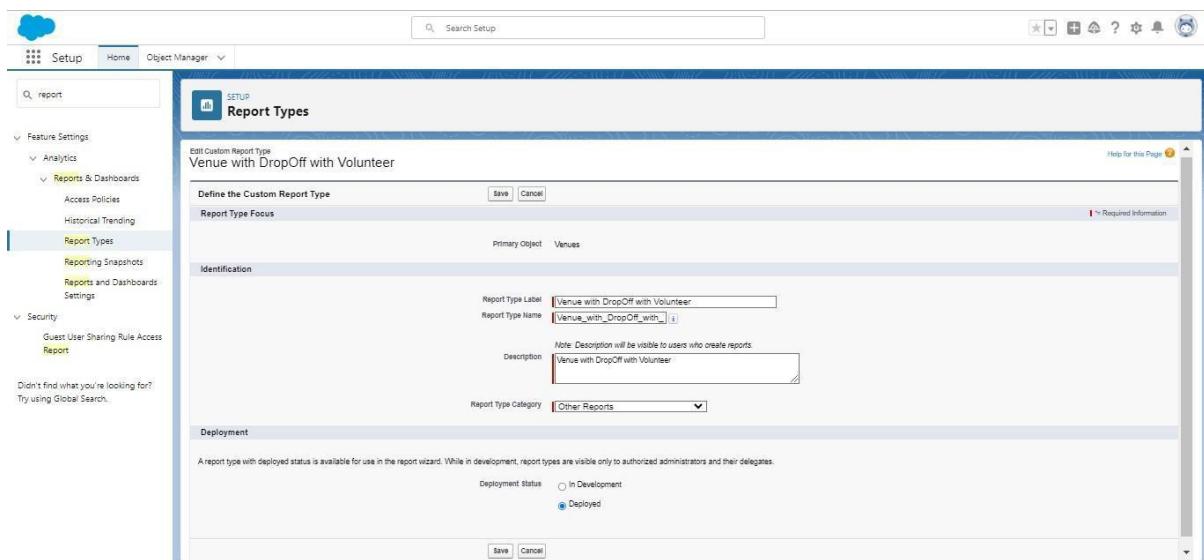


10. Public Group

Public Groups were established to facilitate the sharing of records and to manage data visibility. For instance, a group labeled "Iksha" was created. This group contains specific users as members, including the "Iksha Foundation" user and the "System Administrator". These groups are foundational for defining sharing rules, allowing records to be shared with multiple users simultaneously.

11. Report Types

To facilitate meaningful analysis, new Custom Report Types were defined to specify the object relationships for reporting. One such report type, "Venue with DropOff with Volunteer," was created with 'Venues' as the primary object. This report type joins 'Venues' with its related 'Drop-Off Points' and 'Volunteers,' allowing users to analyze data across all three objects in a single report. A second custom report type was also created to link 'Volunteers with Execution Details and Tasks'.



12. Reports

Leveraging the custom report types, specific analytical reports were built and saved in a "Custom Reports" folder. One key report, "venue and Drop Off point," uses the 'Venue with DropOff with Volunteer' report type. This report is configured to group data by 'Volunteer Name' and displays columns for 'Venue Name,' 'Drop-Off point Name,' and 'Distance,' providing a clear overview of volunteer assignments and logistics. A "Volunteer Task" report was also developed to track volunteer activities.

13. Dashboards

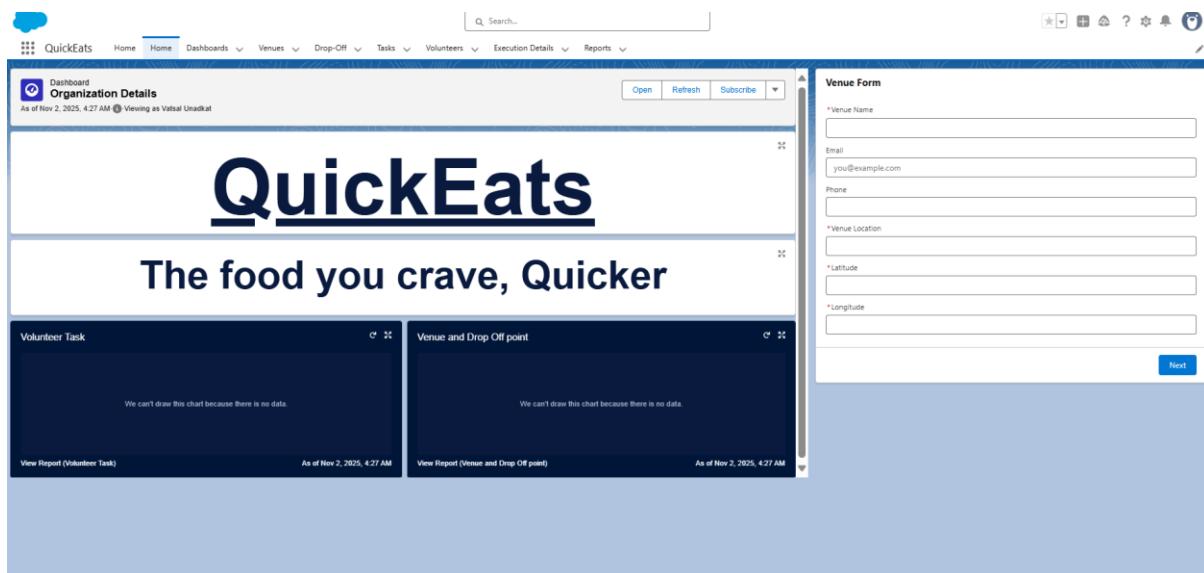
To provide a high-level, visual summary of key metrics, dashboards were configured. A "Custom Dashboards" folder was created to house them. The primary dashboard, "Organization Details," was built to consolidate operational data. This dashboard features a widget that adds the "venue and Drop Off point" report, displaying it as a Lightning Table to give users a real-time, consolidated view of organizational activities.

14. Sharing Rules

Criteria-based Sharing Rules were implemented to automatically expand record access to relevant users. Several rules were configured for the 'Drop-Off point' object based on the 'Distance' field. For example, "Rule 1" automatically shares any 'Drop-Off point' record with a 'Distance' of less than 15 to the "Iksha" Public Group. Subsequent rules grant access to other public groups (like "NSS") based on different distance criteria, ensuring the correct teams have visibility of relevant logistical records.

15. Homepage

A custom "HOME Page" was designed using the Lightning App Builder to provide users with a productive landing page. The 'Standard Home Page' template was selected and customized by adding key components. A 'Flow' component was embedded to feature the "Venue Flow" directly on the homepage, alongside a 'Dashboard' component to display key operational charts. This new page was then activated and assigned as the default homepage for the "QuickEats" application.



16. Conclusion

The Salesforce-based food redistribution platform successfully addresses the challenges of food waste and hunger by providing an organized system for managing surplus food. Through the use of custom objects like 'Venue,' 'Dropoff Point,' and 'Volunteer,' the system meticulously tracks the entire donation and distribution process. The project's automation and real-time data insights enhance operational efficiency, ensure prompt delivery, and maximize the impact of donations. This implementation serves as a powerful, replicable model demonstrating how technology can be leveraged to create sustainable solutions for pressing social issues.